

# Eco Homes use solar collector and turbines

100 green apartments to be built in Luton, UK by the end of 2010 as part of environmentally sustainable project

**T**he apartments will use solar collectors and wind turbines, and would turn waste materials into energy to reduce heating bills. It is all part of Milieu Architects ambitious plans for Luton's first environmentally responsible development. Peter Lunter, The Project Architect, said: "The project has been designed to achieve nearly all Zero Energy Development standards, and hence the block has minimum space heating requirements. The scheme employs a wide range of sustainable features that contribute to its code 5 for Sustainable Homes rating where the grade 6 is the zero carbon level. However, the project has a pre-designed upgrade path to full Zero Energy status."

The plan involves developing the derelict, recently crime-ridden site on the northern side of Collingdon Street in Luton, and could spark an "urban renaissance", according to businessman Jan Telensky whose company has proposed building the apartments.

The idea of the innovative project is

that it will provide environmentally sound housing and social facilities at an affordable cost and make a considerable contribution towards environmental sustainability, while enhancing the sense of community by regenerating the site into an attractive residential area.

The building would be topped with visually attractive green roofs whose structural function is designed to protect the waterproofing layer from extreme temperature and abrasion, produce oxygen and reduce carbon dioxide production.

Other key sustainable features include construction from thermal materials that store heat during warm months and release it during the colder months.

Sustainable features

The building is constructed from thermally massive materials that store heat during warm months and release it during the colder months. Further enhancement is achieved through a high performance thermal insulation,

good weather-tightness and integration of winter gardens (sun rooms).

- Combined heat and power plant that uses waste wood that would otherwise go to landfill.
- Wind turbines—harvesting the wind to power low energy electrical appliances and low energy lighting.
- Roof is covered in water-powered solar collectors that are assisting with space and water heating.
- Green Roofs—visually attractive green roofs protect the waterproofing layer from extreme temperatures and abrasion. They provide natural habitat, reduce CO2 and produce oxygen.
- South faade features sun rooms that are heated by the sun.

### Built green from the ground up

When complete, the Green Leaf will be the first of its kind in the Midwest: a bed and breakfast inn built “green” from the ground up. And when it opens in Summer 2010, it will make Walworth County in Wisconsin a major point of interest for the burgeoning eco-tourist movement.

That is the goal of Catherine McQueen and Fritz Kreiss, the owners of the Green Leaf. The couple has been in the energy industry for more than 17 years, and has been involved with the green energy movement from the start of their professional partnership, but the hospitality industry is a whole new field for them. With the Green Leaf, they’ve jumped in feet first.

Their goal is to meet the highest standards for green building in all aspects of the Inn’s design and construction. The list of technologies and practices involved has proven to be daunting. “We had a background in green energy: solar, wind, geothermal, biomass,” says McQueen. “One of our early business ventures involved combined heat and power (CHP) units. But sustainable building, sustainable landscaping, water use, renewable materials, low-impact practices...we’ve put together quite a list of things to consider.” With no previous experience in the hospitality industry, they’ve also had to learn about aspects of zoning and permitting that were new to them.

The couple have created a Web site ([www.greeningtheinn.com](http://www.greeningtheinn.com)) to document the inn building process. The companion

“We want the Green Leaf Inn to be a learning center,” says Kreiss. “I think we can say it has already succeeded in that respect.”

site, [www.thegreenleafinn.com](http://www.thegreenleafinn.com), will begin taking reservations once the Inn is closer to completion.

The completed Inn will feature 19 suites in two buildings. As part of the design process, Kreiss and McQueen will convert their current residence into a three-suite lodge and breakfast area. The two inn buildings will be connected by another structure, which will act as a welcome and conference center. Their aim is to provide an experience to guests which is both immersive in the green lifestyle and yet still luxurious. “People have an image that living green necessarily means doing without,” says McQueen. “Actually, it means making careful, informed decisions. You can have your Jacuzzi; at the Inn, it will be powered by a solar panel or a small wind turbine, heated by a solar thermal system or biomass boiler and the gray water will be recaptured and reused when you’re done.”

Guests will be encouraged to use their stay as a chance to explore green and sustainable technologies. “Our goal is to include as many technologies as we can feasibly fit, and incorporate them in ways that make it easy for guests to explore what’s going on behind the scenes,” says Kreiss. “On the other hand, if they just want to enjoy their hot tub and their bamboo sheets, that’s also fine. We want to encourage, not preach.”



(Information provided by Green Building Source)