

Budget

Manchester Local (000442) - Adams County - 2016 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (93)

U.S.A.S. Fund #: 466

Plus/Minus Sheet ([opens new window](#))

Purpose Code	Object Code	Salaries 100	Retirement Fringe Benefits 200	Purchased Services 400	Supplies 500	Capital Outlay 600	Other 800	Total
Instruction		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Support Services		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Governance/Admin		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prof Development		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Family/Community		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Safety		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Facilities		0.00	0.00	15,000.00	0.00	959,310.00	0.00	974,310.00
Transportation		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect Cost							0.00	0.00
<b>Total</b>		0.00	0.00	15,000.00	0.00	959,310.00	0.00	974,310.00
							<b>Adjusted Allocation</b>	0.00
							<b>Remaining</b>	-974,310.00

Application

Manchester Local (000442) - Adams County - 2016 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (93)

**Please respond to the prompts or questions in the areas listed below in a narrative form.**

**A) APPLICANT INFORMATION - General Information**

1. Project Title:  
Solar Power Advancing Science Education

2. Project Summary: Please limit your responses to no more than three sentences.  
Installing solar arrays will result in a 30% electric cost savings, and that savings will be used to enhance 100% of our science programs.  
*This is an ultra-concise description of the overall project. It should only include a brief description of the project and the goals it hopes to achieve.*

3. Estimate of total students at each grade level to be directly impacted each year.

*This is the number of students that will receive services or other benefits as a **direct result** of implementing this project. This does not include students that may be impacted if the project is replicated or scaled up in the future. It excludes students who have merely a tangential or indirect benefit (such as students having use of improved facilities, equipment etc. for other uses than those intended as a part of the project). The Grant Year is the year in which funds are received from the Ohio Department of Education. Years 1 through 5 are the sustainability years during which the project must be fiscally and programmatically sustained.*

Grant Year					
Education	Pre-K Special	K	1	2	3
4	66 5	67 6	72 7	63 8	
78 9	66 10	43 11	36 12		

Year 1					
Education	Pre-K Special	K	1	2	3
4	71 5	68 6	68 7	73 8	
64 9	78 10	67 11	45 12		

Year 2					
Education	Pre-K Special	K	1	2	3
4	70 5	72 6	70 7	69 8	
74 9	65 10	78 11	68 12		

Year 3					
Education	Pre-K Special	K	1	2	3
4	79 5	71 6	73 7	72 8	
70 9	75 10	66 11	78 12		

Year 4					
Education	Pre-K Special	K	1	2	3
4	65 5	80 6	72 7	74 8	
74 9	71 10	76 11	67 12		

Year 5					
Education	Pre-K Special	K	1	2	3
4	87 5	67 6	81 7	73 8	

4. Explanation of any additional students to be impacted throughout the life of the project.

*This includes any students impacted or estimates of students who might be impacted through future scale-ups or replications that go beyond the scope of this project.*

All students in the district will benefit from the electric cost savings for at least the next 25 years that the solar arrays are guaranteed to operate. An additional 430 students will benefit from the electric production of the solar arrays. All students will participate in the education of energy conservation including preschool through 4th grades. As students move to the 5th grade and beyond they will benefit with access to the state of the art science curriculum, supplies, materials and equipment.

5. Lead applicant primary contact: - Provide the following information:

First and last name of contact for lead applicant  
Karen Ballengee

Organizational name of lead applicant  
Manchester Local School District

Address of lead applicant  
130 Wayne Frye Drive, Manchester, OH 45144

Phone Number of lead applicant  
(937) 549-4777

Email Address of lead applicant  
karen.ballengee@mlsd.us

*Community School Applicants: After your application has been submitted and is in Authorized Representative Approved status an email will be sent to your sponsoring entity automatically informing the sponsor of your application.*

6. Are you submitting your application as a consortium? - Select one checkbox below

Yes

No

If you are applying as consortium, please list all consortium members by name on the "Consortium Member" page by clicking on the link below. If an educational service center is applying as the lead applicant for a consortium, the first consortium member entered must be a client district of the educational service center.

[Add Consortium Members](#)

7. Are you partnering with anyone to plan, implement, or evaluate your project? - Select one checkbox below

Yes

No

If you are partnering with anyone, please list all partners (vendors, service providers, sponsors, management companies, schools, districts, ESCs, IHEs) by name on the "Partnering Member" page by clicking on the link below.

