Dude Solutions℠

CLIENT SUCCESS STORY

Trumbull Public School District Saves $864,000 in Energy Spending

CLIENT
Mark Deming, Facilities Director

GEOGRAPHY
Trumbull, CT

VITALS
7,000+ students; one high school, two middle schools, one agri-science school, five elementary schools and one early childhood education center

CHALLENGES
The district's energy spending was over half where it needed to be, and upgrades to existing equipment and systems were needed district-wide.

RESULTS
After four years of projects, Trumbull's energy spending is now down from $2.3 million a year to $1.6.

FAST STATS
Saved $864,000 in less than four years; completed three retro commissioning projects; upgraded nine boiler rooms; received $1.2 million in utility incentives

ENERGY

ENERGY

When Mark Deming came on as Facilities Director for Trumbull Public Schools, he wasn't joining a team that was unfamiliar with how effective proper software can be. His predecessor was already using Dude Solutions' software to track maintenance work, but when it came to energy management, Mark saw an alarming problem early on. For a roughly one-million-square-foot district, they were spending an average of $2.3 million on energy, nearly twice as much as to be expected for a district of that size in the area.

He knew that the problem was beyond a few upgrades — the district would need major changes to cut spending. To start, Mark needed to be able to see the full picture of what they were currently doing to rack up these costs, so he implemented Dude Solutions' Energy Management software. With the facts in front of him, he had a good idea of what needed to be done (prioritize projects for energy-bleeding buildings, begin retro commissioning projects, utilize solar arrays), but he was well aware he'd need data to justify his case and get things moving.

"I determined where they most savings could be...and started targeting them in that order."

"If I put up a bar graph, they understand that," Mark said when talking about presenting his case to leadership. "Even if you don't know energy but you see the trend is dropping and the trend is money, everyone can get behind that and support it." With buy-in from stakeholders, he got to work.

"The focus was: How do we get these buildings in line with what the norm should be? We identified 60-year-old boilers, inefficient lighting systems, old pneumatic controls," Mark said. "So I determined where they most savings could be...and started targeting them in that order."

In the four years since, the Trumbull Public Schools district has seen changes in its energy usage and spending that are beyond noteworthy, as shown in this dashboard he recently shared:

In less than four years they cut their total energy spending in half, from over $1.7 million to roughly $840,000.

Fiscal YTD Cost | 2014 | 2018 | Go

Utility Type	2014	2018
Electric	$904,149.54	$583,462.59
Electric (Solar)	$0.00	$16,941.81
Natural Gas	$744,466.58	$166,740.45
Water	$54,794.39	$72,300.15
Total	$1,703,410.51	$839,445.00

That's right — in less than four years they cut their total energy spending in half, from over $1.7 million to roughly $840,000. They've also received $1.2 million in utility incentives.

ENERGY

Working in order of priority, Mark and his team completed:

- Nine boiler rooms retrofitted with new Viessman and Clever Brooks boilers, pumps, etc.
- 850K square feet of schools retrofitted with LED lighting
- Seven new DDC building management systems
- Three buildings underwent retro commissioning program
- Four photo-voltaic arrays installed, saving approximately $110,000 annually
- One new roof installed on middle school

Trumbull's energy costs have now been reduced from a staggering $2.3 million to $1.6 million.

Before and After

Madison Before and After

Daniels Farm Before and After

Tashua Domestic Hot Water

Utilizing Solar Power

Hillcrest PV- 210 KW

Frenchtown PV- 216 KW

All projects are being paid for by energy savings gained over less than 10 years, and Trumbull's energy costs have now been reduced from a staggering $2.3 million to $1.6 million. Though they still have several more projects to complete to get them to their goal, how far they've come is impressive.

Though the results are undeniable, Mark says it still took some time to get everyone on board with energy tracking. His team is now fully on board, however, after seeing what a difference they're able to help make. "They like the idea that we're tracking it all now," he reports. "When they see the amount of money we're saving, they want to be a part of it, to say they were involved."

"I would tell anyone who's not tracking their energy consumption that they're missing a big, expensive boat."

Mark and his department have plans for more energy projects over the coming years that will push them to their ultimate goal, and he says they're hoping to start a preventive maintenance program as well. Though the changes they've seen are the result of many people's hard work and patience, he notes that the role proper software plays is integral for seeing your data story and getting buy-in on making the investment.

"I would tell anyone who's not tracking their energy consumption that they're missing a big, expensive boat," he says. "You need something to verify that the work you're doing is accomplishing what you wanted to accomplish. Now going forward, I'm able to pull reports, I'm able to project budgets to the end of the year, so it just gives me the tools I need to do what I need to do."