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Amid Rising Fuel Prices, Energy Planning Keeps Higher Profits Circulating

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Guest Viewpoint
Thermo-Cycler Industries

Sound planning today maintains higher profits tomorrow. This fact of the business world holds so true today, with competitive pressures making it essential to keep a firm grip on costs and supply factors.

The cost of energy, anticipated to be on the rise for the next several years, is a formidable overhead factor spurring smart companies into taking a close look at their operation's HVAC energy efficiency. A review is even more viable when considering the projected savings after heating improvements and ventilation refinements. Energy savings of 30% to 50% are possible in an existing facility, and the improvements need not be excessively complex or costly.

In the planning of new construction, the building purchaser should require an estimated projection of energy costs based on the equipment specified. Heating and ventilation equipment that initially appears inexpensive to buy and install may actually cost the building owner a bundle to operate once the monthly bills start arriving. Those higher heating bills incurred can quickly outweigh any initial savings on equipment costs.

With today's higher energy costs, the purchase of high quality heating equipment offers a quick pay-back on the investment. In many cases, the difference in first cost between a well-designed HVAC system and low-cost equipment is paid back within a few months by lower operating and maintenance costs.

Air quality, temperature distribution, worker comfort and condensation are other factors building purchasers need to require their contractors to consider. A reputable contractor installing a quality heating and ventilation system can explain these factors, and should be pleased to do so. Contractors should require their heating system supplier to provide energy usage and facility environment information that is based on sound HVAC engineering fundamentals, rather than off-the-cuff guesses meant to close the sale.

When analyzing the overall efficiency of a heating and ventilation system, many critical factors require

How a heating system controls condensation is a critical factor, as condensation can cause devastating damage to valuable inventory. At this car dealership, a Thermo Rotation heating system from Thermo-Cycler cured a major condensation problem.

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How a heating system integrates with a building's layout is important, as it influences temperature distribution and how effectively a clear layout can be maintained from floor to ceiling.

As winter approaches, a continuing increase in energy prices is expected, prompting companies to closely review their overall energy efficiency.

evaluation. Proper system design takes the following, and more, into consideration:

•Heat generated by an operation's processes, equipment and lighting. This heat often can be redistributed to heat the facility and decrease the need for generating new heat with purchased fuel.

•Careful consideration of exhaust ventilation requirements. Many times buildings have excessive or unnecessary amounts of exhaust operating. For example, large fans designed for summer ventilation may be used for general ventilation that could be greatly reduced by local source capture. The operation of an unneeded 48" fan could cost a company more than $47,000 a year to operate. Projected over 15 years, this fan would cost the company $1 million to operate (assuming the cost of energy increases annually by 5%). Most operations require some special attention regarding ventilation and exhaust requirements. Proper planning will pay off handsomely in terms of energy savings and maintaining high air quality.

•How evenly is temperature distributed throughout the facility? A facility with only two to three degrees temperature variance throughout will provide the owner lower energy costs as well as more comfortable, productive employees. Drafty facilities with cold spots and hot spots, on the other hand, are costly in terms of high heating bills and lower worker productivity and morale.

•How much condensation is created by the recommended heating system? While contractors routinely take measures to avoid building condensation problems, such as with the installation of moisture barriers, their heating systems may be introducing much more condensation than they realize. Certain types of direct fired space heaters, for instance, can put a significant amount of water vapor into the building. While this may not be a problem in drafty old buildings with a lot of exhaust, it can become a problem in a well-insulated structure with little exhaust. Condensation can be damaging to building structures, insulation, inventory and expensive equipment.

•How does the heating equipment integrate with your operation's layout? Will ductwork impede the operation of forklifts, parts pickers or overhead cranes? Will hanging heaters or ducts interfere with valuable storage or production space? Does racking have to be changed to maintain clearance from suspended radiant heaters? Ideally, a heating system will maintain the "clear span" interior layout for your facility.

Energy costs are a source of concern. But building owners should take heart that energy-saving answers are available, and the cost is often quite reasonable. Do your homework to find a professional contractor and an experienced heating manufacturer to provide energy-saving recommendations you can warm up to year after year.

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