

# Developers resisting green norms are sure to struggle for survival in future

■ New projects need to adopt sustainable concepts at design stage itself



# 220,000

The amount saved in dirhams on energy costs in a year in a 100,000-square foot green building

It may be a bit late for all those of high-rise projects already making significant construction headway. But for the newer ones, it would make sense to pay heed to the latest findings on sustainable processes within high-rise tower developments.

"Tall buildings need to innovate beyond their standard functions — office, residential, and hotel space that account for around 95 per cent of space in tall buildings worldwide — to include more sustainable functions," notes Antony Wood, Executive Director, Council on Tall Buildings and Urban Habitat, which is holding its eight World Congress in Dubai in March.

In future, tall buildings should focus on sustainability from initial design onwards, as well as incorporating sustainable technologies. "While there are those who believe that the embodied energies involved in tall buildings combined with the impact on the urban realm, make them inherently anti-environmental, I believe that the opposite is true," Wood insists.

"The biggest impact on a building's energy consumption is the fundamental early decisions that are taken in the building's design are all relative to the environment. Moreover, tall buildings

provide a great potential for harnessing wind energy; more efficient energy production and distribution systems and an increased access to view, light and air."

Wood dismisses suggestions that mixing green with tall buildings play havoc with a developer's costs. "Green buildings' energy savings primarily come from reduced energy usage and secondarily from reduced peak energy demand," he says.

"In general, green building benefits include reduced energy, water and waste in addition to lowering operations and maintenance costs. There are also the more-

difficult-to-measure benefits such as the higher quality internal environment which can have a positive effect on worker productivity, occupant health and the amount someone is prepared to pay per square foot."

He touts data that show green buildings provide financial benefits that conventional buildings do not. On average, green buildings use 20-30 per cent less energy than conventional buildings — a saving of about Dh220,000 per year for a 100,000-square foot building.

A recent report from Massachusetts Technology Collaborative mentions,

"The financial benefits of green buildings are between \$50 and \$65 per square foot. These financial benefits are in lower energy, waste and water costs, lower environmental and emissions costs, and lower operational and maintenance costs."

The latest mantra for sustainable high-rises is to accommodate more social-communal spaces within them, such as skygardens and skyplazas. The right mix of design and greater use of energy saving technologies can substantially reduce carbon dioxide emissions from the building sector, which accounts for 30-40 per cent of global energy use.

"Dense and more concentrated cities are widely seen now as an essential part of a more sustainable way of life," explains Wood. "These dense, smaller-footprint cities can cut energy consumption and climate-change emissions by reducing the suburban spread of cities and therefore the need for extensive transportation and infrastructure networks.

"In this regard, tall buildings play a key role in creating denser cities by accommodating more people on smaller parcels of land and therefore reduce the overall impact of buildings upon the natural environment and upon the world's climate."

## FINANCIAL BENEFITS OF SUSTAINABLE BUILDINGS

■ Financial Benefits of Green Buildings	
Category	20-year Net Present Value (per square foot)
Energy Savings	\$5.80
Emissions Savings	\$1.20
Water Savings	\$0.50
Operations and Maintenance Savings	\$8.50
Productivity and Health Benefits	\$36.90 to \$55.30
<b>SUBTOTAL</b>	<b>\$52.90 to \$71.30</b>
Average Extra Cost of Building Green	(-3.00 to -\$5.00)
<b>TOTAL 20-YEAR NET BENEFIT</b>	<b>\$50 to \$65</b>

## THE CHALLENGE

■ "The UAE has the highest carbon footprint in the world with almost 9.06 global hectares per person, closely followed by Kuwait with 6.38 global ha/person and the US with 5.66 global ha/person. The main challenge for these countries is to move directly to more energy-efficient building solutions."

**Antony Wood, Executive Director, Council on Tall Buildings and Urban Habitat**

Source: Capital E Analysis