



High Heating Costs? Infrared Delivers Savings

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You can't pick up a newspaper or turn on the TV these days without hearing bad news about rising energy prices and climate change. But what can the owner or manager of a commercial facility do about these global issues? Is it possible to improve your bottom line and boost your competitive position while helping to protect our environment?

Most people are surprised to learn that commercial buildings and industrial facilities account for 45 percent of greenhouse gas emissions in the United States. In fact, the EPA estimates we could save at least \$20 billion a year if the energy efficiency of our commercial and industrial facilities were improved by just 10 percent. The Building Owners and Managers Association (BOMA) reports that energy accounts for "30 percent of a typical building's total costs" and is "the single largest and most controllable operating cost in an office building." Experts expect the size of these numbers to grow as energy costs continue to climb faster than the rate of inflation.

The good news is that these large and growing energy costs are, as BOMA says, the "most controllable" expenses on the balance sheet. And across the country, savvy owners and managers are finding there are significant profits and business advantages to be gained by "going green" to reduce these costs – if you know where to look.

Accurate assessment of your building's current energy performance is the critical first step in any successful plan to reduce costs and improve business efficiency. Without a "big picture" understanding of the energy issues you're trying to correct, repairs and retrofits can produce disappointing results, or even make the situation worse. Furthermore, if decision makers don't understand the full scope of the problem, it can be difficult to access the finances and resources necessary to execute an effective plan.

That's why more and more facility managers are turning

to professional Infrared Building Envelope Analysis as the first step in their efforts to reduce escalating energy costs. This cutting-edge thermographic technology delivers a highly accurate and comprehensive picture of the facility's thermal performance, producing a professional assessment of all components in the building system.

Infrared Building Envelope Analysis can also help "get everybody on the same page" by revealing expensive building energy losses with the dramatic visual evidence of full-color thermographic images. When chronic heat and energy losses become visible for all to see, the connection between energy management and financial responsibility becomes undeniable – and funding for effective action becomes available.

Here's an example of the importance of looking at your situation carefully before leaping into an energy cost reduction plan. Recently we were asked to perform building envelope testing on a large hospital. The facility had been built in several stages over six decades, employing a variety



Infrared testing can pinpoint and prioritize any facility's energy loss problems.

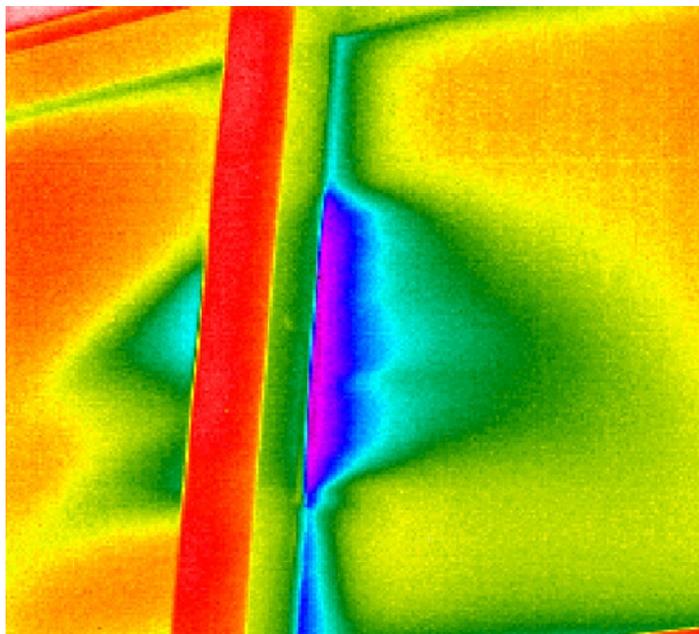
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of construction techniques. The facility managers assumed the older portions of the building would demonstrate the poorest thermal performance and require the most extensive repairs.

However, infrared analysis revealed that in some cases the opposite was true. Some thirty-year-old sections of the building were found to exhibit minimal energy losses, while newer portions suffered from significant air leakage problems. The testing was extremely helpful in identifying and prioritizing the facility's real problems and developing an action plan for cost-effective retrofits.

The financial benefits of smart energy conservation can be surprising, even to those who are already "sold" on the idea. The US Department of Energy and the Rocky Mountain Institute recently collaborated on a study of cost reductions achieved by eight major US firms after they reduced energy losses in their facilities. In each case, the company was surprised to learn that, while their conservation measures and retrofits had significantly lowered the energy bills, they were saving even more money in unanticipated productivity gains. Improvements in air quality, occupant comfort, and lighting had significantly reduced absenteeism while boosting employee morale and production output.

Improving a facility's energy performance can also lower maintenance costs, protect the building's integrity, and improve its marketability. After breaches in the exterior en-



Experts say up to 40 percent of heating and cooling costs can be eliminated by correcting air infiltration gaps like this leaking window seal.

velope have been identified with infrared testing, repairing them can reduce the infiltration of water, dust, and pests while dramatically cutting energy bills. Reducing building energy losses can also cut maintenance costs by reducing the load on HVAC components.

Early adopters of "green building" practices are already reaping the competitive benefits of their reduced costs and more efficient operations. As the economy increasingly shifts to a "reduced carbon footprint" model, the financial advantages of sound building energy management will continue to grow. Professional infrared testing of the building envelope provides an invaluable guide to planning cost-effective and profitable improvements. And, as with all good ideas, the sooner your energy conservation plan is implemented, the bigger the payback will be.

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Peter Brooks has more than forty years of experience with facilities, including fifteen years in residential and commercial construction and contracting. A Certified Thermographer with over twenty-five years experience providing infrared services, Brooks is a recognized expert in Nondestructive Testing who has trained thermographers at the national level in the methods and techniques of infrared testing. Mr. Brooks is president of Infra-red Analyzers of Williston, Vermont.

