



# Schools Full of Savings

*Energy Savings on a Shoestring Budget*





# Overview

- Why energy efficiency?
- Savings opportunities
- How to get started



# Why Energy Efficiency?

- Lowest-cost resource
- Long-term energy savings
- Greater ROI



# How Evergy Benefits

- Reduced grid stress
- Better peak demand reliability
- Reduced need for future power plants



# How You Benefit

- Incentives reduce cost to upgrade
- Reduced energy use, lower energy bill
- Cascading cost reduction (maintenance, cooling, etc.)

# Business Energy Savings Program



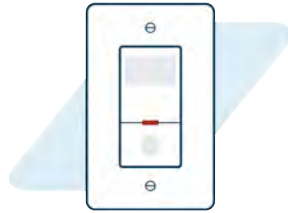


# Incentive-Eligible Technologies

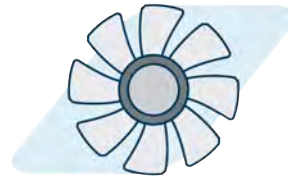
Lighting



Lighting controls



HVAC



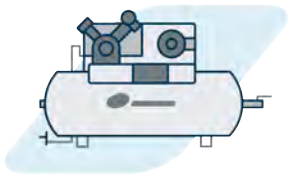
Chillers



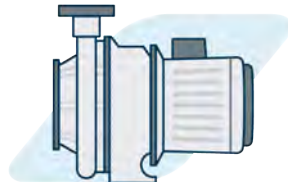
Building Automation System



Compressed Air



Motors & Drives



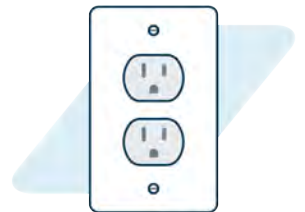
IT/Data Center



Food Service Equipment



Miscellaneous





# Benefits of LEDs and Lighting Controls

- Cut your lighting costs in half
- 2x longer life
- Paid off within a year
- Easy to install





# Benefits of LEDs and Lighting Controls

- Better quality light
- Produce less heat
- Better learning environment
- Reduced waste
- Reduce maintenance costs

# Lighting Controls



- Daylight Sensors  
**\$30 per sensor**
- Occupancy Sensors  
**\$20 per sensor**
- Networked Lighting Controls  
**10¢ per square foot**



# Benefits of Energy-Efficient HVAC Units

- Better air quality
- Typically quieter
- More environmentally friendly
- Lower maintenance cost



# Benefits of Energy-Efficient HVAC Units

- Uses 30-50% less energy
- Can last 20+ years

# HVAC



- Air-Cooled – Single Package or Split Systems (DX Units)

**\$30 – \$50 per ton**

- Air Source Heat Pumps (ASHP)

**\$25 – \$40 per ton**

- HVAC Controls Optimization with or without Peak Demand Impact

**4–10¢ per kWh saved**





# Benefits of Energy-Efficient Food Service Equipment

- up to 40% more energy efficient
- Save 1,000's kWh/year
- Reduced water consumption



# Food Service Equipment



Replace non-ENERGY STAR® Electric Steam Cooker with ENERGY STAR Electric Steam Cooker:

3-Pan:

**\$740 per steam cooker**

4-Pan:

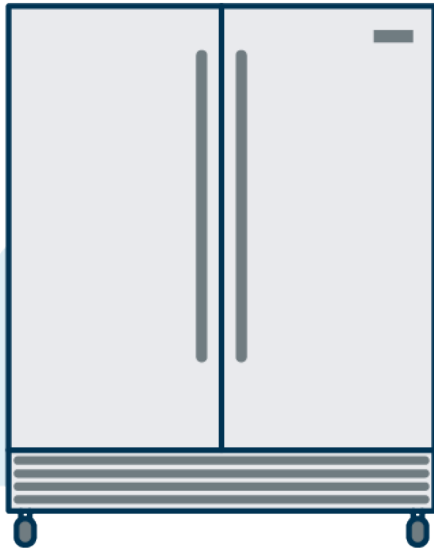
**\$800 per steam cooker**

5-Pan:

