BUILDING PERFORMANCE CONSULTING

COMMERCIAL BUILDING SOLUTIONS FOR INCREASING ENERGY EFFICIENCY, PRODUCTIVITY AND COMFORT

a partnership from the design experts at Silvertip Integrated Engineering Consultants and EWERS ARCHITECTURE

Building Performance Consulting introduces a new concept in sustainability—providing existing building owners with an opportunity to upgrade their facilities to meet today's increased awareness of our current energy issues while creating a better environment for the users and increasing property values. Through intense analysis of a facility's current conditions we can find solutions to help each owner meet the goals of increased sustainability.

THREE SIMPLE STEPS TO...

- **Reduced energy bills**
- **Smaller carbon footprint**
- **Greater occupant comfort**

EXPLORE

- **Increased property values**
- **Better space utilization**
- **Reduced water consumption**

ANALYZE

- **Code compliance**
- **Lower maintenance costs**
- **Sustainability**

IMPLEMENT

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1 EXPLORE

Through exploration of your facilities, examination of your utility bills, and application of our experience we will be able to make recommendations to improve energy utilization efficiency, create a healthier environment, and modify conditions to facilitate increased occupant productivity.

YOU WILL RECEIVE a Phase One report on the current condition of your facilities recommending areas that most need improvement. This report will inform you of potential energy savings you could realize with some simple upgrades. You may learn that your facility is already fairly energy efficient and needs just a little upgrade, or that your facility has many opportunities for improvement.

After review of the Phase One report we will work with you to tailor a Phase Two proposal that is prioritized according to your facility needs and resources.

YOUR INVESTMENT

- You provide at least one year's energy bills (electric, gas, water, sewer) and building access.
- You provide our team with a basic layout of the facilities (floor plans and site plan), and other information as may be available.
- The Phase one report is an economical way to quickly focus on the most cost-effective potential

2 ANALYZE

Based upon the Phase Two proposal, we will embark on detailed and focused analysis of the potential areas for improvement in your facility. This process may include:

- **Comparison of potential energy upgrades using energy modeling**
- **Thermal envelope analysis**
- **Proposed mechanical and controls system modifications**
- **Electrical and lighting efficiency review**
- **Daylighting improvements**
- **Water efficiencies evaluation**
- **Architectural review for space usage, code requirements, handicap accessibility and more**
- **Life cycle cost analyses of options**
- **Other investigations based upon Phase One findings**

YOU WILL RECEIVE a detailed report with action items that you can implement to improve your facility, an opinion of probable cost for each upgrade, and an estimate of potential energy savings and other benefits of each action item.

YOUR INVESTMENT

The cost of this phase will be negotiated after review of the Phase One report based upon your priorities.

3 IMPLEMENT

Our team may assist you in the implementation of these recommendations to any level you desire, from full design documents to recommendation of the necessary contractors to onsite observation and reporting on the work and its conformance with the design, as well as measurement, verification, and commissioning if desired.

YOU WILL RECEIVE all of the energy savings and productivity improvements that these upgrades may provide to your organization (no "stipulated savings" or "risk fees"). You may also qualify for tax benefits, rebates or other incentives. Increased property values, higher employee retention and satisfaction have all been found to accompany these types of upgrades.

YOUR INVESTMENT is totally your decision. Once you receive the reports, you may choose to implement as much or as little of the recommendations as you wish. You may also choose to phase the recommendations over a period of time. As with all of our work, you determine the extent of your own investment. This is your facility, your project, and your investment. We are the experts who help you make wise

Buildings consume 70% of America's electricity and 50% of our natural gas. Buildings generate 38% of the carbon dioxide (the primary greenhouse gas associated with climate change), 49% of the sulfur dioxide, and 25% of the nitrogen oxides found in the air.

Electric generation accounts for 48 percent of the water usage in the U.S. Buildings account for 9% of water usage. Reducing electricity usage as well as other water saving techniques will have a positive influence on our future water availability.

Sustainable buildings have been shown to command **rent premiums, sell for higher prices, and have improved occupancy rates.**

Many studies have shown that **green buildings increase worker productivity**, heighten employee satisfaction, reduce the number of sick days, and experience less employee turnover.

Lighting consumes 25 percent of the energy usage in commercial buildings—twice the amount used for cooling. Lighting also accounts for 42 percent of a typical commercial building's cooling load. Therefore, reducing lighting energy can reduce a building's energy usage directly, as well as reduce the cooling energy required.

The Empire State Building is undergoing a three year renovation project. The cost of the project is $20 million and is expected to save $4.4 million annually for a return on investment of 22% per year at current energy prices.

Silvertip Integrated Engineering Consultants

MICHAEL D. HAUGHEY, PE, HBDP, LEED AP

Mr. Haughey has over 35 years of experience in mechanical systems design, project management, analysis, troubleshooting, consulting, energy studies, energy audits, sustainability consulting, facilities engineering, and commissioning support services. Michael specializes in low-energy mechanical systems.

His specialties include ice thermal storage, indirect-direct evaporative cooling, solar systems, ground-source geothermal, displacement ventilation, systems for net-zero buildings, and design of energy audit measures.

Michael believes in advancing the sustainable design movement through engineering as well as education. His affiliations, service and accomplishments include:

- Professional Engineer, State of Colorado (PE)
- ASHRAE High-Performance Building Design Professional (HBDP)
- Leadership in Energy and Environmental Design, Accredited Professional (LEED AP)
- Host Committee Chair, Greenbuild 2006
- USGBC Colorado Chapter board member, Education Chair, and Programs coordinator
- Faculty Lecturer, HVAC Design (graduate & undergraduate), CU Boulder
- Instructor, HVAC Design, CU Denver
- Coordinator for local ASHRAE chapter's Hands On Science Outreach program for K-6 students and the National Energy Education Development "Solar Sprint" program for sixth-grade students
- Presented over 50 mechanical, sustainability, and low energy seminars
- Member of Rocky Mountain Association of Energy Engineers, AIA COTE, Colorado Renewable Energy Society
- Colorado Earthquake Hazard Mitigation Council (a State of Colorado policy advisory group)
- Rocky Mountain ASHRAE President (1991-92)

EWERS ARCHITECTURE

PETER J. EWERS, AIA, LEED AP

Mr. Ewers has more than 20 years experience as an architect in the sustainable design field. He has designed a variety of projects including public buildings, schools, religious facilities, industrial structures, offices, retail, laboratories, multi-family residential complexes, and single-family residences. He has extensive experience analyzing existing buildings and providing comprehensive reports that are easy to read and implement. His projects have included off-grid facilities, net-zero facilities, passive and active solar techniques, historic structure assessments, code analyses, master plans and feasibility studies. His designs have won national and international awards.

Peter believes in using architecture to promote health and sustainability at home and around the world. He has served on many boards and commissions, and donated his expertise to many non-profit organizations. His affiliations and accomplishments include:

- Licensed Architect, state of Colorado
- Leadership in Energy and Environmental Design, Accredited Professional (LEED AP)
- American Institute of Architects (AIA)
- AIA Denver's Committee on the Environment
- U.S. Green Building Council
- American Solar Energy Society
- Colorado Renewable Energy Society
- National Trust for Historic Preservation
- International Code Council
- Volunteer Project Architect for Engineering Ministries International projects in Nicaragua and Mexico