

# Sustainable architecture for sustainable future

[Design](#), [Architecture](#)



Sustainable Architecture for a Sustainable Future Our environment today suffers from many issues. The most important one from a constructor's point of view would be the resources depletion problem. Freshwater resources are declining, the soil is losing its fertility, and there is a crucial shortage in basic minerals such as zinc, copper, and phosphorus. These deficiencies would definitely lead to a slowdown in construction growth. According to Reran Named (2012) construction is the less sustainable business in the world because it uses around 50% of all non-renewable resources (8).

Therefore, in order to be able to keep growing in construction, architects and contractors must change their approach, which would mean that they have to adopt a more CEO-friendly vision in terms of architecture; "Green building". The term is now frequently used by newspapers, online articles, or even on TV, but what does it really mean? In Building Green in Pennsylvania, a green building is described as "one whose construction and lifetime of operation assure the healthiest possible environment while representing the most efficient and least disruptive use of land, water, energy and resources"(1).

An example of this type of buildings would be The Change Initiative (TIC) in Dublin, a flagship store where one can shop for green materials. The building is platinum certified by LEED, a non-profit organization dedicated to promote green buildings worldwide. TIC produces 40% of its own energy requirement, the water is reused, and almost all materials used inside are submitted for recycling. After having been exposed to all of the positive impacts of sustainable architecture, one must surely consider green building as the definite future of construction.

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The first and main reason for using a Green strategy in construction would be to rooter the environment. Buildings and the Environment: A Statistical Summary shows that, in 2005, 38.9% of the energy in the US is consumed by constructions, with residential buildings consuming more than the half of this percentage. The study also concludes that the electricity consumption of commercial and residential buildings in the states was 72% of its total electricity consumption in 2006. (2).

This massive electricity consumption meaner more energy consumption, which leads to more emissions by fossil fuels which are known for causing acid rain, smog, and many other environmental issues. Green buildings address these countless problems by making use of daylight and solar power that help reduce electricity consumption. Another green building strategy is rainwater recycling which help conserve potable water and increase the amount of saved water. The construction business has its share in causingpollution, butclimate changewould be the last idea to occur to one's mind as being a problem caused by construction.

Brown, M. A. , & Southward, F. (2006) point out that greenhouse gas (Sighs) emission is one of the primary causes of climate change, and one of the least-cost approaches to reduce it is energy-efficient instruction (1).

Buildings are responsible for 43% of the CA emission, and for an average of 8% of other Eggs (4). A sustainable building would address these emissions by integrating some of the latest technologies; Green buildings use advanced techniques such as reflective roof products, low-E coating for

windows, using materials from demolished buildings, and natural heating and air-conditioning, and Brown, M.

A. , & Southward, F (2006) assert that these ecological strategies can reduce energy consumption and Sighs emissions by 30 to 40% (12). Another reason or benefit of building green is because sustainable constructions have a positive influence on humans'health. Pollution is one of the main causes of sicknesses and diseases, since sustainable architecture tends to avoid the use of polluting materials, it indirectly contributes in making the human health better. From a general approach, Sings, A. , Seal, M. , Grady, S. C. And Korma, S. (2010) present a survey in which they ask people about their health before and after moving to a green building. The preliminary studies based on the surveys conducted show that green buildings have eventually improved health and well-being (p. 6). In addition, Cats G. 2013) believes in The costs and financial benefits of green buildings that improving the quality of the environment in which a person uses information positively affects his health by loweringstressand therefore leads to longer lives.

Sustainable constructions take into account the occupants' health and restrain their use of materials that can harm it in any way, while taking advantage of natural resources (6). Productivity is also a factor influenced by green buildings. In Effects of green buildings on employee health and productivity, Sings, A. , Seal, M. , Grady, S. C. , and Korma, S. 2010) confirm " The improvement in perceived productivity were fairly substantial and could result in an additional 38. 98 work hours per year for each occupant of a green building"(6).

Green thinking pushes architects to include more daylight in order to save electricity, and to use self-heating/cooling systems that would work on solar power. In his report *The costs and financial benefits of green buildings*, G. Cats (2013) explains: "Increases in tenant control over ventilation, temperature and lighting each provide measured benefits from 0.5% up to 34%, with average measured workforce productivity gains of 7. % with lighting control, 1.8% with ventilation control, and 1.2% with thermal control. Additionally, significant measured improvements have been found with increased daylight. (6) According to these statements assessed by professionals, it is clear that green buildings affect productivity rates in a positive way by making workers more comfortable and therefore enhancing their creativity and inventiveness. G. Cats (2013) stresses in *The costs and financial benefits of green buildings* on the importance of the quality of benefits that workers receive in their workplace, which will eventually attract the best employees. Environmentally friendly design seems perfect to some, but others may consider its flaws. The most common concern about green buildings is the lack of information about how much it costs.

Due to the use of many unknown techniques and strategies that are unheard of to build green, a misconception made its way through the minds of many that sustainable buildings cost much more than traditional ones. Cats G. (2003) states in *Green building costs and financial benefits* that the average cost of a green building is lower than what people believe (8). Not only do green buildings cost less than expected, but they pay back for themselves over the years. Cats G. (2013) discusses that the financial advantages of green buildings are more important than traditional ones'.

The financial benefits of green buildings come from water saving and re-using, less need for energy, therefore less costs. These savings are over than 10 times the additional cost of these buildings (8). In addition, the property value increases due to the fact that green buildings need less maintenance and economies energy. From an economic point of view, sustainable constructions positively affect sales rates; A study accomplished by HEDGEHOGS MAHONEY GROUP has found that " Skylights were found to be positively and significantly correlated to higher sales.

All other things being equal, an average non-skylight store in the chain would likely have 40% higher sales with the addition of skylights, with a probable range between 31% and 49%. "(as cited in Green building benefits (Para 12)) . Nature has always been the human race's mentor since the earliest of ages. Michael Pawl, a modern environmental architect, made an important point in a lecture he gave at TED in 2010:" life could learn to make things ND do things the way nature does, we could achieve factor 10, factor 100, maybe even factor 1, 000 savings in resource and energy use".

The world has been surviving for over 4 billion years. In order for the humanity to do the same, it's up to the architects to take action and encourage this project that can save what's left of our polluted planet. It's about time to stop violating our planet that has suffered enough of human greed which has caused many tragedies such as deforestation, green fields and pure water sources pollution, rise of sea levels, and many more. It's about time to start thinking about the new generations, by building them

sustainable constructions that would improve the inside and outside environment.

Besides reducing gas emissions, conserving water, and reducing waste, building Green has its economic benefits: Moneywasted for producing energy and water would now be spared, not to mention the increase in the value of the building, the high productivity rates, and the sales improvement.