



distinguished sustainability lecture series

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Key lecture points from the Distinguished Sustainability Lecture Series

Singapore

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Huston Eubank

International Green Building Expert

Huston Eubank is a registered architect (Hawaii and NCARB) and an independent consultant specializing in sustainability for buildings, communities and businesses. He currently serves as Chief Knowledge and Innovation Officer and Director of Consulting for Regenerative Ventures, Inc., teaches a course on "Integrative Design for Energy Efficiency" for Singapore's Certified Energy Manager Program (SCEM), and is an Associate of The GreenAsia Group in Singapore. Huston served the World Green Building Council as founding Secretary and Executive Director, and was a Principal at Rocky Mountain Institute. He has a Bachelor of Architecture degree from Cornell University and is a Fulbright Senior Specialist and a LEED® AP.

In 2002, in the U.S. alone, sick building syndrome cost businesses and the government about sixty billion dollars a year.

We really do not have systematic metrics for measuring productivity increases associated with green buildings.

If we focus on productivity, we actually can get benefits that are on the order of one hundred times the benefit that we get from saving energy in terms of the dollar value.

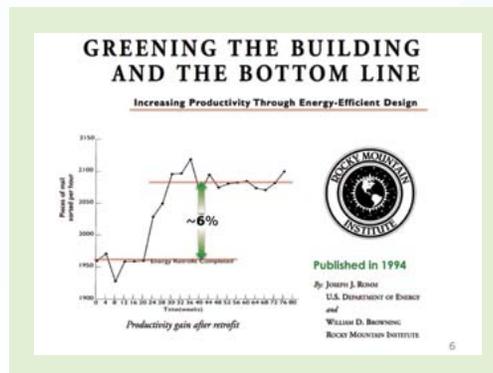
The connection to nature is fundamental to human well-being. We are part of nature. We evolved in nature and we respond to nature. The more high-tech we become, the more nature we need.

A report was issued by the Rocky Mountain Institute in 1994 called **“Greening the Building and the Bottom Line”**

and this is one of the first mentions in the literature of productivity in green buildings. It found that buildings that had been retrofitted measured productivity increases in employees on the order of 6% to as much as 18%.

Contact with nature is critical and our connections between the interior and exterior, not just visual, but physical, materials, all kinds of connections and even sound.

Patients at a hospital that have a connection to nature, primarily views, have reduced recovery time. **They stay in the hospital for a shorter period of time, have fewer complaints, fewer complications, and require fewer pain killers.**

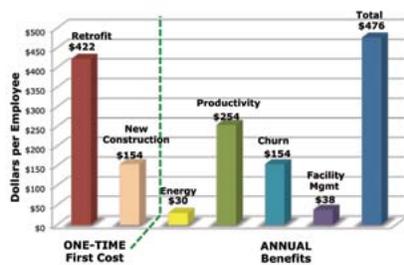


The Center for Building Performance and Diagnostics at the Carnegie Mellon University conducts research towards improving the quality and performance of commercial buildings and building systems. One of their research projects is BIDS™, a cost-benefit analysis tool to support investments that improve environmental quality, health and productivity in buildings.

The General Services Administration is the landlord of the U.S. Government. In 2010, it looked at 22 buildings that were built to LEED criteria or attained LEED certification or higher, and found a **27% higher occupant satisfaction** than the normal average. Productivity is real and it has value.

The Institute of Medicine of the U.S. National Academy has asked a study group to look at the future effects of climate change. In buildings, the carbon dioxide concentration levels get higher than in outside air. Therefore, it is going to require building ventilation rates to become substantially higher to keep carbon dioxide in the range of 1,000 parts per million. There is also research showing that at 1,000 parts per million, our ability to make decisions becomes substantially decreased. Keeping the carbon dioxide level low is going to be important to decision-making.

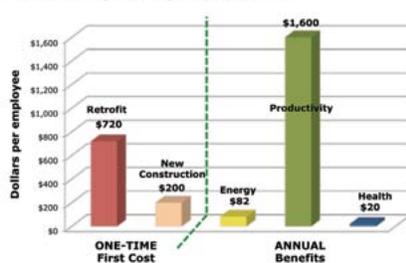
Costs and Benefits of Under Floor Air Distribution Systems



Results from 12 studies in BIDS™ - Building Investment Decision Support Tool
<http://cbpd.arc.cmu.edu/ebids/>

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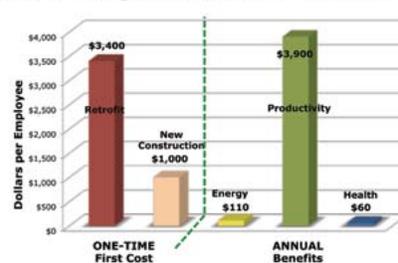
Costs and Benefits of High Performance Electric Lighting Systems



Results from 25 studies in BIDS™ - Building Investment Decision Support Tool
<http://cbpd.arc.cmu.edu/ebids/>

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Costs and Benefits of Mixed Mode Conditioning and Natural Ventilation



Results from 8 studies in BIDS™ - Building Investment Decision Support Tool
<http://cbpd.arc.cmu.edu/ebids/>

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