Major Mechanical Funding Programs for Virginia Public Schools

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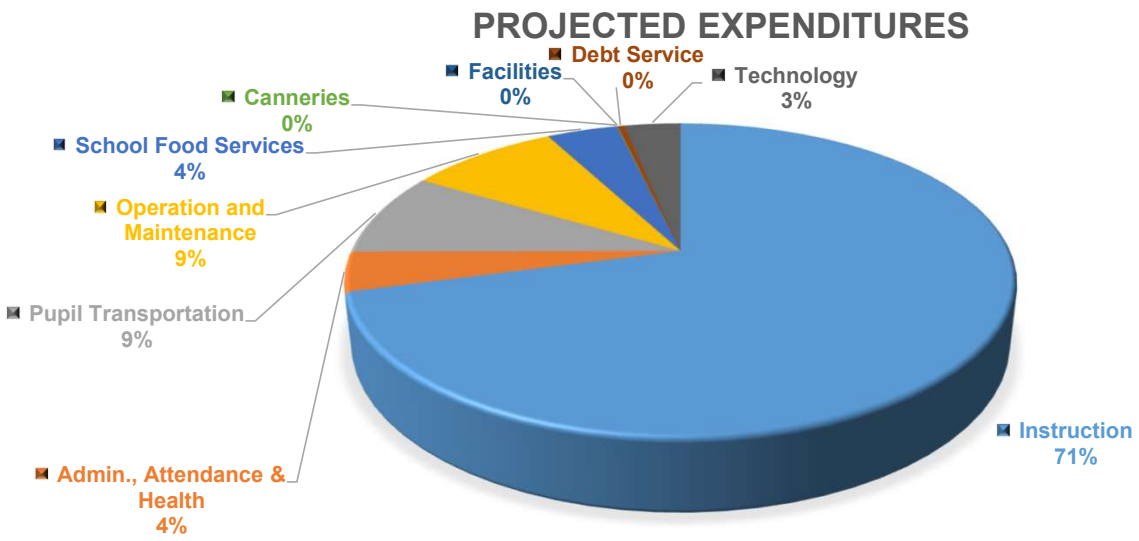
Transportation
Facilities
School Safety
Instructional Needs
Salary & Benefits
Technology
Professional Learning

