

Electric Price Increases Compel Businesses to Use Modern Purchase and Use Programs

Overview 2020



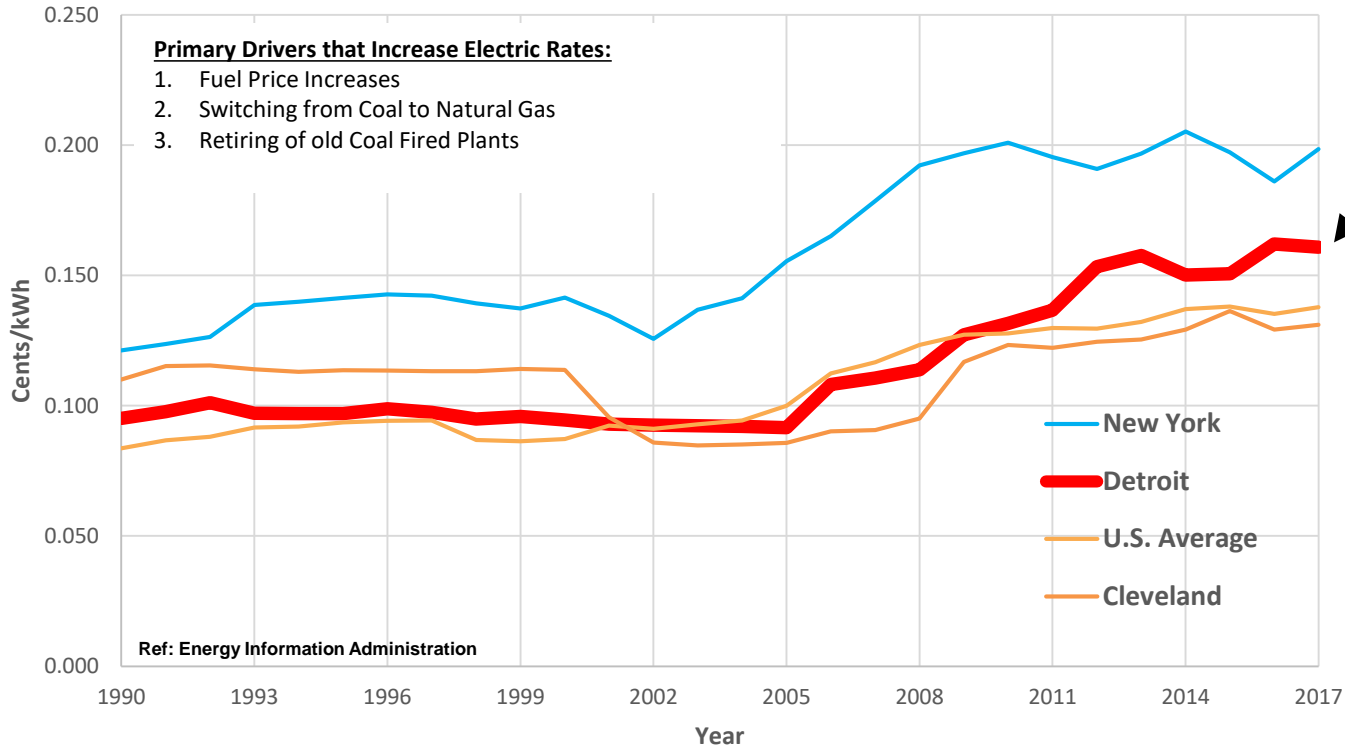
Energy Management Services Mission Statement

Our mission is to help our customers to manage their energy use and costs.

1. Cost reductions for electricity without adversely affecting production.
2. Our solutions are engineered and will improve the efficiency, reliability and availability of your building and facility utility systems.
3. We only get paid if we save you money so our interests are aligned but you only pay us out of money saved.
4. Remember that our program is not in the best interest of your regulated electricity utility.
5. Most electricity bypass suppliers are only interested in selling electricity at a lower cost while our approach is to help “restructure” the way you purchase your utilities so you gain added savings.
6. Most cities have electric, gas, water, steam and/or chilled water utilities. The building owner should purchase each utility service to minimize fuel use. Properly managed utilities work with EMS to help bring fuel efficiency and economy of scale economies to benefit the customer.

Electric Price Increases Compel Building Owners to Align Themselves With Modern Purchase and Use Programs

Average Electric Utility Prices



Why not recognize this trend in future planning?

