

# **Ohio School Facilities Commission**

## **School Energy Conservation Program**

### **Proposal Guide**

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**OHIO FACILITIES CONSTRUCTION COMMISSION**

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# School Energy Conservation Program - Proposal Guide

## Introduction

The School Energy Conservation School Performance Contracting (SPC) (formerly known as H.B. 264) program was established in 1985 to allow school districts to make energy efficiency improvements to their buildings and use the cost savings to pay for those improvements.

This guide is organized by sections of information that should be included in your proposal. While the final form is up to you, all relevant and necessary data, methodology, calculations, and assumptions should be included in the submitted project proposal.

Proposals are to be submitted as a single searchable Adobe .pdf file. A printed copy of the proposal may also be included, if desired.

Submit to:

Elizabeth Lowery, Energy Project Coordinator  
[Elizabeth.lowery@ofcc.ohio.gov](mailto:Elizabeth.lowery@ofcc.ohio.gov)  
Ohio Facilities Construction Commission  
30 West Spring St, 4<sup>th</sup> Floor  
Columbus, OH 43215  
Telephone: 614-752-0454

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### Section 1: School District Checklist

School District \_\_\_\_\_ County \_\_\_\_\_

**Before the project:** these items should be considered before initiating a project

- The school district is not on fiscal watch, fiscal emergency, or academic emergency
- School district does not currently have any open OSFC construction projects
- The district is not currently participating in or planning to start an OSFC project (CFAP, ELPP, VFAP, or ENP)
- Date (year) of construction completion of last SPC project, or \_\_\_\_\_ N/A
- No outstanding debt from previous SPC project, or N/A

Checking items on this list does not necessarily prohibit a SPC project, however if there is uncertainty about conflicts or eligibility, please contact Elizabeth Lowery, OSFC project coordinator, at 614-752-0454.

**Submitted with the project:** these are items to be submitted for OSFC approval

- Section 1: This checklist
- Section 2: Contact Information
- Section 3: Project Summary
- Section 4: School Board Resolution
- Section 5: Operational and Maintenance (O & M) Savings *read only, nothing to submit*
- Section 6: Summary of Energy Conservation Measures (ECMs)
- Section 7: Project Financial Analysis
- Section 8: Energy Savings Calculations
- I certify that any Operation and Maintenance (O & M) savings in this submittal are reasonable to attain, as proposed. For O & M savings above 10%, but less than 30%, I will provide verification for the savings claimed in the annual savings report, consistent with Section 5 of these guidelines.

\_\_\_\_\_  
School District Official *Signature*

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

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### Section 2: Contact Information

#### School District Information

School District \_\_\_\_\_ County \_\_\_\_\_

Primary Contact		Secondary Contact (optional)	
Name		Name	
Title		Title	
Mailing Address		Mailing Address	
E-mail		E-Mail	
Phone		Phone	

Energy Services Company Information			
Primary Contact		Secondary Contact (optional)	
Name		Name	
Title		Title	
Mailing Address		Mailing Address	
E-mail		E-mail	
Phone		Phone	

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### Section 3: Project Summary

<b><u>Location</u></b>		
District Name		
County		
Internal Reference Number (IRN)		
Number of Buildings Affected		
Building Names		
<b><u>Financial Information</u></b>		
Total Project Cost (including financing)	\$	
Average Annual Payment	\$	
Interest Rate		%
Payment Terms	Fixed annual payments for	years
Total Average Annual Savings	\$	
Average Annual Energy Savings	\$	
Average O & M Savings	\$	Per year for first 5 years
	\$	Per year if amortized over 15 years
Payback Period (Maximum 15 years)		Years
<b><u>Project and Contract Information</u></b>		
Vendor		
Scope of Work (general description)		Brief Description
	ECM #1	
	ECM #2	
	ECM #3	
	ECM #4	
	ECM #5	
	ECM #6	
	ECM #7	
	ECM #8	

