Focusing on health: The path to sustainable, high-performing buildings

Urban Thinkers Campaign
Healthy Environments through Architecture
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Abstract

While 'sick buildings' were at one time associated with attempts to reduce energy consumption, architectural practice has shifted in the last decade such that the very things that provide a healthier environment for building occupants are now the things that allow them to be so sustainable and efficient. This is never more true than in the age of COVID-19. This presentation will give examples of how we can lead clients to more sustainable projects by focusing on health and human productivity first--and the energy savings come along for the ride.

Lamar Headquarters--renovation
EskewDumez Ripple
2018 AIA National Honor Award for Interior Architecture
Buildings can make us sick...

Inside the building
- Buildup of indoor CO$_2$
- Buildup of combustion products
- Off-gassing or direct contact
- Promoting sedentary lifestyles
- Promotion of mold
- Limiting natural light

Outside the building
- Pollution emitted generating power used by buildings
- Pollution emitted producing construction materials
- Pollution emitted getting between buildings
...or buildings can help us become healthy

Inside the building
• Provide fresh air
• Eliminate combustion
• Use non-toxic materials
• Promote walking & stair use
• Prevent moisture buildup
• Provide natural light

Outside the building
• Use only pollution-free power (onsite or offsite)
• Move to low-carbon construction & nontoxic materials
• Promote dense settlements reached by walking, bike, or transit
The misconception
Saving energy = sick buildings

• Provide fresh air
• Eliminate combustion
• Use non-toxic materials
• Promote walking & stair use
• Prevent moisture buildup
• Provide natural light
• Located where occupants can walk, bike, or use transit to get where they need to go
The reality
High air quality, low energy

• Providing more than twice the quantity of fresh air per occupant than code and zero-VOC interiors significantly improves worker productivity

• Yet energy use intensity 70% less than typical office buildings routinely achieved

Center of Developing Entrepreneurs (Charlottesville, Virginia)
EskewDumezRipple
Energy Use Intensity 70% below benchmark | LEED Platinum
The reality
Healthy net zero is affordable

• Cost premium to take standard construction to healthy net zero with onsite energy storage < 15%

SBP St Peter Apartments (New Orleans, Louisiana, USA)
EskewDumezRipple
Net Zero energy | Enterprise Green Communities | Construction cost < regional average for standard multifamily housing
The way forward
Owners want healthy buildings

• Building occupants prefer healthy buildings—light, air quality, comfort

• The same measures that improve health can save energy and reduce pollution

• Many building owners who are only marginally interested in ‘sustainability’ are very interested in buildings that promote health
  • Market value
  • Liability limiting

• The cost premium is less than you may think