

**STATE OF ARIZONA  
SCHOOL FACILITIES BOARD**

**Meeting Date: January 20, 2010**

**Agenda Item X.b.**

**Subject: X. ARRA Energy Grant Awards**

**b. Consideration and possible vote to accept, reject or modify  
the Energy Efficiency Grant Awards**

**Background**

The Governor's Office through the Department of Commerce Energy Office directed \$20,000,000 of the State Energy Program as part of the American Recovery and Reinvestment Act funding for solar and energy efficiency projects for schools.

The School Facilities Board is using \$12,921,548 for energy efficiency projects. Through a competitive selection process, the Board will provide grant funding for 30% of the project cost up to \$1 million per district. The district will be responsible for 70% of the project cost either through performance contracting or any available local funds. The grant application deadline was November 6, 2009. The SFB received 105 applications from 44 school districts. The application project cost total reached \$103,810,266. The criteria for project selection are Life-cycle payback, Energy savings measured by unit reduction, Energy savings measured by dollar reduction, and Impact on the school utility budget

**Evaluation**

The SFB received 105 applications for energy efficiency grants. Attached is the summary scorecard for all of the applications. Applications were evaluated based on the following criteria (total 100 points):

**Life-cycle Payback/Cost Benefit Ratio (40 points):** The cost benefit ratio is based on proposed project savings times its useful life versus grant funds requested. Cost benefit ratio = annual project savings x useful economic life/grant funds requested

**Energy Savings measured by unit reduction (20 points):** The unit reduction is based on energy savings in terms of Btu saved per square foot. Energy Savings = Btu saved/School Square Footage

**Energy Savings measured by dollar reduction (20 points):** The unit reduction is based on energy savings in terms of dollars (\$) saved per square foot. Energy Savings = Dollars (\$) saved/School Square Footage

**Impact on the School Utility Budget (20 points):** The electricity and gas savings are calculated against the utility budget that includes annual cost of gas and electricity. Percent Utility Savings =  $100 \times \text{Annual savings } (\$) / \text{Annual Electricity \& Gas bill } (\$)$

### Disqualified Projects

In addition to the evaluated projects, staff has included a list of disqualified applications. Applications were generally disqualified for three reasons. First, the district did not include the required documentation to support the concluded energy savings. Second, the application did not meet the life-cycle criteria as defined by ARS §15-213.01 (b). Thirdly, the district has started the project already and is requesting reimbursement.

### Useful Economic Life

The economic useful life of different building components are based on Database of Energy Efficient Resources (DEER). DEER is a California Energy Commission and California Public Utilities Commission (CPUC) sponsored database designed to provide well-documented estimates of energy and peak demand savings values, measure costs, and effective useful life (EUL) all with one data source.

### Other Important Notes

- The evaluation team from the SFB and Department of Commerce Energy Office provided an opportunity to Energy Savings Performance Companies, School Districts and Contractors to discuss the applications.
- The evaluation team reviewed proposed energy savings and costs for each application, providing equal opportunity to each application.
- Savings are based on energy savings alone, and do not include operational savings.
- The federal guideline restricts the use of energy efficiency grant funds on water saving projects.

### Recommended Awards

SFB staff recommends awarding 29 projects to 25 districts. In total, these projects with an estimated cost of \$43,600,825 will save \$5,567,738 per year. The average payback for these projects is approximately eight years.

The projects recommended for award are as follows:

#### **Mesa Unified School District**

6 schools

<u>Total Project Cost:</u>	<u>\$869,412</u>
Amount Requested:	\$260,824
Recommended Award:	\$260,824

Project Scope: HVAC Control

District Funds:	\$608,588
Estimated Savings:	\$258,487 per year

Energy Savings: The project is estimated to save 8,531 MMBtu per year.

**Dysart Unified School District**

23 schools

<u>Total Project Cost</u>	<u>\$5,105,927</u>
Amount Requested:	\$1,000,000
Recommended Award:	\$1,000,000

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade, HVAC control, Energy Recovery, Motor/Pump Replacement, Solar Hot Water

District Funds:	\$4,105,926
Estimated Savings:	\$1,069,309 per year

Energy Savings: The project is estimated to save 36,481 MMBtu per year.