[Add Partnering Members](#)

## B) PROJECT DESCRIPTION - Overall description of project and alignment with goals

8. Describe the innovative project: - Provide the following information

*The response should provide a clear and concise description of the project and its major components. The following questions will address specific outcomes and measures of success.*

a. The current state or problem to be solved; and

Our school district has the problem of rising electric costs and our students receiving low science achievement scores in state and ACT tests. The cost of electricity continues to rise yearly and this cost is eating into the science programs we provide our students. Our students need a rigorous and challenging educational program in the STEM areas of science, technology, engineering and math. Our science scores are the lowest achievement scores we have in our schools at every grade level. Present and future jobs require a mastered understanding of STEM concepts to successfully perform required job duties. Our district is located in an area of southwestern Ohio with a very high unemployment rate of 6.4% (state average 4.3%) and with 99% of students coming from disadvantaged homes. For our students to be able to meet the entrance requirements of colleges and compete in the job market, we have to improve our science curriculum with better science programs created with improved educational curriculum, materials, supplies, equipment, and teacher professional development.

b. The proposed innovation and how it relates to solving the problem or improving on the current state.

The cost of electricity keeps increasing and eating away at the District's operating budget. We want to contain this operating cost and place the savings back into our science department. What better way than to use the science of solar power to fund the improvements of our

science department. Manchester Local School District has a vast array of courses taught within the science department ranging in grades 5-12. The science courses available include fifth grade science, sixth grade science, seventh grade science, eighth grade science, physical science, physics, biology, chemistry, anatomy/physiology, and botany/zoology. The expected amount of electric cost savings each year the solar arrays will create will allow the district to improve the entire science department in an effort to provide high quality instruction, as well as a rigorous curriculum to challenge the students' abilities and to further their scientific skills for future endeavors. It is important for students attending Manchester Schools to develop an understanding of scientific processes and theories to enhance their critical thinking into problem solving skills. These skills are paramount so they may support the 21st Century skills to successfully sustain global competitiveness in the workforce upon reaching high school graduation, regardless which career path he or she chooses. These essential and fundamental skills will be improved by effectively resourcing these electric cost savings into the science departments. Manchester Schools will utilize the cost savings generated with enhancements in the classroom and the development of a Science Club. Each of the approaches will afford students the opportunity for continuing high level instruction and science enrichment, as well as opportunities for community engagement. These methods will be self-sustaining throughout the tenure of the grant and twenty years beyond as a result of the potential savings from the solar arrays. Students currently enrolled at Manchester Elementary School, preschool, and even those children not school-age will be able to receive the benefits of this program.

9. Select which (up to four) of the goals your project will address. For each of the selected goals, please provide the requested information to demonstrate your innovative project. - (Check all that apply)

a. Student achievement

i. List the desired outcomes.

*Examples: fewer students retained at 3rd grade, increase in graduation rate, increased proficiency rate in a content area, etc.*

The desired outcome for this grant is to close the science achievement gap for all of our students. Science develops critical thinking and problem solving skills that our students need to succeed in college and in the job market. We want to see growth in our student's state science test scores, ACT science scores and student learning objectives scores.

ii. What assumptions must be true for this outcome to be realized?

*Examples: early diagnosis and intervention are needed to support all children learning to read on grade level; project-based learning results in higher levels of student engagement and learning, etc.*

1. Our students learn critical thinking skills and problem solving skills better with hands-on approaches to teaching scientific concepts. 2. The professional development of the teaching staff and addition of a new curriculum along with science materials, supplies and equipment will increase student achievement. 3. Student Learning Objectives (SLO's) will be more rigorous with the availability of teaching materials, supplies and equipment.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

1. We have observed improved test scores in reading and math through using hands-on teaching techniques. 2. The common core has been developed for all educators to use in teaching science curriculum. Updating the curriculum and the materials and equipment to teach the common core will increase the student's understanding of the concepts and critical thinking. 3. Student Learning Objectives (SLO) rigor will improve with teacher professional development of the common core and hands-on teaching.

iv. List the specific indicators that you will use to measure progress toward your desired outcome.

*These should be measurable changes, not merely the accomplishment of tasks. Example: Teachers will each implement one new project using new collaborative instructional skills, (indicates a change in the classroom) NOT; teachers will be trained in collaborative instruction (which may or may not result in change).*

1. Science teachers will implement hands-on teaching projects weekly in their classroom. 2. Science teachers will teach new technology (Chromebooks, robotics etc) and the students will use this technology on a daily basis. 3. Science teachers will participate in one new professional development activity yearly.

v. List and describe pertinent data points that you will use to measure student achievement, providing baseline data to be used for future comparison.

