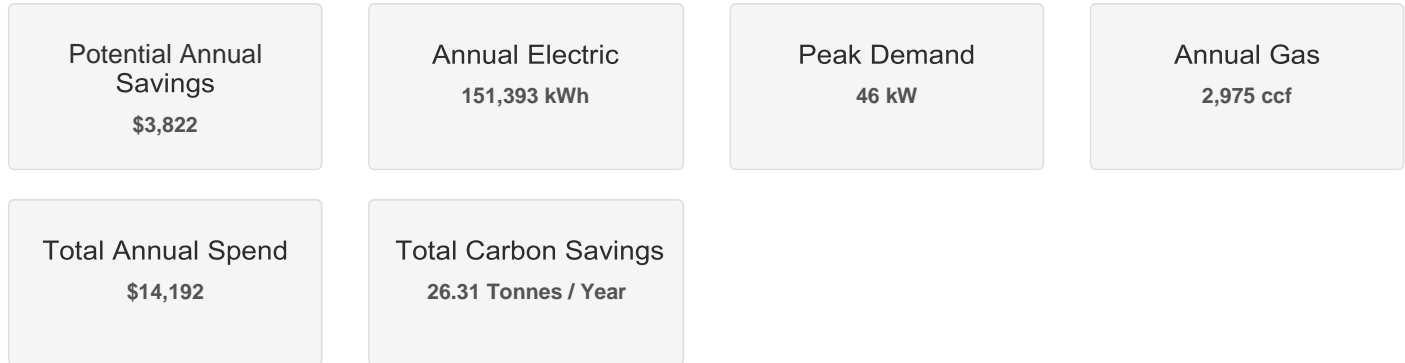


Building Assessment Report

We analyzed your energy usage and determined that your building has a potential savings of **\$3,822** per year. To learn more about how to achieve these savings contact your Outreach Representative. Your Outreach Representative's role is to guide you through the incentive application process.

