

Neighborhood Housing Services of Chicago, Inc.

Chicago, Illinois



Sustainability Assessments and Master Planning



NHS Chicago started building green demonstration homes in 1992, and began energy efficient practices as of April 2008. NHS Chicago was the trailblazer in Chicago's green building movement, building the first green home in the city in 1992. The term "green" to NHS Chicago refers to an increase in energy efficiency, improvements in indoor air quality and health, and the use of durable and sustainable materials.

NHS Chicago's mission is to save homebuyers money, in addition to building healthy homes that improve their lives and strengthen their neighborhoods. NHS Chicago decided to make significant changes, not in their materials, but in their construction practices. Also, building energy efficient homes differentiates NHS Chicago from other organizations in terms of marketing practices.

Energy Efficient, Healthy, and Affordable: How it's Done

Energy Efficiency. Tightly sealing and properly insulating a home can save homeowners up to 30 percent on their heating and cooling bills.

In a house, there are a lot of openings that are often not given enough attention. Sealing gaps between walls and pipes, for example, controls temperature and prevents hot air from leaving the room.

NHS Chicago uses spray foam insulation more than cellulose insulation. Spray foam is comparative in price but is easier to use. NHS Chicago builds homes that can keep heat constant around 70 degrees with two small space heaters as a result of the airtight sealing and proper insulation.

Heating and air conditioning in all homes is 95 percent efficient. This means that 95 percent of the energy goes into the house, and 5 percent is dissipated and lost. Windows with high efficiency are used, all being ENERGY STAR rated. Further research is being conducted on dual flush toilets to reduce energy use. In commercial developments, motion-sensored lighting is installed.

Healthy

Toxic building materials along with poor ventilation and pest problems can cause serious health problems. For example, over 400,000 children have dangerously high levels of lead in their blood from indoor paint.

NHS Chicago's green homes use carpets, paints, wall coverings, and adhesives that emit low levels of potentially harmful volatile organic compounds, which can cause eye and lung irritation and other health problems to eliminate these risks.

Costs

Demonstration homes cost more, especially with solar panels on display. NHS Chicago has found that building energy efficient homes has seen a 3 percent cost increase; however, NHS tries to purchase cost-neutral green items, items that will not affect the budget.

Green Features

There is a three-star green certificate program in Chicago for homes, with a three-star rating being the best energy efficient rating. NHS Chicago, however, is not using



Client

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Industry

Non-profit, Affordable Housing

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solar or geothermal energy and is still gaining a three-star rating in green building. Some of NHS Chicago's green features include the following:

- Bamboo flooring. Bamboo can re-grow in a fraction of the time span that a tree can. Because of this rapid ability to grow, it is considered a grass instead of a tree, which can be grown, cut and used in an environmentally friendly manner. Bamboo is now grown in the United States, so it does not have to be shipped from China.
- ENERGY STAR appliances
- Low VOC paints
- Recycled content carpet
- Sustainably harvested lumber
- Tri-Polymer Foam insulation
- Zoned heating

Challenges, Surprises, and Advice

Educating contractors to implement energy efficient practices was initially a challenge when the project started; however, NHS Chicago discovered it was relatively easy to get new "green"

contractors on board, once more research was done and the staff was more educated on green building practices.

A surprise that NHS Chicago experienced: demonstration homes were more expensive than

expected. New technologies like solar panels require maintenance, which can be costly. Solar panels are only installed if wanted by the residents; instead, high efficiency (95 percent efficiency) hot water tanks are installed.

NHS Chicago's advice to other organizations: start small. You do not need to start with solar panels to "go green". Low VOC paints and bamboo floors are good starters for green building projects. A word of wisdom: start with a shade of green, experiment some, and build up from there.

Applying What You've Learned

While this example shows how NHS Chicago used green techniques in



their construction and homebuilding, these principles and ideas can be equally beneficial when applied to an organization's home offices. The next time you upgrade your office space, think about how you can increase your energy efficiency!

Case Study: Green Office Supplies

The company is using recycled paper, duplex copying, and eFax to reduce their paper use. The office is on its way to be as paperless as possible, with documents being scanned instead of copied.

Electronic time sheets are used, utilizing the computer to clock in and out. All copiers, computers, and light bulbs are ENERGY STAR rated, and all appliances and lights (except emergency lights) are shut off at night. The office also has a programmable thermostat to control the energy use in the office.

All cleaning supplies use environmentally friendly chemicals, and hand towels have been removed from some of the bathrooms in the office to encourage staff to use the existing hand driers.

All furniture in the office is reused, and when NHS Chicago wishes to replace the furniture, they can give it back to the furniture supplier who reconditions it and resells it.

Starting in the next fiscal year, NHS Chicago wishes to implement a recycling program within their office, since one is currently not in place. The office's limited space is a challenge to implement a recycling program, but is definitely next on the agenda.