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### Section 4: School Board Resolution

If the board wishes to proceed with the project, it must forward to OSFC a board resolution (or if desired, multiple resolutions) that includes, at a minimum, the following items:

No.	Items to Include in Board Resolution
1	Name of selected Energy Services Company
2	Total cost of project including design, engineering, materials, installation, maintenance, repairs, measurement and verification of savings, and debt service
3	Total amount of money that the district would save in energy and resultant operational and maintenance costs over the financing period
4	Length of the financing period, not to exceed 15 years
5	Authorization to waive competitive bidding under ORC 3313.46 and acknowledgement that competitive selection process (RFQ) was followed per ORC 3313.372 and OAC 3318:1-10-1
6	Statement that the board is contracting/has contracted with an energy services company to create a report of analysis and recommendations to reduce energy consumption in buildings owned by the district
7	Statement that, after receiving the report, the board finds that the amount of money the district would spend on the resulting energy project is not likely to exceed the money it would save in energy and resultant operational and maintenance costs over the financing period
8	Authorization for the board to submit to OSFC a copy of its findings and a request for approval to incur indebtedness for the project
9	If the project is approved by OSFC, authorization for the board to contract with the selected energy services company for the project as submitted
10	Acknowledgement that the resulting contract(s) with the selected energy services company must contain a savings guarantee for term of the financing period, with the option of the district to consider the guarantee satisfied if three (3) consecutive successful annual savings reports are submitted to the OSFC
11	Statement that the district shall be responsible for submitting to OSFC an annual savings report certified by the treasurer, in a format prescribed by the OSFC, not less than 15 months after construction completion, and every 12 months thereafter
12	(Option 1) A statement that if the OSFC review results in a material change to the project's scope, cost, or savings, the district must submit an amended resolution for board approval  (Option 2) A statement that the board's approval is for an amount not to exceed the project cost presented in this resolution, and that the final scope, cost and savings may be less if the project still pays for itself out of savings within a 15-year period

## Section 5: Operational and Maintenance (O & M) Savings

Operational savings may be considered when the bottom-line actual costs for facility operations and maintenance (O & M) are reduced as a direct outcome of the project. The maximum savings from O & M cost reductions that can be included is 30 percent of annual project savings over a 5-year period.

Just as utility savings are based upon historical utility costs, O & M savings must be projected from a baseline of historical O & M costs.

O & M annual savings may be claimed for only the first five years of the project. This can be detailed on the financial analysis directly for the claimed years, or the five years of O & M savings can be amortized over the entire payback period by dividing the 5-year savings over the life of the project.

$$\% \text{ O \& M Savings} = \frac{\text{O \& M \$ Savings 1}^{\text{st}} \text{ 5 years}}{(\text{O \& M \$ Savings 1}^{\text{st}} \text{ 5 years} + \text{Energy \$ Savings 1}^{\text{st}} \text{ 5 years})}$$

For a 15 year project the annual amortized O & M savings is:

$$\text{Annual Amortized Savings} = \frac{\text{O \& M \$ Savings 1}^{\text{st}} \text{ 5 years}}{\text{Project Life (15 years)}}$$

### Operational Savings Forecast

#### Equal to or less than 10% of Savings for the First Five Years

O&M measures that generate savings less than or equal to 10% over five years can be listed in Table 1, Energy Conservation Measures Table, with a description and assumed savings of the O&M measures included in section 8, Energy Savings Calculations. Additional documentation is not required.

#### Above 10% of the Savings for the First Five Years

O & M measures that generate savings above 10% are treated as other ECMs:

- their savings are calculated from a verifiable baseline using current invoices or treasurer's records;
- their implementation must be the result of the project; and
- their savings must be verified in the annual savings report using invoices or treasurer's records.

O & M savings, if claimed, must be included in sections 3, 6, 7, and 8 of this submittal. No separate response is needed here for Section 5.

