

# Bloomberg Businessweek

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## Green Business

### A Quantum Leap for Lighting

Compact fluorescent lights are leading the race to replace the incandescent bulb. But while efficient, CFL light can be harsh. Ditto for light-emitting diodes, or LEDs, which use even less power but are more costly. QD Vision, a Watertown (Mass.) startup, says it can lower energy use and improve light quality by combining LEDs with tiny synthetic crystals they call quantum dots. Measuring just 5 billionths of a meter wide, the crystals glow when excited by a trickle of electricity. QD Vision and its partner, Nexxus Lighting (NEXS), are coming out with a \$100 bulb that uses 12 watts, matches the output of a 75-watt incandescent bulb and can last 50 times longer. The device is aimed at retailers who want to cut their energy use and lower the labor costs of replacing bulbs. With funds from the U.S. Energy Dept. and the U.S. Army, QD Vision is also developing flexible light sources and large displays made with its quantum dots.

### Paper, Plastic, or Pebble?

Many eco-conscious shoppers are already switching to reusable cloth bags instead of paper or plastic. Now they have another option: rock.

Called TerraSkin, the material is composed of three parts calcium carbonate—limestone, in essence—and one part polyethylene. Unlike conventional paper, TerraSkin requires neither water nor bleach to make, and it is manufactured using just half the energy, says Design & Source Productions, which distributes TerraSkin. And though it's tough-wearing, TerraSkin breaks down into a benign talcum-like powder in a few months when exposed to sunlight and humidity, according to tests by the Advanced Materials Center.

For now, manufacturing volumes remain low, keeping the price high. New York's Museum of Modern Art recently bought 682,000 TerraSkin sacks for its gift shop, paying about 25% more than for plastic bags. Other customers include Burt's Bees (CLX) and Hilton Hotels.

### Second-Class Solar Panels?

Sun-soaked New Orleans should be a great place for solar power. Yet according to TÜV Rheinland PTL, a testing lab, up to 30% of photovoltaic panels installed in such steamy areas of the U.S. are likely to fail in less time than the 25 years manufacturers typically specify in their warranties. Homeowners will be covered, of course, but it will still be a hassle. Even in hot, dry areas failure rates could hit 12%.

The same producers' panels probably won't fail as quickly in Europe, where vendors agreed to performance and quality standards back in 1999. In the U.S., only the state of Florida has followed suit. As a result, "manufacturers make two grades of panels: one for the U.S. and another for Europe," says Mani Tamizhmani, TÜV's president. Panels do have to pass federal tests for safety in the U.S. but "consumers here don't yet know to ask for quality certifications," he says.