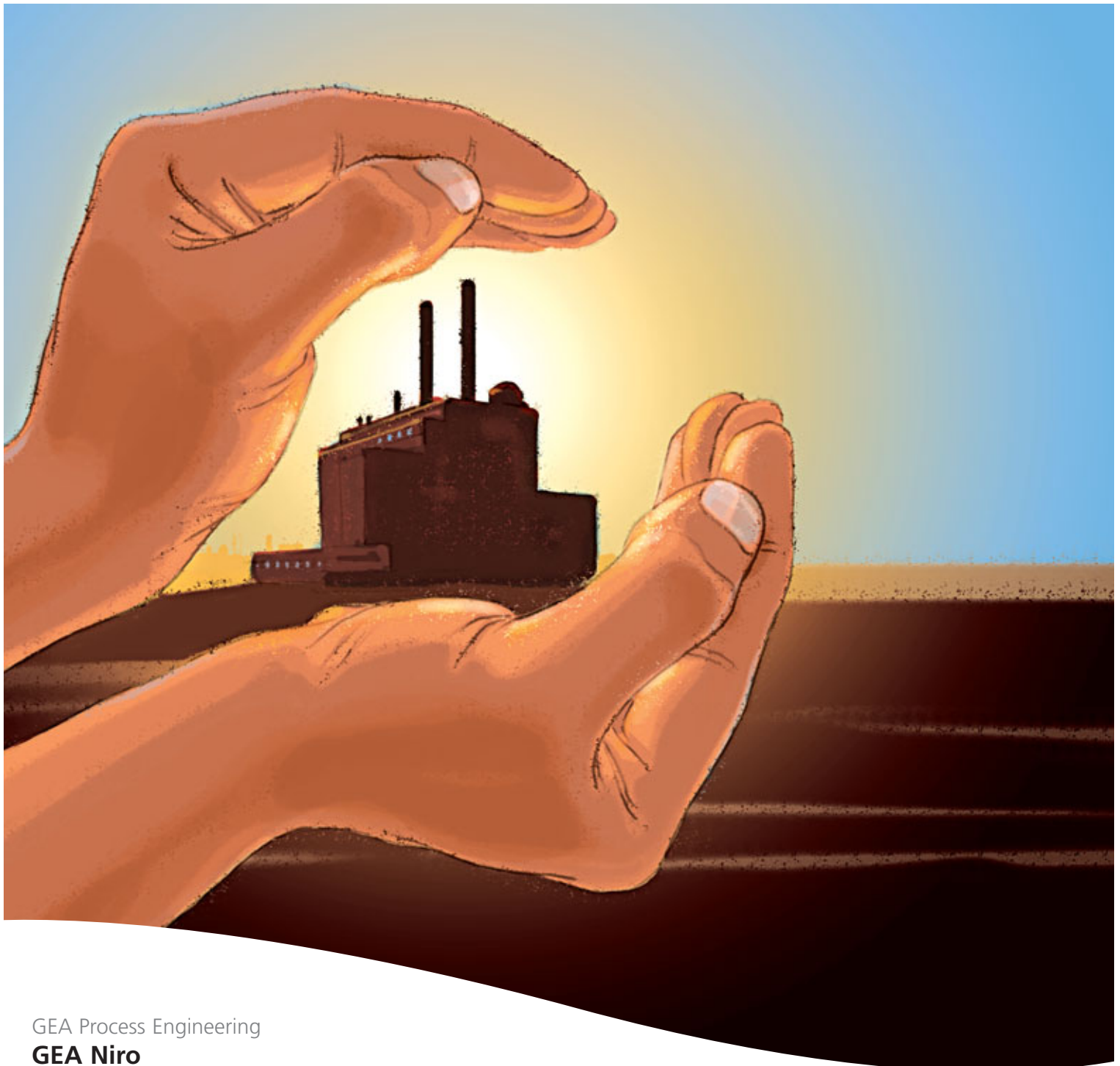


Capture heat and use it again

Save energy—help the environment

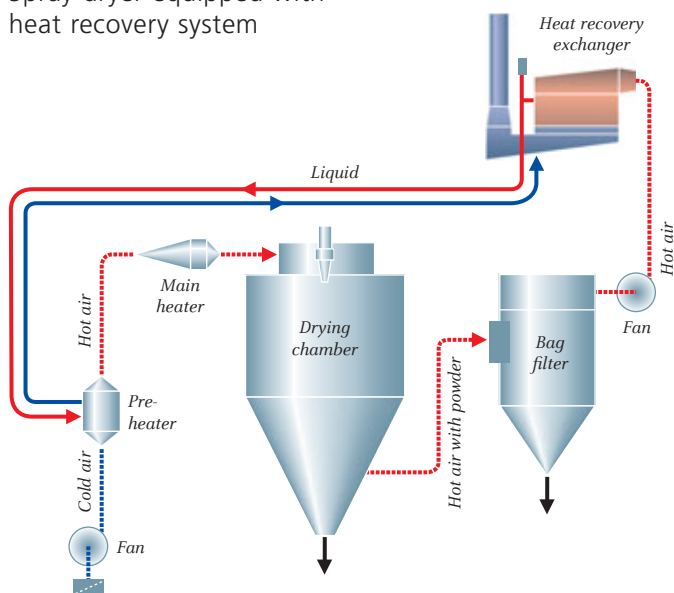


Save up to 20% on your heating bill

The good circle of heat recovery

As part of your effort to conserve, why not use and reuse what you already have? Steadily climbing oil prices and tighter regulations on CO₂ emissions have made energy conservation a priority for many industrial businesses. With a GEA Niro heat recovery system, your excess or waste heat works for you, saving you energy and money while helping the environment.

