The world’s largest energy source is waste gas from industrial processes. Determined exploitation of this up to now lost energy can save valuable primary energy and dramatically prolong the availability of the earth’s energy resources. The use of residual heat makes a twofold contribution to environmental protection: It not only saves energy but is also free of emissions. KÜTTNER systems have markedly reduced primary energy consumption in numerous industries. Easy installation of the systems also as retrofits in existing plants, the modular design and the long service life of the components make both investment and operating costs. A large number of the systems installed have paid back in less than two years. KÜTTNER systems also generate power from waste heat. The cogeneration technology, which produces power from industrial waste gas by means of waste turbines, is a profitable option already in the 2 to 20 MW power range. Also power generation from waste heat from combustion and annealing processes becomes economic already at a turbine efficiency of about 30 percent.

KÜTTNER ENERGY GMBH
A subsidiary of Küttner GmbH & Co. KG

Established in 1949 by Dr. Küttner, this engineering company has evolved into a globally active group of companies supplying turnkey plants for process, melting and conveying technology to the metals producing and processing industries.

The „Energy and Thermal Engineering“ divison designs, builds and supplies components and complete plants for the recovery of heat. The company has references from virtually all industries.

The service offer comprises the design, construction, delivery, assembly and commissioning of the plants complete with control and data processing systems.
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In multiple industries...
- Construction materials
- Chemistry
- Foundries
- Glass industry
- Food industry
- Distilleries
- Oil mills
- Pulp and paper
- Batteries
- Steel works
- Cement works
- Sugar industry

In heat recovery applications...
- Cupola furnaces
- Electric crucible furnaces
- Induction furnaces
- Tunnel furnaces
- Copper melting furnaces
- Coal deflaking facilities
- Boiler plants
- Dryers
- Kilns
- Power plants
- cogeneration plants

In heat removal applications...
- Cooling towers
- Cooling plants
- Cool drying systems
- Wet cooling systems
- Air-cooled water recirculation plants

...and wherever energy is to be saved.

Already about 35 years ago KÜTTNER developed the “ECOFLOW” heat-shunting and distribution system for the economic use of recovered energy. Since then the efficiency of the system has been continuously improved. ECOFLOW distributes the recovered heat at a high economic level to various consumers. If required, it transmits the heat over very long distances virtually free of loss.

The heat-exchangers for the ECOFLOW system are modularly designed to suit different applications. The modular arrangement makes for low investment and maintenance costs and hence high economic efficiency. The amount of energy recoverable through the exergetic use of waste gas can be distributed among various consumers.

ECOSTAT uses furnace waste heat to preheat combustion gas and supply air.

In heat recovery applications...
- Small boilers
- Smelters
- Foundries
- Glass industry
- Food industry
- Dairies
- Oil mills
- Pulp and paper
- Refineries
- Sugar industry

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HEAT RECOVERY SAVES PRIMARY ENERGY

In multiple industries...
- Construction materials
- Chemistry
- Foundries
- Glass industry
- Food industry
- Districts
- Oil mills
- Pulp and paper
- Refineries
- Steel works
- Cement works
- Sugar industry

In heat recovery applications...
- Cupola furnaces
- Electric crucible furnaces
- Induction furnaces
- Tunnel furnaces
- Copper melting furnaces
- Cold deflaking facilities
- Boiler plants
- Dryers
- Kilns
- Power plants
- Co-generation plants

In heat removal applications...
- Cooling towers
- Cooling plants
- Dry cooling systems
- Wet cooling systems
- Air-cooled water recirculating plants

...and wherever energy is to be saved.

ECOFLOW: HEAT AT ZERO COST

Already about 35 years ago KÜTTNER developed the “ECOFLOW” heat shunting and distribution system for the economic use of recovered energy. Since then the efficiency of the system has been constantly improved.

ECOFLOW distributes the recovered heat at a high technical level to various consumers. If required, it transports the heat over very long distances virtually free of loss.

The heat exchangers for the ECOFLOW system are made up of modularly designed heat exchanger elements. This enables convenient retrofitting of the system even in existing plants with extremely limited space. The modular arrangement makes for low investment and maintenance costs and higher long-term efficiency.

The amount of energy recoverable through the exergetic use of waste gas can be used extremely efficiently if it is distributed among various consumers.

ECOSTAT: EFFICIENCY AND SAFETY WITH HEAT PIPES

The core of many KÜTTNER systems is the “ECOSTAT” heat exchanger system. It uses heat pipes - the safest method for exchanging the heating or cooling energy of two bypassing media.

Heat pipes work on the principle of isothermal evaporating and condensation of the working media in the pipe, the wall temperature of which can be objectively varied. This securely prevents the temperature from falling below the dew point. This feature is of decisive importance when recovering heat from waste gas or combustion media as it avoids corrosion.

Each individual pipe of the heat pipe exchanger constitutes a closed circuit complete with an evaporator and condenser but without any drive unit. The pipes are arranged in the direction of flow. This ensures optimal operation of each pipe under the specific temperature/pressure conditions prevailing at its position. Heat pipes are safe: Mixing of the two media flows is prevented under all circumstances. Efficient operation of the system continues even if some of the pipes fail.
HEAT RECOVERY SAVES PRIMARY ENERGY

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In multiple industries: Construction materials, Chemistry, Foundries, Glass industry, Food industry, Drains, Oil mills, Pulp and paper, Refineries, Steel works, Cement works, Sugar industry.

In heat recovery applications: Cupola furnaces, Electric crucible furnaces, Induction furnaces, Tunnel furnaces, Copper melting furnaces, Coal deflashing furnaces, Boiler plants, Dryers, Kilns, Power plants, Cryogenic plants.

In heat removal applications: Cooling towers, Cooling plants, Dry cooling systems, Wet cooling systems, Air-cooled water recirculating plants.

ECOFLOW: HEAT AT ZERO COST

ECOFLOW distributes the recovered heat at a high temperature level to various consumers. If required, it transmits the heat over very long distances virtually free of loss. The heat exchangers for the ECOFLOW system are easily made up of modularly designed heat exchanger elements. The modular arrangement makes it easy to install and maintain the system, and to reduce investment and maintenance costs and hence low economic efficiency. The amount of energy recoverable through the exergetic use of waste gas can be used extremely efficiently.

HEAT RECOVERY AT THE BLAST FURNACE

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