2025-26 SCHOOL BUDGET

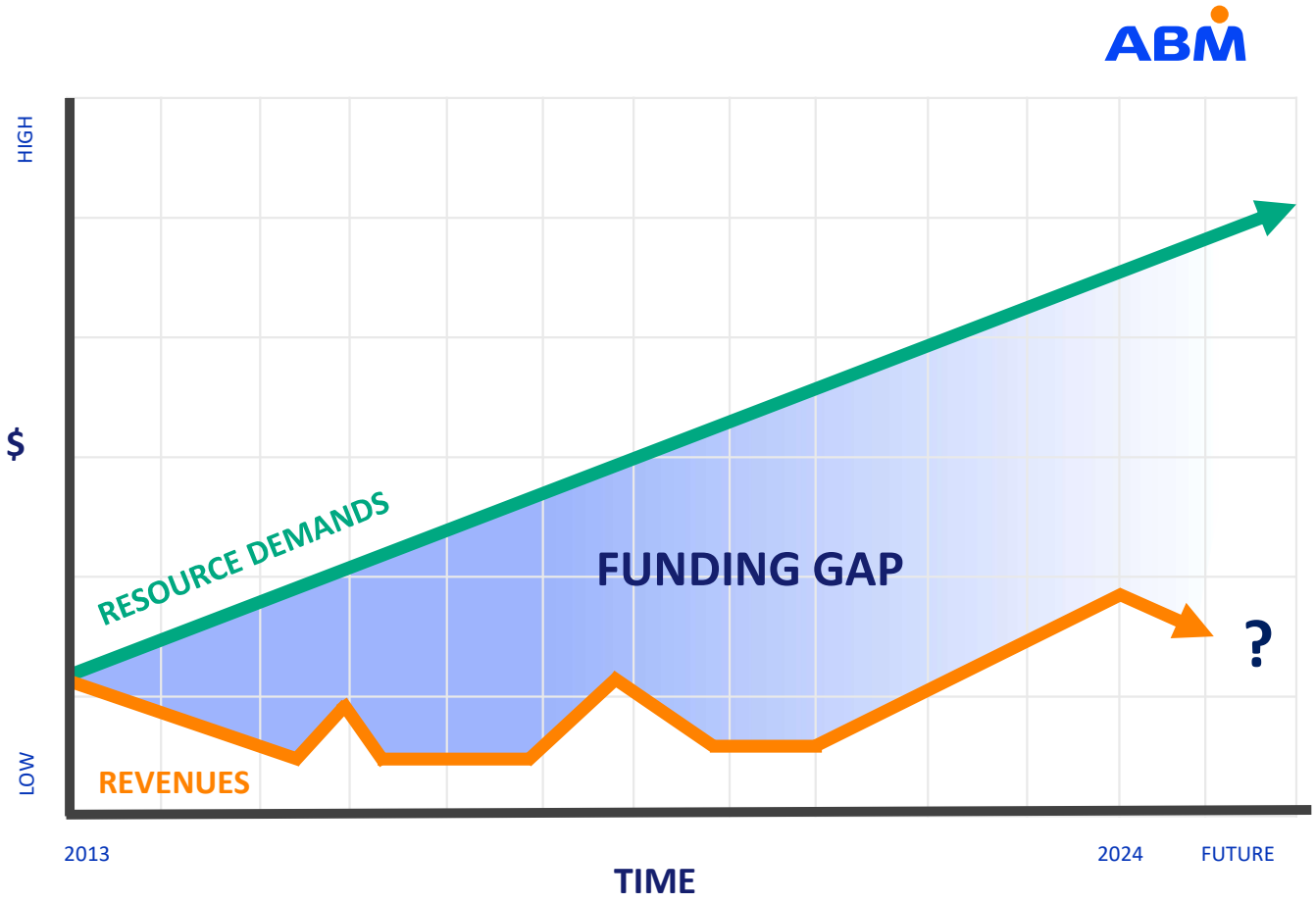


	Adopted Budget	2024-25 Per Pupil	Proposed Budget		2025-26 Per Pupil
Budget Category	2024-25 Amount		2025-26	Difference	Amount
Instruction	$69,233,643	$11,957	$72,434,059	$3,200,416	$12,699
Admin., Attendance & Health	$3,659,634	$632	$4,156,698	$497,064	$718
Pupil Transportation	$7,749,913	$1,338	$8,807,227	$1,057,314	$1,521
Operation and Maintenance	$8,827,914	$1,525	$8,888,626	$60,712	$1,535
School Food Services	$3,840,825	$663	$4,190,065	$349,240	$724
Canneries	$54,524	$9	$50,416	($4,108)	$9
Facilities	$0	$0	$0	$0	$0
Debt Service	$530,920	$92	$391,953	($138,967)	$68
Technology	$3,150,932	$544	$3,325,426	$174,494	$574
TOTAL	$97,048,305	$16,761	$102,244,470	$5,196,165	$17,659

Public School Demands and Challenges

- Deferred Spending on Capital Projects
- Need for Updated Infrastructure
- Difficulty with Bond Issues
- Unfunded Mandates
- Equitable Classroom Spending
- Engaged Students

Fiscal Cliff: A sudden and significant reduction in funding



A previously funded expenditure that is now unfunded but remains mission critical.

HVAC Case Study – Orange County Public Schools

Technical Solutions

- Piping Analysis
- Proposed Options:

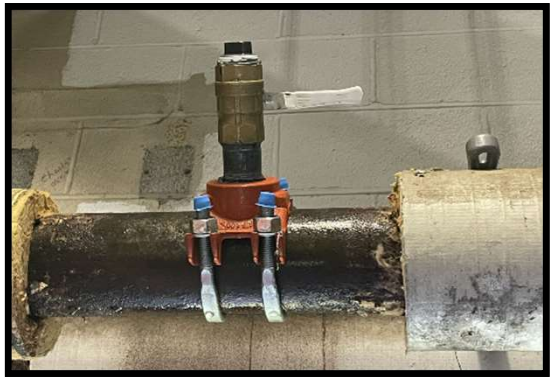
- Replace existing Unit Ventilators (UVs) and Coil Fan Units (CFs) with New High Efficiency Water Source Heat Pumps (WSHPs)

- VRF System

Gordon-Barbour Elementary School

Pipe Analysis Results

- Pipe analysis was conducted on 4” main line inside the boiler room
- Based on visual inspection, condition of 1.5” and 1.25” branch piping prohibited the ability to conduct a pressurized test
- Based on Ultrasonic Testing (UT) of 4” pipe coupons, the degradation of 4” main lines is estimated to be about 15% and about 30% on the 1.5” and 1.25” branch lines



Gordon-Barbour Elementary School

Option 1 – Replace all existing piping and upgrade to Water Source Heat Pumps (WSHPs)

