

# Buildings go 'green' to

■ A host of innovative measures is being employed to cut costs of heating and cooling dorms and companies

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Students at the performing arts and sports centers being built at Adelphi University in Garden City will enjoy just enough fresh air in each classroom without any going to waste — thanks to carbon dioxide sensors in the ventilation systems that measure how much breathing is going on.

Wedding guests at Donald Trump's planned Jones Beach catering hall will be kept cooler in summer and warmer in winter with a geothermal climate-control system that pipes water from deep underground, where it's always about 52 degrees.

And giant chillers at two of RexCorp Realty's office buildings will spend quiet nights this summer making ice, which will cool tenants when it hits 95 the next afternoon without the need to tap the stressed electric grid and risk spiking a brownout.

As "green" construction finally starts to catch on here on Long Island, technologies and practices deemed experimental just a few years ago are coming into demand as essential design on high-quality buildings.

With melting polar ice caps igniting worries about global warming, businesses from Walmart to Toyota have been busy shrinking their carbon footprints. In New York City, Mayor Michael Bloomberg is calling for green revisions to the building code, and at the governor's mansion in Albany, the first lady is installing a solar-paneled carport and insulating the antique plumbing. "Green" buildings are designed, built and run with energy efficiency, long-term tenant health and environmental responsibility in mind.

"Just in the last year or two there's tremendous new awareness," said Garden City builder Russell Albanese, who built the world's first green high-rise residential tower, the Solaire, at Battery Park City in 2003 and opened LI's first green office building, 1001 Franklin Ave. in Garden City, in 2005. Both the Solaire and a second, greener Albanese apartment tower at Battery Park have waiting lists despite slightly higher rents; Albanese is now at work on the Visionaire, a condominium tower that will be greener still.

Albanese has been at the head of a wave that's becoming a tsunami. Participation in the U.S. Green Building Council, the industry's recognized standards group, has grown dramatically



NEWSDAY PHOTOS / KEN SPENCER

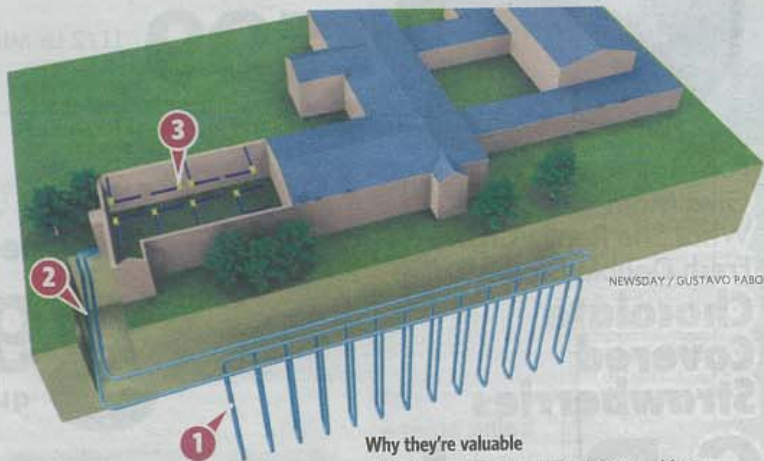
The Albanese Organization used innovative energy-saving technologies at its Garden City office building on Franklin Avenue.

## Going for the green

New, environmentally friendly technologies such as geothermal heat pumps are becoming more and more popular among high-scale developers on Long Island. Here is how they work.

In general, geothermal heat pumps circulate water between a loop, called an earth heat exchanger, and water-to-air heat pumps located in the buildings they service.

1. The earth heat exchanger consists of a network of polyethylene pipes buried 150 to 300 feet underground. Temperature underground is a constant 57 degrees or thereabouts.
2. Constant temperature of the earth heats or cools the circulating water loop as seasonal needs require.
3. Room temperature is controlled independently at individual heat pumps located throughout the building. If room needs heat, the thermostat is turned up and heat is pumped from water loop into building; if it needs air conditioning, thermostat is turned down and excess heat is pumped out of the room.



NEWSDAY / GUSTAVO PABON

### Why they're valuable

- Geothermal systems transfer heat to and from the ground with minimal use of electricity.
- They do not use fossil fuels for heating and cooling, and they eliminate threats caused by combustion, such as carbon monoxide poisoning.

since his staff attended its first conference in 2000. In New York City now just about every major commercial development is going up green, from 7 World Trade Center to the Bank of America Tower, the Hearst Tower and Goldman Sachs' new world headquarters. "Corporate America has recognized that being environmentally responsible is the right way to do business," Albanese said.