Energy Usage

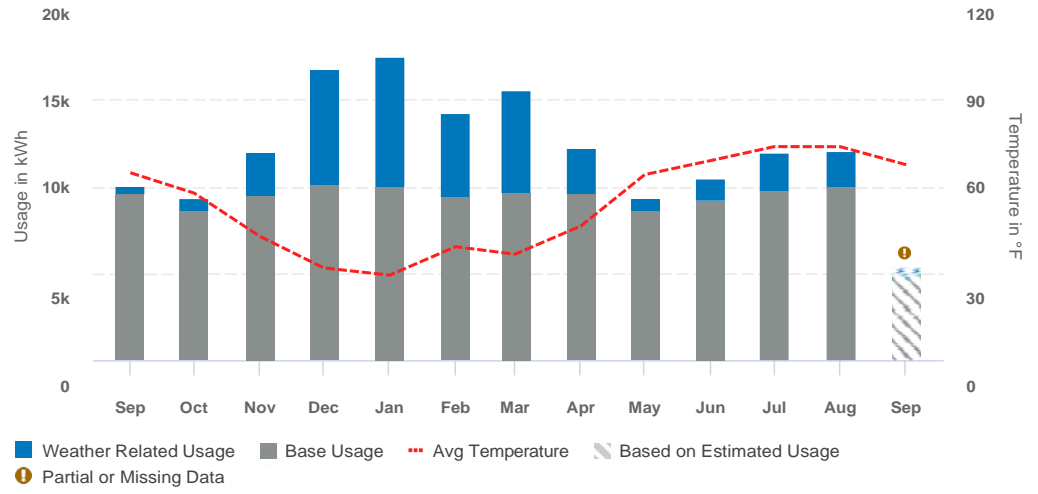


Your Potential Energy Savings

Recommendation	Type	Energy Savings	% Savings	Annual Savings
Retrofit enhanced ventilation control	Electricity	13,054 kWh	9%	\$1,201
Adjust temperature setbacks in building management system	Electricity	6,207 kWh	4%	\$574
	Gas	35 ccf	1%	
Install efficient exterior lighting	Electricity	4,239 kWh	3%	\$390
	Gas	733 ccf	24%	
Modify schedules during unoccupied hours	Electricity	3,326 kWh	2%	\$369
	Gas	465 ccf	15%	
Install a Variable Speed Drives (VSDs)	Electricity	3,935 kWh	3%	\$362
Install reflective window film	Electricity	3,554 kWh	2%	\$327
	Gas	465 ccf	15%	
Use roof and cavity insulation.	Electricity	1,663 kWh	1%	\$193
	Gas	465 ccf	15%	
Optimize your operational schedule	Electricity	1,739 kWh	1%	\$163
	Gas	35 ccf	1%	
Install Demand Controlled Ventilation	Electricity	1,663 kWh	1%	\$156
	Gas	35 ccf	1%	
Install energy efficient exit signs	Electricity	457 kWh		\$42
Install vending machines with motion sensors	Electricity	304 kWh		\$28
Install a high efficiency condensing boiler	Gas	198 ccf	6%	\$17

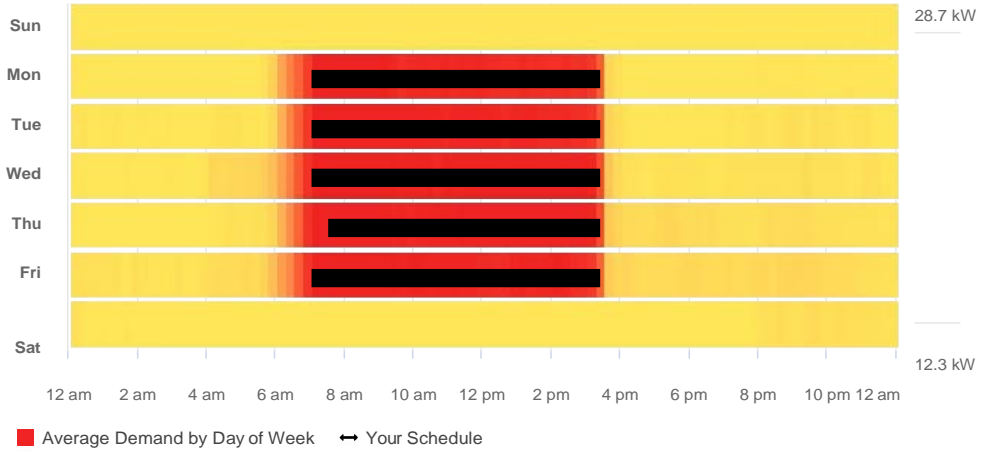
Weather Impact - Electricity

We've done some analysis showing how weather changes impact your energy usage to help you decide if you want to make changes to your equipment or set points.



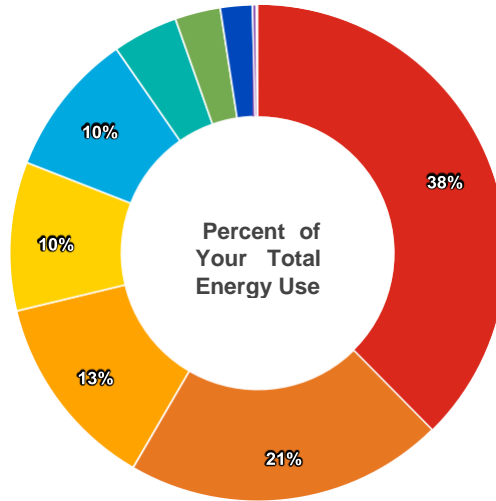
Operating Schedule

Your energy use compared with your operational hours. Startup/shutdown time may present opportunities for operational savings.



End Uses - Electricity
 End-Use Analysis shows a breakdown of the major contributing components of the Facilities consumption.

What Affects My Energy Usage?