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### Section 6: Summary of Energy Conservation Measures (ECMs)

Provide summary information for each Energy Conservation Measure (ECM) that will be installed. Summarize ECM(s) by school facility. For convenience, the district may use the table below, adding additional rows or tables as necessary. ECMs include savings for electricity, fuel, water, sewer, and operation and maintenance.

- ECM #** = Number assigned to an Energy Conservation Measure
- ECM Short Description** = Short title for ECM, such as “Exterior Lighting Improvements”; the long description should be included in the energy savings calculations section
- Energy Savings (units)** = Total annual energy savings of the ECM, in the appropriate units of energy (kwh, mcf, ccf, etc.)
- Energy Savings (\$)** = Total annual energy savings in \$ of the ECM
- O & M Savings (\$)** = Operational and maintenance savings in \$ over the useful life of the measure, not to exceed 5 years
- Total Savings (\$)** = Energy Savings plus O & M Savings
- M&V method** = International Performance Measurement and Verification Protocol (IPMVP) method A, B, C or D

<b>Energy Conservation Measure (ECM) Table</b>						
ECM #	ECM Short Description	Annual Energy Savings (units)	Annual Energy Savings (\$)	Annual O & M Savings (\$)	Annual Total Savings (\$)	M&V method A/B/C/D
<b>Totals</b>						

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### Section 7: Project Financial Analysis

Please submit the project's financial analysis, including at a minimum the following items:

- Annual ECM Cost** = All costs associated with all ECMs for that year, including financing
- Annual M & V Cost** = Annual costs of measurement and verification, if not included in Annual ECM cost
- Annual Total Cost** = Annual ECM Cost plus Annual M & V Cost
- Annual Energy Savings** = Energy savings of all ECMs in that year
- Annual O & M Savings** = Operational & maintenance savings in that year, not to exceed 5 years
- Annual Total Savings** = Annual Energy Savings plus Annual O & M Savings
- Net Benefit, Year** = Annual Total Savings minus Annual Total Cost for that year
- Net Benefit, Cumulative** = Cumulative sum of net benefits through that year; must be a positive number in or prior to year 15

If the project is eligible for rebates or grants, the annual ECM cost must be the cost without rebates or grants applied. An exception is if the risk for the rebates or grants is assumed by the ESCO, and the ESCO is guaranteeing a fixed project cost regardless of the grant/rebate outcome.

<b>Cash Flow Projection Table (all figures expressed in \$)</b>								
Year	Annual ECM Cost	Annual M & V Cost	Annual Total Cost	Annual Energy Savings	Annual O & M Savings	Annual Total Savings	Net Benefit, Year	Net Benefit, Cumul.
1								
2								
3								
4								
5								
6					0			
7					0			
8					0			
9					0			
10					0			
11					0			
12					0			
13					0			
14					0			
15					0			
<b>Total</b>								

### Section 8: Energy Savings Calculations

Energy savings calculations are to be supplied for each ECM that is listed in Section 6: Summary of ECMs. This section must include:

- A narrative description of the ECM;
- All material assumptions, including current equipment condition and operation, and future operating schedules (if applicable);
- Calculations and formulas used in the analysis;
- Energy units and dollars projected to be saved, consistent with Section 6.
- Baseline of energy units, cost per energy unit, dollars spent per building

The baseline period for the energy analysis is a minimum of twelve months of the most recent energy data preceding the design of the project. For weather-dependent ECMs, please include baseline heating or cooling degree days. If modeling is utilized, input information and assumptions must be clearly identified and defined.

Duplicated equipment and systems may be grouped as appropriate to avoid repeating the same information multiple times.

Include cut sheets for major pieces of equipment being installed as part of the ECMs.

#### Residual Value

If a project is being considered for a building that has been constructed or renovated using OSFC program funds, then the proposal may be required to include calculations of foregone residual value. As required by ORC 133.06(G), residual value is intended to consider the financial impact of replacing equipment that still has outstanding state debt within its useful life.