1. ACT average science test scores are presently 14 (35=perfect score). 2. Student Learning Objectives (SLO) are written by the teacher taking into account the common core concepts. The science objectives are approved by administration. The teacher is evaluated by administration on these objectives. The students are given a pre-test (baseline) at the beginning of the year and a post test at the end of the year to measure student achievement of the objectives. 3. The new state test AIR (American Institute Research) 2015-16 school year test scores will serve as the baseline to measure student achievement in science. 4. High School science end of course exams in 2015-2016 will be used as a baseline for biology, chemistry and physical sciences.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

1. We would solicit the help of Ohio Department of Education to review our science curriculum. 2. The teacher's evaluation will indicate the objectives were not realized and it would become part of the teacher's improvement plan. 3. Professional development for the areas of weakness would be scheduled.

b. Spending reductions in the 5 year forecast

i. List the desired outcomes.

*Examples: lowered facility cost as a result of transition to more efficient systems of heating and lighting, etc.; or cost savings due to transition from textbook to digital resources for teaching.*

The installation of solar array panels will produce 530 megawatts (mWh) annually which is 30% of the electric purchased yearly in our schools. The annual estimated yearly savings is \$85,000. The solar arrays are guaranteed to operate for 25 years producing an estimated \$1,968,349 cost savings in electric costs over the total life of the project.

ii. What assumptions must be true for this outcome to be realized?

*Example: transition to "green energy" solutions produce financial efficiencies, etc.; or available digital resources are equivalent to or better than previously purchased textbooks.*

The installation of solar arrays on the roof tops of the two school buildings and activity building. 504,900 solar plates will be installed to produce 530 megawatt hours annually.

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

The school district north of our school district has installed some of the solar arrays at their buildings and they are very pleased with the results. They report they save an average of \$250,000 per year in electric costs for seven school buildings they operate We have talked to various vendors that sell and install solar arrays and found the following advantages to install solar arrays. 1. Solar energy is an excellent investment. It has a higher rate of return on investment than CD's. 2. Save money on electric bills immediately. 3. Protect against rising energy costs. 4. Reduce the carbon footprint. 5. Conserve our natural resources. 6. Strengthen local economy by employing installers and manufactures at home.

iv. List the specific indicators that you will use to monitor progress toward your desired outcome.

*These should be specific dollar savings amounts. THESE MUST MATCH THE COST SAVINGS AS PROJECTED IN THE FINANCIAL IMPACT TABLE (FIT).*

The following chart are the specific indicators that will monitor the outcome of the solar arrays electric production electric savings. FY 2018 FY 2019 FY 2020 FY 2021 FY 2022 mWh produced 548 537 526 516 505 Electric cost savings \$85,872 \$86,034 \$86,212 \$86,403 \$86,609 Megawatt hours of electric produced Electric savings based upon electric cost of \$156.70 mWh in FY 2018 and yearly increase of 3% each year after. There will also be an electric cost savings in FY2017 of \$42,000 based upon the solar arrays being installed in 2016.

v. List and describe pertinent data points that you will use to measure spending reductions, providing baseline data to be used for future comparison.

The baseline data of electric used and the cost will come from the history of usage on our electric invoices. The kilowatts purchased and electric cost of each building by month is compiled and will be compared to the number of kilowatts produced by each solar array system on each building each month. The cost of the monthly electric invoices will be compared to the prior year's electric invoices.

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

The installation contract for the solar arrays will have a 5 year production guarantee that 95% of the 530 megawatts hours will be generated. If the 530 megawatts are not generated the contractor will have to pay the school district 95% of the lost cost savings.

c. Utilization of a greater share of resources in the classroom

i. List the desired outcomes.

*Example: change the ratio of leadership time spent in response to discipline issues to the time available for curricular leadership.*

ii. What assumptions must be true for this outcome to be realized?

*Examples: improvements to school and classroom climate will result in fewer disciplinary instances allowing leadership to devote more time to curricular oversight.*

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, etc), or how these are well-supported by the literature.

iv. Please provide the most recent instructional spending percentage (from the annual Ohio School Report Card) and discuss any impact you anticipate as a result of this project.

*Note: this is the preferred indicator for this goal.*

v. List any additional indicators that you will use to monitor progress toward your desired outcome. Provide baseline data if available.

*These should be specific outcomes, not just the accomplishment of tasks. Example: fewer instances of playground fighting.*

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

d. Implementing a shared services delivery model

i. List the desired outcomes.

*Examples: increase in quality and quantity of employment applications to districts; greater efficiency in delivery of transportation services, etc.*

ii. What assumptions must be true for this outcome to be realized?