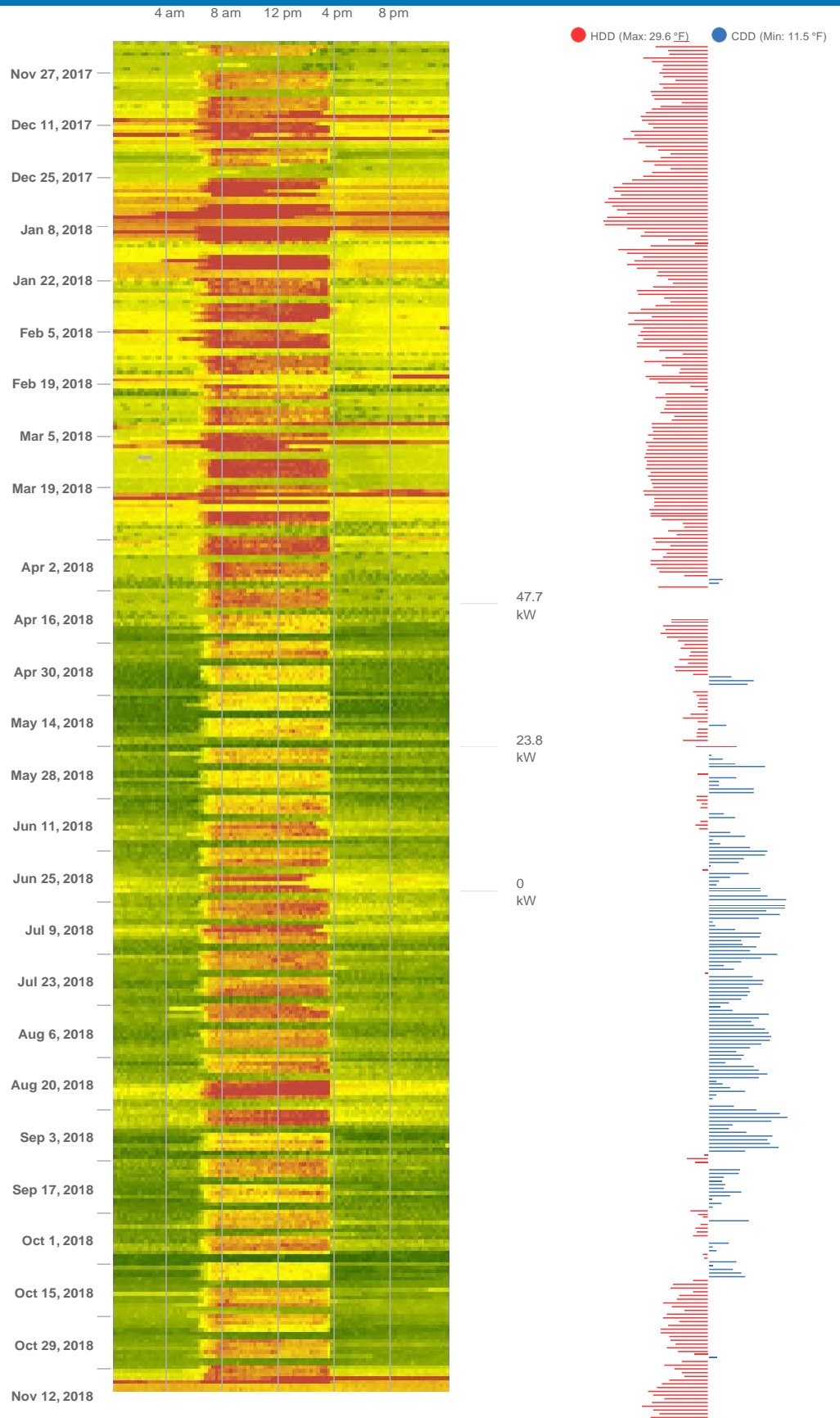


End Use	Usage (kWh)	You (kWh / sq ft)	Similar Sites (kWh / sq ft)	Efficient Sites (kWh / sq ft)
Lighting	57,585	2.71	2.35	0.61
Space Heating	31,578	1.48	0.02	0
Computing	19,372	0.91	2.31	0.73
Other and Process Loads	14,929	0.7	1.79	0.57
Ventilation	14,489	0.68	2.07	0.89
Space Cooling	6,548	0.31	0.66	0.14
Office Equipment	4,568	0.21	0.52	0.16
Refrigeration	3,226	0.15	0.45	0.14
Cooking	370	0.02	0.15	0.05
Water Heating	171	0.01	0.07	0.02

