

## **What Makes a Commercial Office Building High Performance?**

*Module 2: Print Version - 4 panels maximum*

High performance is used to describe a building that provides a high return on investment for developers, lenders, investors, owners, and occupants, as well as for the community and the natural environment. High performance buildings result from smart business choices. These buildings share a number of common characteristics. Overall they are:

- Cost-effective to build and operate
- Energy efficient
- Less harmful to the natural environment
- Safe and healthy for occupants
- Flexible, productive, and satisfaction workspaces.

High performance buildings support and attract high performing organizations. When promoted effectively, these buildings differentiate their designers, developers, and owners because they are more competitive, profitable, and valuable than conventional counterparts. An integrated approach to design, engineering, construction, and operation reduces many risks typically associated with conventional buildings. Flexible layouts and products minimize the costs of making changes in the workplace. High performance commercial office buildings help developers, owners, and occupants reap financial benefits associated with the health, well-being, and productivity of such buildings' occupants.

Although high performance buildings integrate "green" and sustainable design principles, "green" buildings are only high performance if they deliver on their stated performance objectives.

## **What are the Benefits of High Performance Commercial Office Buildings?**

High performance commercial office buildings provide seven basic benefits to developers, lenders, investors, owners, occupants, and the community:

1. Lower Operating and Maintenance Costs
2. Increased Building Valuation
3. Corporate Productivity Gains
4. Improved Occupant Satisfaction and Well-Being
5. Reduced Risk
6. Greater Market Attraction and Competitiveness
7. Enhanced Environmental Stewardship

### **1. Lower Operation and Maintenance costs**

Reduced operating and maintenance costs start with integrated, high-quality design and engineering. "Right-sized" mechanical systems, building envelope and orientation, use of daylight, and strategic controls are a few of the components that contribute to lower operating costs. High-efficiency lighting, occupancy sensors, under-floor air distribution, energy-efficient windows, and white roofs reduce energy consumption. Metered faucets, efficient landscaping, storm and grey water recovery, and ozone water treatment reduce water use.

### **2. Increased Building Valuation**

Increased building valuation is driven by reductions in operations and maintenance expenses, a boost in net operating income (NOI), an increase in a property's market value, and a strong loan-to-value ratio. Reductions in an owner's share of operating expenses plus potential increases in revenue -- *caused by faster lease-up, higher base rents, and/or improved tenant retention and attraction* -- create higher NOI and higher market value.

### **3. Enhanced Corporate Productivity Gains**

Because 80 cents on every dollar a company spends is on its people, gains in corporate productivity add up quickly. Productivity is impacted by numerous factors: *indoor air quality; ventilation, lighting, and temperature control; and daylighting* -- all hallmarks of high performance buildings. Productivity is further enhanced through adaptable layouts and furniture that reduce churn costs, and raised flooring and modular cabling that provide widespread access to technology and communications.

### **4. Improved Occupant Satisfaction and Well-Being**

High performance buildings help make occupants healthy and productive through high-quality indoor air, enhanced comfort and control, daylight and views, layout and furniture flexibility, and proper ergonomics. These attributes also enhance tenant attraction and retention.

### **5. Reduced Risk**

Integrated design, energy efficiency, healthy interior environments, and enhanced flexibility all contribute to risk reduction and increased predictability. An integrated approach to design, construction, and operation minimizes change orders, which are the single biggest reason for construction litigation. Energy efficiency helps protect against the uncertainties of energy prices and environmental regulations that can result in negative impacts on cash flow and shareholder value. High quality indoor air can also reduce legal liabilities associated with "sick building syndrome," and ergonomic furniture

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helps reduce workers' compensation-related injuries and claims.

## **6. Greater Market Attraction and Competitiveness**

The attributes of high performance buildings -- *greater occupant comfort, operating savings, and implied corporate social responsibility* -- contribute to positive publicity and image. These, in turn, can enhance the market attraction and competitiveness of high performance buildings -- AND the companies that build and occupy them.

## **7. Enhanced Environmental Stewardship**

Resource efficiency essential to environmental stewardship is achieved through integrated design and careful product selection, installation, and recycling. Other contributing factors include building re-use, sourcing products within a 500-mile radius, and proximity to public transportation.

## Who Benefits from High Performance Commercial Office Buildings?

*Module 3: Print Version - 4 panels maximum (with graphics)*

The features of high performance buildings offer different benefits to different constituencies.

### **Developers, Lenders, Investors, Owners**

Developers and owners want profit maximization, high cash flow, and high sales price. Lenders want solid performance and predictable cash flow.