*Example: neighboring districts have overlapping needs in administrative areas that can be combined to create efficiencies.*

iii. Describe any early efforts you have made to test these assumptions (pilot implementation, data analysis etc), or how these are well-supported

by the literature.

iv. List the specific indicators that you will use to monitor progress toward your desired outcomes.

*These should be measurable changes, not the accomplishment of tasks.*

*Example: consolidation of transportation services between two districts.*

v. List and describe pertinent data points that you will use to evaluate the success of your efforts, providing baseline data to be used for future comparison.

*Example: change in the number of school buses or miles travelled.*

vi. How are you prepared to alter the course of your project if assumptions prove false or outcomes are not realized?

10. Which of the following best describes the proposed project? - (Select one)

- a. New - Never before implemented
- b. Existing - Never implemented in your community school or school district but proven successful in other educational environments
- c. Replication - Expansion or new implementation of a previous Straight A Project
- d. Mixed Concept - Incorporates new and existing elements
- e. Established - Elevating or expanding an effective program that is already implemented in your district, school or consortia partnership

### C) BUDGET AND SUSTAINABILITY

11. Financial Information: - All applicants must enter or upload the following supporting information. The information in these documents must correspond to your responses in questions 12-19.

a. Enter a project budget in CCIP (by clicking the link below)

[Enter Budget](#)

b. If applicable, upload the Consortium Budget Worksheet (by clicking the Upload Documents link below)

c. Upload the Financial Impact Table (by clicking the Upload Documents link below)

[Upload Documents](#)

*The project budget is entered directly in CCIP. For consortia, this project budget must reflect the information provided by the applicant in the Consortium Budget Worksheet. Directions for the Financial Impact Table are located on the first tab of the workbook. Applicants must submit one Financial Impact Table with each application. For consortium applications, please add additional sheets instead of submitting separate Financial Impact Tables.*

974,310.00 12. What is the amount of this grant request?

13. Provide a brief narrative explanation of the overall budget.

*Responses should provide a rationale and evidence for each of the budget items and associated costs outlined in the project budget. In no case should the total projected expenses in the budget narrative exceed the total project costs in the budget grid.*

The budget is composed of the purpose code line - FACILITIES 400 Object - \$15,000.00 \$10,000.00 The cost of securing specifications from an engineer for the installation of the solar arrays. \$ 4,000.00 For legal counsel to provide the proper documentation for the bids and installation contract. \$ 1,000.00 For printing of specifications and advertisement of bids. 600 Object - \$959,310.00 \$959,310.00 The cost of solar arrays and installation estimated at 504,900 Watt power at \$1.9 per Wp.

14. Please provide an estimate of the total costs associated with maintaining this program through each of the five years following the initial grant implementation year (sustainability costs). This is the sum of expenditures from Section A of the Financial Impact Table.

85,872.00 a. Sustainability Year 1

86,034.00 b. Sustainability Year 2

86,212.00 c. Sustainability Year 3

86,403.00 d. Sustainability Year 4

86,609.00 e. Sustainability Year 5

15. Please provide a narrative explanation of sustainability costs.

Sustainability costs include any ongoing spending related to the grant project after June 30, 2017. Examples of sustainability costs include annual professional development, staffing costs, equipment maintenance, and software license agreements. To every extent possible, rationale for the specific amounts given should be outlined. The costs outlined in this narrative section should be consistent and verified by the financial documentation submitted and explained in the Financial Impact Table. If the project does not have sustainability costs, applicants should explain why.