Residual value calculations are required only for those systems or equipment that had an original cost greater than \$50,000. If an ECM is being proposed for such equipment, start with the year of construction completion, and add the number of years of expected useful life for the equipment under consideration. If the sum of these two is greater than the present year, then residual value applies.

Example:

Construction completion: 2009  
Equipment useful life: 15 years  
Equipment original cost: \$100,000  
 $2009 + 15 = 2024 > 2015$  (residual value applies)

Residual value of equipment or system being replaced:  
Residual Value = original cost \* [(useful life – years in use) / useful life]  
Residual Value = \$100,000 \* [(15 – 6)/15] = \$60,000

For the purposes of calculating payback, a residual value of \$60,000 is added to the project cost. This calculation is to be repeated for each system for which residual value is applicable.

Savings must pay for the entire project cost, including the project's calculated residual value, within the maximum of 15 years.

For a listing of expected useful lives for various equipment or systems, please refer to the OSFC web site at: <http://ofcc.ohio.gov/ServicesPrograms/EnergyServices/SchoolEnergyPerformanceContracting.aspx>.

### **Guarantee for School Energy Conservation Program Projects under HB 264**

1. The guarantee shall be in the amount equal to the total contract savings over the term of the Installment Payment Contract.
2. The Contractor shall warrant and guarantee that the energy conservation measures (ECMs) shall realize the guaranteed savings and shall be responsible to pay an amount equal to any savings shortfall.
3. The Installment Payment Contract shall include a measurement and verification (M & V) plan for each ECM that is projected to generate savings.
  - a. For any ECM in which savings are stipulated, savings assumptions must be certified by the District treasurer. The District shall verify that the ECM has been installed and is operating properly according to the specifications of the manufacturer or supplier, and according to the requirements of the contract documents. For ECMs in which savings are stipulated, no direct energy measurement is required.
  - b. For ECMs in which savings are not stipulated, the performance of each ECM shall be verified by one of the four measurement options A through D of the International Performance Measurement and Verification Protocol (IPMVP), 2012 or most recent edition.
  - c. The M & V plan shall include methods of calculating actual savings based upon measured results, including reconciliation of adjustments for major variables that affect the savings.
4. The District shall operate and maintain the installed ECMs according to procedures described in the contract documents and according to manufacturer specifications, through either its own personnel or through contracted labor.
5. For measures that are projected to generate operations and maintenance (O & M) savings, the following process shall apply:
  - a. If O & M savings are projected to be less than 10% of the total savings within the first five years of operation, the O & M assumptions must be certified by the District treasurer. The District shall verify that the changes that are intended to generate these O & M savings have been implemented. No direct measurement of these savings is required.
  - b. If O & M savings are projected to be greater than or equal to 10% of the total savings within the first five years of operation, the District and Contractor shall mutually agree to a plan that measures and verifies the savings, including a method of reconciling any differences between the original O & M assumptions and actual observations. Any O & M savings that must be generated solely by actions of the District, and completely outside the control of the Contractor, are not part of the Contractor's guarantee to the District.
6. The Contractor shall submit an energy savings report to the District on an annual basis, beginning no later than ninety (90) days after the one year anniversary of the issuance of a Certification of Contract Completion, or equivalent document noting the completion of construction, and continuing until the end of the contract term.
  - a. The utility baseline for the energy savings report shall be the actual energy consumption data for the most recent twelve (12) months preceding the design of the project. The baseline may include adjustments to the most recent twelve (12) months of data, if warranted, due to known anomalies

or operational changes that occurred during the baseline period which are no longer relevant to the current operation.