For building owners, the necessity to cut costs has facilitated the shift of energy management from a **tactical issue** to a **strategic one**. This means escalating the need to improve operations and optimize energy to a business **critical issue**.

Ref: Forbes Magazine

	Detroit	U.S.	Cleveland	New York
2005	0.0916	0.0928	0.0857	0.121 cents/kWh
2017	0.1608	0.1378	0.1311	0.1984 cents/kWh
% Incr.	75.52%	48.38%	53.02%	63.64% from 2003-2017
% Yearly Inc.	6.2%	4.03%	4.41%	5.30% yearly from 2003-2017

How it Works

- Step 1: We start with a free audit of your facilities.
- Step 2: Customer shares current gas, electric and water bills with us.
- Step 3: Customer gives EMS written authorization to get 24 months of 15 min data from your local utility company.
- Step 4: EMS does a high level engineering analysis involving a walkthrough that includes a technical assessment of opportunities to make changes (audit).
- Step 5: EMS suggests to customer approximate indicative annual savings that are possible. EMS typically reduces your long term costs by 30% to 50%!
- Step 6: Customer formally agrees to work with EMS per a Master Agreement.
- Step 7: EMS will disclose proprietary information to customer starting with:
 - *Projects that do not require capital, and then
 - *Capital Projects
- Step 8: EMS describes projects and helps implement each project. EMS may participate in shared savings for a few years, while continuing to monitor the overall long term project performance to assure continued savings. EMS typically establishes a long term business relationship as EMS brings new ideas and programs as they come to market. Deregulation keeps bringing new programs to help our country become more energy efficient. We study rebate programs and incorporate them into the capital program we propose.

The Solution:

What We Do

1. We will analyze your electrical energy use from a high level engineering standpoint including a walkthrough at no cost to you.
2. We will assemble data from your most current electric and gas bill and from the previous 24 months of operations. We obtain this data from your electric utility on your behalf and present opportunities based on our analysis of the data.
3. We will then continue to assess the ways to reduce energy costs if you agree to the next steps.
4. We may recommend a change to the price you pay based on a better rate schedule.
5. We may recommend a change in the amount you use with emphasis on demand cost reductions.
6. We may recommend a change for the way you use utility services.
7. We will focus on projects that do not require Capital first then we will focus on projects requiring capital. We can provide the capital at low cost, 5 year term, off balance sheet financing paid only out of actual savings.
8. You will approve any and all changes before we proceed to implement any change.

Energy Management Opportunities

Within the new electric cost system electric customers need new modes of operation and deployment of capital at the customer site.

When purchasing electricity, a customer is purchasing two products:

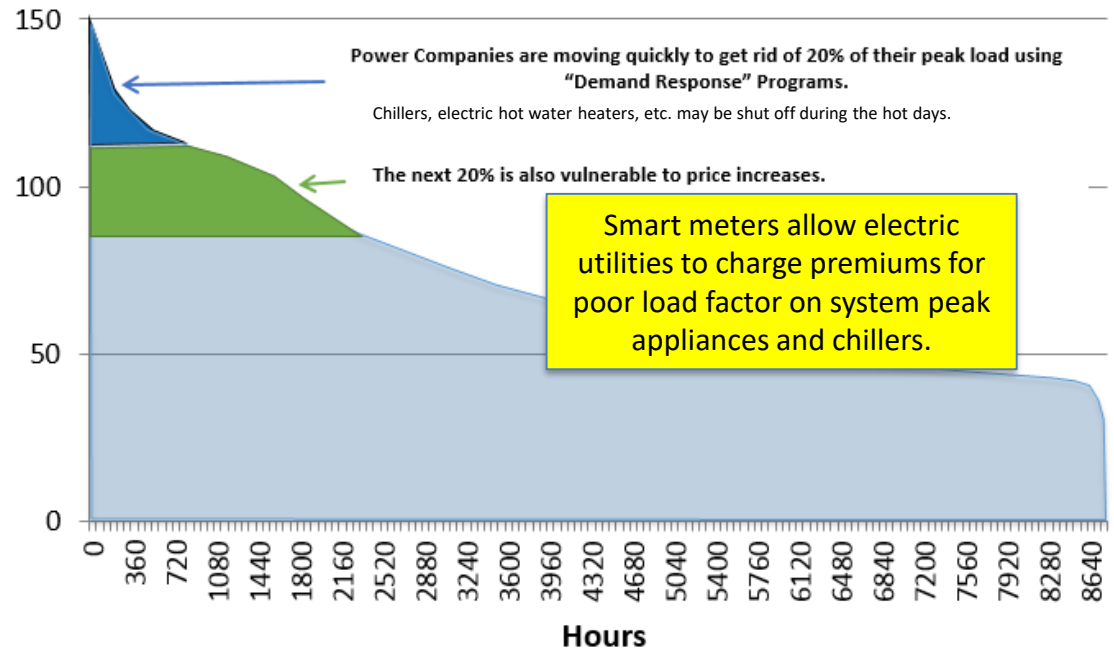
1. Energy – about 3.5¢/kWh
2. Capacity (Delivery of Peak Load Electric to Your Building) –
between 6.5 ¢/kWh -8.5¢/kWh