**\$870 per steam cooker**

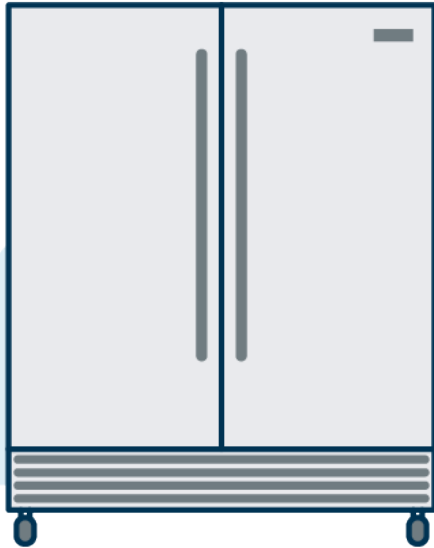
6-Pan:

**\$1000 per steam cooker**





# Food Service Equipment



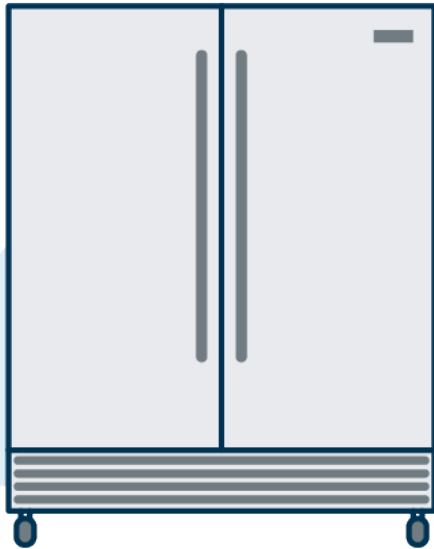
- Replace Hot Holding Cabinet with ENERGY STAR Hot Holding Cabinet
  - 0-12 cubic feet: **\$350 per cabinet**
  - 13-27 cubic feet: **\$400 per cabinet**
  - 28+ cubic feet: **\$450 per cabinet**





# Food Service Equipment

**NEW**



Replace Kitchen Ventilation with Constant Speed Ventilation Motor with Kitchen Demand Ventilation Controls

**\$550 per HP of fan**

Install Cooler or Freezer Strip Curtains

**\$60 per cooler or freezer**

Replace Non-ENERGY STAR Reach-in Refrigerator with ENERGY STAR Reach-in Refrigerator

**\$110 per refrigerator**



# ENERGY STAR Portfolio Manager



## Why Benchmark?

- You can't manage what you don't measure.
- It's available at no cost.
- It can help you prove success to administration and make the case for future improvements.
- Know your Energy Use Intensity and see how it compares with:
  - Other schools and educational institutions
  - Your historical energy use

