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Home & Garden

In Chicago, An Art Project Tinted Green

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CHICAGO

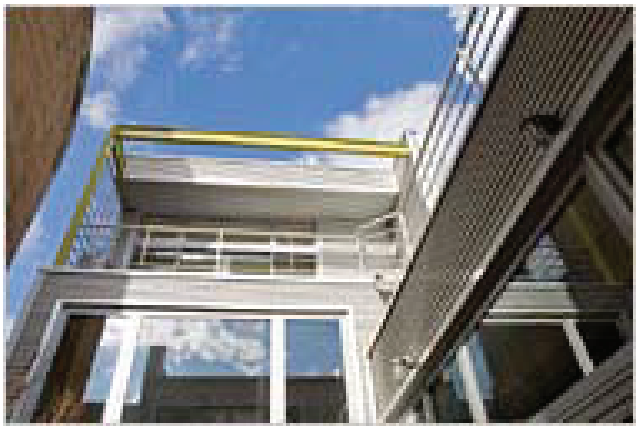
Michelle Litvin for The New York Times

SEVENTEEN years ago, Frances Whitehead and James Elniski were married inside a florist's leaky old greenhouse, where the resident parrot seemed to mock their vows with what sounded like sardonic laughter. The location was, in a way, prophetic. The bride and groom couldn't have known it, but another sort of green house eventually would come to dominate their lives.

In mid-February, Ms. Whitehead, 54, and Mr. Elniski, 56, gave this reporter a tour of their new residence in the West Town neighborhood here, leading the way up a spiral staircase into a modest office. Sliding doors opened onto a wintry rooftop scene, where two silver corkscrews mounted on tall poles twirled lazily in eddies of wind. "I think of them as the new Brancusis," said Ms. Whitehead, an artist with thick, tousled hair that brings to mind a shorn field in a crazy wind.

Though Ms. Whitehead and Mr. Elniski, who is also an artist, spent $40,000 last year to buy and install the wind turbines (wildly expensive retrofits and mishaps included), they estimate that they will probably save only about $500 annually in energy costs, making the payback period 80 years, a point almost certainly beyond the end of their lives. Still, there are other, more critical economies to consider, Ms. Whitehead said, like the carbon economy. "We could have bought two new cars for the same money," she said, "but we'd rather have these."

EARTH AND WIND Frances Whitehead and James Elniski's house was built using a number of green technologies.



Solar panels on the roof are tilted to the heavens, and trays of artificial soil are planted with sedum and other plants to soak up rainwater and keep it from flooding the city's storm drainage system. Michelle Litvin for The New York Times

Much as the writer Robert Pirsig divined the tenets of Eastern philosophy in every prosaic bend in the road in his 1974 classic "Zen and the Art of Motorcycle Maintenance," Ms. Whitehead and Mr. Elniski, faculty members at the School of the Art Institute of Chicago, have found a conceptual art project in their own effort to live sustainably, in a house that presents itself as so environmentally responsible that even the front facade is clad in emerald green glazed bricks as a visual pun.

"One of the things that artists do is make the invisible visible," Ms. Whitehead said. "We're trying to come up with a picture of the future, and we think this is what it will look like. Not stylistically, but in terms of the complex systems that we will all undoubtedly use for the collection of water and the micro-generation of energy."

Ms. Whitehead and Mr. Elniski shy away from making absolute claims about the comprehensiveness of their house's energy-saving systems, and declined to say how much they spent. There is always more to be done, they noted, and "between now and Thursday, something new could come out," Mr. Elniski ventured. But they believe they are living as sustainably as they reasonably can in a world where local commercial availability of such products is limited, and finding technicians to install and maintain systems is a challenge.

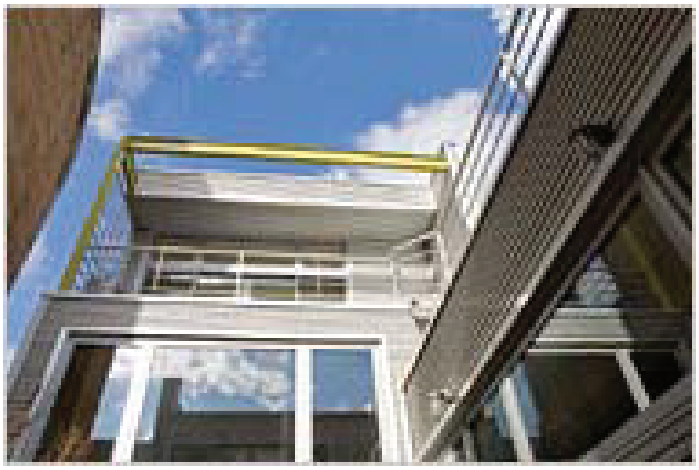
"We do not have black floors," which hold the sun's warmth better than light-colored floors, Ms. Whitehead said. "We do not have this new thing called Trombe walls, which soak up heat and release it back into a room like solar space heaters. We do not have gray-water recycling. But we've done a lot, while always being careful to balance it with an aesthetic atmosphere that people would actually want to live in."

