

## Waste Heat Recovery Technologies

The US Department of Energy has estimated that between 20% to 50% of industrial energy input is lost as waste heat in the form of hot exhaust gases, cooling water, and heat lost from hot equipment surfaces and heated products. Air and Liquid Systems, Inc. is a leader in innovative waste heat recovery technologies and other energy saving solutions.

Industrial manufacturing waste heat is generated from multiple processes.

- Thermal oxidizers
- Steam boilers
- Drying/curing ovens
- Kilns
- Thermal dryers

Up to 75% of waste heat can be recovered for use in other processes within your facility.

- Heated alkaline/acid cleaning stages
- Direct/indirect steam heated processes
- Drying/curing ovens
- General building heat
- Thermal oil processes

Our engineering approach commonly redeploys recovered heat through a variety of heat recovery mediums.

- Air to air heat exchanger systems
- Fluid based heat transfer systems
- Thermal oil heat transfer coil systems
- Steam coil heat transfer systems
- Waste heat boiler systems

### Examples of some typical results

Air to air heat recovery from RTO saves 12 MMBTUH

Air to liquid heat recovery from RTO saves 6 MMBTUH

Air to steam heat recovery from RTO saves 5 MMBTUH

Most recovery systems can be retrofit to existing equipment, with a typical payback period of two to three years. Local utilities may have rebate programs designed to give local businesses incentives for energy efficiency improvements. Air and Liquid Systems, Inc. excels in working with all vested parties to bring added value to your heat recovery project. Our solutions bring proven technologies to the table to provide a truly low risk solution that you will reap benefits from for many years.