Sustainability Year 1 - 2018 \$85,872 Personal Services \$2,400.00 \$ 900.00 Science Club Advisor Salary \$1,500.00 Teacher Prof Develop Salary Costs Fringe Benefits \$384.00 \$384.00 Salaries \$2,400 x 16% Purchased Services - \$7,500.00 \$6,000.00 Maintenance on solar arrays \$1,000.00 Teacher Prof Develop Meeting Expenses \$ 500.00 Evaluation report on solar arrays production and electric cost savings Supplies and Materials - \$35,588.00 \$5,000.00 Chemistry \$5,000.00 Biology/Life \$3,000.00 Physical Science \$5,000.00 Physics/Engineering \$3,000.00 Earth/Space \$2,000.00 Technology \$2,588.00 5th & 6th grade Science \$8,000.00 7th & 8th grade Science \$2,000.00 Science Club projects Capital Outlay - \$40,000.00 - Science/STEM Equipment Sustainability Year 2 - 2019 \$86,034 Personal Services \$2,415.00 \$ 915.00 Science Club Advisor Salary \$1,500.00 Teacher Prof Develop Salary Costs Fringe Benefits \$386.00 \$386.00 Salaries \$2,415 x 16% Purchased Services - \$7,500.00 \$6,000.00 Maintenance on solar arrays \$1,000.00 Teacher Prof Develop Meeting Expenses \$ 500.00 Evaluation report on solar arrays production and electric cost savings Supplies and Materials - \$35,733.00 \$5,000.00 Chemistry \$5,000.00 Biology/Life \$3,000.00 Physical Science \$5,000.00 Physics/Engineering \$3,000.00 Earth/Space \$2,000.00 Technology \$2,733.00 5th & 6th grade Science \$8,000.00 7th & 8th grade Science \$2,000.00 Science Club projects Capital Outlay - \$40,000.00 - Science/STEM Equipment Sustainability Year 3 - 2020 \$86,212 Personal Services \$2,435.00 \$ 935.00 Science Club Advisor Salary \$1,500.00 Teacher Prof Develop Salary Costs Fringe Benefits \$390.00 \$390.00 Salaries \$2,435 x 16% Purchased Services - \$7,500.00 \$6,000.00 Maintenance on solar arrays \$1,000.00 Teacher Prof Develop Meeting Expenses \$ 500.00 Evaluation report on solar arrays production and electric cost savings Supplies and Materials - \$35,887.00 \$5,000.00 Chemistry \$5,000.00 Biology/Life \$3,000.00 Physical Science \$5,000.00 Physics/Engineering \$3,000.00 Earth/Space \$2,000.00 Technology \$2,887.00 5th & 6th grade Science \$8,000.00 7th & 8th grade Science \$2,000.00 Science Club projects Capital Outlay - \$40,000.00 - Science/STEM Equipment Sustainability Year 4 - 2021 \$86,403 Personal Services \$2,455.00 \$ 955.00 Science Club Advisor Salary \$1,500.00 Teacher Prof Develop Salary Costs Fringe Benefits \$393.00 \$393.00 Salaries \$2,455 x 16% Purchased Services - \$7,500.00 \$6,000.00 Maintenance on solar arrays \$1,000.00 Teacher Prof Develop Meeting Expenses \$ 500.00 Evaluation report on solar arrays production and electric cost savings Supplies and Materials - \$36,055.00 \$5,467.00 Chemistry \$5,000.00 Biology/Life \$3,000.00 Physical Science \$5,000.00 Physics/Engineering \$3,000.00 Earth/Space \$2,000.00 Technology \$2,588.00 5th & 6th grade Science \$8,000.00 7th & 8th grade Science \$2,000.00 Science Club projects Capital Outlay - \$40,000.00 - Science/STEM Equipment Sustainability Year 5 - 2022 \$86,609 Personal Services \$2,475.00 \$ 975.00 Science Club Advisor Salary \$1,500.00 Teacher Prof Develop Salary Costs Fringe Benefits \$396.00 \$396.00 Salaries \$2,475 x 16% Purchased Services - \$7,500.00 \$6,000.00 Maintenance on solar arrays \$1,000.00 Teacher Prof Develop Meeting Expenses \$ 500.00 Evaluation report on solar arrays production and electric cost savings Supplies and Materials - \$36,238 \$5,000.00 Chemistry \$5,650.00 Biology/Life \$3,000.00 Physical Science \$5,000.00 Physics/Engineering \$3,000.00 Earth/Space \$2,000.00 Technology \$2,588.00 5th & 6th Science \$8,000.00 7th & 8th Science \$2,000.00 Science Club projects Capital Outlay - \$40,000.00 Science/STEM Equipment

100 16. What percentage of these costs will be met through cost savings achieved through implementation of the program?

Total cost savings from section B of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table. If the calculated amount is greater than 100, enter 100 here.

17. Please explain how these cost savings will be derived from the program.

Applicants who selected spending reductions in the five-year forecast as a goal must identify those expected savings in questions 16 and 17. All spending reductions must be verifiable, permanent, and credible. Explanation of savings must be specific as to staff counts; salary/benefits; equipment costs, etc.

The project will install 504,900 mega power solar arrays on the roof tops of the two school buildings and education and athletic center building. The solar power arrays are estimated to produce an estimated 526 mWh (megawatt hours) of electricity yielding approximately a \$86,000 savings in electricity costs each year.

0 18. What percentage of sustainability costs will be met through reallocation of savings from elsewhere in the general budget?