**Marana Unified School District**

Mountain View High School

<u>Total Project Cost</u>	<u>\$2,318,457</u>
Amount Requested:	\$695,537
Recommended Award:	\$695,537

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade, HVAC control, Demand control ventilation, Motor/Pump Replacement, Water heater replacement, Boiler replacement, Plate & Frame Exchanger, Variable Frequency Drive

District Funds:	\$1,622,920
Estimated Savings:	\$184,090 per year

Energy Savings: The project is estimated to save 6,912 MMBtu per year.

**Toltec Elementary School District**

Toltec Middle School

<u>Total Project Cost</u>	<u>\$337,909</u>
Amount Requested:	\$84,773
Recommended Award:	\$84,773

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade, HVAC control, Demand control ventilation,

District Funds:	\$236,537
Estimated Savings:	\$15,595 per year

Energy Savings: The project is estimated to save 462 MMBtu per year.

**Sahuarita Unified School District**

Sahuarita High School

<u>Total Project Cost</u>	<u>\$239,847</u>
Amount Requested:	\$71,954
Recommended Award:	\$71,954

Project Scope: Lighting upgrade, HVAC control

District Funds:	\$167,893
Estimated Savings:	\$57,813 per year

Energy Savings: The project is estimated to save 1,361 MMBtu per year.

**Higley Unified School District**

4 schools

<u>Total Project Cost</u>	<u>\$1,635,939</u>
Amount Requested:	\$490,782
Recommended Award:	\$490,782

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade, Demand control ventilation, Economizer

District Funds:	\$1,145,157
Estimated Savings:	\$153,855 per year

Energy Savings: The project is estimated to save 8,093 MMBtu per year.

**Chino Valley Unified School District**

Chino Valley High School

<u>Total Project Cost</u>	<u>\$946,878</u>
Amount Requested:	\$284,063
Recommended Award:	\$284,063

Project Scope: Lighting upgrade, HVAC upgrade

District Funds:	\$662,815
Estimated Savings:	\$68,171 per year

Energy Savings: The project is estimated to save 2,240 MMBtu per year.

**Tucson Unified School District**

15 schools

<u>Total project Cost</u>	<u>\$2,927,332</u>
Amount Requested:	\$878,200
Recommended Award:	\$878,200

Project Scope: HVAC upgrade, HVAC control, Plate & Frame Exchanger, Variable Frequency Drive, Retro-commissioning, Coil Cleaning

District Funds:	\$2,049,132
Estimated Savings:	\$462,182 per year

Energy Savings: The project is estimated to save 31,539 MMBtu per year.

**Sahuarita Unified School District**

Sahuarita Intermediate School

<u>Total Project Cost</u>	<u>\$42,074</u>
Amount Requested:	\$12,622
Recommended Award:	\$12,622

Project Scope: Lighting upgrade, HVAC control

District Funds:	\$29,454
Estimated Savings:	\$12,582 per year

Energy Savings: The project is estimated to save 277 MMBtu per year.

**Sahuarita Unified School District**

Sahuarita Middle School

<u>Total Project Cost</u>	<u>\$111,202</u>
Amount Requested:	\$33,361
Recommended Award:	\$33,361

Project Scope: Lighting upgrade, HVAC control

District Funds:	\$77,842
Estimated Savings:	\$24,317 per year

Energy Savings: The project is estimated to save 557 MMBtu per year.

**Ganado Unified School District**

Ganado Elementary School

<u>Total Project Cost</u>	\$417,743
Amount Requested:	\$125,323
Recommended Award:	\$125,323

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade, HVAC control, Water Heater replacement

District Funds:	\$292,420
Estimated Savings:	\$31,887 per year

Energy Savings: The project is estimated to save 1,212 MMBtu per year.