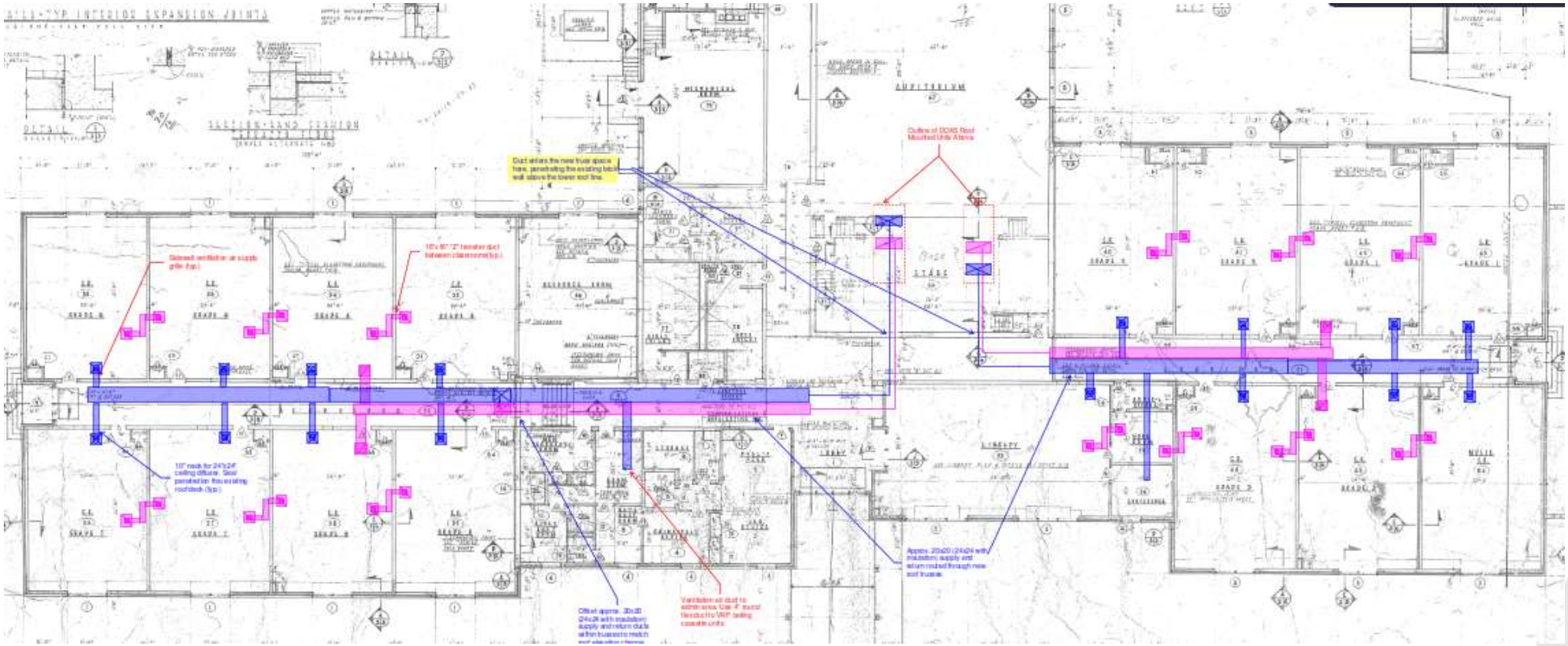
Pros	Cons	New Equipment
All new water piping	Floor mounted vertical stack units (18 total out of 31) that may not be aesthetically pleasing	(2) new 600 MBH input condensing hot water boilers (2) new 15-hp condenser water pumps new 60-ton new cooling tower (31) new 3-ton water source heat pumps
Less condensation issues due to new piping insulation	New existing electrical infrastructure to accommodate the proposed WSHPs	
Increased life expectancy of water piping	Not much reuse of existing equipment (Boilers and Cooling Towers)	
Estimated Energy Savings for Option 1		N/A

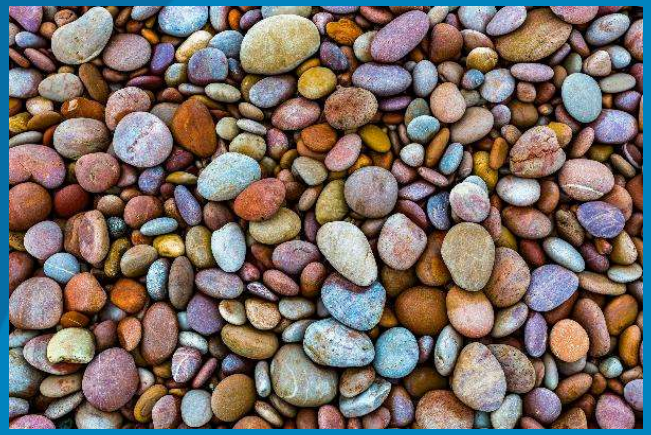
Gordon-Barbour Elementary School

Option 2 – Abandon existing piping and upgrade to VRF System

Pros	Cons	New Equipment
No water piping All new refrigerant lines Highly efficiency than WSHP System Existing electrical infrastructure is capable of handling the VRF load No need for boilers, chillers or cooling towers as part of the new VRF system	New system type	(2) new outdoor VRF heat pump *Unit-1:* 237 MBH Cooling and 131 MBH heating *Unit-2:* 224 MBH Cooling and 118 MBH heating (25) new indoor VRF unit ventilators (7) new indoor VRF cassette units
Estimated Energy Savings for Option 2		$63,253 annually

How do we fund this project?