The most important opportunity for saving money currently rests within the purchase and use of Capacity and not Energy. For the foreseeable future, the grid is the best choice among alternatives for Energy. This is not the case for Capacity. Our audit should help in understanding the economic conditions associated with minimizing price risk and costs of Capacity in the new very complex deregulated marketplace.

Energy Management Opportunities

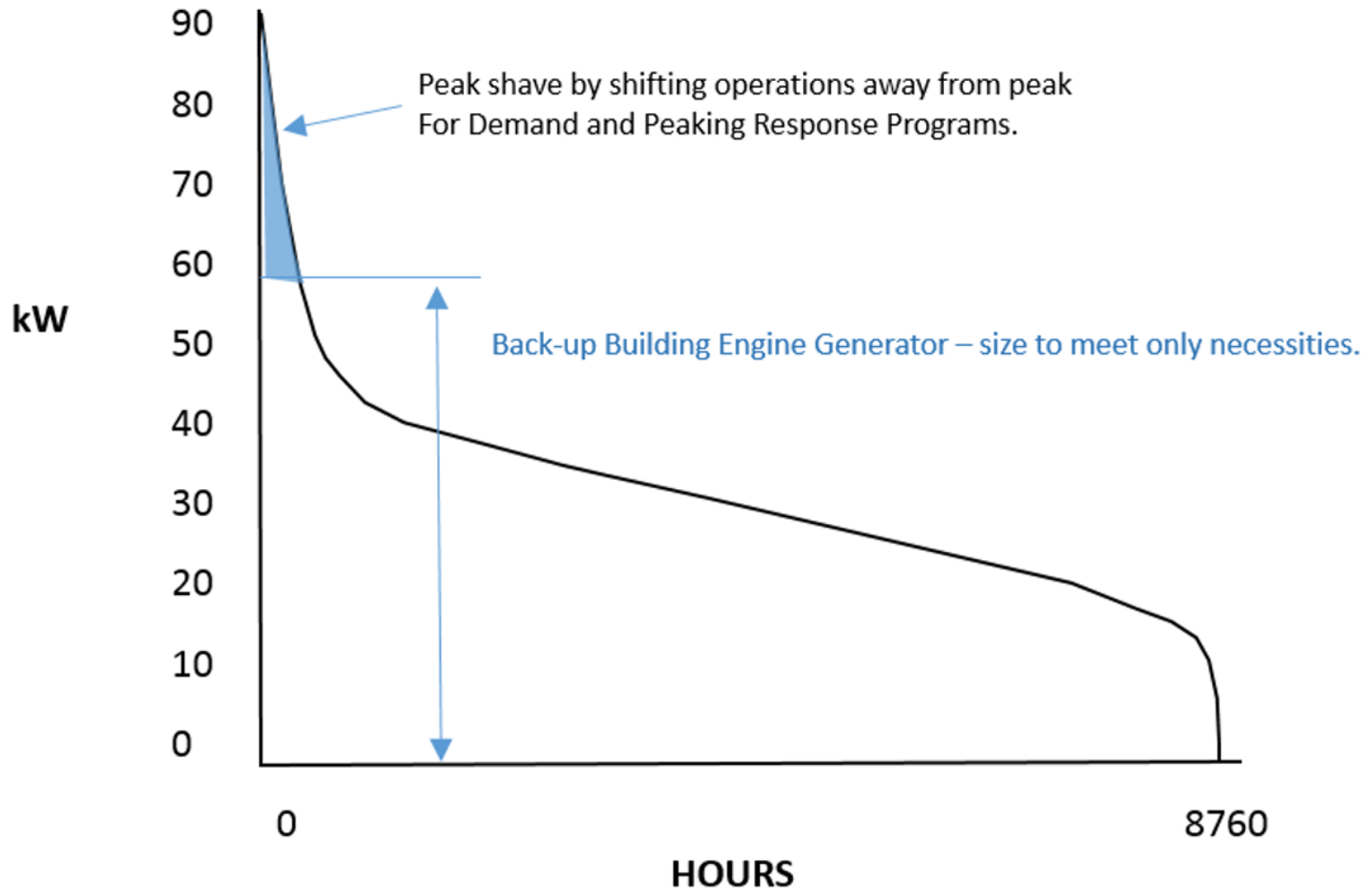
Some electric companies are offering programs which allow them to shut old coal fired power plants by using onsite generation for Demand Management Programs. After electric utilities drive 20% of their expensive power off the grid they will then cut the next 20% off the grid. This places the economic burden on electric customers to deploy capital and use new operating modes to meet the “new normal”.

