Jackson County School District
Energy Efficiency and Building Improvement Plan

CHAMPIONS LEADING THE ADVANCEMENT OF SUSTAINABLE SCHOOLS

PHASE 2

MAY 21, 2024

Team Description

- Jackson County School District is located in southeastern Mississippi
  - 7 Elementary Schools, 3 Middle Schools, 3 High Schools, 1 Vocational School, and 1 STEM laboratory
  - Average age of building is 37 years old with 1/3 over 50 years of age
  - Close to 9,000 students spread across 1,350,000 sq. ft.
- Phase 2 Team
  - School Finance Officer – Ryan Earley
  - Assistant Superintendent of Operations – Chris LeBatard
  - Facilities Manager – Duane Jones Jr
  - Coach – Maddy Albee

Progress Made During Phase 2

- Completing in-progress projects
- Awarding new projects
- Utilizing ENERGY STAR Portfolio Manager for first time
- Obtained YOY energy savings
- Calculated LED upgrade unit costs
- Registered elective pay tax credits

Progress by Building Since Summer 2023

School	Upgrade	Completion	Cost	Fund Source
Vancleave Lower	Carpet replaced w/LVT	July 2023	$17,966	ESSER
East Central High	Carpet replaced w/tile	Summer 2024	$263,444	ESSER
East Central Middle	Carpet replaced w/tile	Summer 2024	$263,444	ESSER
St Martin East	Roof replaced	February 2024	$1,022,954	Capital fund
St Martin North	Roof replaced	February 2024	$1,022,954	Capital fund
Vancleave High	Roof replaced	Summer 2024	$2,223,000	Capital fund
St Martin Upper	HVAC replaced	Summer 2024	$733,531	ESSER
St Martin East	HVAC replaced	Summer 2024	$733,531	ESSER
Vancleave Lower	HVAC replaced	Spring 2024	$166,000	ESSER
Vancleave Middle	HVAC replaced	Spring 2024	$198,000	ESSER
Vancleave High	HVAC replaced	Summer 2024	$630,000	ESSER
St Martin Middle	HVAC replaced	Spring 2024	$1,691,000	ESSER
East Central High	HVAC replaced	Summer 2024	$590,355	ESSER
East Central Lower	HVAC replaced	Summer 2024	$590,355	ESSER
East Central Upper	Windows replaced	August 2023	$209,115	ESSER
East Central High	Windows replaced	August 2023	$174,235	ESSER

ENERGY STAR Portfolio Manager Progress

School	# Meter Accounts	# Months Data	Energy Star Score
St Martin High	1	36	5
Vancleave Upper Elementary	13	38	81

St Martin High YOY Metrics

Metrics Summary

Metric	Jan 2022 (Energy Baseline)	Jan 2024 (Energy Current)	Change
ENERGY STAR Score (1-100)	1	5	4.00 (400.00%)
Source EUI (kBtu/ft²)	317.4	233.9	-83.50 (-26.30%)
Site EUI (kBtu/ft²)	113.3	83.5	-29.80 (-26.30%)
Energy Cost ($)	443,980.96	383,101.38	-60,879.58 (-13.70%)
Total (Location-Based) GHG Emissions Intensity (kgCO2e/ft²)	13.5	10.0	-3.50 (-25.90%)

Prior LED Upgrade Unit Costs

Project	Component	Cost	Quantity	Unit Cost
St Martin High Parking Lot LED Retrofit	Lights	$38,109	55 units	$693/light
St Martin High Parking Lot LED Retrofit	Lift rental	$3,177	4 weeks	$794/week
Vancleave High Hallway LED Retrofit	4’ T8 Lights	$1,780	394 units	$4.52/light
Vancleave High Hallway LED Retrofit	U shape 50K	$48	4 units	$12/light
St Martin Middle Hallway LED Retrofit	4’ T8 Lights	$1,807	400 units	$4.52/light
East Central High Hallway LED Retrofit	4’ T8 Lights	$678	150 units	$4.52/light
St Martin High Gym LED	LED Lamp	$1,385	9 units	$154/light

Tax Credit Progress

Project	Funding Type	Total Amount	Placed in Service Date	Elective Pay Registered with IRS?	990T Filing Date
Electric School Bus (1x)	Tax Credit (45W)	$40,000	Sept 2023	No	July 2024
Electric School Buses (6x)	Tax Credit (45W)	$200,000	Est. May 2024	No	July 2024
Electric Drivers Ed Car (3x)	Tax Credit (45W)	$22,500	Sept-Dec 2023	Yes	July 2024

Prioritized Facility Improvements

School	Year Originally Built	Sq. Footage	Grades Served | Enrollment	Facility Condition Index (FCI)	FY23 Electricity Spend
East Central Upper Elementary	1961	60,300	3-5 | 555	53%	$53,279.19
Vancleave Upper Elementary	1959	65,700	4-5 | 345	31%	$46,522.49
St Martin High	2010	164,704	9-12 | 1,320	9%	$402,475.43

Proposed Building Upgrades

Priority	Goal	Metric	Strategy	Action	Lead	Timeline
1	Improve indoor air quality	Average age of HVAC equipment	Replace older HVAC equipment	Partnered with engineering firm to bid projects	Outside Engineer Firm & Facilities Manager	Complete by summer 2024 Financed using ESSER funds
2	Reduce energy use in LEA prioritized buildings by 25% by 2027	Electricity use – kwh/yr	Upgrade classrooms and hallways to LED lighting	Work with lighting subject matter expert to plan retrofits within each school	Facilities Manager	VCU – 2024 ECU – 2025 SMH - 2026 One school per summer Funded by savings from existing electricity operating budget
3	Lower electricity unit cost	Average $/kWh	Install photovoltaic panels on or near school buildings behind the meter	Complete LED and HVAC improvements then baseline energy consumption and peak demand	Business Officer	VCU – 2025 ECU – 2026 SMH – 2027 Financing method TBD

Summary of Expected Impact

Costs

- School-wide reduction of 5-10% energy consumption from HVAC replacement
- School-wide reduction of 5-10% in energy consumption from LED retrofits in hallways and classrooms
- School-wide reduction of 75-85% in energy consumption from solar generation
- Reduction in HVAC and lighting service tickets

Health

- Less particulates in the air
- Higher student and staff attendance rates

CLASS Prize Money Uses

Tools & Equipment

- ❑ Will use $1,700 to purchase recommended illuminance meter
- ❑ Will use $4,100 to purchase recommended portable air quality monitoring instruments (14 total)

HVAC Upgrades

- ❑ Will use $7,200 for general labor over summer to help HVAC technicians replace 84 split systems

LED Lighting

- ❑ Will use $7,200 for general labor over summer to help maintenance technicians retrofit fixtures

Solar

- ❑ Will use $21,000 for engineering costs for first 200kW rooftop solar system

Next Steps

CLASS Prize Money

- ❑ Will purchase recommended illuminance meter
- ❑ Will purchase recommended air quality instrument

LED Lighting

- ❑ Measure current lighting in classrooms and hallways for benchmarking
- ❑ Calculate number of LED light bulbs and lumens to buy for each classroom and school
- ❑ Fund purchases of bulbs using electricity budget savings
- ❑ Maintain electricity expense line item at constant amount

Solar

- ❑ Complete all LED lighting upgrades and determine school hourly/annual load profile