

Spotlight on a Green Building

By Flora Luo

What exactly is a **green building**? A **green building** is designed to be environmentally friendly. In other words, the architects try to find different ways to lessen pollution. Now that we have a better idea of what a green building is, let's take a tour of the Artists for Humanity building in South Boston and see how it is able to conserve energy.

When you first walk into the building, you will notice that there aren't too many lights. There are, however, two huge windows on the north and south ends of the building. By having the large windows, the Artists for Humanity use the sun to provide most of their light. The white walls also reflect the sunlight to light up the rest of the relatively empty room. This large space allows the light to go as far into the building as possible. Unfortunately, not everyday is a sunny day, so green buildings must have a way to produce light, which requires electricity. Once again, we can use the sun's energy. There is a large **photovoltaic array** or solar panel on the roof that converts **solar energy**, which is energy from the sun, into electricity. The building also has **energy-efficient light fixtures** that can provide more light by using less electricity. Just to make sure that electricity is not wasted when people are not in the room, **occupancy sensors** have been installed. These sensors can tell if there is no one is in the room and will turn off the lights!

Solar energy is not only used as a light source, it also heats the building! By letting sunlight flood into a large part of the building, the large window at the south side also permits **passive solar heating**, which means that the sun provides some of the heat to keep the building warm. During the winter, the sunlight that enters the building warms up the concrete floors. The windows are made of a special type of glass that allows light in but that has a coating that reflects harmful ultraviolet rays. This kind of glass also reflects heat, which means heat inside of the building stays there in the winter, and in the summer all the extra heat outside the building stays out. But how is the Artists for Humanity building able to keep the heat from escaping the building through the walls? The many layers upon layers of different materials in the walls help to provide **super insulation** and keep the building very warm during the winter.



Artist's for Humanity's Green Building in South Boston

Besides using solar energy, the building reuses water through a **water reclamation system**. Since the roof is slanted, rainwater can run off in one direction and there is actually a tube that will collect the rainwater. This rainwater can be reused at the building for cleaning or other purposes.

To further prevent pollution, the Artists for Humanity building also makes use recycled material and exhaust fans. For example, as a form of decoration and as a way to reuse what other people may call trash, windshields from junkyards line the railings of the main stairway. **Exhaust fans** help to cool the building without giving off **CFCs (chlorofluorocarbons)** into the Earth's atmosphere like traditional air conditioners.

In such ways, green buildings are much more effective in using energy than regular buildings and they keep the Earth a cleaner place. The next time you leave a room, think of how you can also help the Earth by simply turning off the lights!