

Energy & Environment Working Group

Case Study

“Impact of Buildings on the Environment”

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The impact of buildings on our environment cannot be overstated, from the sheer space occupied to the carbon footprint associated with the building. The Department of Energy reports that buildings account for 40% of all energy consumption, 71% of electricity consumption, 38% of carbon dioxide emissions, and 36% of all greenhouse gas emissions. This impact on our environment is larger than that of the automobile industry. This case study looks at the way that an executive in the real estate sector is leading a policy change initiative within his company -- to become more environmentally responsible. Bryan Koop is the Senior Vice President and Northeast Regional Manager for Boston Properties. Mr Koop is developing a strategy for how Boston Properties will address the issue of environmental responsibility with respect to their business operations, their portfolio of properties under development and the properties they manage.

Boston Properties built its reputation as one of America’s most admired real estate companies by providing superior service and meeting the demands of the market place. As a leader in the Company and in the Real Estate Industry, Brian Koop recognized several years ago that the growing public awareness environmental issues would become a driver for the real estate business. Mr. Koop educated himself on issues relating to so-called green buildings and environmentally responsible real estate management and development. He has approach environmental responsibility both as a business strategy and from as a personal advocate for change in the real estate business.

Through his research, Mr. Koop learned that green buildings are not only more energy efficient, reducing operating costs, but they actually improve productivity of the people working within them. A green building has: 90% more natural light than a traditional building, 80% greater temperature regulation, and 100% greater fresh air intake. This can translate into a worker productivity increase of up to 18%. Healthy buildings make for healthy employees. For Mr. Koop, this translates into happy and healthy tenants, and higher valued property

After advocating for the establishment of a green strategy within Boston Properties, Mr. Koop was charged by his board with developing and implementing one within the Northeast region. The company will take the lessons learned to apply them across the business as a whole.

The BXP Green Team

Mr. Koop formed the Boston Properties Green Team to research and develop a green strategy for the Northeast Region. He then applied what they has learned to his business. This resulting green building strategy measures environmental performance and is in the process of developing means and measure to improve the energy efficiency and reduce the environmental impact of Boston Properties across three dimensions: (1) Existing property under management; (2) New building development; and (3) Boston Properties corporate offices. Boston properties developed a scorecard to track green performance across these three dimensions, including the following criterion:

Energy	Energy Performance/System Commissioning Renewable Energy Alternative Transportation
Waste	Construction Demolition Management Recycled Content – Bldg. Recycled/Green Content – Oper. Tenant Recycling
Water	Storm water Management Water Efficient Landscaping Building Water Use
Sustainable Sites	Heat Island Mitigation Green Exterior Management Native Habitat/Open Space
Indoor Environmental Health	Thermal Control Day lighting/Lighting Control Ventilation Green Housekeeping Green MEP Systems Low-Emitting Materials

Measuring Environmental Responsibility - LEED certification

Boston Properties is following the LEED system to measure environmental responsibility in their buildings. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ was developed by the US Green Building Council. The BXP Green Team is leading the way in Boston with the development of 530 Atlantic Avenue, which will be the first Boston's first LEED-GOLD certified high rise.

LEED is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED gives building owners and operators the tools

they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

LEED provides a roadmap for measuring and documenting success for every building type and phase of a building lifecycle. Specific LEED programs include:

- New Commercial Construction and Major Renovation projects
- Existing Building Operations and Maintenance
- Commercial Interiors projects
- Core and Shell Development projects
- Homes
- Neighborhood Development
- Guidelines for Multiple Buildings and On-Campus Building Projects
- LEED for Schools
- LEED for Retail

The LEED Rating System was created to transform the built environment to sustainability by providing the building industry with consistent, credible standards for what constitutes a green building. The rating system is developed and continuously refined via an open, consensus-based process that has made LEED the green building standard of choice for Federal agencies and state and local governments nationwide.

The first step to LEED certification is to Register your project. A project is a viable candidate for LEED certification if it can meet all prerequisites and achieve the minimum number of points to earn the Certified level of LEED project certification. To earn certification, a building project must meet certain prerequisites and performance benchmarks ("credits") within each category. Projects are awarded Certified, Silver, Gold, or Platinum certification depending on the number of credits they achieve. This comprehensive approach is the reason LEED-certified buildings have reduced operating costs, healthier and more productive occupants, and conserve our natural resources.

Lessons Learned

- Selling environmental responsibility within the real estate business is challenging and requires patience and tenacity.
- Change is coming on a regional basis, with some areas of country much farther ahead than others.

Mr. Bryan J. Koop serves as Senior Vice President and Regional Manager of our Boston office. Mr. Koop is responsible for overseeing the operation of our existing regional portfolio in the Boston area, which includes the Prudential Center and Cambridge Center.

He is also responsible for developing new business opportunities in the area. Prior to joining Boston Properties in 1999, Mr. Koop served at Trammell Crow Company from 1982 to 1999 where his career covered high rise office building leasing and the development of commercial office buildings and shopping centers. From 1993 to 1999 his position was Managing Director and Regional Leader for Trammell Crow Company's New England region, which included all commercial office and shopping center operations. Mr. Koop is the Chairman of the Board of Directors for the Back Bay Association. He is also a member of the Board of Directors for the Massachusetts Chapter of NAIOP (National Association of Industrial and Office Parks), Presidents at Pops-Boston Symphony Orchestra and Champions for Children at the Children's Hospital in Boston. Mr. Koop is a member of ICSC (International Council of Shopping Centers) in which he received the ICSC Annual Award for Shopping Center Design and Development. He received a BBA in 1980 and an MBA in 1982 from Texas Christian University.

Boston Properties, a self-administered and self-managed real estate investment trust, is one of the largest owners, managers, and developers of first-class office properties in the United States. The Company acquires, develops, and manages its properties through full-service regional offices with a significant presence in four core markets: Boston, Washington, D.C., Midtown Manhattan and San Francisco. Its property portfolio is comprised primarily of first-class office space and also includes one hotel. Boston Properties is well-known for its in-house building management expertise and responsiveness to tenants' needs. The Company has a superior track record in developing Class-A, Central Business District office buildings, suburban office centers and build-to-suit projects for the U.S. Government and a diverse array of high-credit tenants. Boston Properties has been selected as one of the Most Admired Real Estate Companies in FORTUNE® magazine's List of America's Most Admired Companies for the third consecutive year