### Long Island lagging behind

The Town of Babylon got headlines last year in announcing it would phase in requirements for new commercial buildings to meet LEED (Leadership in Energy and Environmental Design) standards devised by the Green Building Council. But overall, Long Island has not been a leader. None of New York State's 25 LEED-certified pro-

jects is located here, and of 239 pursuing LEED certification, Long Island accounts for just 15.

One of those is 1001 Franklin, where Albanese installed high-performance glass in the abundant windows, designed a shell clad with modular limestone that could be installed with a minimum of labor and waste, and sealed the rooftop in white paint and metal flashing to reflect the sun's rays and lower cooling costs. Inside, bathroom paper towels have recycled content, and the paint, wallpaper, cleaning supplies and carpeting are free of toxic chemicals.

But what makes this building greenest may be the prosaic but crucial computerized energy modeling that designed and now drives its heating, cooling and ventilation systems. The precision of those systems gave Albanese's building a 20 per-

cent boost in energy efficiency.

"Many buildings overventilate — provide too much air, and when it's a hot summer day, spend an awful lot of money to cool that air and then dump it out as waste," said Richard Hally, district manager for Trane, the Piscataway, N.J.-based heating and ventilation giant whose equipment sits on the roof of Albanese's buildings. Stock in Trane's parent, American Standard Cos., is at an all-time high.

### Balancing the costs

Saving energy saves money, so isn't green building simply good business? Some practices, like recycling used water, don't pay for themselves in a region with plenty of the resource, while others are no-brainers. In New York City, high disposal costs make recycling imperative in any demolition project,

but this isn't true elsewhere, said Michael Deane, the East Coast manager for sustainability at Turner Construction, which built the Solaire. And the extra-thick filters that freshen the air in Albanese's buildings come at a price.

Still, as the percentage of renewable content in products worldwide has risen dramatically in the past decade, it's gotten easier to do the right thing. Armstrong, the Lancaster, Pa., office ceiling tile maker, has instituted a "closed loop" reclamation program, giving its new tiles up to 87 percent recycled content. Atlanta-based Interface Inc., the world leader in modular carpet and Albanese's supplier, has embraced an ambitious sustainability agenda, reprocessing its used carpet tiles and re-engineering them to be easily recycled.

"Five or 10 years ago there

# save energy

## MONDAY FOCUS

### The case for building green

- Buildings account for 38 percent of carbon dioxide emissions in the United States.
- During the next 25 years carbon dioxide emissions from buildings are projected to grow faster than any other sector, with emissions from commercial buildings projected to grow the fastest.
- Approximately 15 million new buildings are projected to be constructed by 2015.
- If half of new commercial buildings were built to use 50 percent less energy, carbon dioxide emissions would be reduced by more than 6 million metric tons annually.

SOURCE: U.S. GREEN BUILDING COUNCIL



NEWSDAY/KEN SPENCER

From the basement of Albanese's 1001 Franklin Ave. office, Raymond J. Czajkowski can monitor the entire building's heating, air conditioning and other functions.

**'Corporate America has recognized that being environmentally responsible is the right way to do business.'**

— Russell Albanese, left, a 'green' builder based in Garden City

was a cost premium [to green building products] because they were hard to get and people didn't understand them," Deane said. "Now you can buy low-VOC [volatile organic compound] paint at Home Depot, and it doesn't cost more."

On Long Island, Adelphi has been a leader, installing a geothermal system under one of its newest dormitories, New Hall, which opened in 2003. A member of the Green Building Council, Adelphi is pursuing LEED certification for the performing arts and recreation buildings going up next to one another.

Like many other older campuses, this one heats most of its buildings with an underground grid of hot-water pipes powered from a single set of giant boilers, a system first installed in the 1920s and since updated. There are still savings to be had from

the scale and simplicity of this heating system. But the new buildings will save money with more of Trane's sensitive computerized ventilation controls, along with a system of 330-foot-deep geothermal wells that has already been installed under the newly completed parking lot.

On a commercial scale, geothermal heating wells have been installed as part of a dorm renovation at the Merchant Marine Academy at Kings Point and at the Fox Hollow Inn at Woodbury. Atlantis Marine World uses a geothermal system to maintain the temperature in its shark tank. The system will also be installed at Trump on the Ocean, the catering facility to be built at Jones Beach, where the Theodore Roosevelt Nature Center already has one.

