

# BUILDING GREEN ASIA

Special Advertising Section

## How buildings can boost workers' health and productivity

**M**OST MODERN office buildings are not very conducive to the health and productivity of their occupants. Employees work under enervating neon lights, breath recirculated air, and sit surrounded by a stew of semitoxic vapors that emit from the carpets, adhesives, sealants and paints. But green buildings, by maximizing the use of daylight, minimizing the use of toxic materials, and circulating more fresh air, have not only made employees more comfortable but have also generated measurable improvements in worker productivity.

In general, the economic benefits of green buildings are well recognized, and they include large energy savings that can be achieved at modest prices. In the U.S., the lowest level of Leadership in Energy and Environmental Design (LEED) certification adds just 0.66% to the cost of a building but results in energy savings of nearly 20%, while the next-highest level, the LEED silver certification, adds 2.11% to the cost, and results in energy savings of 30%, according to a study

by the Massachusetts Technology Collaborative. The economic benefits of such huge reductions in energy use are obvious, and so are the ecological benefits, especially in Asia, which generates most of its electricity by burning coal and oil.

But until recently, the productivity benefits delivered by green buildings were not as well known as the energy-saving benefits. That situation is changing as more studies are done on the productivity increases associated with green buildings. Companies that have moved into new green buildings, or made green retrofits on existing buildings, can make before-and-after comparisons of sick days, and of productivity, by calculating the amount of salary required to deliver a given amount of output. In the U.S., green buildings have increased employee productivity about 10%, according to the Massachusetts study.

Green buildings lead to productivity gains because people are healthier and more alert, says Trudy-Ann King, Asia-Pacific regional manager for the World Green Building Council



By maximizing daylight and fresh air, green buildings make employees more comfortable and improve productivity.

in Melbourne.

Green buildings improve the workplace environment in a number of ways. Most LEED-certified buildings provide natural daylight to at least 75% of their interior spaces, often with the help of reflective panels that channel daylight deep into the building, and they give tenants more personal control over lighting and temperature levels. The LEED certification process also awards points for using nontoxic carpets, paints, glues, and other industrial materials. One of the most

important issues is air circulation, as stale air contributes to cold and flu transmission, and to asthma, which is a leading cause of absenteeism.

Modern green office buildings, such as the Council House 2 (CH2) building in Melbourne, do not recirculate much air. "The air only passes through the [CH2] building once, but in standard buildings, they bring in a small amount of outside air and mix it up with air that has already been expelled by people, so you get a soup of carbon dioxide and oxygen, and it is never

the same quality as outside air," says Ms. King.

The CH2 building, she says, resulted in a 10.9% improvement in employee productivity. Other benefits, such as attracting and retaining personnel, and improving workplace congeniality, are also substantial, but are harder to measure.

If productivity gains are included in the cost-benefit analyses of green buildings in general, the argument

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for sustainable buildings becomes even stronger. According to the Massachusetts study, the increased productivity will deliver savings of about \$35 a square foot for LEED-certified buildings over a 20-year lifespan of the building.

Convinced by the economic arguments, Asia has begun to embrace the concept of green building. In the past two years alone, China, India, Indonesia, South Korea, Malaysia, the Philippines, Taiwan, and Vietnam have all established green building councils and affirmed their commitments to sustainable buildings.

"On the cost side, in terms of payback, it is virtually equivalent to a free lunch," says Janet Pau, program director of the Asia Business Council in Hong Kong.

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E-mail: info@indialand.net, Website: www.indialand.net