



# PROP 39 ENERGY EXPENDITURE PLAN OPTIONS

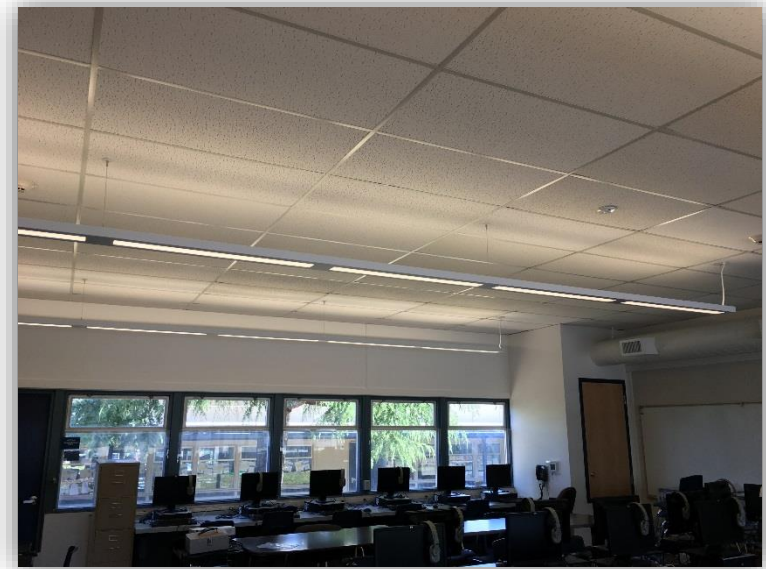
Prepared for:  
Gravenstein Union School District

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# Executive Summary

Gravenstein Union School District is in a unique position. Due to its 3 separate LEA structure, the District has received approximately 230% of the funding of a comparable size school District. While this is generally good news, it creates a challenge to develop a plan that utilizes all the funding in a cost effective manner (i.e. SIR > 1.01), within each LEA. Creating additional challenges, the schools are relatively energy efficient (benchmarking approximately 30% lower than the statewide average) and the historical electric utility rate at Hillcrest is unusually low.

Gravenstein Union School District is estimated to receive \$540k for project implementation over the course of the five year program across the 3 Local Education Authorities (LEAs), and funding for each LEA has to be spent on that LEA.

With the assistance of District staff, ARC Alternatives identified and compiled over \$1.8 million in energy projects that can be included in the Prop 39 plans, which fall into the broad categories of:

- Interior lighting
- Exterior lighting
- Mechanical systems
- Solar Photovoltaics
- District Modernization Efforts

With the challenge mentioned above in mind, ARC Alternatives worked with District staff to identify three Energy Expenditure Plan (EEP) options that meet all CEC requirements. The key component to the plans are to incorporate the Phase 2 and Phase 3 modernization projects into the plan, and utilize bond funds already spent as District contributions to boost the SIR and leverage the available Prop 39 allocations.

The District is well positioned to implement its Prop 39 program. ARC Alternatives is seeking District approval for the recommended EEP, that will serve as the basis of the Prop 39 Energy Expenditure Plan to be submitted to the CEC.