Tapping groundwater for cooling is not new, but modern pip-

ing and computer technology have made it the most efficient approach in many big buildings today, said Fritz Tate, regional director for Water Energy Distributors, a leading installer.

Be it summer or winter, the water piped from Adelphi's deep geothermal wells brings outdoor air within range of comfort, and then the college's heating and cooling systems do the rest, saving anywhere from 21 to 30 percent of the utility bill on the new buildings. The systems pay for themselves within 10 years.

The buildings have motion sensors that turn down the lights and the thermostat in empty rooms. Carbon dioxide sensors adjust the flow of fresh outdoor air — the more human activity in a room, the quicker they will sense the air turning stale.

### Turning to 'wheels' and ice

And over Adelphi's locker rooms, Trane is installing a heat-transfer device called an energy wheel. "Locker-room spaces have a lot of odors, heat and steam, but we don't want to waste the energy," said Robert Shipley, who manages mechanical and electrical systems for the college. So that air is run through the "wheel," a series of chambers that harvest the warmth, then discharge the stinky air outdoors.

Elsewhere on Long Island, RexCorp is adopting a technology Trane used at Morgan Stanley's 747,595-square-foot headquarters in Westchester: At 50 Charles Lindbergh Blvd. in Uniondale and HIP's offices at 395 North Service Rd. in Melville, they're installing chillers to make ice at night and melt it during the day to cool the buildings.

"We've had the recipe for years. It's just a great way of shifting the load," said Halley, Trane's district manager.

Utilities, he noted, are forced to generate enough power to meet peak demand from their customers. During the hottest midsummer afternoons, that means bringing all their dirtiest and least efficient plants on line.

But at night, when the suburbs sleep, "you have this tremendous overcapacity. By taking these peak loads during the day and switching them permanently to night — there's a huge environmental benefit."

Plus, that electricity costs less at night. RexCorp senior vice president Walter Smith said his company is studying the feasibility of an ice storage system at the Omni Building in Uniondale, where the Long Island Power Authority has its office.

LIPA, which offers rebates for geothermal systems, deems ice storage too experimental for an automatic incentive. But it's willing to consider one if customers install a system on their own, a spokesman said.



NEWSDAY PHOTO / JULIA GAINES

Ken Schiliro and Harris Beber have started their own business, giftback.com: Buy a gift and pick a charity to get a percentage.

## After Flowers: new shoots



MONEY & POWER  
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Ken Schiliro knows that most people think Valentine's Day is the busiest holiday of the year for floral gift retailers. But he knows better.

He had a lot longer gift list for yesterday's Mother's Day holiday — a mother, a mother-in-law, a stepmother and his wife Kristy's Aunt Gail — than for Feb. 14.

Most people have two or more "mother figures" in their life, he says. "With Valentine's Day, you really should only have one sweetheart."

Schiliro should know about holiday gifting. He spent four and half years in sales at 1-800-Flowers.com and two years running a corporate gift division for Harry & David's. Now, he and another former 1-800-Flowers.com employee, Harris Beber, are running their own online gift Web site, giftback.com, based on Long Island.

The two spent the past several weeks in frantic preparation for the holiday, making sure their Web site and telephone system could handle the traffic and doing what they could to market their fledgling

site, which officially launched Nov. 1. They managed to get one of their gifts, a "citrus spa basket," touted last week on the "CBS Early Show."

Online gift giving is a well established business by now. 1-800-Flowers.com has mined the field for more than a decade and projects that it will become a billion-dollar-a-year company within two years. It ranks 13th among Long Island's top public companies in today's Newsday special report.

While we focus in that section only on the public companies, the story of Giftback.com shows that big companies can unintentionally spawn tiny entrepreneurial firms with the potential to grow.

Schiliro and Beber took some of the lessons they learned at 1-800-Flowers.com and applied it to their start-up.

But they added a special twist: They committed to give a fixed percentage of the sales price of every gift to a charity of the buyer's choice. If Schiliro's estimate of the company's first-year sales proves correct, about \$80,000 will go to charities.

Schiliro, who is 31, notes that "cause marketing" goes back at least as far as an American Express campaign in the 1980s to raise funds to rehab the

See GALANT on A42