

Budget

Springfield-Clark County (051532) - Clark County - 2014 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (523)

U.S.A.S. Fund #:

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		18,336.00	0.00	114,984.00	53,484.00	0.00	25,686.00	212,490.00
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	0.00	0.00	0.00	0.00	0.00
Transportation		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		18,336.00	0.00	114,984.00	53,484.00	0.00	25,686.00	212,490.00
Adjusted Allocation								0.00
Remaining								-212,490.00

Application

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Applicants shall respond to the prompts or questions in the areas listed below in a narrative form.

A) APPLICANT INFORMATION - General Information, Experience and Capacity

1. Project Title: "Building an Educational Foundation for the Future with a Sustainable Peer to Peer Curriculum Focus"

2. Executive summary: Provide an executive summary of your project proposal and which goal(s) in question 9 you seek to achieve. Please limit your responses to no more than three sentences.

The project will engage a highly innovative energy educational program with a resourceful use of school facilities. Students at all levels of education will benefit by using their school building as a hands-on learning lab, working collaboratively with energy audit professionals to investigate, incorporate scientific reasoning, analysis and develop a report with energy savings recommendations. Through this audit process, school districts will save significant dollars on energy usage by implementing recommendations which can then be redirected back into the classroom for other needs.

6601 3. Total Students Impacted:

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

First Name, last Name of contact for lead applicant: Rick Smith

Organizational name of lead applicant: Springfield-Clark CTC

Unique Identifier (IRN/Fed Tax ID): 200011

Address of lead applicant: 1902 Selma Road, Springfield, OH 45505

Phone Number of lead applicant: 937-325-7368

Email Address of lead applicant: rick.smith@scctc.org

5. Secondary applicant contact: - Provide the following information, if applicable:

First Name, last Name of contact for secondary applicant: Dan Schall

Organizational name of secondary applicant: Vandalia-Butler School District

Unique Identifier (IRN/Fed Tax ID): 044958

Address of secondary applicant: 306 S. Dixie Drive Vandalia, OH 45377

Phone number of secondary applicant: 937-415-6415

Email address of secondary applicant: Daniel.Schall@vbcisd.com

6. List all other participating entities by name: Provide the following information for each additional participating entity, if applicable: Mention First Name, Last Name, Organizational Name, Unique Identifier (IRN/Fed Tax ID), Address, Phone Number, Email Address of Contact for All Secondary Applicants in the box below.

Rick Smith Springfield-Clark Career Technical Center 200011 1902 Selma Road, Springfield, Ohio 45505 rick.smith@scctc.org 937-325-7368 Vandalia-Butler Local School District IRN/ federal Tax ID: 044958 Address: 306 S. Dixie Drive Vandalia, OH 45377 Bradley Neavin 937-415-6415 William Kirby Valley View Local School District #048744/ 59 Peffley Street Germantown, Ohio 45321 vwbkirby@mdeca.org 937-855-6518 Isaac Seevers Greenvew Local School District 047266 4 South Charleston Road, Jamestown, Ohio 45335 Isaac.seevers@gvlsd.org 937-675-2778 Jeff Patrick Franklin-Monroe Local School District 046649 P.O. Box 78 Pittsburg, Ohio 45358 Jeff Patrick jeff_patrick@darke.k12.oh.us 937-947-1212 Judy Wells Apollo Career Center Technical Center 3325 Shawnee Road, Lima, Ohio 45806 judy.wells@apolloc.org 419-998-2910

7. Partnership and consortia agreements and letters of support: - (Click on the link below to upload necessary documents).

* Letters of support are for districts in academic or fiscal distress only. If school or district is in academic or fiscal distress and has a commission assigned, please include a resolution from the commission in support of the project.

* If a partnership or consortium will be established, please include the signed Straight A Description of Nature of Partnership or Description of Nature of Consortium Agreement.

[UploadGrantApplicationAttachment.aspx](#)

8. Please provide a brief description of the team or individuals responsible for the implementation of this project including relevant experience in other innovative projects. You should also include descriptions and experiences of partnering entities.