Based on the information you have provided, your Government Office is 21,287 sq ft in size and located in WAYNE, PA. Here is how its consumption compares to similar Facilities over the past 12 months. To update this information, please update your [Facility Profile](#)

Annual Demand Intensity - Electricity

See energy usage for each interval throughout the year to visualize your building's profile. Determine if the profile aligns with expectations or requires further investigation. Heating/cooling degree days (HDD/CDD) help correlate the pattern with temperature.





Retrofit enhanced ventilation control

Enhanced Ventilation Control retrofit kits add multiple efficiency measures to existing packaged HVAC units. The measures include variable frequency drives on HVAC fans, demand controlled ventilation, and advanced digital economizer control (ADEC).

Constant speed fans run continuously whether needed or not. Variable speed drives

Potential Savings

\$1,201 / Year

Carbon Savings

5.89 Tonnes / Year

can match the speed of fans to current demand, cutting consumption during mild weather or low occupancy.

The digital controls also allow use of an outdoor air economizer to be more precise. Demand controlled ventilation reduces the amount of outside air brought in when the space is occupied by fewer people than the design capacity. A CO2 sensor tells the ADEC system how many people are inside the space. Used together, all of these measures optimize control of the building's HVAC.



Adjust temperature setbacks in building management system

It is possible that during unoccupied periods of the day, temperature setback is not being employed to properly schedule the run time of air conditioning and/or heating equipment. This means that equipment runs unnecessarily and therefore wastes energy. Proper night setback scheduling should be implemented across all zones of the building. We recommend 55 F heating unoccupied setpoint, and 85 F cooling unoccupied setpoint.

Potential Savings
\$574 / Year

Carbon Savings
2.99 Tonnes / Year



Install efficient exterior lighting

Many buildings currently use older high-pressure sodium (HPS) or metal halide (MH) lamps for exterior lighting. LED or induction fixtures typically use half the energy of these older lights or even less. In many cases, the color and quality of light can also be improved by LEDs which have a much longer life than HPS or MH lamps. Updating exterior lighting can have huge benefits, especially if the business has large exterior walking, driving, and/or parking areas.

Potential Savings
\$390 / Year

Carbon Savings
1.91 Tonnes / Year



Modify schedules during unoccupied hours

It is apparent that equipment in the building remains operational during unoccupied periods. The schedule should be modified to properly mimic the operating profile of the building.

Potential Savings
\$369 / Year

Carbon Savings
5.5 Tonnes / Year



Install a Variable Speed Drives (VSDs)

Most motors are fixed speed devices. But for uses like pumping and ventilation, you can benefit from variable output if the system is not in constant use. VSD systems are more efficient than constant speed systems, because they can vary the speed of the motor based on the level of heating or cooling a building demands. With many applications power is proportional to the cube of the motor speed – so drop the motor speed by 20% and your power consumption falls by almost 50%.

Potential Savings
\$362 / Year

Carbon Savings
1.78 Tonnes / Year



Install reflective window film

Windows provide great natural light but can make rooms hot. Installing reflective window film will keep people more comfortable and air conditioning usage down while still allowing in natural light.

Potential Savings
\$327 / Year

Carbon Savings
1.6 Tonnes / Year



In many cases you can apply the coating or film yourself and some are specifically designed to be self-installed but it may be worth consulting a contractor.

Use roof and cavity insulation.