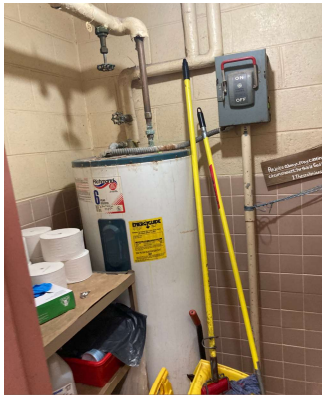
Leave No Stone Unturned

"It is our responsibility to explore ALL funding opportunities."

- **Cash Reserves**
- **Tax Exempt Municipal Lease Options**
- **Energy / Operational Savings**
- **Existing Revenue Sources**
- **Grant Funds (ESSER, etc)**
- **Bond Refinancing / Debt Wrap**
- **A combination of any or all of the above**

Energy Conservation Measures & Facility Solutions

- LED Lighting Upgrades and Lighting Controls
- HVAC Upgrades
- Boiler Controllers
- Variable Frequency Drives
- Building Envelope Enhancements
- Water Conservation
- Transformer Upgrades
- Domestic Hot Water Heaters



Orange County Public Schools

Performance Contract

- Procured a vendor based on Qualifications
- Designed and Built Project tailored to OCPS specific needs
- Guaranteed Energy Savings & Pricing
- No change orders on identified scope
- Better Appreciation for quality/efficiency of equipment
- Focus Life Cycle Cost

Tax Exempt Municipal Lease

- Up to a 20-year term option
- Fixed Low Rate
- No payments during construction period
- No referendum vote was required
- No Bond Counsel and low issuance fees
- Not considered constitutional debt
- Quick and Easy

FISCAL POTENTIAL ANALYSIS

Financed Amount	$ 5,448,149
Interest Rate	4.17%
Term	20

Capital Volatility Cash Flow

Term Year	Funding Production					Total Program Costs			Project C
	Operational Savings Energy / Operational / Maintenance / Debt Wrap	Capital Contibution / Other	Revenue Contributors	Total Funding Produced	Funding Used For Lease Obligation	Energy Lease Amortization	Performance Services	Annual Costs	Annual Cash Flow
Construction	$ 44,799			$ 44,799					$ -
1	$ 223,994	$ -	$ -	$ 223,994	$ 223,994	$ 401,953	$ -	$ 401,953	$ (177,959)
2	$ 232,954	$ -	$ -	$ 232,954	$ 232,954	$ 401,953	$ -	$ 401,953	$ (168,999)
3	$ 242,272	$ -	$ -	$ 242,272	$ 242,272	$ 401,953	$ -	$ 401,953	$ (159,681)
4	$ 251,963	$ -	$ -	$ 251,963	$ 251,963	$ 401,953	$ -	$ 401,953	$ (149,990)
5	$ 262,041	$ -	$ -	$ 262,041	$ 262,041	$ 401,953	$ -	$ 401,953	$ (139,912)
6	$ 272,523	$ -	$ -	$ 272,523	$ 272,523	$ 401,953	$ -	$ 401,953	$ (129,430)
7	$ 283,424	$ -	$ -	$ 283,424	$ 283,424	$ 401,953	$ -	$ 401,953	$ (118,529)
8	$ 294,761	$ -	$ -	$ 294,761	$ 294,761	$ 401,953	$ -	$ 401,953	$ (107,192)
9	$ 306,551	$ -	$ -	$ 306,551	$ 306,551	$ 401,953	$ -	$ 401,953	$ (95,402)
10	$ 318,813	$ -	$ -	$ 318,813	$ 318,813	$ 401,953	$ -	$ 401,953	$ (83,140)
11	$ 331,566	$ -	$ -	$ 331,566	$ 331,566	$ 401,953	$ -	$ 401,953	$ (70,387)
12	$ 344,828	$ -	$ -	$ 344,828	$ 344,828	$ 401,953	$ -	$ 401,953	$ (57,125)
13	$ 358,622	$ -	$ -	$ 358,622	$ 358,622	$ 401,953	$ -	$ 401,953	$ (43,332)
14	$ 372,966	$ -	$ -	$ 372,966	$ 372,966	$ 401,953	$ -	$ 401,953	$ (28,987)
15	$ 387,885	$ -	$ -	$ 387,885	$ 387,885	$ 401,953	$ -	$ 401,953	$ (14,068)
16	$ 403,401	$ -	$ -	$ 403,401	$ 403,401	$ 401,953	$ -	$ 401,953	$ 1,447
17	$ 419,537	$ -	$ -	$ 419,537	$ 419,537	$ 401,953	$ -	$ 401,953	$ 17,583
18	$ 436,318	$ -	$ -	$ 436,318	$ 436,318	$ 401,953	$ -	$ 401,953	$ 34,365
19	$ 453,771	$ -	$ -	$ 453,771	$ 453,771	$ 401,953	$ -	$ 401,953	$ 51,818
20	$ 471,922	$ -	$ -	$ 471,922	$ 471,922	$ 401,953	$ -	$ 401,953	$ 69,968
Totals	**$ 6,714,910**		**$ -**	**$ 6,714,910**	**$ 6,670,111**	**$ 8,039,065**	**$ -**	**$ 8,039,065**	**$ (1,368,954)**