- b. The District shall provide to the Contractor any cost or usage information necessary to verify the savings, which may include, but is not limited to, bills for electricity, natural gas, water and sewer. The District shall provide billing information to the Contractor in a timely manner, but no later than thirty (30) days from receipt of the bill from the utility or service/material supplier.
  - c. The District shall grant the Contractor reasonable access to the project site and facility personnel for the purposes of measuring and verifying the savings, subject to any limitations specified in the contract documents.
  - d. The energy savings report shall include adjustments consistent with the selected IPMVP option, such as load adjustments due to weather, occupancy, major equipment changes, or substantive operational changes, if applicable. The Contractor shall follow the reconciliation guidelines of the M & V plan.
  - e. The savings report shall be certified by the District treasurer and submitted annually to the OFCC within thirty (30) days of the District's acceptance of the report.
  - f. Annual reporting to the OFCC shall no longer be required if OFCC verifies that certified annual reports fulfill the guarantee for three consecutive years. The District may elect to use the OFCC verification as cause to fulfill the guarantee over its entire term, at its discretion.
7. If the actual savings in any year of the contract are less than the guaranteed savings for that year, the Contractor shall pay or credit the District the difference, as follows, at the District's discretion:
- a. Within thirty (30) days of a written request by the District, the Contractor shall submit payment to the District for the amount of the difference; or
  - b. Provide a credit equal to the amount of the shortfall against a Contractor invoice; or
  - c. The District may carry the negative balance forward to be included in the following year's reconciliation; or
  - d. The District may collect on Contractor's guarantee bond, if applicable.
- The District may exercise the option to carry forward a negative balance for a maximum of one year before requiring the Contractor to submit a shortfall payment.
8. In the event of a savings shortfall, the Contractor may install, at its own cost, additional ECMs that are designed and calculated to eliminate the savings shortfall in future years. Such additional ECMs must be approved by the District. The installation of additional ECMs does not waive the District's right to exercise its collection options under item 7 above.
9. If the actual savings in any year of the contract exceed the guaranteed savings for that year, the District may, at its sole discretion:
- a. Carry the positive balance forward and add it to the savings generated during any future years; or
  - b. Apply the positive balance against a negative balance from a prior year's reconciliation.
10. Any disputes between the District and the Contractor regarding reconciliation and reimbursement for savings shortfalls shall be resolved through dispute resolution procedures specified in the contract documents.



# Annual Savings Report

## State of Ohio Standard Forms and Documents

District Name \_\_\_\_\_ Date \_\_\_\_\_  
 Submittal Number (SN) \_\_\_\_\_

Project Summary		
School District Name		
State Project Number (SN)		
School Building Name(s)		
Total Project Cost (\$)		
Length of Contract Term (years)		
Projected Avg. Annual Savings (\$)		
Construction Started/Completed	Start Date:	Completion Date:
Reporting Year (1, 2 or 3)		
ESCO Name		
ESCO Address		
ESCO Phone Number		
ESCO Contact Person		
ESCO E-mail Address		

At a minimum, the following items must be included in the annual report in order to support the summary table above. Additional information may be included and the items below are in no particular order within your report. Please check that the following are included in the report:

- Baseline utility tables (gas, electric, water/sewage, etc.) including rates
- Actual monthly utility data for the current year
- List of adjustments from baseline to current year and the supporting documentation
- Adjusted utility tables for the current reporting year
- Conclusion as to whether the project has met its savings projection
- Conclusion as to whether the project has met its guarantee (for projects approved after September 2013)
- In case of shortfall, what measures are proposed to remedy the shortfall (if applicable)

