Case Studies – LED Experience in Public Facilities

K-12 Schools

PROJECT SCOPE:

- LED Interior Lighting Retrofits
- Exterior LED Lighting
- Building Controls Upgrades
- Mechanical System Upgrades
- Smart Controls in Kitchen Appliances
- Energy Education Program

Bellbrook-Sugarcreek Schools

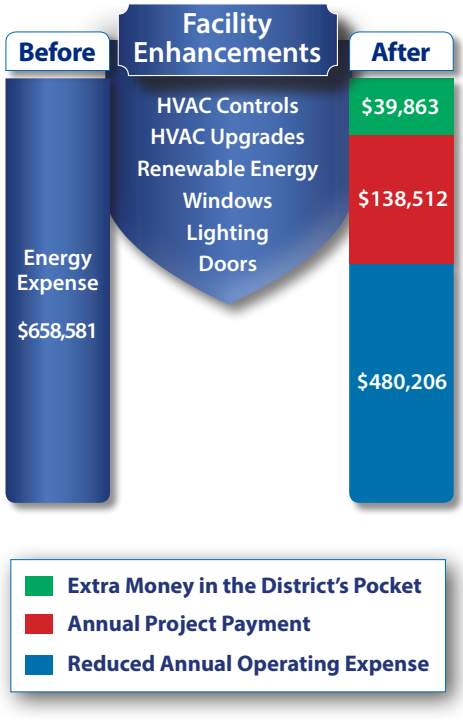
Bellbrook, Ohio

Project Cost: $1.7 million
Annual Savings: $178,375
Positive Annual Cash Flow: $39,863
Simple Payback: 9.39 years

Annual Energy & Environmental Savings

Electrical Savings - 982,316 kWh
Fuel Savings - 7,005 MMBtu
Cars Taken off the Road - 307
Acres of Trees - 468
Year Implemented - 2015

Energy Cost Savings



Testimonial

"We launched this project because we are committed to making the best, most cost-effective use of tax dollars possible. Moving to all-LED lighting made sense. We wanted to take a proactive approach to energy savings and put in place the latest technology, rather than continue to rely on lighting systems that are - or will soon be - obsolete."

Dr. Keith St. Pierre
Superintendent

"This is a very substantial and concrete commitment by the district's school board and administration to the students and taxpayers of their community.. The district will be positioned for both immediate and long-term financial savings, all of which will benefit the students and, by extension, taxpayers."

State Representative Richard Perales

Bellbrook-Sugarcreek Local Schools
Dr. Jeff Lewis, Director of Business Operations & Interim Superintendent
Jeff.lewis@bss.k12.oh.us
937.848.5001

ENERGY Optimizers, USA
"Saving You Money While Saving Our Environment"

Case Studies – LED Experience in Public Facilities

Kettering City Schools
CASE STUDY

K-12 Schools

PROJECT SCOPE:

- HB264
- Interior Lighting Retrofits
- Exterior LED Lighting

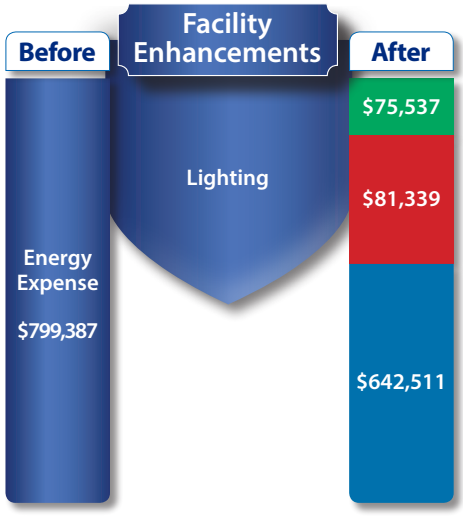
Kettering City Schools
Kettering, Ohio

Project Cost:	$1,197,759
Annual Savings:	$118,212
Utility Rebates:	$513,289
ROI:	19.88%

Annual Energy & Environmental Savings

Electrical Savings - 1,235,759 kWh
Fuel Savings - 9,322 MMBtu
Cars Taken off the Road - 393
Acres of Trees - 601
Year Implemented - 2016

Energy Cost Savings



Testimonial

"In an age of declining revenue and resources, the ability to reduce our operational expenditures through greater energy efficiency is tremendously important for the fiscal health of the school district. The project will enable us to save precious dollars that can be redirected into the classrooms for quality instruction for our students"

Ken Lackey
Director of Business Services

Kettering City Schools
Ken Lackey, Director of Operations
Ken.lackey@ketteringschools.org
937.499.1418

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Case Studies – LED Experience in Public Facilities