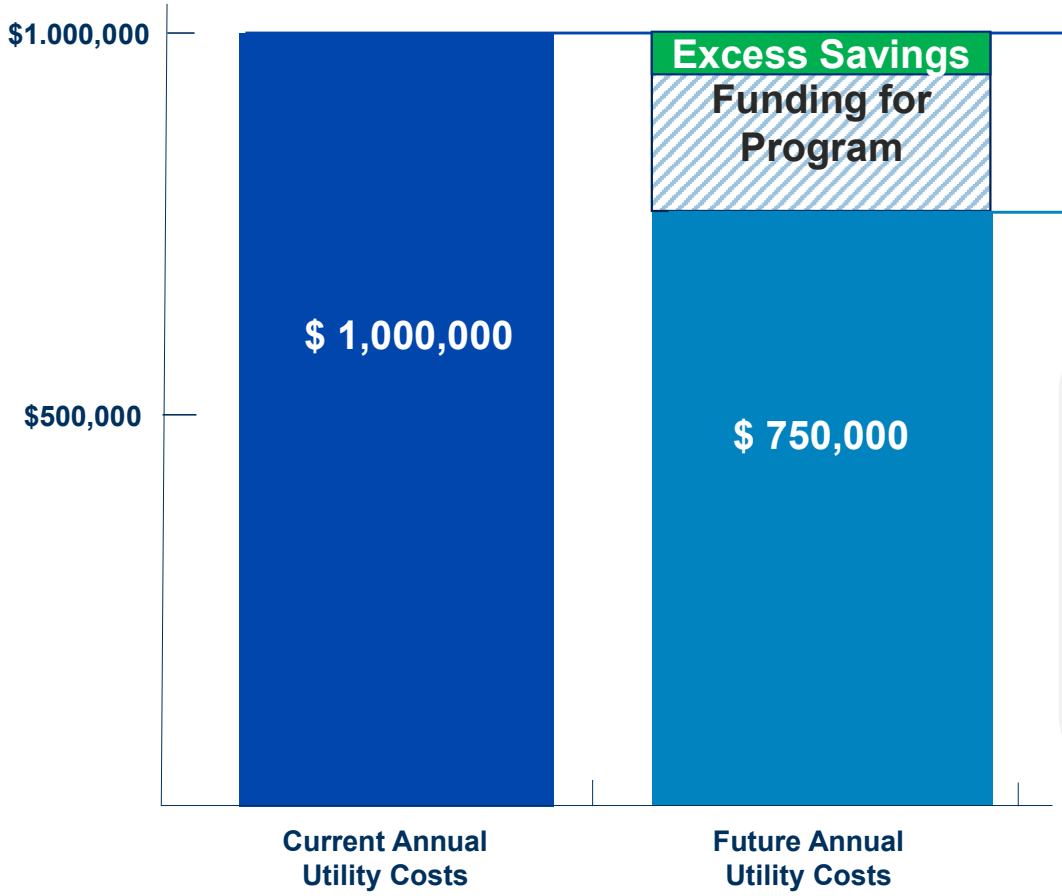
Methodology & Preliminary Audit

- Data Collection and Analysis
  - Utility Bills
  - Calculated Energy Use Index
  - Benchmark Against DOE/CBECS
- Site Visits and Interviews
- Feasibility Study Results
  - Preliminary List of Energy Conservation Measures (ECM)
  - Financial Potential: Self-Funded Solutions and CIP Projects
- Develop a co-authored solution to support your mission

