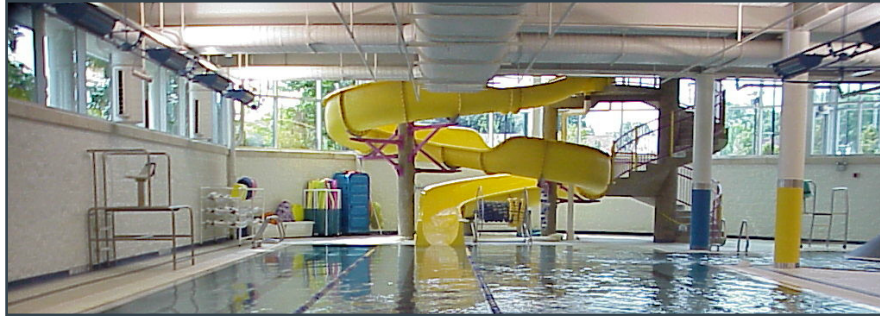


Case Study

Fun, Fitness, and Energy Savings! Niles Family Fitness Center, Niles, Illinois



Project Summary | The Niles Family Fitness Center (Fitness Center) is a 70,000 square foot state of the art facility built to meet the fitness needs of families today. Programs have grown over the years to include massage therapy, personal training, specialty fitness classes, youth classes, sports training, camps and birthday parties. Center amenities include but are not limited to 63 pieces of state-of-the-art electric cardiovascular training equipment, a sauna, a whirlpool, and an indoor aquatic center with a 100-foot waterslide.

The Fitness Center draws a significant power load to operate equipment and amenities and to supply space heating, cooling, and lighting, making it a perfect candidate for Delta's energy efficiency audit program.

In the winter of 2011 Delta sent one of its contracted energy auditors to the Fitness Center to assess energy usage. The following energy reduction measures (ERMs) were identified:

Low Cost Measures

Measure	Electric Savings (kWh)	Gas Savings (therms)	Demand Savings (kW)	GHG Savings (Metric Tons CO ₂)	Cost Savings (\$)	First Cost (\$)	Simple Payback (Yrs)	Incentive (\$)
Install occupancy sensors to the gym	3,972	0	0.0	2.9	\$225	\$1,300	5.8	\$1,118
Install occupancy sensors to the dance and meeting rooms	6,908	0	0.0	5.0	\$391	\$1,560	4.0	\$648
Install occupancy sensors to the locker rooms	5,022	0	0.0	3.6	\$284	\$3,023	10.6	\$837
Update Halogen can lights	5,250	0	1.0	3.8	\$297	\$2,000	6.7	\$296
Using a cover on the whirlpool	54,000	6,998	0.0	73.8	\$4,520	\$700	0.2	\$560
Total	75,152	6,998	1.0	88.9	\$5,717	\$8,583	1.5	\$3,458

Measures Requiring Capital Investment

Measure	Electric Savings (kWh)	Gas Savings (therms)	Demand Savings (kW)	GHG Savings (Metric Tons CO ₂)	Cost Savings (\$)	First Cost (\$)	Simple Payback (Yrs)	Incentive (\$)
Gym lighting with high output T5 lighting	107,389	0	20.1	77.1	\$6,078	\$35,000	5.8	\$4,000
Replace the metal halide pool lighting with high efficiency T5s	103,956	0	19.5	74.6	\$5,884	\$6,900	1.2	\$2,300
Downsize one of the pool pumps	63,892	0	7.5	45.9	\$3,616	\$20,000	5.5	\$4,472
Install a heat recovery option for the pool HVAC	0	26,241	0.0	131.2	\$5,487	\$50,000	9.1	\$19,681
Total	275,237	26,241	47.1	328.8	\$21,065	\$111,900	5.3	\$30,453

Results | Estimated energy use savings from the proposed measures are significant at approximately 350,000 kWh of electricity (approximately 14% of annual electricity usage) and approximately 33,000 therms of natural gas (approximately 32% of annual gas usage). Through a purchasing agreement with the Village of Niles, the Fitness Center receives a modified rate for both electricity and natural gas that results in the facility's energy costs being much lower than typical. Consequently, estimated energy cost savings from the recommended measures are also reduced. (If typical energy rates are used, calculated cost savings approximately triple and simple paybacks drop significantly.)

Next Steps | During its Post Energy Audit Follow-Up Visit with Delta Staff, Niles Fitness indicated that in 2011 it intended to implement the last two low cost measures (Update Halogen Can Lights and Using a Cover on the Whirlpool) and the first three Capital Investment Measures (Replace Gym Lighting with T5s, Replace Metal Halide Pool Lighting with T5s, and Downsize One of the Pool Pumps) for an approximate cost savings of \$20,000 annually and a total estimated Green House Gas (GHG) Savings of 275 Metrics Tons of CO₂. The GHG savings represent the removal of approximately 50 vehicles off the road annually!

More Information | For more information about how your Cook County commercial or industrial facility can receive a free investment grade energy audit contact Delta Institute Program Director Kevin Dick at kdick@delta-institute.org or (312) 554-0900 x30.

Feedback | According to Steve Vinezeano, Assistant Village Manager, "The Niles Fitness Center is a strong proponent of saving energy, and we recommend the energy efficiency services of the Delta/Cook County Energy Efficiency Audit Program to other businesses." Added Carl Maniscalco, Fitness Center Director of the Niles Family Fitness Center, "We really appreciated the time taken by Delta Staff to sit down with us and discuss the report."

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Niles Family Fitness Center walking track



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