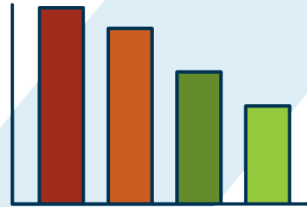


# Our Program

Standard



Custom



Retro-Commissioning



New Construction





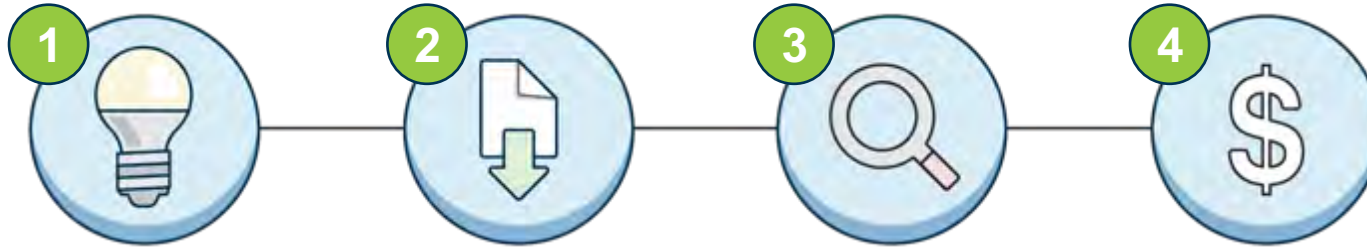
# Standard Incentives



- Lighting, lighting controls, HVAC, motors, compressed air, refrigeration incentives
- Incentives paid on a per-unit basis
- Incentive capped at unit cost
- Pre-approval required for incentives > \$10,000
- Pre- and post-inspections required for incentives > \$10,000



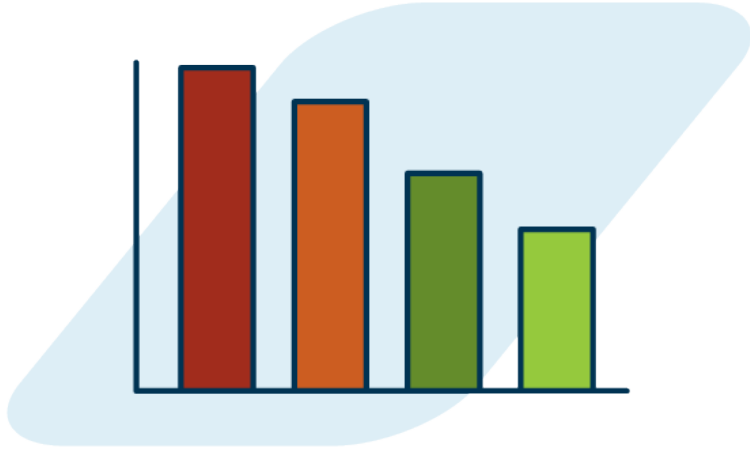
# Standard Incentives under \$10,000



- 1 Purchase & Install Equipment
- 2 Submit Application
- 3 Application Review & Approval
- 4 Receive Incentive

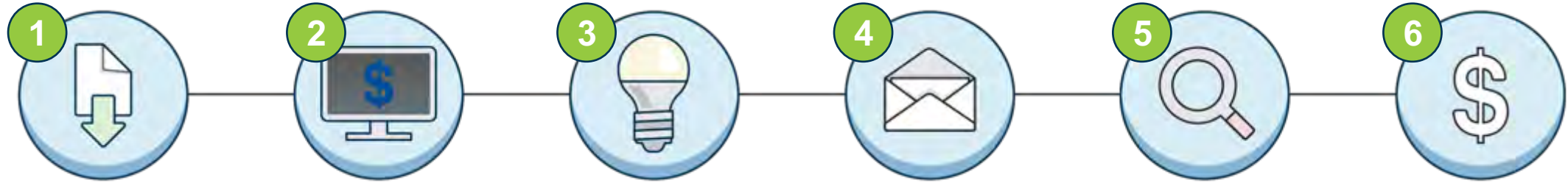


# Custom Incentives



- Almost any energy-saving measure not on the standard incentive list
- Incentives paid on a per-kWh-saved basis
- Incentives capped at 75% of total measure cost, or 100% of incremental cost
- Pre-approval required
- Pre- and post-inspections required

