Energy management is a key concern of facility managers today. They know that heat often escapes up the stack along with the fumes or down the drain with the blowdown. Blowdown systems, economizers and heat exchangers can recover this heat loss, helping a boiler room run more efficiently and reduce fuel usage.

Many boiler rooms send blowdown to an atmospheric flash tank economizer, which allows safe discharge of the effluent by reducing the steam pressure inside the tank. The result is low-pressure flash steam venting to a deareator and cooled condensate discharging to the drain.

Incorporating a blowdown heat recovery system transfers the latent blowdown energy to the boiler feedwater, recuperating about 90 percent of this loss. To increase efficiency even further, combine a blowdown control with blowdown heat recovery to both limit total blowdown volume and recover the heat.

A boiler economizer system is one of the best additions that can be made to any boiler room. It transfers energy from the boiler exhaust gas to the boiler feedwater in the form of sensible heat. Sensible heat is extracted by the transfer of the heat energy of one body (in this case exhaust gas) to another, cooler body (the boiler feedwater). This reduces the boiler exhaust temperature while preheating the boiler feedwater, increasing overall efficiency 2 to 5 percent (up to $60,000 per year saved for a 600-HP boiler). Savings can amount to $100,000 or more annually if a condensing economizer can be used to recover both the latent and sensible heat.

An economizer’s simple technology and lack of moving parts give it a very long and relatively maintenance-free life cycle. It also helps extend the longevity of a boiler.

Cleaver-Brooks offers a number of heat recovery products for boilers, including blowdown systems, economizers and heat exchangers. Cleaver-Brooks representatives also can provide a facility a tailored BOOST (Boiler Operation Optimization Savings Test) report to detail the expected cost savings it will realize by incorporating heat recovery equipment into its current boiler system. The customized BOOST report provides facility-specific financial analysis to prove that adding heat recovery is a smart business decision.

For more information about heat recovery products watch the Heat Recovery Helps Reduce Fuel Costs webinar or to locate a Cleaver-Brooks representative near you, visit cleaverbrooks.com.