K-12 Schools

PROJECT SCOPE:

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Lima City School District

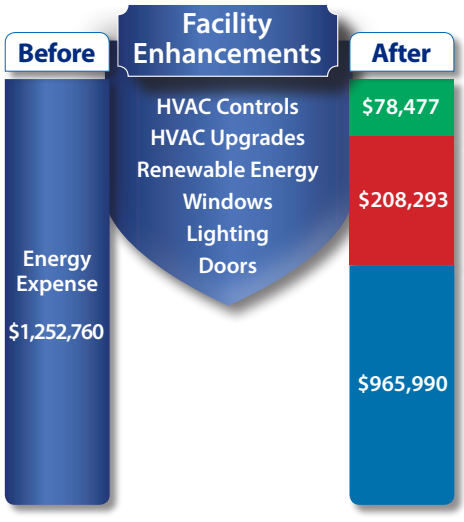
Limai, Ohio

Project Cost: $2.5 million
Annual Savings: $286,770
Positive Annual Cash Flow: $78,477
Simple Payback: 8.64 years

Annual Energy & Environmental Savings

Electrical Savings - 1,724,380 kWh
Fuel Savings - 4,113 MMBtu
Cars Taken off the Road - 421
Acres of Trees - 642
Year Implemented - 2015

Energy Cost Savings



Testimonial

"This is a tremendous opportunity to improve our operational efficiency and learning environments. As the largest district in the county, we feel it's imperative that we demonstrate to our students and our community that we are making wise use of both our natural and our financial resources."

Jill Ackerman
Superintendent

Lima City Schools
Jill Ackerman, Superintendent
jackerman@limacityschools.org
419.996.3400

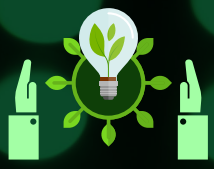
ENERGY Optimizers, USA
"Saving You Money While Saving Our Environment"

Verde Solutions...your true energy partner

Christopher Gersch, Founder and CEO of **Verde Solutions**, grew up with aspirations of owning his own business while making a difference in the lives of others. His vision was to create a company that could positively impact the communities it serves. This vision became a reality when he founded Verde Solutions, LLC in 2012.

Verde Solutions partners with businesses, municipalities and educational centers across the country to develop comprehensive energy efficiency solutions. Over the last five years, Verde Solutions has developed more than 800 energy efficiency projects in 44 states and has expanded internationally. Verde Solutions initially focused on energy reduction (LED Lighting, HVACR, and Controls) and, with a dedicated focus on sustainability, added energy generation solutions including Solar & CHP. **Verde Solutions**' passion for sustainability is shared by many of its Fortune 100 clients. **Verde Solutions** is proud to partner with these companies to achieve significant and lasting improvements in environmental and social outcomes. Due to the hard work and dedication of the entire Verde team, the company was recognized as #289 on the Inc. 500 list in 2017.

Verde Solutions' philanthropic initiative is an extension of its purpose to improve the lives of others. By establishing a culture of giving back to the communities it serves via targeted financial contributions and dedicated service at a corporate level, employees are encouraged to become selfless citizens.



*Corporate Culture of **Giving***

*More than **800** Energy Efficiency Solutions In **44 States***

***Energy Reduction** Focus*

*Passion for **Sustainability***

Verde Solutions LED Lighting & Energy Saving Program

verde SOLUTIONS

OCEPC Ohio Council of Educational Purchasing Consortia

*Partnering with Verde Solutions is easy as **1,2,3!***

1. Submit your energy bills and a completed Campus Information Form
2. Verde Solutions will conduct a comprehensive on-site energy assessment
3. Verde Solutions will provide a custom energy savings plan to fit your school's unique needs

Let the savings begin!

For more information please email OHSchools@verdesolutions.com or call 800.541.1137

DONOVAN ENERGY

Our Customer

St. Ursula Academy is a Catholic college-preparatory high school for young women located in the East Walnut Hills neighborhood of Cincinnati, Ohio. It offers an intensive four-year program in the fields of English, mathematics, science, social studies, French, Spanish, Latin, and religion. An entrance test is required of all prospective freshmen students. Academic scholarships are also based on the results of this test. The school's Educational Services Program (ESP) assists girls with learning disabilities.