# Prop 39 Background

## Proposition 39 History

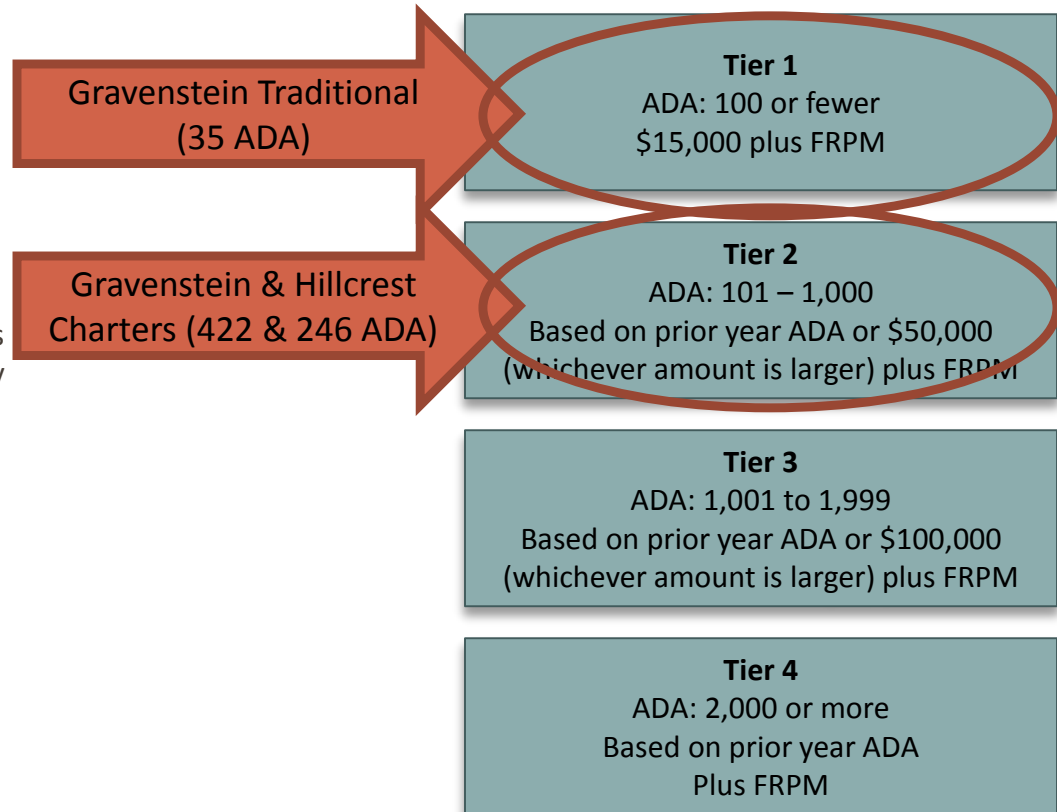
The California Clean Energy Jobs Act was established with the passage of Proposition 39 in November of 2012, allocating approximately \$550 million annually to improve energy efficiency and expand clean energy generation. The largest share each year is awarded to local educational agencies (LEAs) for eligible projects evaluated on a formula-based method, with the following amounts made available directly to K-12 local education agencies for project implementation:

- FY 2013-14 \$381M (GUSD \$232,566)
- FY 2014-15 \$279M (GUSD \$0)
- FY 2015-16 \$313M (GUSD \$232,566)
- FY 2016-17 \$399M (GUSD \$0)

The State Superintendent of Public Instruction (SSPI) is responsible for administering the awards for the LEAs. All school facilities; including county offices of education, school districts, charter schools, and state special schools, within an LEA are eligible for funding.

## Allocation Rules

Award calculations are conducted annually by the California Department of Education (CDE). Funding is awarded on a formula-based method: 85 percent based on average daily attendance (ADA) reported as of the second principal apportionment for the prior fiscal year and 15 percent based on the number of students eligible for free and reduced-priced meals (FRPM) in the prior year. Funding is broken out into four tiers.



# Energy Expenditure Plan Scenarios

ARC Alternatives developed three feasible expenditure plan scenarios to utilize funding allocated by Prop 39, and with input from District staff fine tuned the potential plans. Each of the three scenarios are summarized below with details on the following pages.

Scenario	Scope			Reimbursed Bond Funds (Gravenstein, Ph 2 & Ph 3)	Additional District Contribution (Hillcrest)	Net Contribution	Prop 39 Funds Required	Prop 39 SIR	Utility Cost Savings (\$/yr)	Simple Payback (years)*
	Lighting	HVAC (# Units)	Solar							
Scenario A: Max Projects	Districtwide Exterior & Interior LED	3 Heat Pumps 2 Furnaces 18 Tstats	122 kW (Full bill offset)	\$36,500	\$173,500	\$137,000	\$539,380	2.27	\$34,052	5.1
<b>Scenario B: District Priorities**</b>	<b>Districtwide Exterior &amp; Interior LED, less CFL fixtures &amp; OS</b>	<b>2 Furnaces</b>	<b>122 kW (Full bill offset)</b>	<b>\$38,000</b>	<b>\$107,000</b>	<b>\$69,000</b>	<b>\$538,880</b>	<b>2.04</b>	<b>\$34,052</b>	<b>3.1</b>
Scenario C: District Priorities, Minimize Additional Contribution	Districtwide Exterior & Interior LED, less CFL fixtures & OS	2 Furnaces	108 kW (80% bill offset at HMS)	\$38,000	\$60,000	\$22,000	\$538,840	1.95	\$31,674	1.9

\* Calculated based on true additional district contribution, considering energy savings only

\*\* Recommended Scenario

# Energy Expenditure Plan Scenarios

## Scenario A: Maximize Projects

In order to maximize utility bill savings, all feasible projects are targeted in this scenario, which yields a comprehensive interior LED lighting project Districtwide, heat pump replacements at Hillcrest and full solar at both campuses for a full offset of the remaining electric bills (i.e. only minimum net metering charges would remain).