Sample Utility Profile & Savings Summary

		Uitility Cost ($)							Electricity & Natural Gas				Savings	
Property Name	Square Feet	Utility	2018	2018 Total	$/Sqft (2018)	2019	2019 Total	$/Sqft (2019)	2018 kBTU	2018 EUI	2019 kBTU	2019 EUI	Potential $ Savings	Potential % Savings
[redacted] High School	222,902	Electric	$ 160,485	$207,831.00	$ 0.93	$ 159,977	$215,278	$ 0.97	11,296,053	50.68	12,767,233	57.28	$ 62,431	29%
		NG	$ 36,992			$ 45,489								
		Water	$ 10,353			$ 10,712								
[redacted] Middle School	190,478	Electric	$ 185,452	$225,429.00	$ 1.18	$ 186,252	$247,275	$ 1.30	10,606,373	55.68	15,078,068	79.16	$ 49,455	20%
		NG	$ 29,624			$ 50,311								
		Water	$ 10,353			$ 10,712								
[redacted] Elementary School	40,363	Electric	$ 29,840	$50,329.00	$ 1.25	$ 34,112	$54,197	$ 1.34	2,526,912	62.60	2,610,684	64.68	$ 15,175	28%
		NG	$ 10,136			$ 9,373								
		Water	$ 10,353			$ 10,712								
							$516,750				30,455,985		$127,061	25%

Sample - Funding Using Your Existing Budget



Annual Utility Savings:
$250,000*

Hint! You already have the budget for our program

$ 250,000* Utility Savings
+ $ 25,000* Operational Savings
$ 275,000 Total Annual Savings

$ 4,200,000 Total Program Funding*

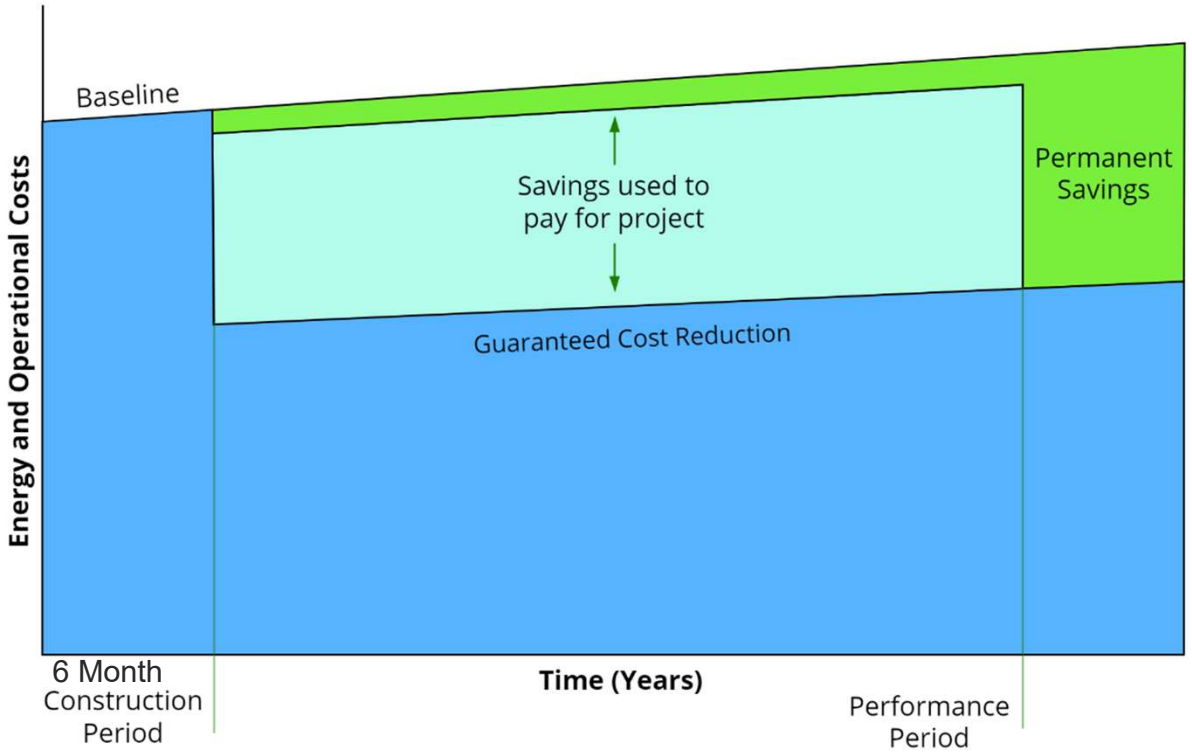
Total 15 Year Program provides funding for critical facility needs

Lighting | Controls | Heating & Cooling Systems | Water Conservation

*Sample Savings

Long Term Financial Impact

Baseline is lowered and the gap between old baseline and new baseline funds the project