**Florence Unified School District**

10 schools

<u>Total Project Cost:</u>	\$4,621,068
Amount Requested:	\$1,000,000
Recommended Award:	\$1,000,000

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade, HVAC control, Solar water heater, Energy recovery

District Funds:	\$3,621,068
Estimated Savings:	\$388,281 per year

Energy Savings: The project is estimated to save 12,623 MMBtu per year.

**Chinle Unified School District**

10 schools

<u>Total Project Cost:</u>	\$3,405,799
Amount Requested:	\$1,000,000
Recommended Award:	\$1,000,000

Project Scope: Lighting upgrade, HVAC upgrade, HVAC control, Solar water heater, Energy recovery, Computer power management, Vending machine control

District Funds:	\$2,405,799
Estimated Savings:	\$309,317 per year

Energy Savings: The project is estimated to save 11,335 MMBtu per year.

**Pinon Unified School District**

4 schools, district building

<u>Total Project Cost</u>	<u>\$1,723,617</u>
Amount Requested:	\$517,085
Recommended Award:	\$517,085

Project Scope: Lighting upgrade, Lighting control, HVAC control, Solar water heater, Energy recovery, Roof Insulation

District Funds:	\$1,206,532
Estimated Savings:	\$169,866 per year

Energy Savings: The project is estimated to save 6,108 MMBtu per year.

**Crane Elementary School District**

10 schools

<u>Total Project Cost:</u>	<u>\$1,918,459</u>
Amount Requested:	\$575,538
Recommended Award:	\$575,538

Project Scope: Lighting upgrade, HVAC upgrade, HVAC control, Demand control ventilation, Computer power management

District Funds:	\$1,342,921
Estimated Savings:	\$234,769 per year

Energy Savings: The project is estimated to save 6,405 KWH of electricity per year.

**Isaac Elementary School District**

17 schools, district building

<u>Total Project Cost:</u>	<u>\$3,359,648</u>
Amount Requested:	\$1,000,000
Recommended Award:	\$1,000,000

Project Scope: Lighting upgrade, HVAC upgrade, HVAC control, Computer power management

District Funds:	\$2,359,648
Estimated Savings:	\$333,831 per year

Energy Savings: The project is estimated to save 9,217 MMBtu per year.

**Tanque Verde Unified School District**

4 schools

<u>Total Project Cost:</u>	<u>\$1,083,682</u>
Amount Requested:	\$325,105
Recommended Award:	\$325,105

Project Scope: Lighting upgrade, HVAC upgrade, HVAC control

District Funds:	\$758,577
Estimated Savings:	\$79,379 per year

Energy Savings: The project is estimated to save 2,469 MMBtu per year.

**Winslow Unified School District**

5 schools

<u>Total Project Cost:</u>	<u>\$1,968,395</u>
Amount Requested:	\$590,518
Recommended Award:	\$590,518

Project Scope: Lighting upgrade, Lighting control, HVAC control, Energy Recovery, Boiler replacement, Solar Hot Water, Roof insulation

District Funds:	\$1,377,877
Estimated Savings:	\$166,286 per year

Energy Savings: The project is estimated to save 7,188 MMBtu per year.

**Gilbert Unified School District**

5 schools

<u>Total Project Cost:</u>	<u>\$737,723</u>
Amount Requested:	\$221,317
Recommended Award:	\$221,317

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade HVAC control, Variable frequency drive

District Funds:	\$516,406
Estimated Savings:	\$82,518 per year

Energy Savings: The project is estimated to save 3,328 MMBtu per year.

**Altar Valley Elementary School District**

Robles Elementary

Total Project Cost:	<u>\$120,990</u>
Amount Requested:	\$36,297
Recommended Award:	\$36,297

Project Scope: Lighting upgrade, Lighting control, HVAC control, Window tinting

District Funds:	\$84,773
Estimated Savings:	\$13,719 per year

Energy Savings: The project is estimated to save 368 MMBtu per year.