Rick Smith, Superintendent, Springfield Career Technical Schools, has also served as Interim Superintendent and Executive Director of the CTC, Anthony Fraley, Treasurer, Springfield Career Technical Schools, was named Treasurer/CFO after serving as the district's Business Manager and the Assistant Treasurer. Chris James, Director of Career Technical Education, Springfield Career Technical Schools, He oversees the Career Tech part of Springfield CTC's Embedded English program which includes labs that get an English credit by completing project-based assignments and are the only CTC in Ohio doing this. Dan Schall, Treasurer/CFO of Vandalia-Butler City Schools, is well respected by colleagues around the state for his innovative approach to finance. Debby Yerkes, Executive Director, Ohio Energy Project, previously served as a high school science teacher. OEP trained 700 teachers on their curriculum. She has a strong collaboration with universities. OEP utility partners include: AEP Foundation, AEP Ohio, DP&L, Vectren, Buckeye Power, American Municipal Power, Marathon Oil, and Honda of America. OEP was recently recognized by EPA for outstanding project: Careers for Ohio High School Students. Created by teachers for teachers, OEP energizes classrooms with hands-on, interactive learning tools and programs. OEP facilitates students' and teachers' understanding of the science of energy and its efficient use in order to empower the next generation of energy consumers. They bring the latest in the energy field in a way that makes everyone take notice by working with utilities, the State of Ohio, non profits, energy organizations, universities, manufacturers and others. OEP's energy education programs follow Ohio Department of Education requirements. They provide lesson plans, professional development, special events and workshops. OEP is the state affiliate of the National Energy Education Development Project (NEED) and partner with them to provide Ohio educators with excellent curriculums, resources and programs. Greg Smith, President of Energy Optimizers, USA, has extensive experience in helping school districts achieve energy savings through energy audits and implementation of energy conservation measures. His company has helped school districts start student-led district "Green Teams" in which students work with staff to develop district-wide Energy Management Guidelines, organize energy fairs for students, families and the community, and other STEM-education related activities. His projects have resulted in more than \$3.8 million in energy savings since 2011. He was named a Legend In Energy in 2008 by the World Energy Engineering Congress and is a frequent presenter at statewide and national conferences, including the 2013 World Energy Engineering Congress. Energy Optimizers, USA, LLC is a vendor neutral energy efficiency and conservation company specializing in assisting K-12 school districts to reduce energy usages and costs. They are passionate about assisting school districts in reducing operational costs so they can use these funds to improve the educational processes or provide essential services without raising taxes. They believe that education and occupant involvement are key components of increasing and sustaining the efficiency of a building and feel that implementing a behavioral and energy education program into the organization is imperative to achieving and maintaining energy conservation goals. Doug Trimbach, Vice President, Energy Optimizers, USA, performs lighting audits and develops recommendation for efficient lighting projects for government agencies, K-12 schools, colleges and universities, and commercial and industrial facilities. Trimbach is a frequent presenter at professional conferences, including the Buckeye Association of School Administrators and Ohio Public Facilities Maintenance Association, and the Ohio Energy Management

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

9. Which of the stated Straight A Fund goals does the proposal aim to achieve? - (Check all that apply)

Student achievement

Spending reductions in the five-year fiscal forecast

Utilization of a greater share of resources in the classroom

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

New - never before implemented

Existing and researched-based - never implemented in your district or community school but proven successful in other educational environments

Mixed Concept - incorporates new and existing elements

Enhancing/Scale Up - elevating or expanding an effective program that is already implemented in your district, school, or consortia partnership

