

CUSTOM-ENGINEERED



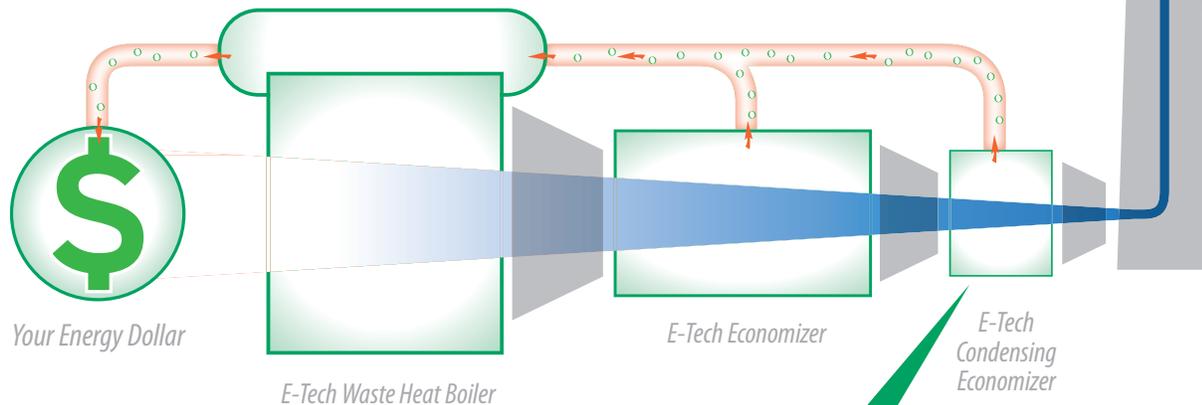
# Condensing Economizers

- Reduce CO<sub>2</sub> and NO<sub>x</sub> emissions
- Typical installed payback of 1–2 years

## APPLICATIONS



Custom solutions ranging from 14,000–150,000 pph of steam.



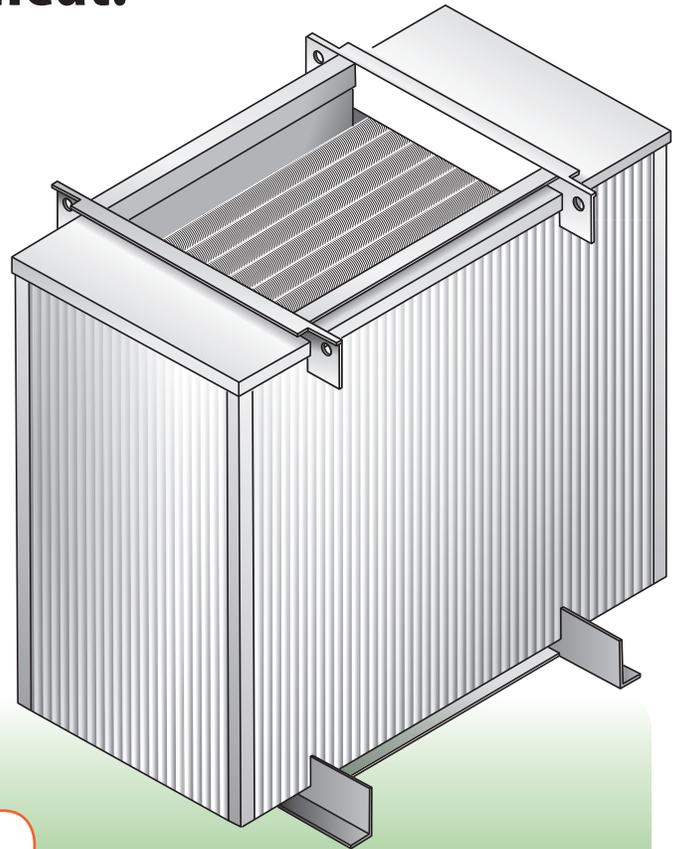
E-Tech **condensing economizers** yield extremely high efficiencies — upward of 96%. Their vapor-condensing environment presents an ideal heat recovery solution for industries that use non-sulfur bearing fuels, whose acidic byproducts can corrode most carbon and alloy materials.

# The cost-efficient way to convert water vapor to recaptured heat.

## Condensing Economizer

During combustion of natural gas, water in the combustion air changes phase from liquid to gas. As a result, combustion products of natural gas typically contain 11% to 12% moisture, which represents up to 9% of beginning fuel content. With typical economizers, this energy escapes into the atmosphere with heated boiler gases. But a condensing economizer allows its recapture.

Using feedwater-cooled finned tubing, our condensing economizer cools exhaust gases below their dew point, releasing latent heat bound up in the vapor. The amount of recaptured heat is considerable — about 1,000 Btu per pound of condensate. The CO<sub>2</sub> reduction is also significant: one cubic foot for each cubic foot of natural gas saved.



### GREENGINEERING at work

- A 100,000 PPH boiler fires natural gas at \$8.00 per mcft and operates, on average, at 70% load 7,200 hours per year.
- Using an E-Tech condensing economizer we are able to raise the feedwater temperature from 55°F to 175°F, for an average of 8.4 mm/Btu/hr savings. By raising boiler efficiency to 87%, we are able to reduce fuel costs by more than **\$600,000** per year.



At E-Tech, we've been engineering precise custom solutions for our customers' waste heat recovery needs for more than 30 years, producing literally thousands of designs for virtually every type of application.

To ensure that finished products reflect our exacting standards, we contract with hand-picked,

exclusive subcontractors we know we can rely upon to maintain our exacting specifications and standards throughout manufacturing, inspection and shipment.

This thorough process ensures that whether you purchase a single component or a complete system, your E-Tech waste heat recovery equipment will meet your needs effectively and reliably for years to come.

**918-665-1930 | [www.e-techinc.com](http://www.e-techinc.com)**

Our difference is **GREENGINEERING™**.

E-Tech heat recovery solutions produce efficiencies of up to 95% from your fuel dollar while reducing pollutants in your exhaust. And we're constantly moving forward with new ideas to serve more industries with greater efficiency. So "green" is what your company saves ... and how it behaves.