Annual Environment Impact

Reducing energy use is the quickest, safest, most cost-effective way to reduce the emission of greenhouse gases that accompanies the generation of electricity from fossil fuels. Reducing **274,763 kWh** per year on this project is equivalent to:

425,841 lbs CO_2 Saved
Leading Cause of Global Warming

OR

40.8 Cars Removed from Road
(4.73 metric tons of CO_2 / Passanger Vehicle)

OR

21,735 Gallons of Gas Consumed
(0.008887 metric ton of CO_2 per gallon of gasoline)

OR

4,953 Tree Seedlings Grown
(0.039 metric ton of CO_2 per urban tree planted for 10 years)

OR

182.2 Acres of Forest in 1 Year
(1.06 metric tons CO_2 sequestered annually by 1 acre US forest)

Cited using http://www.epa.gov/cleanenergy/energy-resources/calculator

The Solution

St. Ursula Academy worked with Donovan Energy to conduct a lighting analysis for multiple facilities and identified the best products to deliver maximum savings and performance. Donovan Energy was able to integrate LED solutions into the school's gymnasium to replace halogen floods, incandescent bulbs, and metal halide bulbs. With these upgrades the spaces maintain the desired ambiance while cutting energy usage by more than half. Donovan Energy also replaced the facility's Tl 2 and T8 wrap, strip, and troffer fixtures with LED retrofit fixtures. These fixtures come with a 7 year warranty and are rated for 85,000 hours of life.

Project Benefits

At an estimated annual lighting cost of The economic, financial and energy models for this project all projected significant savings and returns for this project. The energy savings are $37.926.54 annually. Additional operations and maintenance annual saving of $13,538 should be realized through the avoidance of replacing failed lamps and ballasts. These results produce an Internal Rate of Return (IRR) of 615.4%. The project's simple payback was just under 14 months

DONOVAN ENERGY

Project Overview

William Henry Harrison High School (also known as Harrison High School) is a public senior high school located in Harrison, Ohio. It is the only high school in the Southwest Local School District and serves as the high school for students located in Harrison Township, Crosby Township, and Whitewater Township in Hamilton County as well as a small section of Morgan Township in southwest Butler County. The district and school are ranked as "excellent" by the Ohio Board of Education.

Annual Environment Impact

Reducing energy use is the quickest, safest, most cost-effective way to reduce the emission of greenhouse gases that accompanies the generation of electricity from fossil fuels. Reducing **647,618 kWh** per year on this project is equivalent to:

1,003,711 lbs CO_2 Saved
Leading Cause of Global Warming

OR

96.3 Cars Removed from Road
(4.73 metric tons of CO_2 / Passanger Vehicle)

OR

51,229 Gallons of Gas Consumed
(0.008887 metric ton of CO_2 per gallon of gasoline)

OR

11,674 Tree Seedlings Grown
(0.039 metric ton of CO_2 per urban tree planted for 10 years)

OR

429.5 Acres of Forest in 1 Year
(1.06 metric tons CO_2 sequestered annually by 1 acre US forest)

Cited using http://www.epa.gov/cleanenergy/energy-resources/calculator

The Solution

Harrison High School worked with Donovan Energy to conduct a lighting analysis for multiple facilities and identified the best products to deliver maximum savings and performance. Donovan Energy was able to integrate LED solutions into the school's specialty auditoriums to replace halogen floods, incandescent bulbs, and metal halide bulbs. With these upgrades the spaces maintain the desired ambiance while cutting energy usage by more than half. Donovan Energy also replaced the facility's TI 2 and T8 wrap, strip, and troffer fixtures with LED retrofit fixtures. These fixtures come with a 7-year warranty and are rated for 85,000 hours of life.

Project Benefits

At an estimated annual lighting cost of $57,538 per year, Donovan Energy Solutions stepped in to provide a long term LED solution that delivered an IRR of over 104%. Through the use of LED retrofits and a 10-year maintenance-free warranty, Donovan Energy Solutions helped St. Thomas Aquinas Seminary find lighting solutions that will not only reduce their electricity bill, but last for years to come.

The Best Products, the Best Service

Facility Solutions Group is a leading single-source provider of lighting, electrical, energy, signage, and technology solutions, operating across all fifty States, Canada and Puerto Rico. As one of the largest lighting distributors in the country, FSG sells most major brands of lighting, and they are included in our agreement. We have highlighted a hot list of the most popular items in our contract.

LED Lighting Materials

As one of the largest lighting distributors in the United States, FSG gives you access to most major brands at competitive AEPA contract prices.

PHILIPS MaxLite AcuityBrands Universal Lighting Technologies RAB LIGHTING

- Type A and Type B LED Tubes
- LED Lamps
- Outdoor LED Fixtures
- Recessed LED Panels
- LED Gym Lights

To Place Your Orders, You Can:

- Visit your Co-ops online marketplace
- Email your orders to us at **AEPA@fsgi.com**
- Call us at **(855) 642-1109**

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Contract: AEPA #018-B

AEPA Association of Educational Purchasing Agencies