

TOROMONT

CIMCO

# THERMAL ENERGY STORAGE



**CAPTURE, STORE, AND SAVE:  
THE SMART WAY TO MANAGE ENERGY  
AND DECARBONIZE YOUR FACILITY**

DESIGN | ENGINEERING | MANUFACTURING | CONSTRUCTION | INSTALLATION | SERVICE

# Harness the Power of Thermal Energy Storage

Imagine a solution that allows you to capture and store energy when it's more cost effective, then use it when you need it the most. With CIMCO's Thermal Energy Storage (TES) systems, that vision becomes a reality. Our advanced TES technology helps businesses shift energy consumption away from peak hours, storing thermal energy for use during high-demand periods. By doing so, you not only stabilize your energy use and cut down on operational costs, but also significantly reduce your environmental impact.

**Whether you're running an industrial facility, or a large commercial building, TES is designed to offer seamless heating or cooling while lowering your carbon footprint.**

## What is Thermal Energy Storage?

A TES system works like a rechargeable battery for heating or cooling, enabling the capture of excess thermal energy for later use.

It can be added to a facility's existing heating or cooling system to balance energy supply and demand.

The thermal battery is charged during off-peak times, saving heating (or cooling) for later use. Then, when demand is high during peak times, the battery is discharged into the system, providing heating (or cooling) where needed.

# Why does your Facility Need TES?

Thermal energy storage (TES) offers proven advantages for facilities across various scales and industries. By incorporating TES capabilities, facilities can unlock various benefits that **enhance operational efficiency, reduce costs, and support sustainability goals.**

## KEY ADVANTAGES INCLUDE:



### CAPEX Reduction

TES is typically lower cost than electrical batteries and most designs do not degrade even after decades of use.



### Capacity Expansion

TES can increase a facility's heating or cooling capacity without the need for additional chillers or heat pumps, further reducing CAPEX.



### Minimal Maintenance

TES technology is straightforward with minimal maintenance costs, further reducing operating expenditure.



### OPEX / Energy Cost Reduction

TES allows facilities to shift energy consumption to off-peak hours when electricity rates are lower.



### Peak Demand Management

Facilities can reduce peak power consumption during high-demand periods by using stored thermal energy, potentially lowering demand charges.



### Increased System Efficiency

TES can improve the overall efficiency of heating and cooling systems by allowing them to operate at optimal conditions.



### Enhanced Reliability

TES provides a backup source of heating or cooling during power outages or equipment failures.



### Integration of Renewable Energy

TES can help balance the intermittent nature of renewable energy sources like solar and wind, capturing the energy when it's abundant and using it when needed.



### Decarbonization

By optimizing energy use and facilitating renewable energy integration, TES can help reduce a facility's carbon footprint, fast-tracking its decarbonization journey.



### Reduced CO<sup>2</sup> Emissions

In heating applications, TES also allows for maximizing heat recovery chillers and heat pumps, reducing fossil-fuel-related CO<sup>2</sup> emissions.



### Grid Support

TES can help facilities participate in demand response programs, supporting overall grid stability and offering a higher return on investment.



### Consistent Performance

Maintains performance with minimal energy loss over time, unlike electric batteries, which degrade and lose storage capacity.



## Did you know?

CIMCO is one the largest industrial refrigeration contractor in North America, boasting more than 1,200 multi-skilled professionals across the continent. For over 110 years, we've put our customers first, continuously finding new ways to support you through our comprehensive thermal offering.

## The CIMCO Advantage

At CIMCO, we understand that large heating and cooling projects are complex and that each project is unique, there is no off-the-shelf product that provides the ideal solution. Our goal is to work with the stakeholders on each project to understand the unique challenges and opportunities, so we can leverage our skills and capabilities to find the optimal tailor-made solution for you.



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