Electric Utility Annual Load Duration Curve



“We have to prepare for this event because if we don’t they’re going to run over us” (Power Engineering’s quote from Jon Wellinghoff, Chairman of Federal Energy Regulatory Commission).

Electricity Purchase Programs Should Take Advantage of Market Costs [Typical Building]

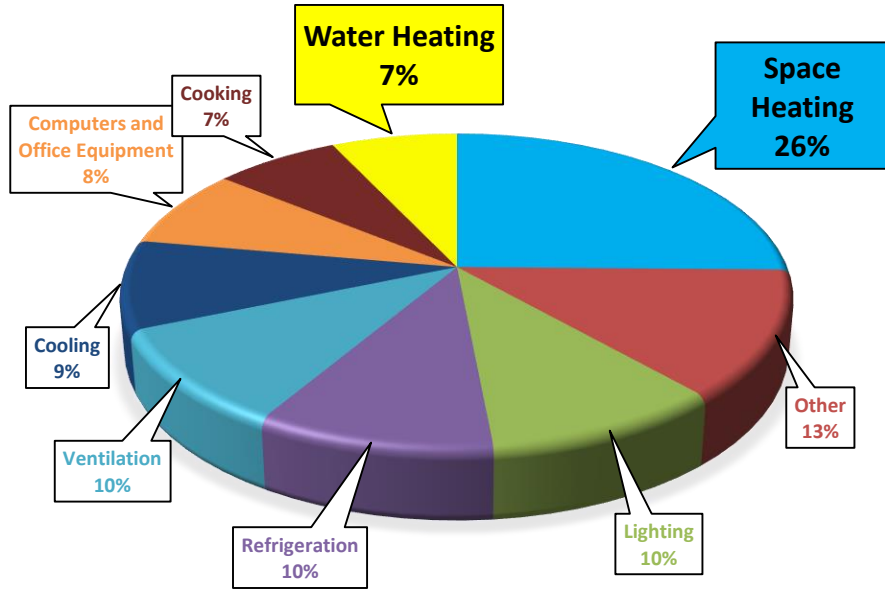


Annual Electric Load Duration Curve

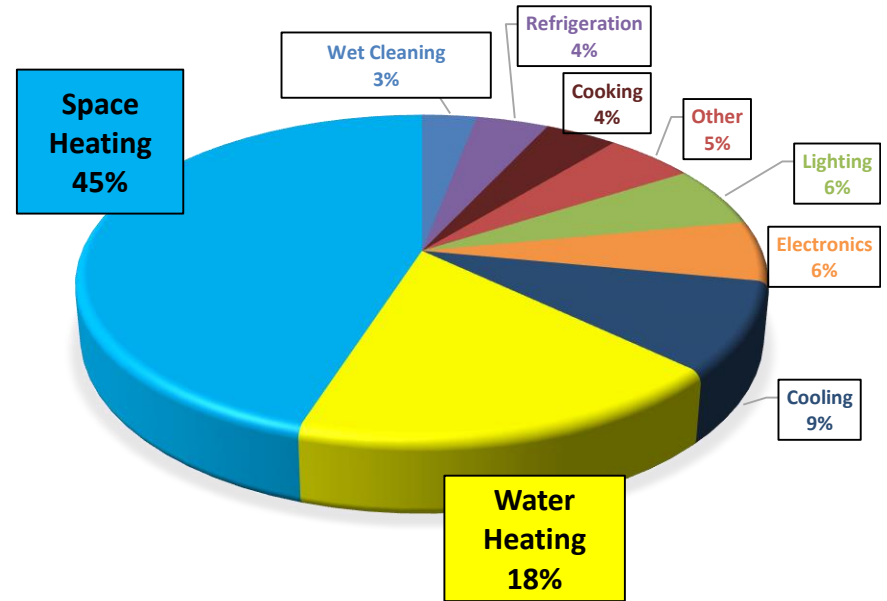
Residential Use of Heat and Hot Water is Substantially Different Than Commercial Office Buildings

[We develop a similar pie chart for your facilities.]

