



OPTERRA
ENERGY SERVICES



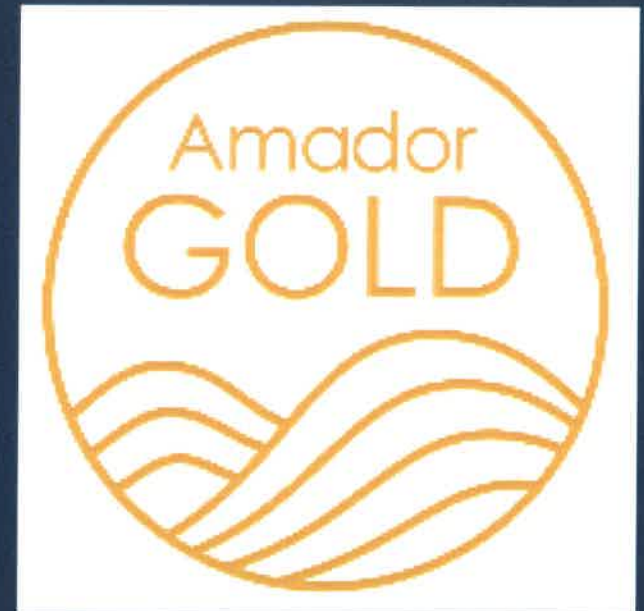
Amador County Unified School District
Amador County Office of Education

Amador County Unified School District - Amador GOLD

Final Project Approval Board Presentation

Jeffery Prosswimmer, Business Development Manager
Caren Perlmutter, Education Manager

October 26, 2016
Jackson, CA



An **ENGIE** company

Amador **GOLD**: Program Vision and Objectives



Growing STEM Offerings

- Professional development
- Living laboratories of energy efficiency and solar
- Ready-to-go standards-aligned STEM energy curriculum



Opportunities for Engagement

- Involving students and teachers in the project as it progresses
- Engaging the community in the District's progress (media, dedication event, updates on District website/social media)



Leading by Example

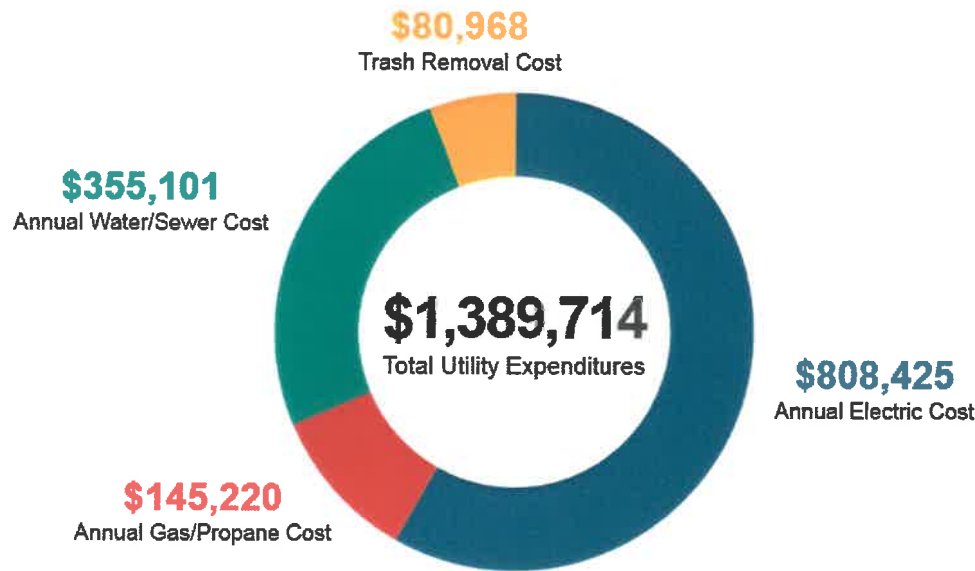
- Environmental stewardship
- Setting an example for students, community members, local institutions/businesses



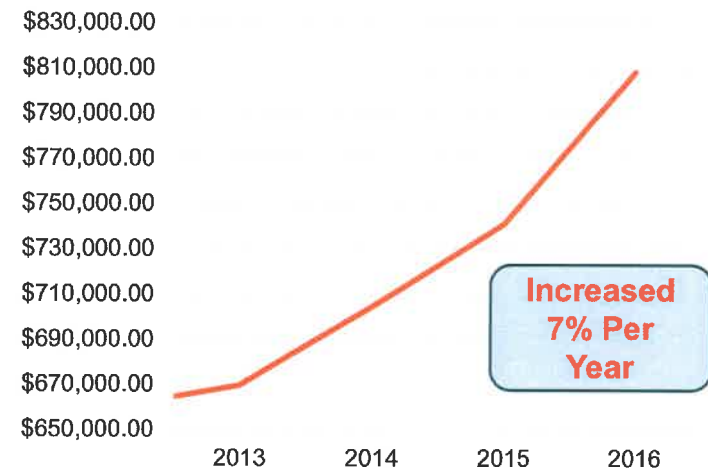
Designed to Promote Learning

- Modernized classrooms and facilities
- Improved lighting, ventilation/air quality and acoustics
- Human centric lighting

Amador CUSD Actual Utility Consumption Analysis



District Electricity Expenditures



❖ District is Projected to Spend **\$12.59 Million** for Electricity and Gas Expenditures over the **next 10 Years** based on Conservative PG&E Tariff Increases (5%)

