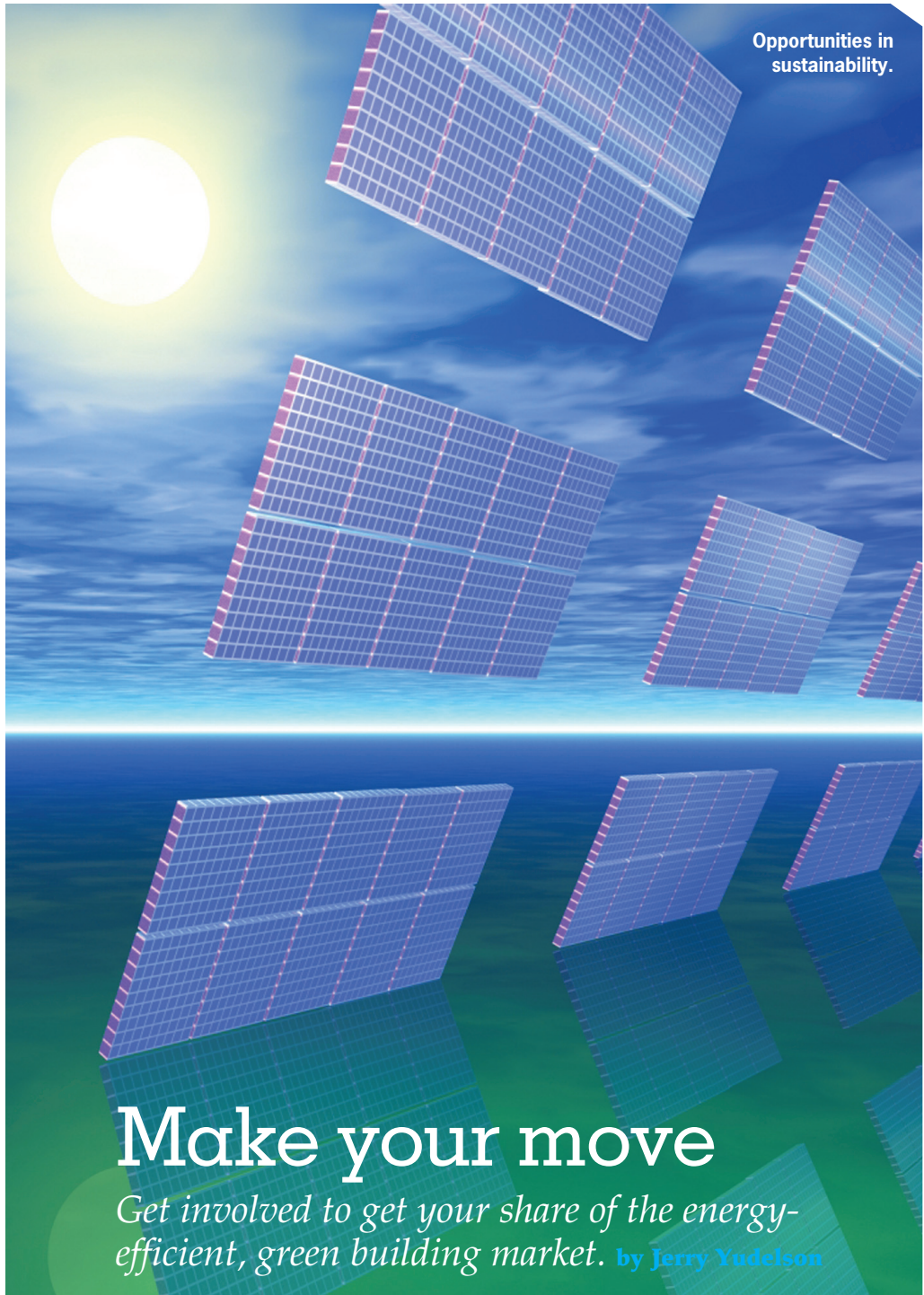


current



Opportunities in sustainability.

Make your move

Get involved to get your share of the energy-efficient, green building market. by Jerry Yudelson

NAED's Education & Research Foundation's Channel Advantage Partnership (CAP) commissioned and funded a series of columns researching opportunities in green building and energy conservation markets. This article is the first in a 12-part series that will include specific technologies in the renewable energy and energy-efficiency field, new developments in lighting and onsite power generation, and how daylighting and other building control systems are gaining ground.

According to the American Council for an Energy-Efficient Economy (aceee.org), the 2004 U.S. energy-efficiency market was estimated at \$300 billion, with a premium for efficiency upgrades (beyond what would normally be spent) estimated at \$43 billion (about 15% of the total expenditure). This estimate includes buildings, industry, transportation, and utilities.

Taking buildings, alone, into consideration, the market size was estimated at \$178 billion (about 60% of the total market), with \$24 billion representing an energy-efficiency premium. The value of building energy savings was estimated at \$12 billion, representing a two-year payback at today's prices. For commercial buildings, the estimate is \$51 billion in total investment, with about a \$7.7 billion premium.

