



## GREEN BUILDING: MAKING IT WORK FOR YOU

A Public Service Advisory

From The Churchill Area Environmental Council

Member Municipalities: Chalfant, Churchill, Forest Hills and Wilkins  
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### What is Green Building?

The term "Green Building" is an approach to commercial and residential development and renovation which integrates the design and materials used in all of the systems in a building – from water use to carpeting – to produce a healthier structure. One of Green Building's guiding principals is that the same building strategies that respect the environment are also healthier for humans and our communities. Green Building focuses on a building's energy use, water efficiency, materials, health and safety, and its impact on the community now and in the future.

Green Buildings are resource and energy efficient buildings. In new construction and in renovation, construction materials are chosen wisely - including recycled, renewable, and reused resources to the maximum extent practical - and are designed and constructed to ensure they are healthy for their occupants. These materials are typically more comfortable and easier to live with due to lower operating and owning costs, and are good for the planet.

### Residential Construction and Renovation

Over the past two decades many builders and renovation contractors have learned how to incorporate cost-effective, environmentally friendly construction materials in their work. In addition, consumers are also now able to find better environmental value when they shop for a new home, or carry on a remodeling project.

In general, there are five categories of green building products, including:

- Products made from environmentally friendly materials
- Products that are green because of what they do not contain
- Products that reduce environmental impacts during construction, renovation, or demolition
- Products that reduce the environmental impacts of building operation
- Products that contribute to a safe, healthy indoor environment



Although there are many areas of the home which could be adapted to green building principals, some of the most common are:

**Paint** is one of the most frequently used and cost-effective finishes. Unfortunately, some paints have ingredients such as solvents, preservatives, fungicides, and pigments that may decrease indoor air quality and are a potential cause of health problems. Green building options include purchasing water-based latex paints; natural paints (made from plant resins, ethereal oil, mineral fillers, pigments with citrus oils, or linseed oils); or oil-based paints.

**Windows** should be good-looking, let in plenty of light, and be energy-efficient and affordable. There are so many kinds of windows available these days that choosing the best one for your needs can be difficult. To improve energy efficiency of existing windows, caulk around all trim and stationary parts, and weather strip the movable parts to cut down on air leaks. Other suggestions include installing insulated drapes or shades to reduce heat loss in winter and install solar screens or awnings to reduce solar heat gain in summer. When purchasing new windows, look at the U-Factor, which serves as a good measure of heat loss in winter. The lower the U-Factor, the better. The rating considers the whole window as a unit, including glazing, the sealing method and the frame material. Next, look at the Shading Coefficient (SC) and the Solar Heat Gain Coefficient (SHGC). Finally, look at the Visible Light Transmittance. This number should



be as high as possible. A high quality window has many benefits, such as lower energy bills, less maintenance, reduced fading of furniture and carpets, and improved security.



**Lights** can account for up to one-fifth of a home's energy consumption so the most efficient light is the one that's not on. Most of the electricity we use for lighting is generated by the burning of fossil fuels, adding pollutants to the atmosphere. Traditional incandescent bulbs waste 90% of the energy they use. The efficiency of a compact fluorescent is comparable to replacing a car that gets 20 miles per gallon with one that gets 100. Dimmers provide more lighting options and reduce energy costs. Timers and/or motion detector lights also promote more efficient electricity use. Avoid over-lighting a space. Not only does over-lighting waste energy, but it can also reduce lighting quality.

**Carpeting** improves a room's acoustics and cushions the floor surface. But the fibers and adhesives used to make and install many synthetic carpets impact indoor air quality and can induce health problems for occupants. Consider leaving floors uncovered, or cover them with natural linoleum or cotton or wool area rugs. If you opt for wall-to-wall carpeting, choose wool carpets and those dyed with vegetable-based products. Keep carpets as clean and dry as possible to avoid build-up of dust, dust mites, mold, and mildew.

### Commercial Lease Space

In addition to residential opportunities to incorporate green building considerations into your construction planning efforts, you may want to consider the use of "green" philosophies in the renovation of your commercially leased office space or business. Green building makes economic sense because it benefits the bottom line through increased productivity and health of you and coworkers, reduces operating costs, and enhances business image.



According to the Pittsburgh Green Building Alliance, incorporating "green" philosophies into commercial enterprises will create better working environments and increased worker productivity. Consideration of light selection, air quality, and interior space design, all green building philosophies, have been shown to contribute to reductions in absenteeism and common worker complaints of fatigue and headaches, while helping to increase worker accuracy and sales volume.

### Economic Benefits

Operating costs associated with green building can be reduced in a number of ways. Energy and water usage charges can be significantly reduced by the introduction of high efficiency mechanical systems and water-saving plumbing fixtures. Floor covering selection, particularly carpet, can incorporate "green" objectives. For example, the use of carpet tiles reduces the need to replace an entire room's floor covering when a portion becomes worn or damaged. In addition, the selection of "green" floor coverings may reduce the use of caustic adhesives during installation, enhancing indoor air quality.

Organizations focused on the environment and their workers' health enjoy a positive image. Applying and publicizing the use of "green design" can position a company as a leader and an innovator.

**Contacts and Information** The Green Building Alliance advocates that the earlier you adopt green goals, the easier it is to realize them in your project. The Green Building's website has several types of contacts to help you get started. You can contact them, and additional resources, through the following:

Website: [www.gbapgh.org](http://www.gbapgh.org)

Telephone: (412) 431-0709

Green Building Alliance Library: 64 South 14<sup>th</sup> Street, Pittsburgh

