



Mason City School District

Energy efficient upgrades projected to save more than \$55,000 annually • Mason, Ohio

A Mason High School expansion project takes advantage of energy efficient infrastructure systems, including an ice storage system and high performance controls, projected to save the district more than \$55,000 in annual energy costs. The investment is expected to have a payback of less than five years, which is accelerated by a \$72,000 energy incentive from Duke Energy Corporation.

In recognition of building improvements that optimize the teaching environment and increase operational efficiency, the Mason City School District received the Trane Energy Efficiency Leader in Education Award.



About Mason City Schools

The Mason City School District ranks fifth out of more than 600 Ohio districts for overall academic performance. The district educates over 11,000 students in an early childhood center, two elementary schools, an intermediate campus, a middle school and a high school. With 186 courses, Mason High School has a national reputation for offering one of the most extensive learning experiences available.



An ice storage system reduces energy costs by shifting peak cooling loads to off-peak hours.

Systems and services

- 600-ton Trane model CVHF centrifugal chillers
- Ice storage system
- Trane Tracer Summit™ building automation system
- Trane modular Climate Changer™ and custom air handling units
- Trane Scheduled Service Agreement

Challenge

Due to a growing enrollment at Mason City High School, the district school board initiated an expansion project that included more common spaces and forty-nine new classrooms. In addition to the physical upgrades, administrators were looking for energy efficient improvements that would deliver financial and academic payback.

Solution

The building systems selected by the district were chosen for their ability to create high-performance classrooms that optimize student learning, increase faculty retention and help improve test scores.

Centrifugal chillers were selected for their reliable, efficient operation. The chillers are professionally maintained under a scheduled service agreement. This provides the district with assurance that all required maintenance is being performed as scheduled to protect their long-term investment.

The ice storage system stores ice at night and uses it during daytime hours to cool the building. This reduces energy costs by shifting peak cooling loads to off-peak hours when electricity is less expensive.

An air handling system, with custom units, was installed. The system ensures even air circulation throughout the school.

A building automation system provides building control through a single integrated system to program and manage climate, lighting, energy consumption, scheduling and other controllable features. The system helps to ensure optimum indoor air quality, reduces energy costs and improves comfort.

Results

The Mason High School expansion project accommodates larger incoming classes and was financed without raising taxes. The project is expected to save the district more than \$55,000 in annual energy costs and to pay the investment back in less than five years (improving upon the seven-year payback required by the school district). As a result of the project, the district also received a \$72,000 power company energy incentive.

"In this economy, it's more important than ever that we maximize energy efficiency while creating the best learning and teaching environment for our students, faculty and staff," said Dr. Kevin Bright, superintendent, Mason City Schools. "We're pleased that the selected infrastructure systems will save us money while aligning with our environmental focus."



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