Prepared by: \_\_\_\_\_  
 \_\_\_\_\_  
 Name, Title  
 ESCO Name

Certified by: \_\_\_\_\_  
 \_\_\_\_\_  
 Name, Treasurer  
 School District

\_\_\_\_\_ Date

\_\_\_\_\_ Date

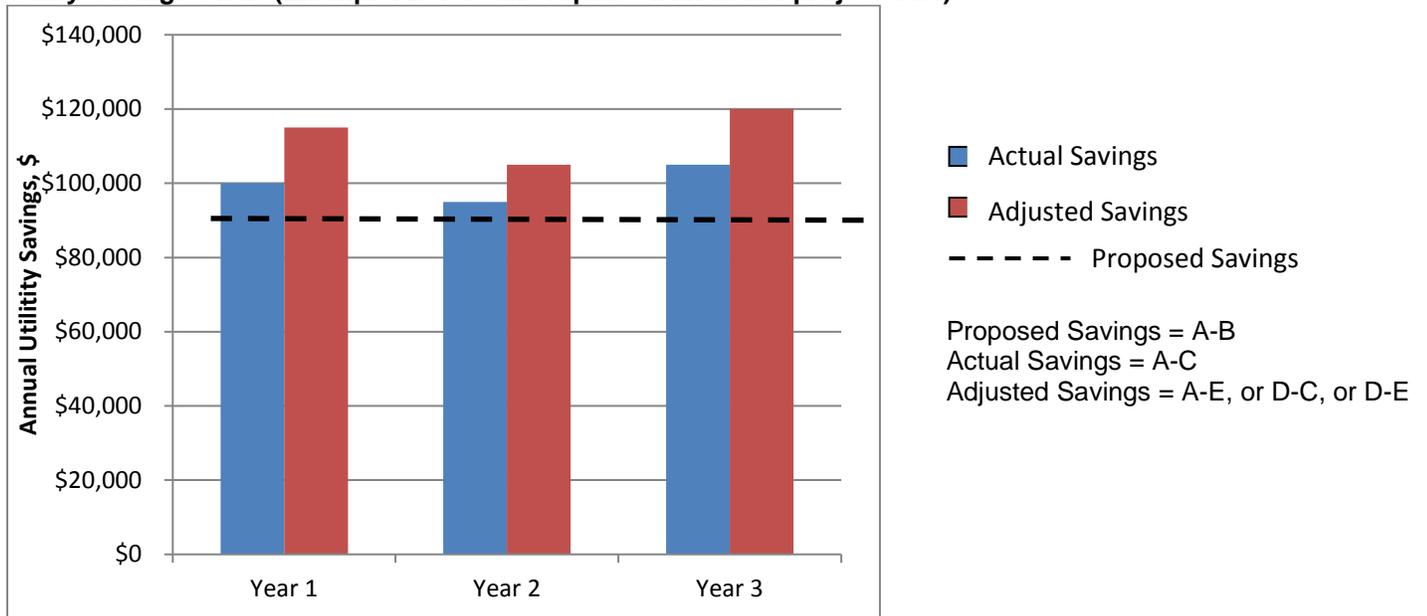
# Annual Savings Report

Utility Table

Electricity	Baseline	Proposed	Actual	Adjusted Baseline year	Adjusted Current year
Annual Usage, kWh					
Annual Cost, \$	\$	\$	\$	\$	\$
CDD					
Fuel (if applicable)	Baseline	Proposed	Actual	Adjusted Baseline year	Adjusted Current year
Annual Usage, _____ Units					
Annual Cost, \$	\$	\$	\$	\$	\$
HDD					
Water/Sewage (if applicable)					
Annual Usage _____ Units					
Annual Cost, \$	\$	\$	\$	\$	\$
Total Annual Utility Cost, \$	\$ (A)	\$ (B)	\$ (C)	\$ (D)	\$ (E)

Note: Adjustments can be to baseline year or current (measured) year, or both if baselines are adjusted to a historical average. Adjustments include weather, occupancy, utility rate, over-rides, additions, etc. Please justify these adjustments in the body of the report.

Utility Savings Chart (Example. Delete and replace with actual project data)



Notes:

\* Submit to: Elizabeth Lowery, Energy Project Coordinator, [Elizabeth.lowery@ofcc.ohio.gov](mailto:Elizabeth.lowery@ofcc.ohio.gov), T 614-752-0454