Total reallocation from section C of the Financial Impact Table divided by total sustainability cost from section A of the Financial Impact Table  
Note: the responses to questions 16 and 18 must total 100%

19. Please explain the source of these reallocated funds.

Reallocation of funds implies that a reduction has been made elsewhere in the budget. Straight A encourages projects to determine up front what can be replaced in order to ensure the life of the innovative project.

## D) IMPLEMENTATION

20. Please provide a brief description of the team or individuals responsible for the implementation of this project, including other consortium members or partners.

This response should include a list of qualifications for the applicant and others associated with the grant. Please list key personnel only. If the application is for a consortium or a partnership, the lead should provide information on its ability to manage the grant in an effective and efficient manner. Include the partner/consortium members' qualifications, skills and experience with innovative project implementation and projects of similar scope.

Enter Implementation Key Personnel information by clicking the link below:

[Add Implementation - Key Personnel](#)

For Questions 21-23 please describe each phase of your project including its timeline, and scope of work.

A complete response to these questions will demonstrate awareness of the context in which the project will be implemented and the time it will take to

implement the project with fidelity. A strong plan for implementing, communicating and coordinating the project should be apparent, including coordination and communication in and amongst members of the consortium or partnership (if applicable). Not every specific action step need be included, but the outline of the major steps should demonstrate a thoughtful plan for achieving the goals of the project. The timeline should reflect significant and important milestones in an appropriate time frame.

21. Planning

a. Date Range March, 2016 through April, 2016

b. Scope of activities - include all specific completion benchmarks.

March, 2016 Specifications for the solar arrays are finalized by the engineer. April, 2016 The project to install the solar arrays are bid and the installation contract is awarded to the qualified contractor.

22. Implementation (grant funded start-up activities)

a. Date Range May, 2016 through September, 2016

b. Scope of activities - include all specific completion benchmarks

May, 2016 Installation of the solar arrays begins when school is out for the summer. June-July, 2016 Installation of the solar arrays continues. August, 2016 Solar arrays start producing electric and district starts to see electric cost savings. Science department teachers and Special project director starts to create science curriculum, schedule professional development that is needed and purchase needed science supplies, materials, equipment. August, 2016 Student Learning Objectives are established and approved by administration and students are given pre-tests. September, 2016 - Science Club is organized.

23. Programmatic Sustainability (years following implementation, including institutionalization of program, evaluation and communication of program outcomes)

a. Date Range October, 2016 through 2021

b. Scope of activities - include all specific completion benchmarks

October, 2016 Solar arrays are tested for functionality before the warranty starts. October, 2016 through April, 2017 Teachers continue to meet with Lead Science Teacher & Director of Special Programs to refine science curriculum, order necessary supplies equipment, & participate in any needed professional development. April, 2017 State science tests are administered to students May, 2017 Students take the post science tests designed by the Student Learning Objectives. Test Scores are evaluated to determine the growth of students' growth in common core science concepts. June, 2017 State science test scores are returned to the district. The test scores are evaluated for student growth & understanding of science concepts. Schedule for fiscal year 2018, 2019, 2020, 2021, 2022 August - Maintenance work is performed on the solar arrays. The panels are cleaned and checked to make sure the arrays are producing electric energy at peak performance. August & September - The solar array system performance is evaluated and compared to contractor guarantee of 95% of the estimated savings. The student testing results are evaluated and science curriculums are adjusted through the Student Learning Objectives set by teachers and administration. New supplies, materials, equipment are ordered. Teachers attend professional development. Sc The evaluation of the performance of the students and the solar arrays cost savings reports are finalized and submitted to ODE. Science Club starts. October - Guidance Department reviews the ACT science test scores for improvement & reports results to science department & administration. April - State science tests are administered to students May - Students take the post science tests designed by the Student Learning Objectives. Test Scores are evaluated to determine the growth of students' growth in common core science concepts. June - State science test scores are returned to the district. The test scores are evaluated for student growth.

**E) SUBSTANTIAL IMPACT AND LASTING VALUE**

24. Describe the expected changes to the instructional and/or organizational practices in your institution.

*The response should illustrate the critical instructional and/or organizational changes that will result from implementation of the grant and the impact of these changes. These changes can include permanent changes to current district processes, new processes that will be incorporated or the removal of redundant processes. The response may also outline the expected change in behaviors of individuals (changes to classroom practice, collaboration across district boundaries, changes to a typical work day for specific staff members, etc.). The expected changes should be realistic and significant in moving the institution forward.*

Please enter your response below:

