

Buildings to Built-Environment – Case Study

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Globally, the building sector is responsible for 30-40% of the total energy use, 30-40% of solid waste generation and 25-40 % of global green-house gas emissions. In the next 40 years, the building sector in India is expected to grow, much higher than the growth witnessed since advent of industrial revolution in India, about 50 years ago. By 2030, the built up area in building sector is expected to reach almost 4 times of what we have today. Therefore, India has the greatest opportunity in design and construction of green buildings. We can leapfrog building models to meet the twin objectives of resource conservation and reducing environmental impacts, by blending the Indian ancient wisdom & usage of modern equipment & systems.

The Indian Green Building Council (IGBC) of CII has embarked on the path to usher in a Green Building movement in the country since 2001. India today has over 1,827 Green Building projects coming up with a footprint of over 1.34 Billion sq. ft.

This growth has been possible with the participation of all stakeholders in the green building movement. One of the biggest reasons why green buildings are now widely accepted by the cross section of the society is the fact that green buildings make good business sense and they are financially very attractive.

The construction costs of a certified green building would be 2-3 % higher than a conventional building, with a payback period of 2-3 years through the substantial reduction in operational costs. Lower operational costs are largely experienced in energy and water consumption. It is estimated that energy savings of 40-50% are possible and costs of water can go down by 20-30% vis-à-vis the conventional buildings.

Additional benefits include excellent day lighting which comes through the orientation & usage of high performance glass which allows light while rejecting the heat and enhanced indoor air quality which are known to improve the health and productivity of occupants. Green buildings also have the potential to reduce carbon-dioxide emissions. For example a IGBC platinum or gold rated building can lower emissions by 12,000 tons for every million sq.ft. of built up area.

Given the savings and benefits, demand for green buildings is on the rise. This has resulted in introduction of new green products and technologies over a period of time. This has significantly reduced the cost of products, services and materials, thus making green buildings affordable.

Today many new materials and services have been introduced in India as a result of this movement. Earlier most of these materials needed to be imported. It is estimated that market for green building products will provide \$120 Billion business opportunities by 2015.

Many of the green buildings rated by IGBC have started reaping tremendous benefits. The projects have voluntarily started sharing the energy and water savings. Performance data from over 40 rated buildings (under various building types) is already compiled and hosted in IGBC website

Green buildings have a bright future. With construction in India projected to grow manifold in the next 25 years, green buildings will have a major role to play. The focus would be on promoting sustainable built environment. Some of the trends that the market would witness include the following:

- Solar Air-conditioning, Radiant Cooling Technology, Pre-fabricated Homes, Net-Zero Energy Buildings, Self-sustainable for water, Remotely Control Operations, Increase in Urban Greenery, Local food production, Solid Zero Waste, Eco-Friendly transportation and Green Townships

The vision of the Council is to enable ‘sustainable built environment for all and facilitate India to be one of the global leaders in sustainable built environment by 2025’.