**Fort Thomas Unified School District**

Fort Thomas Elementary

Total Project Cost:	<u>\$41,456</u>
Amount Requested:	\$12,437
Recommended Award:	\$12,437

Project Scope: Lighting upgrade

District Funds:	\$29,019
Estimated Savings:	\$10,191 per year

Energy Savings: The project is estimated to save 260 MMBtu per year.

**Roosevelt Unified School District**

19 schools

Total Project Cost:	<u>\$2,179,323</u>
Amount Requested:	\$653,797
Recommended Award:	\$653,797

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade HVAC control, Vending machine control

District Funds:	\$1,525,526
Estimated Savings:	\$275,500 per year

Energy Savings: The project is estimated to save 11,552 MMBtu per year.

**Balsz Elementary School District**

5 schools

<u>Total Project Cost:</u>	\$1,044,111
Amount Requested:	\$313,233
Recommended Award:	\$313,233

Project Scope: Lighting upgrade, HVAC upgrade HVAC control

District Funds:	\$730,878
Estimated Savings:	\$126,033 per year

Energy Savings: The project is estimated to save 4,300 MMBtu electricity per year.

**Sierra Vista Unified School District**

11 schools, district building

<u>Total Project Cost:</u>	\$1,342,512
Amount Requested:	\$402,754
Recommended Award:	\$402,754

Project Scope: Lighting upgrade, HVAC upgrade HVAC control, Computer power management

District Funds:	\$939,758
Estimated Savings:	\$212,185 per year

Energy Savings: The project is estimated to save 5,907 MMBtu per year.

**Queen Creek Unified School District**

6 schools, district building

<u>Total Project Cost:</u>	\$2,829,879
Amount Requested:	\$848,964
Recommended Award:	\$848,964

Project Scope: Lighting upgrade, HVAC upgrade, HVAC control, Demand control ventilation, Retro-commissioning

District Funds:	\$1,980,915
Estimated Savings:	\$231,334 per year

Energy Savings: The project is estimated to save 8,743 MMBtu per year.

**Fountain Hills Unified School District**

Fountain Hills Middle & Senior High

Total Project Cost:	<u>\$706,665</u>
Amount Requested:	\$212,000
Recommended Award:	\$212,000

Project Scope: Lighting upgrade, HVAC upgrade.

District Funds:	\$494,665
Estimated Savings:	\$ 70,146 per year

Energy Savings: The project is estimated to save 2,525 MMBtu per year.

**Ganado Unified School District**

Ganado Intermediate School

Total Project Cost	<u>\$336,551</u>
Amount Requested:	\$100,965
Recommended Award:	\$100,965

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade, HVAC control, Water Heater replacement

District Funds:	\$235,586
Estimated Savings:	\$26,127 per year

Energy Savings: The project is estimated to save 837 MMBtu per year.

**Chandler Unified School District**

Hancock Elementary

Total Project Cost:	<u>\$220,581</u>
Amount Requested:	\$66,174
Recommended Award:	\$66,174

Project Scope: HVAC control

District Funds:	\$154,407
Estimated Savings:	\$16,947 per year

Energy savings: The project is estimated to save 578 MMBtu per year.

**Ganado Unified School District**

Ganado High School

Total Project Cost	<u>\$1,007,645</u>
Amount Requested:	\$302,294
Recommended Award:	\$302,294

Project Scope: Lighting upgrade, Lighting control, HVAC upgrade, HVAC control, Water Heater replacement

District Funds:	\$705,352
Estimated Savings:	\$72,021 per year

Energy Savings: The project is estimated to save 2,419 MMBtu per year.

PLEASE NOTE: these awards are subject to the federal approval of an environmental survey required by the National Environmental Policy Act. The survey has been completed and submitted to the US Department of Energy. No project can go forward until approval is received.

**Board Action Requested:** [ ] information [ X ] action / described below

Board approval of the ARRA funded Energy Efficiency Grants as recommended by staff, subject to approval of the environmental survey required by the National Environmental Policy Act.

**Attachments:** Yes [ X ] No [ ]