They see their house as a sculpture, though not in the visual, tactile way that a Frank Gehry building is sculptural. With its corrugated steel-and-zinc siding, its central glassed-in courtyard, its appealingly worn furniture and its spans of books, the house looks like it belongs to well-educated people with an interest in design. If it is art, it's in the experimental spirit of Marcel Duchamp, who moved everyday objects like a urinal and a bicycle wheel into galleries and dubbed them sculptures.

“We’re like Duchamp in reverse, moving the objects out of the realm of art and back into function,” Ms. Whitehead said. She admitted that adopting expensive green technologies that don’t quite have the bugs worked out of them is “not yet a recognizable genre.”

But neither artist prizes formalism for its own sake. Ms. Whitehead, a self-described botany freak who is fascinated by technology, once made an artwork here, at the Lincoln Park Conservatory Great Garden, that transmitted information about the ecosystems in Lake Michigan by using 50,000 plants to form the colored patterns of pie charts, bar graphs and lake-shaped maps.

Mr. Elniski, who is also a clinical social worker, once collaborated with 200 residents of a low-income housing development in Sacramento to make an artwork called “Cloud of Hope.” Every person blew up a white balloon and initialed it. Then Mr. Elniski tied the balloons into a “bulbous blob form” that they hoisted in unison.



Before building their house, the couple owned and lived in a conventionally energy-squandering building in the same neighborhood — actually a 10,000-square-foot complex of buildings that included their quarters and several rental units. But as Ms. Whitehead and Mr. Elniski became increasingly concerned about ecological issues, they decided to downsize.

In 2004, they bought the unprepossessing structure that would become their home: a blighted, 3,000-square-foot brick warehouse sitting on a plot once contaminated by an underground gasoline storage tank. To transform it into a stylish Rubik’s Cube of living and studio spaces, they hired William James, an architect and contractor with James & Kutyla Architecture.

Halfway through the design phase, the couple began researching environmentally sustainable building practices online and came across what appeared to be an exhaustive list of green amenities. They decided they fervently wanted, as Ms. Whitehead put it, “a complete set, a truly encyclopedic wonder cabinet of devices — and that’s when we really started to drive Bill crazy.”

Mr. James, a 52-year-old Englishman whose firm’s highest-profile project to date is the design for Chicago’s Steppenwolf Theater (done when his firm was called James, Morris & Kutyla), said the house is one of the most complicated projects he has ever worked on.

“Coordinating all the systems was tremendously complex, partly because of the nature of the systems and partly because of the interfaces,” he said. “We were also working with a long, narrow existing building and retrofitting it. The clearances that we had to work with were minimal in some cases.”

Most vexing was a geothermal system whose roots extend deep into the earth. The technology has been around for decades, but few people are qualified to install these systems. After the warehouse's disintegrating concrete slab was dismantled and before a new slab was poured, 14 carefully spaced wells had to be dug 70 feet deep. Geothermal and radiant heating pipes were then threaded 65 feet underground (where the temperature is a constant 55 degrees) and back up through a manifold underneath the slab to cool the house in summer and heat it in winter.

Among a lot of other daunting and less daunting gear, there are photovoltaic and thermal panels on the roof. There is radiant heating in the floors, geothermal desuperheaters to preheat water, and rainwater collection cisterns. The couple also installed water-saving appliances like dual-flush toilets, a low-flow showerhead, an 18-inch dishwasher and an all-in-one washer-dryer.

So as not to discard the fruit of energy consumed a century ago, Mr. James designed the house to reuse 25 percent of the original roof structure and 90 percent of the original brick building. From the house's honey-blond elm floors milled from diseased trees to its Kohler bathroom sinks that look like tranquil, floating sheets of paper (trucked from Kohler, Wis., 127 miles up the road), the couple say that the place was fashioned to shrink their carbon footprint now and in the future, although some of the house's imported hardware (like the Finnish-made Windside wind turbines) were carbon indulgences in terms of the energy required to transport them.

For all their efforts, Ms. Whitehead and Mr. Elniski say they are generating just 10 to 20 percent of their own energy. All their do-it-yourself systems are tied to the grid and always will be, because their ability to harvest sun, wind, water and underground coolness is limited by a small collection area.

Mr. James considers the project environmentalism with integrity. "Painfully so," he added. "Most people would never opt for all of those systems because the payback on them just isn't there at this time."

"You've got to be doing it for other reasons," he said. "They've made a clear commitment to raise the flag and have a hand in educating others. But someday we'll probably all live this way. I believe the technology will develop and make it cost-effective."

In the meantime, Ms. Whitehead and Mr. Elniski aren't fretting over practicalities. Beyond the house's other duties, it will be a classroom. A contingent from the Chicago chapter of American Institute of Architects is scheduled to tour it next summer, and the couple is developing ways for their students, some of whom are majoring in architecture and design, to use it as a case study. To them, nothing about the endeavor seems senseless or even particularly zealous.

"When people ask me why I have those wind turbines, I always wonder why they don't have them," Ms. Whitehead said. "It's like when Thoreau was in jail for an act of civil disobedience and Emerson visited him. 'Henry,' Emerson said, 'Why are you in jail?' To which Thoreau replied, 'Ralph, why are you not in jail?' "