



IT'S JUST SMART BUSINESS

ENERGY SAVINGS ARE FULL STEAM AHEAD IN UNIVERSITY OF PORTLAND RESIDENCE HALLS

A steam pipe connecting three University of Portland residence halls to a central steam plant was leaking. This resulted in unreliable domestic hot water and heat service, energy waste and costly repairs. The university's facilities team faced a big decision to either continue repairing the failing line or install a new, more efficient system independent of the aging central steam plant.

To make an informed decision, the university worked with Energy Trust of Oregon to obtain a technical analysis study. The study revealed that the university's 1965-era central steam plant contains equipment that is far less efficient than today's condensing boilers. The study also estimated that decentralizing the hot water distribution and installing energy-

efficient boilers in each of the three buildings could save University of Portland more than 52,000 therms of natural gas per year—the equivalent of \$47,000 in annual energy cost savings.

With these study findings in hand, the smart business decision became clear. The university installed energy-efficient natural gas condensing boilers to heat Shipstad, Kenna and Christie residence halls, and used backup gas water heaters for domestic hot water.

Because traditional boilers lose a significant amount of heat through exhaust, the university chose high-efficiency condensing boilers that reclaim heat. The new system



provides reliable heating and consistent domestic hot water. The new equipment also consumes less water, saving University of Portland nearly \$10,300 annually in water, sewer and maintenance costs.

Energy Trust provided over \$100,000 in cash incentives to offset project costs. The university is estimated to recover its investment in roughly nine years. Without the need for contractors to repair cracked pipes that run between buildings, the university will also save on maintenance costs. University of Portland is exploring opportunities to trim additional energy costs by decentralizing other buildings across the campus.



We'll save about \$47,000 in utility bills each year because we upgraded to energy-efficient boilers. Plus, Energy Trust gave us \$104,024 in cash incentives for upgrading.

André Hutchinson, director of physical plant,
University of Portland



RESIDENCE HALLS PROJECT-AT-A-GLANCE

Equipment installed

- Condensing boiler
- Steam boiler
- Hot water circulation pumps
- Steam heating coils
- Steam distributing piping
- Condensate piping

Financial analysis

- \$47,176 estimated annual energy cost savings
- \$104,024 in Energy Trust cash incentives
- \$427,050 project cost

Benefits

- Provides consistent domestic hot water
- Reduces maintenance costs
- Delivers reliable and consistent heating
- Cuts water and sewer costs
- Reduces energy use

Estimated annual savings

- 52,012 annual therms
- 260 tons of annual carbon dioxide savings