This project will bring the importance of science/STEM to the fore front of our schools' curriculum. Science very often takes a back seat to reading and math. This project will bring hands-on training and learning so desperately needed by our students. The biggest impact this project will make is the education of our students. Science/STEM is one of the most important subjects a student needs to be successful. Critical thinking and problem solving skills are important tools for a person to have to succeed in life. The ability to break down a problem and work through the parts of the problem to a solution are priceless. The knowledge of how things work and why they work that way will help a student throughout their life. We are located in an area of the state where there is high unemployment and most of the students come from disadvantaged homes. The science/STEM skills our students take with them upon graduation will determine if they are accepted to college programs and what type of employment they will obtain. The alternative to not having a science/STEM background is a life of dependence on the social government systems that so many of our students are presently growing up in. We must instill in our students their self-value and their ability to raise above poverty and become happy successful workers of our society. Our students' critical thinking and problem solving abilities will be the tools to their success. The second impact of this project is the awareness of pollution on our environment and the savings of taxpayer dollars. Our schools are located between two coal burning electric generation plants. Our air has high levels of carbon monoxide and particulate matter from the plants. Clean alternative energy power sources are extremely important to the future air quality of our community. The less purchased electricity from our schools will improve the air quality of our community. Children and adults learn from example. It is important for our school to lead by example by moving to clean energy sources to improve our environment. This project also

reduces the burden of the cost of education on our taxpayers. This project will continue for 25 years and beyond. The solar arrays are guaranteed to produce electric for a minimum of 25 years with an overall electric cost saving of \$1,968,349 over the 25 years of operation. That is a huge savings to the taxpayers and our environment!

25. Please provide the name and contact information for the person and/or organization who will oversee the evaluation of this project.

*Projects may be evaluated either internally or externally. However, evaluation must be ongoing throughout the entire period of sustainability and have the capacity to provide the Ohio Department of Education with clear metrics related to each selected goal.*

Please enter your response below:

Student Achievement - Brian Rau, Director of Special Programs, Manchester Local School District, 130 Wayne Frye Drive, Manchester, OH 45144 phone: 937 549-4777 e-mail: brian.rau@mlsd.us Cost Reduction from Solar Arrays - Karen Ballengee, Treasurer, Manchester Local School District, 130 Wayne Frye Drive, Manchester, OH 45144 phone: 937 549-4777 e-mail: karen.ballengee@mlsd.us

26. Describe the overall plan for evaluation, including plans for data collection, underlying research rationale, measurement timelines and methods of analysis.

*This plan should include the methodology for measuring all of the project outcomes. Applicants should make sure to outline quantitative approaches to assess progress and measure the overall impact of the project proposal. The response should provide a clear outline of the methods, process, timelines and data requirements for the final analysis of the project's progress, success or shortfall. The applicant should provide information on how the lessons learned from the project can and will be shared with other education providers in Ohio. Note: A complete and comprehensive version of the evaluation plan must be submitted to ODE by all selected projects.*

Student Achievement Annual Evaluation All student achievement tests will be evaluated over the 5 year project Student Learning Objective pre-test and post-test for each year will be compiled for: 5th grade science 6th grade science 7th grade science 8th grade science Chemistry Biology Physical Science Physics Baseline will be established yearly starting in FY2017 State Test Results AIR baseline will be FY2017 5th Grade Science (passage rate in 2015- 59%) 8th Grade Science (passage rate in 2015- 58%) Physical Science (passage rate in 2015- 86%) End of Course Exams each year baseline will be FY2017 Chemistry Biology Physical Science Physics ACT baseline will be FY2017 Science average scores for MHS students (presently 14) Evaluation of Cost Reduction 5 year Forecast - Solar Arrays Production The evaluation of the production and savings of the solar arrays will be measured by month and by building with an overall evaluation over the 5 years of the project. The baseline will be FY 2017. Baseline cost and electric purchased will be compared. Also monthly solar electric production will be tracked monthly. The following building will have solar arrays installed. Manchester High School Manchester Elementary Manchester Education and Activity Center

27. Please describe the likelihood that this project, if successful, can be scaled-up, expanded and/or replicated. Include a description of potential replications both within the district or collaborative group, as well as an estimation of the probability that this solution will prove useful to others. Discuss the possibility of publications, etc., to make others aware of what has been learned in this project.