Under the resulting plan, \$36,500 of bond funding already spent in Phase 2 Modernization or programmed in Phase 3 would be 'reimbursed' to the District, and a **\$173k incremental District Contribution** is required at Hillcrest.

### District Results

#### All LEAs Included

**\$1,872,570 Total Project Cost**

**\$1,333,190 District Contribution**

**\$539,380 Net Cost (Prop 39 Share)**

**2.27 SIR**

	LEAs Included	Project Cost (x1000)	Scope
Phase 2 Mod	2	\$1,060	
Exterior Lighting	2	\$31	78 Fixtures
Interior Lighting	3	\$150	1589 Lamps & 58 Fixtures
Mechanical	3	\$192	5 Units & 18 Tstats
Solar	2	\$439	122 kW Capacity

### Pros

- Includes all schools, encumbers full allocation
- Maximum bill savings
- "Eliminates" electric bill at both school sites
- Addresses aging heat pumps (although not a maintenance problem at this time)
- Plan utilizes CEC calculator, streamlines submittal & approval process

### Cons

- Requires more District contribution, for same net (true) bill savings as next scenario

# Energy Expenditure Plan Scenarios

## Scenario B: District Priorities (Recommended Scenario)

This scenario aligns the Prop 39 measures with the stated desires of the District: lighting followed by solar. This scenario does meet the ‘loading order’ requirement, and is a good path towards a zero net electricity bill. The plan completes the interior and exterior lighting at Gravenstein retrofit with LED, retrofits the interior and exterior lighting at Hillcrest, and then installs solar at both sites for a full offset of the remaining electric bills (i.e. only minimum net metering charges would remain).

Under the resulting plan, \$38,000 of bond funding already spent in Phase 2 Modernization or programmed in Phase 3 would be ‘reimbursed’ to the District, and a **\$107k incremental District Contribution** is required at Hillcrest.

### District Results

#### All LEAs Included

**\$1,717,320 Total Project Cost**

**\$1,178,440 District Contribution**

**\$538,880 Net Cost (Prop 39 Share)**

**2.04 SIR**

	LEAs Included	Project Cost (x1000)	Scope
Phase 2 Mod	1	\$927	
Exterior Lighting	2	\$21	53 Fixtures
Interior Lighting	3	\$147	1589 Lamps & 58 Fixtures
Mechanical	1	\$136	2 Units & 0 Tstats
Solar	2	\$439	122 kW Capacity

### Pros

- Returns \$38k to the bond fund
- Districtwide LED
- Includes all schools, encumbers full allocation
- “Eliminates” electric bill
- Plan utilizes CEC calculator, streamlines submittal & approval process

### Cons

- District contribution required
- Removes low savings measures (occupancy sensors, Tstats)
- Strands few heat pumps at Hillcrest

# Energy Expenditure Plan Scenarios

## Scenario C: District Priorities, Minimize Additional Contribution

This scenario aligns the Prop 39 measures with the stated desires of the District: lighting followed by solar, but minimizes the District Contribution by scaling the solar to just meet the SIR requirement at Hillcrest. The plan completes the interior and exterior lighting at Gravenstein retrofit with LED, retrofits the interior and exterior lighting at Hillcrest, and then installs solar at both sites for a full offset of the remaining electric bills (i.e. only minimum net metering charges would remain) at Gravenstein campus and an 80% offset at the Hillcrest campus.

Under the resulting plan, \$38,000 of bond funding already spent in Phase 2 Modernization or programmed in Phase 3 would be 'reimbursed' to the District, and a **\$60k incremental District Contribution** is required at Hillcrest.

### District Results

#### All LEAs Included

**\$1,670,280 Total Project Cost**  
**\$1,131,440 District Contribution**  
**\$538,840 Net Cost (Prop 39 Share)**  
**1.95 SIR**

	LEAs Included	Project Cost (x1000)	Scope
Phase 2 Mod	1	\$927	
Exterior Lighting	2	\$21	53 Fixtures
Interior Lighting	3	\$147	1589 Lamps & 58 Fixtures
Mechanical	1	\$136	2 Units & 0 Tstats
Solar	2	\$392	108 kW Capacity

### Pros

- Returns \$38k to bond fund
- "Eliminates" electric bill at Gravenstein
- Includes all schools, encumbers full allocation
- Plan utilizes CEC calculator, streamlines submittal & approval process

### Cons

- Strands solar at Hillcrest, less than optimal size
- Lowest bill savings
- Lowest SIR by CEC calculation