# Custom Incentives & Standard over \$10,000



1 Submit Application

2 Initial Review & Incentive Offer

3 Purchase & Install Equipment

4 Submit Paperwork

5 Final Review

6 Receive Incentive



# Retro-Commissioning Incentives

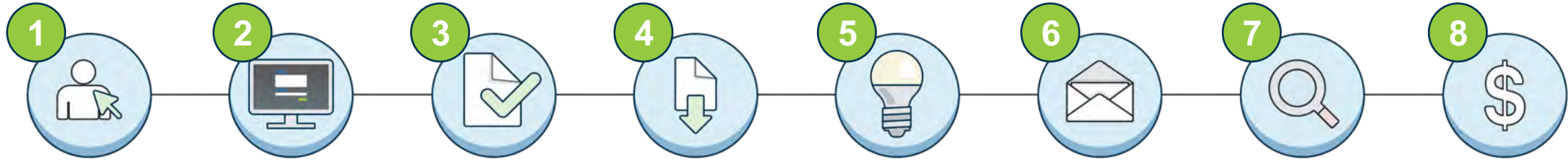


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- Pre-approval required
- Pre- and post-inspections required





# Retro-Commissioning Process



- |                                   |                         |
|-----------------------------------|-------------------------|
| 1 Select RCx Service Provider     | 5 Implement Measures    |
| 2 Complete Online Pre-Application | 6 Send Completion Docs  |
| 3 Complete RCx Energy Study       | 7 Final Review & Report |
| 4 Complete Application            | 8 Receive Incentive     |



# New Construction Incentives



- Intended to help implement higher degree of energy efficiency above code requirements
- New building projects, additions to existing buildings, gut rehabs, or “warm shell” projects
- 4 types of incentives available:
  - Interior Lighting
  - Standard Incentives
  - Custom Incentives
  - Whole Building Performance Incentives
- We must be brought in during the Design phase.



# Application Checklist

## Required

- ☐ Specification sheets of all new equipment
- ☐ Payee Company's W-9
- ☐ Labor Cost Documentation (such as a detailed invoice or labor cost form)
- ☐ Material Cost Documentation (such as a detailed invoice or receipts)

## If Applicable

- ☐ Tax exempt letter
- ☐ Additional project assumption documents
- ☐ Calculation or model output

# Park Hill School District

*Bridget Ballou,  
Energy Manager*





# Identifying Projects

## *Where to start*

- Budget identified for HVAC replacement
- HVAC to be replaced is prioritized based on age, repairs made to date, repairs needed and how many customers are impacted







# Getting Approval from Leadership

*And fitting it in the budget*

- During the prior year – Master Capital Planning list for next fiscal year, July 1.
- Prioritized by Executive Cabinet
- Sent to Bid.





# Lessons Learned During Implementation

*The good, the bad, and the ugly*

- Walk through with contractor
- Review punch list







# Incentives Received

*Over the course of 2 years*

HAWTHORN  
HVAC **\$21,398**

GERNER EARLY  
LIGHTING **\$600**

WALDEN  
NEW CONSTRUCTION **\$48,422**

PARK HILL SOUTH  
HVAC **\$65,307**

HOPEWELL  
NEW CONSTRUCTION **\$23,460**

**TOTAL \$159,187**





# Hickman Mills School District

***Nicole Williams***

*Energy Education Specialist*





# Project Overview

- Identifying projects
- Getting approval
- Implementation
- Post-project assessment



# Identifying Projects

## *Where to start*

- Identify known issues
- What is costing the most in repairs?
- History of equipment
- What upgrades will have the quickest ROI?
- Which will have rebate incentives?
- Contact other school districts who have performed upgrades





# Getting Approval from Leadership

*And fitting it in the budget*

- Prioritize by need and cost.