❖ District is Projected to Spend **\$31.5 Million** for Electricity and Gas Expenditures over the **next 20 Years** based on Conservative PG&E Tariff Increases (5%)

❖ District is Projected to Spend **\$67.48 Million** for Electricity and Gas Expenditures over the **next 30 Years** based on Conservative PG&E Tariff Increases (5%)

Energy and Facility Infrastructure Improvements: Energy Conservation Measures (ECM's): Scope of Work



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ECM #1 (L-1)

- Lighting retrofit of 6800 lighting fixtures and components with occupancy sensors and dimming control

ECM #2 (M-1)

- Direct Digital Control (DDC) for HVAC equipment upgrade/ retro-commissioning and expansion

ECM #3 (M-2)

- Replacement and Installation of 95 Aged and maintenance intensive HVAC Units

ECM #4 (PV-1)

- Photovoltaic/solar installation at Amador and Argonaut High Schools and solar farm in open area behind Argonaut HS
 - Amador GOLD STEM Education Program and Curriculum

Amador **GOLD** Educational Program Components



Professional Development

Summer STEM Bridge Program

Professional Development

Student Internships

Career & College Clubs

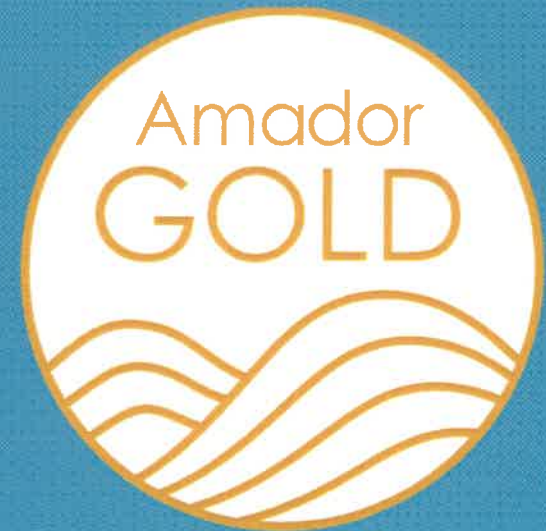
Each component is grounded in the District's commitment to sustainability

Amador Program Financials: Accomplishing District Educational and Infrastructural Goals



■ Amador GOLD: \$9.9 Million

- Program Savings:
 - \$1,245,791 Average Program Savings Over 20 Years
- Program Funding
 - Proposition 39 and Capital Contribution: \$3,300,000
 - IRS Subsidized Certified Renewable Energy Bond (CREB): \$3,835,000
 - Tax Exempt Lease Purchase (TELP): \$2,863,885
- Positive Cash Flow For Program
 - \$813,169 of Average Annual Positive Cash Flow Over 20 Years After Annual Debt Service Payments
 - \$16.06 Million Total Positive Cash Flow Over 20 years
 - \$35.97 Million Total Positive Cash Flow Over 30 years

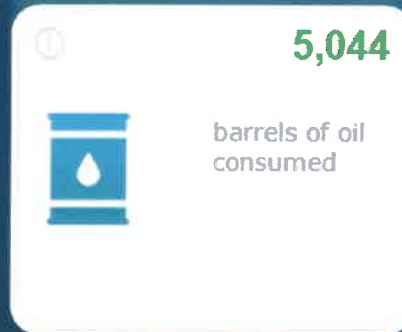
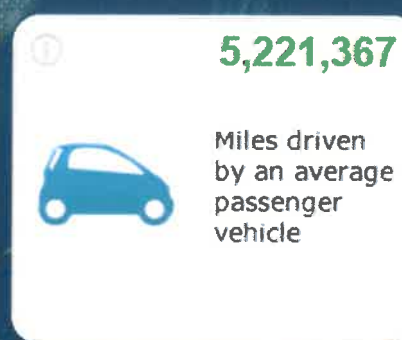


Environmental Impact

3.183 Million Annual kWh Reduction



Substantial Environmental Benefits: Eliminates 2,179 Metric Tons in CO₂ Emissions Per Year



<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

Alternative Financial Modeling: Utility Marker Variables



- **Solar-PV Consultant Referenced Potential PG&E/CPUC May Not Grandfather A-6 Rate in Transition From NEM 1.0-NEM 2.0**
 - Remote Possibility But This Would Drop Solar Generation From \$305,000 to \$285,000
 - Positive 20 Year Cash Flow Would Drop to \$15.64 Million
- **Questions Relating To 5% Utility Rate Escalation**
 - 3% Escalation = \$12.56 Million of Positive Cash Flow Over 20 Years
 - 3% Escalation and Non A-6 Rate = \$12.05 Million of Positive Cash Flow Over 20 Years
 - 0% Escalation = \$8.45 Million of Positive Cash Flow Over 20 Years
 - 0% Escalation and Non A-6 Rate = \$8.07 Million of Positive Cash Flow Over 20 Years



Action Plan for Next Steps



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- **October 26, 2016** – Board Action
- **December 14, 2016** – Financing Approval
- **February 2017** – Project Groundbreaking Event For Community
- **February 2017 – September 2017** – Program Implementation
- **October 2017** – Ribbon Cutting Ceremony For Staff and Community and Media