*High performance commercial office buildings benefit developers, lenders, and investors through:*

- Reduced operating and energy costs
- Slower dollar growth in utility costs - *predictability*
- Shorter initial lease-up period
- Higher rents
- Higher cash flows
- Enhanced building valuation
- Higher short- and long-term profitability -- *increased desirability of space, increased tenant renewal, reduced vacancy, reduced obsolescence*
- Product and brand differentiation
- Enhanced public image for the building and the developer/owner
- Minimal, if any, construction premium

### **Owner-Occupants/Tenants**

Owner-occupants and tenants want to minimize expenses, maximize productivity, and look good in the eyes of their shareholders.

*High performance commercial office buildings benefit owner-occupants and tenants through:*

- Reduced operating and energy costs
- Slower dollar growth in utility costs - *predictability*
- Enhanced productivity - *increased worker satisfaction, safety, and comfort because of high-quality indoor air, natural lighting, increased control, and more flexible work settings*
- Enhanced productivity - *reduced absenteeism because of healthy interior environments*
- Reduced risk - *from sick building syndrome*
- Stronger attraction and retention of top talent - *healthier, more productive work environments*
- Reduced churn costs - *more flexible building systems and technology distribution*
- Enhanced public image - *environmental stewardship and commitment to a healthy workplace*

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### **Communities and Municipalities**

Communities and municipalities want vibrant economies, dynamic downtown areas and neighborhoods, and competitive infrastructures and public services.

*High performance commercial office buildings benefit communities through:*

- Building and/or brownfield redevelopment - *revitalizing existing business districts, minimizing costs for new infrastructure, and avoiding development of a previously undeveloped Greenfield site*
- Use of building products and furnishings from within a 500-mile radius - *encouraging purchase of local/regional products and services*
- Greater energy efficiency, storm and grey water recovery, and water-efficient landscaping -- *creating less burden on municipal utility infrastructure and services*
- Proximity to public transportation -- *reducing automobile traffic and pollution by encouraging pedestrian communities*
- Storage for bikes with locker and shower facilities - *encouraging alternative transportation, helping reduce automobile traffic, reducing pollution, and encouraging pedestrian communities*
- Good neighbor design -- urban, suburban, rural -- *effective traffic design, minimized light pollution*
- Enhanced position and identity of the community in a global and national market
- Increased marketability and desirability of the community

# The High Performance Building Technology Initiative (HPBTI)

## Building Market Demand for High Performance Building Technology in the Northeast Ohio Commercial Office Market

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### **Overview & Intent:**

*The HPBTI is made possible through a grant from the BP Fund (of the Cleveland Foundation), which engaged Cleveland State University, in partnership with Currere, Inc., to explore the potential economic development impact of high performance building technologies (HPBT) in Northeast Ohio. The intent of the initiative has been to capitalize on the national push towards high performance building by supporting a developing market demand within Northeast Ohio. Developing the market demand will help mainstream this emerging industry as an economic and workforce development driver in Northeast Ohio. This includes economic growth, job creation and retention through demand for high performance buildings and related technologies; increased workforce competitiveness and increased collaboration and dialogue among the environment, economic development and social/political leadership.*

The overall objective of the HPBT is to accelerate the development of mainstream market demand of high performance buildings and related services, technologies and products in the northeast Ohio commercial office / industrial market.

### **What is a high performance building?**

A high performance building is one which generates a high return on investment for the environment, the building owners and managers, the human and organizational occupants, and the community. More specifically, high performance buildings are **energy efficient, have low short-term and long-term life-cycle costs, are safe and healthy for occupants (physically support the health and productivity of occupants) and minimize any negative impact on the environment - in fact these buildings may actually have a restorative impact.** Objectives include the tangible savings associated with energy, water and waste efficiencies as well as the "softer" benefits, such as human health and productivity, impact on the environment and incorporation of recycled content materials.

*High performance buildings benefits form an **integrated and team driven approach** that brings together various experts in the early stages of planning, design and construction conceptualization. The process requires thinking about the building and its site as a series of interlinked and interdependent systems and relies on simple techniques for design such as the manipulation of land features, building form and exterior materials to manage the climate and get the most out of the materials at hand before involving electrical and mechanical assistance from energy-driven heating, cooling and lighting systems. High performance building design forces the re-examination of traditional products or building systems, identifying innovative technologies (or product and system alternatives) that offer significantly improved environmental performance. The use of computer energy modeling further refines a more progressive design approach supporting fairly accurate cost/benefit forecasting.*

### **What is high performance building technology?**

It is the whole system of expertise, practices, processes and products required for the planning,

design, development, implementation and operation of high performance buildings.

