Heating and Cooling Buildings in a Natural Way by John Tarantino

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Major environmental issues such as depletion of resources and pollution can be tied to the construction industry. Millions of buildings are being built everyday and opting for sustainable measures in construction and materials as a great leap into a more eco-friendly way of life.

The Benefits

Youâ€™ll enjoy both long and short-term benefits when opting for natural heating and cooling. Aside from lowering pollution and saving on energy consumption, health for the buildingâ€™s occupants is another immeasurable benefit given by sustainable buildings.

When it comes to energy conservation, comfort levels are also addressed, for example, a kidâ€™s room when used as a playroom during the day should be warm enough while having it set for a cooler temperature that is comfortable for sleeping at night. The design should make it possible to have such comfort levels without an unnecessary energy expense.

Pre Construction Strategies

Integrating green building strategies during the planning phase is the most effective way to maximize natural lighting and ventilation.

Good Orientation and Room Zoning

As a rule of thumb, allocate the kitchen, dining, bathrooms and bedrooms in the eastward side. There are number of benefits in positioning these functional areas in the east side aside from saving energy from heating and cooling. Kitchens and bathrooms for example will need ample natural lighting as well and heat to prevent formation of molds or bacteria to these damp areas. Bedrooms will be more comfortable when not facing the west side since glare and heat will make it unbearable to use during noon time or afternoons.

Inducing Air Movement

A good way to induce air movement is to have proper window heights. Opt to have window heights of 1.10 meters or about 3.6 feet. There is no additional benefit in the airflow beyond this given height but it may reduce heat loads from ceilings. When constructing for a residence or any type of building it is also effective to have wind deflectors that can be used horizontally or vertically. These deflectors are effective in directing airflow.

Addressing environmental issues in buildings is not only limited to the interiors but should also concern the surrounding environments. One of the most effective ways to induce good ventilation is to utilize the surrounding landscape. Place earth mounds to improve air motion. Earth mounds can accelerate the air flow into a building especially on the flat portion of mounds. In addition to good air movement, mounds and vegetation can provide shading to the interiors. Trees are effective in protecting a structure from strong winds.

Post Construction

Energy efficiency can still be achieved even after a building is constructed. Most environmental issues on pollution and energy waste are addressed to the living conditions in an active building.

Windows and Furniture

Since windows are the main entryways for light and heat it is best to address the window treatments being used. Bamboo blinds are interior design trends that can block glare or unwanted heat in a natural way. Since bamboo has lower heat retention, this means thereâ€™s a lower chance of heat build-up in a space. In choosing other types of window treatments, be mindful of the material or fabric used. Chemical based window treatments can be harmful to occupants and usually do have higher heat retention and lower insulation levels.

Another way to achieve efficient heating and cooling through window openings is by replacing old windows with new energy star approved windows.

Replacing furniture with the right type will reduce heat and cooling energy costs as well. Opt to have furniture made from natural materials. Rattan or woven bamboo or sea weed grass can be a perfect option for living room seats. They offer more ventilation during the hotter days and low heat retention. In relation to energy consumption, unlike couches made from upholstery there will be no need for vacuuming or dry cleaning.

Renovation and Upgrading

Solar energy usage has gained popularity in residences today and utilizing the sunâ€™s energy can dramatically reduce energy depletion, which is a major environmental issue. It is advisable to have solar collection devices away from the building using the solar energy gathered by the collectors. Plumbing systems can also be upgraded to achieve sustainability. Look for a local green plumber to do the revisions.

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