Identifying and Funding the Gaps

Energy Conservation Measures (ECMs) & Infrastructure Improvements

- Building Automation Systems (BAS)
- Central Plant Optimization
- Retro Commissioning
- Demand Control Ventilation
- Energy Analytics
- VAV AHU Control
- Lab Fume Hood Retrofit
- Thermal Energy Storage System
- Building Envelope Enhancements
- Electrical Infrastructure
- Fleet Electrification and EV Charging Stations
- HVAC Mechanical
- Indoor Air Quality Improvements
- LED Lighting / Lighting Controls
- Steam System
- Plug Load Management
- Solar Panel Array (Roof, Carport or Ground)
- Water Conservation
- VFDs

ABM reviews ***ALL*** opportunities during full-scale project development

Additional Infrastructure Solutions

Schools can take advantage of the following:

- Roofing
- Bathroom / Classroom renovations
- STEM Learning Enhancements
- Fleet Electrification
- Turf Field Conversion
- Track Resurfacing
- Classroom & Bathroom Upgrades
- Playground Equipment

Capital Volatility Analysis (**EXAMPLE**) 15-Yr Capital Planning Tool

Facility	Identification	Grade	Manufacturer	Model	Serial	Install Date	Tons / HP / BTU's	Remaining Useful Life/yrs
High School (Café ceiling side rm)	FCU-4	D	Trane	DNR	DNR	2000	3.5	2
High School (Café)	Cond-4	D	Trane	TTB042C100A1	R032NUXBF	2000	3.5	2
High School (Café hall)	AHU-1	F	DNR	(heat only, failed)	DNR	2000	7.5	0
High School (Café hall)	AHU-2	F	DNR	(heat only, failed)	DNR	2000	7.5	0
High School (Café)	KEF (qty 7)	F	CentriMaster	PNU135RG, 0.75hp	TYE590407	2000	7	0
High School (Café)	KSF (qty 3)	D	MasterVent	AFSN126K2, 1.5hp	TYE59012	2000	3	2
High School (Auditorium)	AHU-9	C	Trane	DNR	R038948	2000	15	5
High School (Auditorium)	Cond-9	D	Trane	TTA180B300CC	P4312JEAH	1999	15	2
High School (Auditorium)	AHU-10	C	Trnae	DNR	R01938503	2000	15	7
High School (Auditorium)	Cond-10	D	Trane	TTA180B300CC	P4312JEAH	1999	15	2
High School (Auditorium)	AHU-7	C	Trane	MCCA017, 8500 cfm / 5hp	K00B30270	2000	40	6

Assets				
Average Grade	Qty	%	Present $ Value	% Dollar Value
A	0	0.0%	$ -	0.0%
B	61	33.0%	$ 6,277,732	15.8%
C	66	35.7%	$ 20,621,217	52.0%
D	50	27.0%	$ 7,550,965	19.0%
F	8	4.3%	$ 5,240,600	13.2%
TOTAL	185		**$ 39,690,514**	

Capital Exposure over Term		
Yrs 0-5	Yrs 6-10	Yrs 11-15
$13,302,677	$14,626,311	$ 11,761,526

A Co-Authored Solution

ABM provides school districts with **valuable information** to make better decisions based on **real data** and its correlation to student achievement, resource allocation and finance.

