

## Controlling Your Energy Costs, by Carla L. Romita The Mann Report, February 2006

Recently, the Energy Information Administration, which publishes the official energy statistics of the United States government, reported that since 2000 world oil prices have sharply increased as supply has tightened. Strong demand in developing economies such as China has driven up prices. Supply constraints resulting from disruptions and inadequate infrastructure investment have kept prices historically high. These facts come as no surprise to anyone who is responsible for managing a building's energy budget. EIA forecasts that Northeast heating oil prices could increase up to 32% this season. The outlook is even worse for natural gas, which price is expected to increase up to 50%.

When energy prices soar, your local dealer suffers along with you. The "windfall" profits go to the big energy producers and refiners. Local dealers have to pay more to purchase the product they deliver to you.

You may be powerless to bring down price of fuel oil, but you do have the power to control your building's energy costs. The United States Department of Energy, in cooperation with the fuel oil industry, has supported technological advances in oil burner equipment that have saved consumers billions of dollars and improved the environment by increasing efficiency and reducing emissions. Advanced combustion equipment uses vaporizing technologies and high flow atomization burners to reduce emissions. Flame retention burners draw in less air and produce hotter, more energy-efficient combustion. Self-diagnostic and monitoring equipment alerts owners, managers, and dealers to potential problems.

The industry has also introduced improved distillate fuel that is more efficient and environmentally friendly than fuels of the past. In 1970, fuel oil sulfur content averaged over 1%. Today, the average is .20-.30%. The industry is moving aggressively to reduce the sulfur content of no. 2 heating oil to .05% over the course of the next few years.

Since energy prices are likely to remain high for the foreseeable future, board members, property managers, and owners need to give serious consideration to installing new, state-of-the-art, cost-efficient heating equipment. Here's a startling fact you might not have known: if the heating equipment in your building is fifteen years old or older, it probably operates at only 60% efficiency. Today's oil heat equipment boasts efficiency ratings that can exceed 90%. Apart from unnecessarily high fuel bills, these are strong indicators that your building's equipment may need replacement: (a) uneven heating throughout the building; (b) time lag between firing the boiler and feeling heat; (c) frequent breakdowns and service calls; and (d) noticeable soot or dirt around the burner. If your building exhibits these problems, consider asking your oil dealer or service company to evaluate your heating equipment. Your building may benefit from a new installation. If the rest of your equipment is operating well, you may benefit from a simple upgrade to a new, energy-efficient burner.

Whatever solution you choose, now is the time to budget for and plan the project. The time to perform an installation is not in the dead of winter, but in the spring and summer when your system can be shut down without unduly inconveniencing tenants, unit owners, or shareholders. If you postpone the project for another year, you not only risk cold weather breakdowns but you also lose a year of enjoying the benefit of saving money on fuel consumption.

Despite the obvious economic benefits of an equipment upgrade, some buildings may not be in a position to pay for it. If a new installation is out of the question, you can still obtain the best performance from the equipment you have by following a rigorous maintenance program. Soot that collects in a boiler during normal operation acts as an insulator and is a major reason for inefficient boiler operations. Here's another notable fact: an accumulation of as little as 1/8<sup>th</sup> inch of soot in boiler tubes increases fuel consumption by 8.5%. Scaling, which is caused by soot and condensation on the inside of your boiler, reduces efficiency even further. For example, a fifty-tube boiler that has as few as five tubes plugged will suffer a 10% efficiency reduction, forcing the boiler to run longer to maintain the desired temperature.

Preventive maintenance to eliminate soot buildup also reduces the presence of acids and scaling that cause boiler tube corrosion and leaks which are expensive to repair. Professional preventive maintenance extends the useful life of your heating equipment, reduces overall equipment maintenance costs, minimizes air pollution, and prevents service disruptions. An annual boiler cleaning, efficiency test, and overhaul performed on every burner in a building is strongly recommended to keep equipment running well. Boiler tubes should be replaced as soon as leaks are detected. Boiler chambers should be regularly inspected and repaired as necessary. Defective draft regulators should be replaced since excess draft can pull heat through the boiler too quickly and reduce its efficiency. Burner cones, which keep the flame in optimal shape for efficient burning, should also be kept clean of scaling and soot. Finally, professional chemical treatment of boiler water increases the overall life of the boiler by regulating impurities that contribute to corrosion and leaks.