ENERGY USE IN U.S. COMMERCIAL BUILDINGS BY MAJOR END USES, 2012



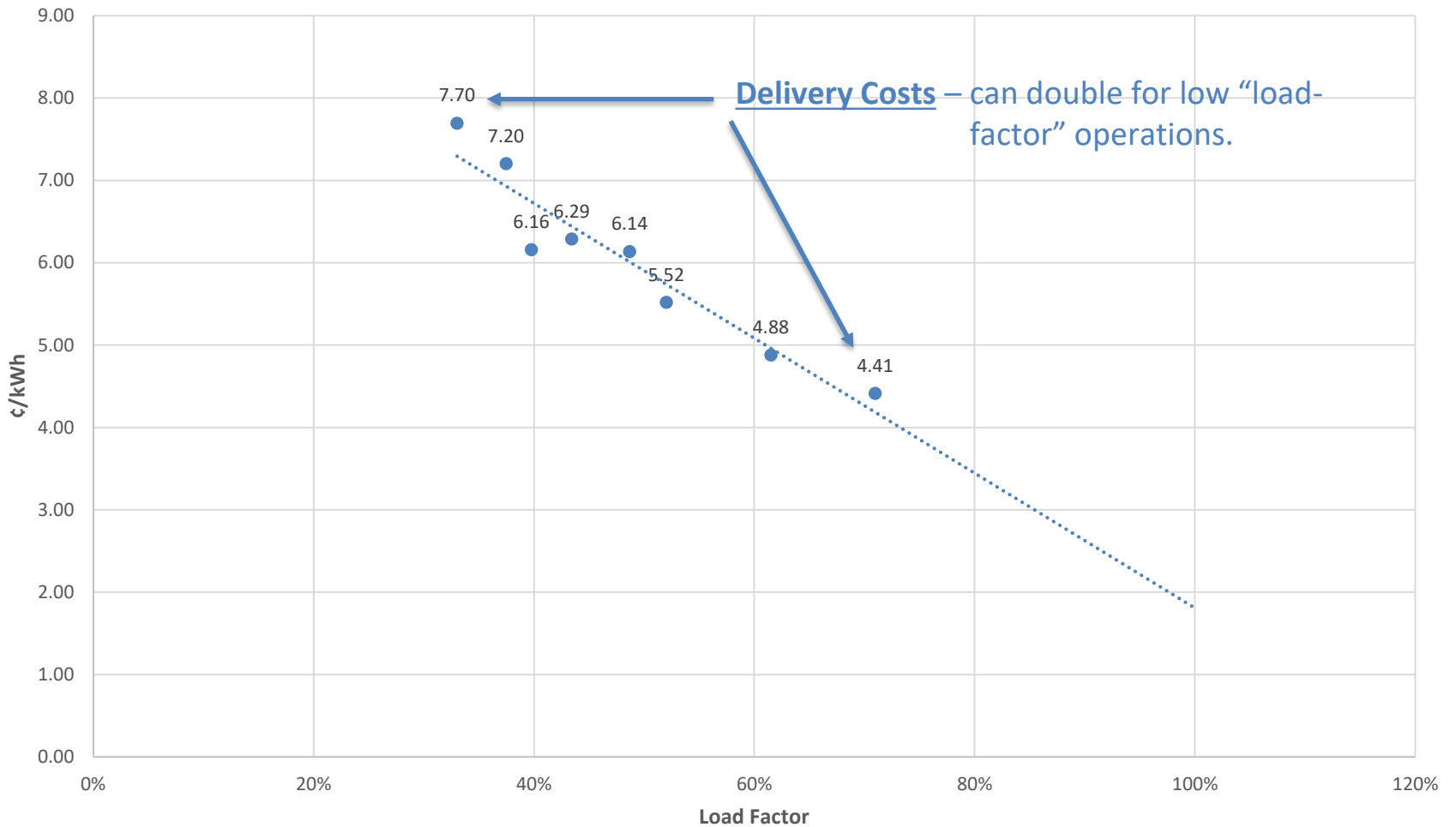
RESIDENTIAL ENERGY USE
HEATING IS THE SINGLE LARGEST USE OF ENERGY, ACCOUNTING FOR NEARLY HALF.