*The response should provide an explanation of the time and effort it would take to implement the project in another district, as well as any plans to share lessons learned with other districts. To every extent possible, applicants should outline how this project can become part of a model so that other districts across the state can take advantage of the learnings from this proposed innovative project. If there is a plan to increase the scale and scope of the project within the district or consortium, it should be noted here.*

We believe that this project can be used as a model project for other school districts. Using the science of solar energy production to improve our science curriculum is the perfect way to show how the use of science can improve our environment and save taxpayer dollars. The school district is leading by example, what could be a better teacher! We believe this is a project that can be implemented quickly. The installation of solar arrays can be accomplished in 5 to 6 months with the savings starting to go into the classrooms by month 7 to purchase new equipment, supplies and materials. Teachers have dreams for on-hands teaching projects but no resources. The dreams can quickly become a reality with resources. We would definitely share our successes in the classroom and successes in saving electric costs at Ohio School Boards Association Capital Conference, Ohio Department of Education, Buckeye Association of School Administrators meetings and at the Annual Ohio School Association of School Business Officials workshops. There is the possibility of adding additional solar arrays in the future to the buildings to increase the solar power production for additional electric cost savings. If this were done we would use the savings for preschool through 4th grade reading and math improvement programs.

By virtue of applying for the Straight A Fund, all applicants agree to participate in the overall evaluation of the Straight A Fund for the duration of the evaluation time frame. The Governing Board of the Straight A Fund reserves the right to conduct an evaluation of the project and request additional information in the form of data, surveys, interviews, focus groups and other related data on behalf of the General Assembly, Governor and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant, and any or all identified consortium members or partners, that all supporting documents contain information approved by a relevant executive board or its equivalent and to abide by all assurances outlined in the Straight A Assurances (available in the document library section of the CCIP).

Dr. Charles Shreve Superintendent Manchester Local School District

Sections ▶

**Consortium Contacts**

No consortium contacts added yet. Please add a new consortium contact using the form below.

Partnerships

Manchester Local (000442) - Adams County - 2016 - Straight A Fund - Rev 0 - Straight A Fund

Sections 

**Partnerships**

<b>First Name</b>	<b>Last Name</b>	<b>Telephone Number</b>	<b>Email Address</b>	<b>Organization Name</b>	<b>IRN</b>	<b>Address</b>	<b>Delete Contact</b>
Mark	Wiley	937 254-2681	mwiley@castle- elec.com	Kastle Solar		4501 Kettering Blvd, P O Box 1451, Dayton, OH, 45401-1451	

Implementation Team

Manchester Local (000442) - Adams County - 2016 - Straight A Fund - Rev 0 - Straight A Fund

Sections 

Implementation Team								
First Name	Last Name	Title	Responsibilities	Qualifications	Prior Relevant Experience	Education	% FTE	Delete Contact
Karen	Ballengee	Treasurer	Grant Administration Grant Reporting Advertising and Bidding Contractor Contracts Construction Insurance Contractor Liability Insurance Surety Bonds Construction Pay Requests Construction Close Out Documents Warranties and Guarantees	ODE School Treasurer License ODE School Business Manager License	Treasurer of following projects: 1. Construction Portsmouth West Elementary and High School 2. Construction of Portsmouth West Athletic Complex 3. Construction Manchester Elementary 4. Construction Manchester Education and Activity Center 5. Renovation projects at Manchester High School and Portsmouth West Middle School 6. HB264 Energy Savings projects at Manchester and Portsmouth West	Ohio University - Master of Arts Political Science Ohio University - Bachelor Business Administration	100	
Jerod	Michael	7th & 8th Grade Science Teacher	Chairman of the Manchester Science Club Meet regularly with science department for requisitioning supplies and equipment Requisition science equipment and supplies through treasurer Track and monitor student achievement Collaborate with administrators and Mr. Rau to provide professional development on science equipment	Seventh and eighth grade science teacher Integrates science experiments into lesson planning and delivery	1. This is his first teaching assignment since graduating college. He began teacher science in August, 2010; 2. Knowledgeable of energy saver programs such as solar panels; 3. Installed solar panels for his own personal use.	Sinclair Community College; Wilmington College BA in middle school math, science, and reading; American College of Education - MA Ed Lead.	100	
Brian	Rau	Director of Special Programs/Curriculum & Instruction	Overseeing the monitoring and tracking of the student achievement outcomes. Collaborating with administration and Mr. Jerod Michael in providing professional development on any science equipment integrated into	Director of Special Programs / Curriculum & Instruction Principal Licensure Superintendent Licensure	1. Manchester Elementary Principal from August, 2011, to July, 2014; 2. Manchester Elementary Assistant Principal / Special Education Coordinator for the 2010-2011 school year; 3. Taught seventh grade mathematics from	Morehead State University, BA; University of Dayton, MA; Principal: University of Dayton; Superintendent: University of the Cumberland	100	

instruction that will be purchased with the intended savings.

2006-2010.