

# Electrification and Decarbonization Solutions from Watlow®

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Do not let the initial setup of electrical process heaters turn you away from electrification. Converting from traditional gas-fired equipment is an attractive option for many companies thanks to recent advances in heat exchanger ([/en/products/heaters/circulation-heaters](#)) technology and process controlling by Watlow®. Explore the benefits of electrification and the components that make the process efficient and convenient.

## The importance of decarbonization and electrification

The latest environmental trends in energy processing and other industries are decarbonization and electrification. The effects of climate change and the desire to create a greener energy source are creating pressures on design engineers in many industries.

## Effects of climate change

According to the We Mean Business Coalition's Take Action campaign, over 700 leading companies worldwide have committed to reducing their carbon footprint. The commitment to address climate change, reduce carbon emissions and use advanced thermal products to electrify fossil fuel processes comes as a result from pressures in many directions, including these factors:

- Internal pressures to reduce costs and improve performance
- External pressures to comply with national and global emissions standards

## **Grass-roots pressures to go green**

Despite current debates about the causes and scope of climate change, it remains a very real challenge in society, energy processing and other critical industries. Ignoring national, local and personal concerns about climate change can cause a rift to form between your company and your clients. Reducing your dependence on oil can help encourage a positive relationship with your customers.

## **The electrification process**

Decarbonization is the process of reducing the use of carbon emissions and fossil fuels in heating products and other industrial processes. Electrification is the transition to electric heating products for key industrial processes. This transition can look very different from industry to industry, so it is important to work with a leader in electric heating solutions to make the transition smoother and more efficient.

At its heart, this process is about tapping into greener energy solutions. Energy sources such as solar, wind and other methods are becoming a more attractive alternative to fossil fuels. Connecting your company with a cleaner energy source helps promote a positive brand and reduce your carbon emissions.

## **Heat exchangers and electrification**

Watlow heat exchangers, power and temperature controllers, along with other products, give design engineers in various industries the resources they need to reduce their carbon emissions. The electrification process is relatively straightforward if you use a heat exchanger in your process. Other heater options, like radiant heaters, require more creative solutions. As a global leader in providing thermal application solutions, Watlow is well-positioned to help.

## **Benefits from electrification**

There are important electrification benefits to consider beyond creating a greener company and industrial process. Switching to electric heating products can improve the energy efficiency of your heating process, depending on your heat requirements and type of heating application. You can reduce carbon emissions from vaporizers, thermal energy storage, food processing, diesel emissions and other applications. Here are some benefits of replacing your carbon-based heater with a Watlow electric heater.

### **Energy efficiency**

Operating an electric heat exchanger can reduce your utility costs by 10-30%. The reduction in operating costs comes from increased heat transfer efficiency compared to gas heating systems and, in some cases, reduced costs of electricity compared to natural gas.

### **Reduced cost of ownership**

Not only can you save on the energy costs of operating a Watlow electric heater, but your overall cost of ownership can be significantly lower. The combined initial cost, energy usage and maintenance factors cause a traditional hot water or steam system to cost more over its lifetime.

### **Increased process control**

Choose an OPTIMAX® heat exchanger to update your current process heating system. This electric heater offers improved sheath, flange and shell temperature accuracies. Enhanced fluid dynamics and world-class pressure drop technology changes the way OEMs and design engineers interact with heaters and thermocouples.

### **Safer operation**

A separate controlling device ensures your technician is safely away from the heating process during operation. Boiler systems require you to empty the tank to inspect the heating device, which takes more time than inspecting an electric heat exchanger.

### **Reimagined power and temperature controllers**

An ASPYRE® power controller (</en/products/controllers/power-switching-devices/aspire-intelligent-power-controller>) and F4T® PID controller (</en/products/controllers/temperature-and-process-controllers/f4t-integrated-controller>) offer you the easy maintenance and accurate control you need. While you may be hesitant to make the transition to electric heating in your facility, the ease of operations offered by these controllers make the switch well worth the investment. Set up your power controller and choose the optimal firing mode for your situation. Innovative algorithms make it easy to control various heater loads.

### **Complete integration solution**

Watlow components ensure a seamless electric process system. Choose a full system solution or select the individual components that you need within the thermal loop. These products, all manufactured by Watlow, combined with your engineering and support teams, can result in a seamless and successful commissioning.

### **Advanced communications and data logging**

Once you make the transition to electric heating and advanced power and temperature controllers, you will have even greater process control. Log crucial data and use the embedded diagnostics and communication options in your power controller to enable factory and equipment automation.

## Local utility incentives

Check with your local utility provider about rebates and other incentives related to electrification. Many utility companies provide incentives to make the change from gas-powered heating to a cleaner alternative.

## Creating an environmentally friendly heating process

We are working with our customers to provide the right thermal products to deliver electrification solutions. While some heater systems are easy to transition and offer improved performance features when compared to existing fossil fuel boiler heating systems, others require creative transitions to decarbonize the heating process. Watlow's OPTIMAX® (</en/products/heaters/circulation-heaters/optimax-heat-exchanger>) and HELIMAX® heat exchangers are advanced circulation heaters. Find out how these innovative electric heaters can give you the efficiency and performance you need to make the change.

## Work toward a greener future with Watlow

Electrification requires time and creative solutions. There are many challenges to transitioning your process heating systems and other sub-systems to a net-zero emissions system, but there are also many opportunities. The Watlow team can create an electrification plan for your company. This process looks different for every industry and every industrial process, so contact Watlow (</en/contact-us>) for the technical support and industry expertise you need to succeed.