Program Benefits

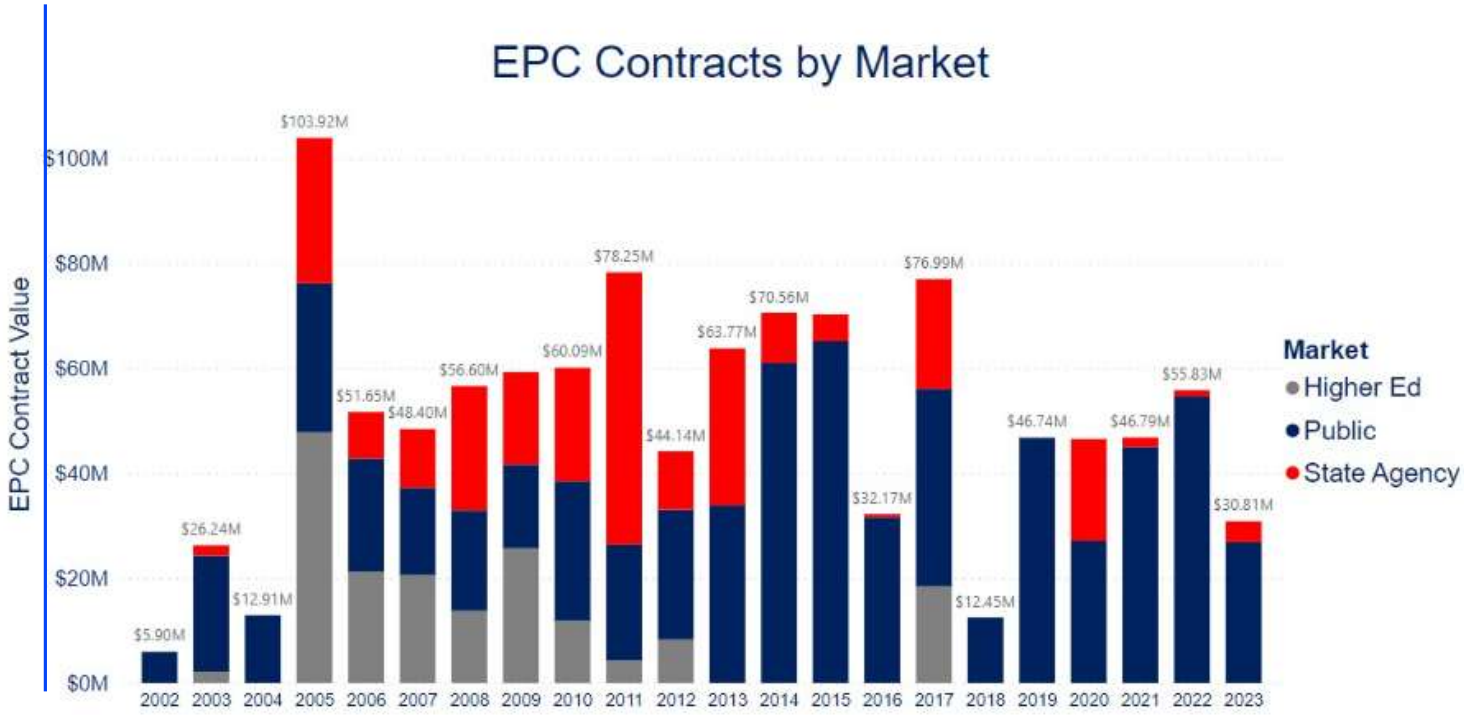
Improve your Learning Environment and Learning Experience

- Meet **CRITICAL** facility needs
- **Without** increasing taxpayer burden
- Create energy & operational savings to fund upgrade facilities
- Becomes a long-term partner with you for financial assistance, capital improvement planning, and guaranteed savings

Virginia's ESPC Program

Program Established in 2002

- Over 280 Projects
- Over $1B in Project Investmer
- Code of Virginia § 45.2-1703. Energy performance-based contract procedures; required contract provisions.



K-12 Schools and Local Governments Benefit From Financial & Technical Solutions

ABM Building Value

ORANGE COUNTY PUBLIC SCHOOLS
(PHASE 1,2,3)
Orange, VA

FAUQUIER COUNTY PUBLIC SCHOOLS
Warrenton, VA

CHARLES CITY COUNTY PUBLIC SCHOOLS
Charles City County, VA

FREDERICKSBURG CITY PUBLIC SCHOOLS
Fredericksburg, VA

CAROLINE COUNTY
Bowling Green, VA

CITY OF EMPORIA
Emporia, VA

VIRGINIA BEACH CITY PUBLIC SCHOOLS
(PHASES 1-4)
Virginia Beach, VA

BRUNSWICK COUNTY SCHOOLS
Lawrenceville, VA

ABM at a Glance

Founded in 1909 | $8 billion in revenue

250+ US and international locations

20,000+ clients | 100,000+ employees

FACILITIES ENGINEERING
10,000+ certified engineers

MICROGRID
Over **1GW** of installed microgrids

JANITORIAL
4+ billion sq. ft. daily

HVAC & MECHANICAL
500,000+ heating and cooling systems maintained

MISSION CRITICAL
35+ million sq. ft. data center spaces maintained

PARKING & TRANSPORTATION
$2+ billion parking revenue collected

ELECTRICAL
ranked #1 in EV charge port installation in the U.S.

ENERGY
30% average energy use reduction

LANDSCAPE & TURF
55,000+ acres maintained

Market-leading provider of comprehensive facility services with best-in-class presence and client relationships

Unparalleled reach | Diverse portfolio | Trusted reputation

Energy & Operational Savings Program

Why?

- Meet CRITICAL facility needs
- Offset rising energy costs
- Requires no upfront capital, Fund through reduced utility, operating costs, and revenue enhancements
- Can leverage Grants, Rebates, and other Incentives
- Without increasing taxpayer burden
- Preferred Equipment & Sub-contractor input
- Single contract that covers the entire scope of work at all included facilities
- Project Performance Guarantee
- Co-Authored Process with Dedicated Local Team of Facility and Funding Specialists
- Results MUST be guaranteed & reported
- Fixed Fee Contract, No Change Orders…Unless Customer Initiated
- Alternative Funding Options provide Attractive Repayment Structure
  - Debt Consolidation
  - Professional Services Agreement

Solution Timeline