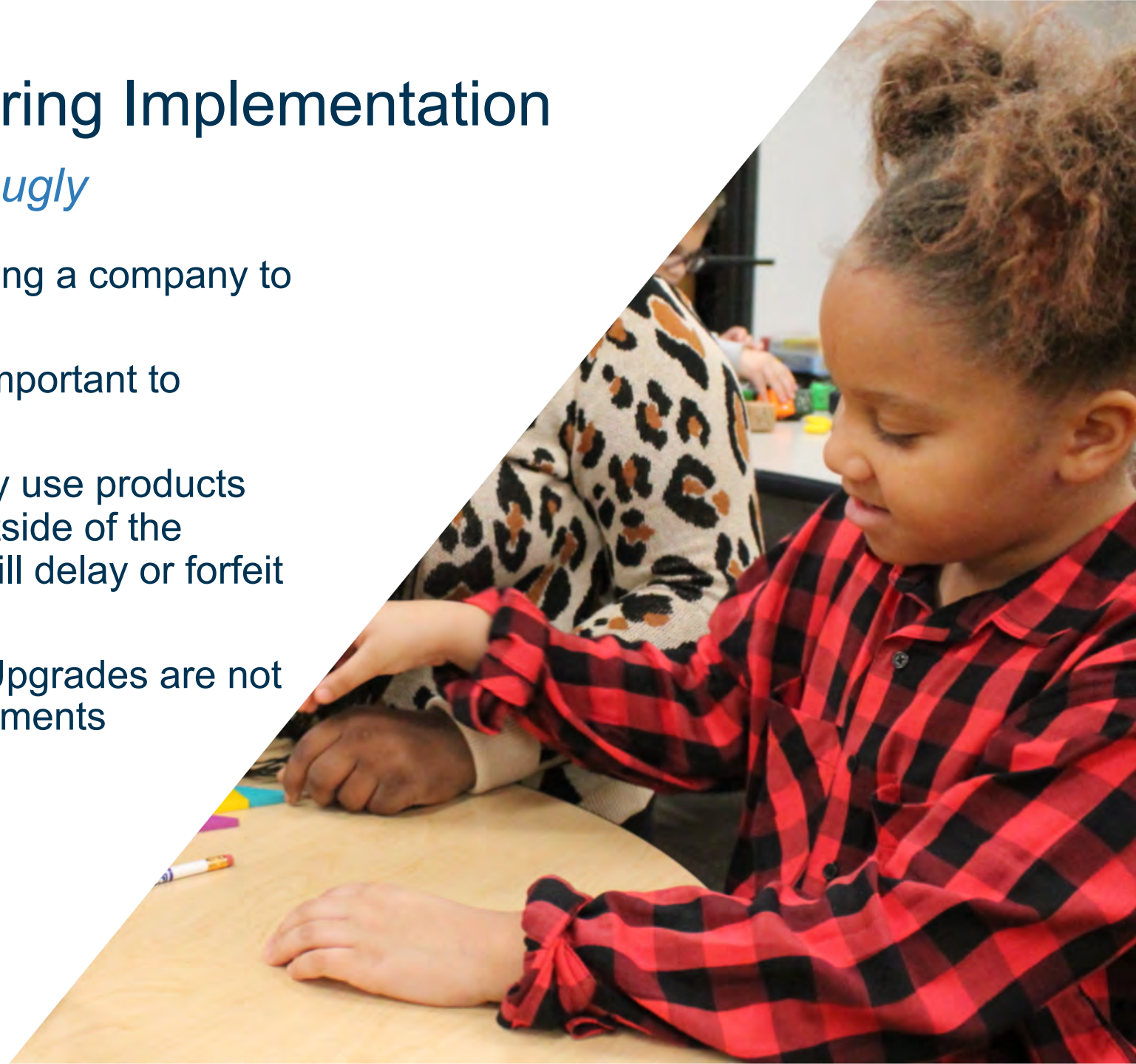




# Lessons Learned During Implementation

## *The good, the bad, and the ugly*

- Do your research before selecting a company to manage the project.
- Schedules and deadlines are important to adhere to.
- When applying for a rebate only use products that are approved. Anything outside of the approved product or vendors will delay or forfeit the application.
- Know the buildings envelope. Upgrades are not one size fits all. Allow for adjustments





# Post-Project Assessment

*Long term benefits, next steps, etc.*

- Reduction in labor
- Reduction in materials
- Increase in cost avoidance
  - Reduction in energy usage
  - Reduction in bills
  - The district is paying the same as it did 10 years ago





# Business Development Representatives



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our webinar.

