

# Design Future

## Sustainable Building Practices

The key to the future of architecture surely lies in sustainability. A sustainable building has to be a durable one, not simply in terms of strength and solidity of the foundations, but also in terms of the impact it has on the planet, its surrounding community and the people. What is good for the planet is, in turn, good for us. We continue to plan for tomorrow, but our actions and designs today will affect that future for a long time to come. Shaping our future then should be a thoughtful, caring process and sustainable design is just that and the key to environmentally-sustainable building.

### Designing environmentally sustainable buildings into the future

Environmentally sustainable buildings, or green buildings, as we commonly refer to them, are becoming increasingly important on the urban landscape. What was a decade ago, considered by some a fad or fancy has now become a necessity, as the world recognises the impact of buildings on the environment, leading to a more vociferous demand for greater environmentally sustainable or green building development. This has also become necessary, since most governments, the world over, integrate the needs for green building development through tighter regulatory controls. Research has found that buildings cause much more environmental impact than transportation and industry. The International Energy Agency (IAE) estimates and the USGBC (United States Green Building Council) data show that building globally accounts for up to 40 per cent of energy consumption, translating to approximately 2,500 million tonnes of carbon per year. USGBC data further indicate that buildings account for up to 70 per cent of electricity consumption and up to 13.9 per cent of potable water consumption, and also make up 40 per cent of the primary users of energy in the US. With such dramatic information to hand, it is easy to comprehend the impact of buildings on the global environment.

The benefits of green buildings are multiple and clearly apparent. This is well-documented by several studies into this area, one being the data published by the USGBC, which is the agency awarding the internationally recognised LEED (Leadership in Energy & Environmental



The Earth Spa, Evason Hua Hin, Thailand, created by dwp

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Design) certification, as acknowledgement for the development of environmentally sustainable buildings. Proof exists from these studies that a well-designed green building can lead to savings of up to 50 per cent on energy consumption, 39 per cent on CO2 emissions, 40 per cent on water usage and up to a 7 per cent reduction in solid waste generation. These alone are sufficient motivators speaking for the development of green buildings. Additionally, green buildings see an improvement in the quality of life of users, due to better indoor environmental qualities, as well as direct and indirect financial benefits, such as a reduction in operating costs (up to 9 per cent), and an increase in the value of the building, in the form of increased rate of return and rental value, among others, too numerous to list here.

However, there remains apprehension in the mind of many, as to the advantages of green buildings, owing to a perception that green buildings require far more capital investment, compared to ‘regular’ buildings. With more research and data being made available on the financial benefits of green buildings, increased development and availability of environmentally sustainable technology and materials, and rigorous laws and environmental taxes being imposed in many countries, these apprehensions are slowly being replaced by raised awareness

and demand for green buildings.

There are two approaches to designing environmentally sustainable buildings. One by using modern construction

technology and green materials available, while the other implies looking back into history and learning how our forefathers managed to build, employing locally available methods and materials. Both approaches can lead to interesting and iconic buildings. In the first case, we see development of highly modern and often complex buildings, whereas the other yields similar benefits, but carries a cultural and historical context through form and spaces.

The Earth Spa, designed by dwp at the Evason Hua Hin resort, in Thailand, offers an equally successful green, iconic and aesthetic built-form of a different kind. It takes inspiration from the mud-hut architecture of the arid zones of Asia and Africa. The project achieves equal, if not better, environmental benefits, whilst representing history and culture. Built entirely from reed-reinforced mud, the spa is a series of mud-huts, planned over a natural lagoon. Using only natural ventilation, the water on which it sits works as a natural coolant of air, rising through the spaces, escaping via well designed ‘windows’ in the dome of each structure. The windows also act as a series of light shafts, creating an interesting and appealing interior space. The project uses 100 per cent local materials and building technology exceeds most requirements for an environmentally sustainable building.

It is important to note that the approach to environmentally sustainable building design has to be integrated and should start right from the outset. Working closely and in conjunction with all design disciplines is another significant factor that leads to a fully integrated environmentally sustainable building, as all design disciplines, be it architecture, engineering, landscaping or interior design, play an equally important role in creating a green building, sustainable for the present and the future.

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