Spray dryer equipped with heat recovery system



Capture your excess heat and make it work for you.

A GEA Niro heat recovery system can be retrofitted to your spray-drying plant to take advantage of the heat already flowing through it, enabling you to cut heating costs by as much as 20%. As makers of processing plants and equipment for the food, dairy and chemical industries, GEA Niro has the knowledge and expertise to create a solution specific to the demands of your facility. And, because we are one of the largest global suppliers, there's even a chance we're already quite familiar with your plant.

How we do it

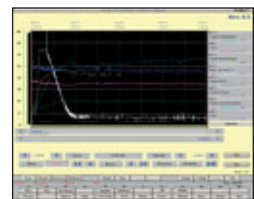
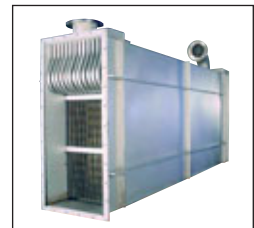
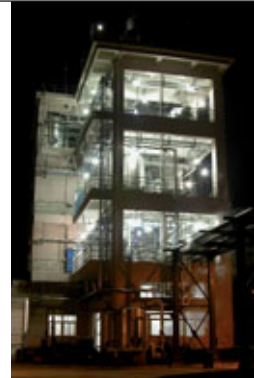
A liquid is heated in a specially designed heat exchanger installed in the exhaust air duct. The liquid is pumped to a pre-heater placed in the inlet air duct where the other-

wise wasted energy is utilized for pre-heating the inlet air to the plant. Energy can also be saved at various points throughout the production process. For example, hot condensate from the evaporator can be cooled in the pre-heater of the spray dryer. Heat exchangers can also take advantage of high-temperature combustion gas from a gas or oil heater, to pre-heat the air intake to the spray dryer enabling the main heater to operate with a lower energy consumption.

GEA Niro can provide the entire package from problem analysis to installation, commissioning and performance verification. We look at the existing facility and process drying equipment to determine the optimal heat recovery solution for each customer. Cost and return on investment calculations are based on your plant's actual operating conditions.



< GEA Niro produces various purpose-designed heat exchangers including some designed for cleaning in place (CIP).



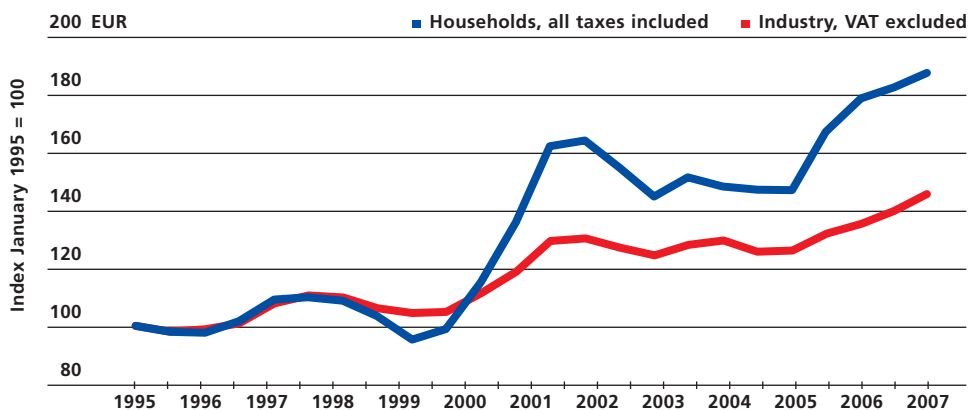
Heat recovery management system for optimizing energy use and savings.

Why choose GEA Niro?

GEA Niro has unmatched expertise in process drying and heat transfer technology and is one of the world's leading suppliers of drying equipment, including gas and oil heaters and heat exchangers. We have the technological insight, product experience and engineering expertise needed to create a total heat recovery solution for your plant, complete with system control. Performance is optimized by a heat recovery management system that regulates the liquid flow temperature settings and enables you to monitor operational efficiency and overall system status. Special requirements, such as easy access and cleaning in place (CIP) for sanitary applications, are also regularly catered for.

Fitting or retrofitting a heat recovery system to a plant is a complex engineering assignment. At GEA Niro, we foresee the impact of changes not just at the points where they are made but throughout the system, thereby avoiding operating problems and ensuring that heat saved in one part of your plant isn't lost somewhere else.

EU15 trend in gas prices



The higher energy prices rise, the faster the return on your investment. At current prices, a typical heat recovery installation pays for itself in just 2-3 years, after which you enjoy annual savings on your heating bill for many years to come.



Experience

GEA Niro has contracted and installed more than 10,000 plants worldwide

GEA Niro is a world leader in industrial drying, with spray drying, spray cooling/congealing, flash drying, freeze drying, granulation and fluid bed processing as core technologies. Having installed more than 10,000 plants around the globe, GEA Niro is known for delivering solutions that meet customers' exact requirements. The GEA Niro companies are part of GEA Process Engineering.



GEA Process Engineering

GEA Niro

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