### ***What will accelerate market demand?***

Maybe the better question is what is inhibiting the development of mainstream market demand? One major contributor is a lack of metrics needed to demonstrate and legitimize the business case for HPBT. But not just as a general "one size fits all" value proposition. The business value of HPBT needs to be understood in the context of a variety of different building and owner/occupants scenarios. We cannot assume that what may be an HPBT benefit for one building will automatically be a benefit for another. Business cases need to be developed for a variety of building markets in NEO and commercial office and industrial buildings comprise one of these markets.

### **The Commercial Office & Industrial Market Team**

To develop the metrics and build the business case for HPBT in the NEO commercial office and industrial market, we are pulling together a cross disciplinary team of local practitioners with experience and expertise in all aspects of the commercial office and industrial market. These practitioners represent the local architects, engineers, contractors, developers, appraisers, financiers, owners and managers who collectively have experience and knowledge in planning, design, development, implementation, ownership, operation, management and occupancy of these types of buildings. In preparing the business case, we are asking this team to:

1. Estimate the **potential economic value** of high performance building technologies (buildings, building services, building materials and products) within the NEO commercial office and industrial markets.
2. Establish a **"tool kit"** of HPBT features and benefits (including metrics).
3. Recommend **finance, appraisal and policy practices** which would encourage high performance building practices.

Team members fall into three primary categories: practitioners, end users and enablers.

***Practitioners*** include professionals responsible for planning, design, development and implementation (construction) and may include representative: Architects, Engineers, Interiors; Construction; Program / Project Managers; Commercial Real Estate; Developers.

***End users*** include those who own, occupy, operate, and manage buildings and may include:

- Tenant / Occupant
  - Corporate Maintenance, Facilities and Operations
  - Human Resources
  - Corporate Real Estate
- Building Owner / Management Company

***Enablers*** include consultants / professionals involved with financing, appraising and policy development and enforcement and may include representatives of: banks, appraisal companies, county / city planners; building departments; developers; and trade associations.

### **Outcomes:**

Outcomes (deliverables) from the work of these teams will include:

- Estimated **economic "value" of specific market segment in NEO** in terms of buildings, building services (planning, design, development, construction, etc.) and building materials and products - ea 5 bill of value -

- Market based **HPBT feature / benefit** analysis (hub and spoke model)
- **Metrics** that will enable practitioners (service, product and end user) to better understand, track and assess the realized value of high performance buildings and related technologies in terms of processes, products, systems, etc.
- Recommendations for **finance & appraisal** methods that can advance HPBT within that market
- **Policy** recommendations (codes, zoning, incentives, etc.) to accelerate HPBT within that market
- Development of an integrated expert HPBT team

**Logistics:**

Overall duration of process is estimated to range from two to four months.  
 Meetings will be bi-weekly, either in early morning or end of day.  
 First meeting is being scheduled now.

Meetings will be facilitated by Sally Breyley Parker of Currere, Inc. and Colette Hart of Cleveland State University College of Business. Currere and CSU are partners in the High Performance Building technology Initiative.

**COMMERCIAL OFFICE / INDUSTRIAL MARKET TEAM**

Team		
<b>Champion</b>	1	<b>Tom West - CRESCO - Cushman Wakefield</b>
<b>Practitioners</b>		
Development	2	<b>Brian Owendorf - Duke Realty Corporation</b>
Architect	3	<b>John Tephenthart - KA Architecture</b>
Engineer	4	<b>Joe Pustai - Equest Strategies</b>
Construction	5	<b>Tim Panzica - Panzica Construction</b>
Bldg. Owner/Manager	6	<b>Tom Einhaus - Playhouse Square Foundation</b>
<b>End User Corporation</b>	7	<b>Diane Police - Progressive</b>
<b>Enablers</b>		

Finance & Appraisal	8	<b>Roger Ritley or Charles Ritley - Charles M. Ritley Associates</b> <b>Tom Jeleps - Colliers International</b>
Research	9	<b>Jim Webb - Cleveland State University</b>
Trade Association		<b>NAIOP (National Association of Industrial and Office Properties)</b> Provide forum for teams to share / present findings Vehicle for publication and distribution of findings / outcomes. Publications can tie into Builders Exchange series to be run in 2005.