

HOME BACE Let some sun shine in



Commercial and residential buildings account for nearly 40 percent of energy used in the U.S. With energy costs soaring, the green building materials industry has grown to \$1.6 billion a year and spawned an array of new-age and technologies. The technology is smart windows, which are specialized glass and film that allows to help cool buildings and save air conditioning costs as much as 20 percent. Smart windows could be responding to electric current, light or heat. They haven't been particularly popular with consumers, but the rise in energy prices and new building codes draped in carbon energy usage have given the sector a boost. Here are four promising technologies on the market. —C.J. HILL/ENR



Smart Windows
 Smart windows are a type of window that can change its opacity to let in more or less light and heat. They are made of a special glass and a thin layer of liquid crystal. When an electric current is applied, the liquid crystal molecules align and the window becomes transparent. When the current is removed, the molecules return to a disordered state and the window becomes opaque. This technology can be used in a variety of applications, including smart homes, offices, and schools. It can help reduce energy costs by reducing the need for air conditioning and heating. Smart windows are also being used in green buildings to reduce carbon emissions.



Green Roofs
 Green roofs are roofs that are covered with vegetation. They can be made of a variety of plants, including grasses, sedums, and succulents. Green roofs can provide a number of benefits, including reducing energy costs, improving air quality, and reducing noise. They can also provide a habitat for wildlife and improve the aesthetic appeal of a building. Green roofs are becoming increasingly popular in urban areas and are being used in a variety of applications, including residential, commercial, and public buildings.



Energy-Efficient Lighting
 Energy-efficient lighting (EEL) is a type of lighting that uses less energy than traditional incandescent lighting. It includes compact fluorescent lamps (CFLs), light-emitting diodes (LEDs), and halogen lamps. EEL can help reduce energy costs and carbon emissions. It is becoming increasingly popular in homes, offices, and public buildings. EEL is also being used in a variety of applications, including street lighting, outdoor lighting, and signage.



Smart Thermostats
 Smart thermostats are thermostats that can be controlled remotely via a smartphone or tablet. They can learn your schedule and adjust the temperature accordingly to save energy. Smart thermostats are becoming increasingly popular in homes and offices. They can help reduce energy costs and carbon emissions. Smart thermostats are also being used in a variety of applications, including hotels, schools, and public buildings.

Smart thermostats can help reduce energy costs and carbon emissions by adjusting the temperature when you're not home. They can also be programmed to adjust the temperature during the day and night. Smart thermostats are becoming increasingly popular in homes and offices. They can help reduce energy costs and carbon emissions. Smart thermostats are also being used in a variety of applications, including hotels, schools, and public buildings.

RESEARCH CORNER
No place like home



The study: "The Social Attachment to Place," by Michael S. Dahl, Aalborg University; and Olav Sorenson, Yale School of Management; published in the journal *Social Forces*.

The finding: Proximity to family and friends is a more important factor than wages when people consider a new job. Employers need to offer significant pay increases to persuade prospective hires to give up social attachments.

The methodology: The researchers analyzed employment trends in Denmark, because of the country's unusually rich database of labor statistics and its mobility patterns, which are similar to those in the U.S. They found that blue-collar workers who moved more than 40 miles from hometowns usually commanded substantial pay increases.

The takeaway: Entrepreneurs need to be mindful that location will bear on the talent and skills of hires. This is an especially important consideration as a company expands and requires workers with different types of expertise. Caveat: The data was collected prior to the recession, in a full-employment environment.

What's next: The authors' latest research shows that entrepreneurs who locate businesses where they have strong ties perform best, because they are able to tap their communities for employees and funding. —J.J.M.

FROM LEFT: COURTESY COMPANY; LEO ESPINOSA