Delving further into these estimates, investments in appliances and electronics represented 48% of all building-related investments, vastly exceeding their estimated energy use in buildings (about 8%). In other words, people will make the easiest investments first—things that don't require significant building upgrades, such as buying Energy Star-rated computer monitors, printers, and copiers.

What's driving these investments? There are several factors to consider:

1. The rising cost of oil and more volatile prices, especially for gasoline and natural gas
2. Concern that energy supplies may be interrupted or curtailed, either via rising demand charges or forced conversion to interruptible supplies
3. Policy changes by business and large institutions to respond to the urgency many feel of the global warming challenge
4. Growing consumer and stakeholder pressures, particularly on public companies and public institutions, to invest in energy conservation and efficiency
5. New technologies that make efficiency investments more cost effective
6. Increased availability of incentives and financing mechanisms for energy-

Issues of Efficiency

efficiency and renewable energy upgrades

GREEN BUILDING MARKET

The commercial green building market in the United States is defined by the USGBC's LEED green building rating system. According to the USGBC, there are more than 10,000 projects currently registered for eventual certification under the LEED system. At an average size of 110,000 square feet, this is potentially a 1.1-billion-square-foot market opportunity. Put a \$125-per-square-foot average total building cost on this and apply the electrical equipment percentage—anywhere from 9% to 12% depending on lighting and other variables—and the result is a potential nationwide market in the \$12 billion range for LEED projects alone.

Not only is this market large, but it's also growing fast. For example, at the end of 2006, new LEED project registrations had grown by more than 50% on a cumulative basis from the end of 2005. In 2007, market growth accelerated, with new project registrations growing at a 75% cumulative rate from the end of 2006.

Predictions call for more than 5,000 new buildings and major renovation projects to register for future certification under the LEED system in 2008, growing at least another 50% on a cumulative basis. Only the general commercial market slowdown may reduce this growth rate a little. On a practical basis, this means that something like 20% of the total new commercial and institutional market may be showing for LEED certification this year.

In terms of market dynamics, the majority of new LEED projects (both in number and project value) come from the private sector, but there are still a large number of federal, state, and local government projects, smaller buildings from nonprofit, and a fast-growing number of college and university projects. More projects are also being seen

in the retail and hotel industries, which traditionally haven't been as interested as other markets, such as commercial offices. In selected cities—including Seattle, Los Angeles, and New York—there are also a large number of high-rise residential projects with green credentials either built or coming on line.

Furthermore, more than 100 cities and state governments have mandated LEED for their own use, and this spring Los Angeles and San Francisco joined a smaller number of cities mandating LEED for the private sector. More than 800 mayors of cities large and small have signed on to the U.S. League of Cities' "Mayor's Climate Challenge Commitment," requiring their cities to reduce greenhouse gas emissions from all sources below 1990 levels by 2012.

GET INVOLVED

For those who haven't done so already, perhaps it's time to consider joining the USGBC. There are more than 75 local USGBC chapters located across the United States, and more are being added every month. Those who attend USGBC chapter meetings are guaranteed to run into present—or future—customers.

Additionally, the USGBC has created a national exam in the LEED system that qualifies individuals as LEED Accredited Professionals. As an early move into this market space, consider having select employees—especially those who work with specifying architects, electrical engineers, or general contractors—study for the exam. Those who do so will be making a clear statement that advice from their companies on green building matters can be trusted. ■

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NEXT MONTH'S COLUMN WILL FOCUS ON ENERGY RETROFITS FOR EXISTING BUILDINGS AND LIGHTING ENERGY USE. FIND OUT MORE ABOUT NAED'S CAP AT NAED.ORG.



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How green is industry?

"The Greening of Industry" was the title of a 90-minute session on May 21 at IndConn, a constituent event held in Santa Clara, Calif., during Connectivity Week. A description of the event noted, "Industrial automation will enable active energy and power management through enhanced connectivity with energy suppliers."

For the most part, the session's six speakers ranged from being snide to outright negative about green issues. It began with the session's host, who kicked off a blatantly down-on-green gabfest with a brief statistical presentation. For example, he offered a reminder to the effect that 99.99% of the species extinctions that have occurred on the planet were not the fault of human beings.

The pièce de résistance was the final speaker, Sandy Towle of ARC Advisory Group, who presented results of an ARC survey on green practices in industry. Each data point seemed to demonstrate that industrial companies were pursuing green practices primarily for public relations purposes.

So what's the point of describing all of this in this brief report?

- One speaker at the session referenced hucksters in the green movement. It's important to remember, as this session demonstrated, that there is nonsense and know-nothingness on both sides of the green issue.

- It's worth contrasting the positive presentation at NAED's Leadership Summit (held just a day earlier in San Francisco) with the IndConn session. Apparently, the electrical construction industry is hundreds of thousands of miles ahead of industry—at least as it was represented on this day in Santa Clara. ■

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