Poor roof insulation will cause drafts and make your heating and cooling systems work harder to keep you comfortable. Install roof insulation to keep warm air in during the winter and warm air out in the summer.

Most buildings have enough air leaks through cracks, gaps and openings to cause the same issues as leaving a large window open. Many air leaks and drafts are easy to find because they are easy to feel — like those around windows and doors.

Holes hidden in lofts are harder to find and can cause a bigger problem. Look for gaps in trouble hotspots including:

- Loft hatches

Potential Savings
\$193 / Year

Carbon Savings
3.29 Tonnes / Year

- Wiring holes
- Holes for plumbing and pipes
- Dropped soffits
- Recessed lights

You can use a can of spray foam insulation to fix problem areas. Once the loft is sealed make sure it is properly insulated. Loose fill insulation is a soft material that is blown in to cover the floor or other spaces. Rolls of batt insulation can also be laid onto the floor or used to cover wall space.



Optimize your operational schedule

Reprogram the building automation system to include an optimal scheduling strategy. The implementation of optimal start/stop programming compares outside enthalpy with inside enthalpy loads and thereby adjusts equipment start/stop times to maximize energy reductions. This same programming should also implement a stagger start routine to prevent all units from starting at the same time and causing an excessive peak demand. During the winter months, implementing a consistent lower night (unoccupied) temperature set-point may also contribute to further energy reductions by ensuring the terminal equipment unoccupied set-points are adjusted to meet ASHRAE guidelines.

Potential Savings
\$163 / Year

Carbon Savings
0.98 Tonnes / Year



Install Demand Controlled Ventilation

Demand control ventilation (DCV) is an advanced control strategy that measures real-time CO2 concentration in a space to determine the appropriate amount of outdoor air to bring into the space. Some ventilation air must be provided at all time that occupants are present, but supplying more air than is needed for the current number of people unnecessarily increases the heating and cooling loads on the equipment. By controlling the outside air damper position to meet a CO2 concentration setpoint, the AHU provides the minimum allowable quantity of outdoor air to the space. During periods of reduced occupancy, the AHUs can recirculate more air that is at a comfortable temperature for occupants without supplying inadequate ventilation.

Potential Savings
\$156 / Year

Carbon Savings
0.94 Tonnes / Year



Install energy efficient exit signs

Exit signs need to be lit all of the time for safety and use more energy than you think. Efficient LED models can last up to ten years and help you use less than a quarter of the energy of older models while still meeting safety requirements.

Potential Savings
\$42 / Year

Carbon Savings
0.21 Tonnes / Year

Instead of replacing the whole sign, consider more affordable LED retrofit kits. These plug into older exit signs and convert them to an energy efficient model.



Install vending machines with motion sensors

Vending machines keep their lights and refrigeration on even when no one is using them. Install motion sensors to shut off lights and cycle compressors less frequently when no one is around, and power up the machine when someone approaches.

Potential Savings
\$28 / Year

Carbon Savings
0.14 Tonnes / Year

A typical vending machine uses 7 to 14 kWh of electricity per day so they can significantly impact your building's energy use - especially if you have multiple vending machines. [According to ComEd workpaper, a beverage vendimizer uses 9.6 kWh/day and a snack vendimizer uses 2.04 kWh/day]

Installing vending machine occupancy sensors can save 30% [46% energy savings according to ComEd workpaper] of the energy required to keep it cool. The exact amount of savings depends on how often the machine is used. Remember that controllers should not be used in machines that vend milk, sandwiches, or other foods that can spoil.



Install a high efficiency condensing boiler

High-efficiency condensing boilers are 90% efficient, while costs to run

older boilers can be over a third higher.

High-efficiency boilers allow the waste gasses to reach a lower temperature and

Potential Savings
\$17 / Year

Carbon Savings
1.08 Tonnes / Year

transfer more heat to the hot water system.

Please verify program eligibility for specific measures by contacting your Outreach Representative.