*Wet Cleaning - Clothes, washers, natural gas clothes dryers, electric clothes dryers and washers.

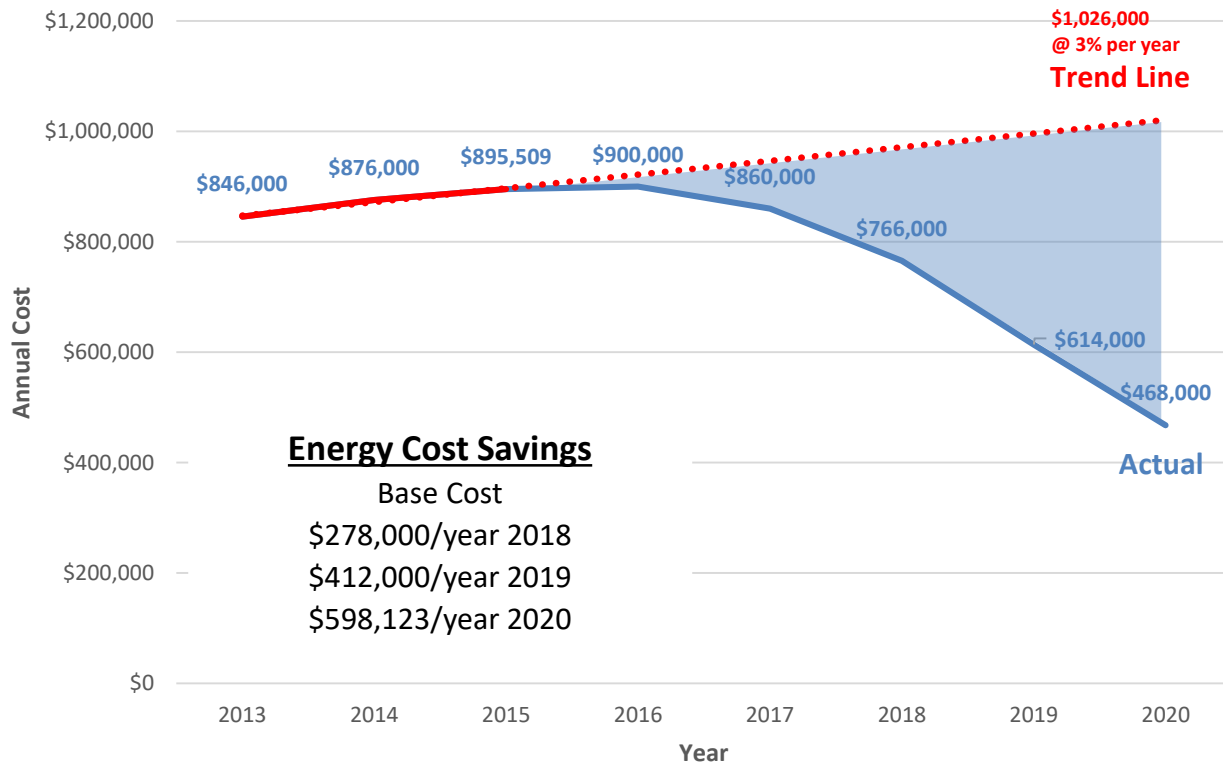
*Electronics - Includes computers.

Low Load Factors Negatively Impact Unit Prices (¢/kWh)



*Excessive peak loads that are often unnecessary create low load factors.

Electric Annual Cost History and Projections



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Notes:

1. CEI delivery charges have been increasing at 10% per year.
2. PJM energy charges have been going up at 10.69% per year.
3. The above trend line is increasing at only 3% per year which is a very conservative representation of actual savings. If 10% per year rate increases were applied based on no intervention the annual cost for this customer would likely be \$1,197,000 annually.
4. Energy Management Services works with its customers to purchase electricity wisely and then deploy a program to save energy use.
5. **Without intervention, the industrial customer would likely be spending \$1,197,000/year. Instead, in 2020 their spend rate for electricity will have been reduced to about \$598,123/year, a reduction of about 50%.**

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