11. Describe the innovative project.

This innovative project builds upon quantifiable data which shows that students vastly increase their knowledge and learning when they are immersed in a hands-on learning environment and are charged with finding solutions to real world problems. This project seeks to expose students to the science of energy at a very young age and builds upon that exposure throughout their education through graduation. Their physical education world (school facility) will literally become their classroom and upper level students will work hand in hand with energy professionals to identify ways to save their district significant dollars with lasting impact. The project helps young people from broad and diverse backgrounds develop mastery of Ohio core subjects, information and communication technology literacy and 21st century skills. It also helps students engage the power of science and mathematics as the international language of innovation; collaboration; contextual learning; and information and media literacy. Students will learn to create, acquire, analyze, synthesize, evaluate, understand and communicate knowledge and information in a global context. Younger students will learn basics about energy efficiency while also being empowered as part of a "Green Team" to teach fellow students about how they can cut energy costs by making positive decisions throughout the day. This helps expose younger students to potential career interest very early. School districts conducting energy audits on a regular schedule realize sustained energy savings. This program will pair audit engineers directly with older students to work on the school facility audits. Students will be empowered to conduct energy audits (with guidance from energy professionals) and provide recommendations on how to cut energy usage and make facilities more energy efficient. Students will write and present their recommendations (with guidance from certified energy professionals) to the district school board. The student energy audit report will include findings of the audit along with the students recommendations based upon those findings. The agent will provide American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) level commissioning of the facility. The district will establish student-driven "Green Teams" that will be responsible for: -Energy Waste Patrol - issuing energy waste tickets to teachers and administrators when they are not following the agreed upon district's "Energy and Environmental Efficiency Plan" -Energy Education Team - establish a team of High School and Middle School students to teach younger students about energy and the environment Community colleges and universities participating in the project will provide academic resources and exposure to higher education to students. The program includes the installation of next generation classroom lighting into a school's self contained special needs/autism spectrum classroom. Next generation LED lighting will replace the current florescent lighting in least one classroom. Teachers and evaluators will be able to assess the effect of the next generation lighting on their students. Students will gain more knowledge of physical science, environmental science, math, physics and engineering professions. The curriculum will provide tools for teachers to help meet Common Core State Standards and Ohio Revised Science Content Standards. Districts will save costs through the auditing process, and teachers will be provided with materials that can be utilized year after year, as well as skills in service learning, environmental and facilities education that will last the duration of their careers. Energy education of students to help reduce the cost of school facility operations: -Shift some of the energy savings from utility bills to support energy education program -Students as problem solvers -Students provided an in-district real world learning experience

12. Describe how it will meet the goal(s) selected above. - If school/district receives school improvement funds/support, include a brief explanation of how this project will advance the improvement plan.

Student Achievement-The project will increase student achievement by turning school facilities into hands-on tools and to empower students to become energy leaders beginning in elementary school and continuing through high school graduation. Curriculum and programs developed by the Ohio Energy Project brings relevant, topical materials that are hands-on. OEP partners with teachers to provide classroom activities designed for grades K-12. This project will utilize their program and build upon it by engaging energy professionals to infuse students into their facility energy audit process. The project will incorporate real world energy education by the students performing a professional energy audit of their building. Teachers will be supported by Mentor Coaches (MC) who will assist them in integrating energy education, energy audits, and service learning educational approaches. MC's will be former teachers who can serve in a Peer to Peer capacity. OEP's energy education programs follow Ohio Department of Education requirements and courses meet specific Common Core Literacy and Science and Technical Subjects. This project is directly aligned with the STEM approach to education-- building upon students' capacity for innovation, invention and creative problem solving by providing challenging, student-centered, inquiry-based educational experiences. The project will provide teachers with professional development materials and curriculum. Teachers will have innovative and relevant tools that they can integrate into their lessons. They will have access and support of industry professionals who will assist in producing a professional audit and report. Consortium partners include higher education institutions, some that potentially seek to offer dual enrollment opportunities for students. This project aims at driving more students towards "successful completion" of courses. MC's will assist the teacher facilitate the energy- based curricula and the energy audit into the teachers lesson plans. Spending reductions in the five-year fiscal forecast- The program will provide the districts with a total \$86,725 savings from reduced energy consumption over the five year forecast period. This project will aid in verifiable, credible and permanent spending reductions by shifting administrative and operational dollars over to the educational delivery budget. The project will achieve energy savings sufficient to cover the cost of the education program. National statistics support that performing ASHRAE level facility energy audits produce on average 16% energy savings. Ohio case studies show districts that conduct energy audits achieve 4.65% gas savings and 6.20% electric energy savings. Districts achieve sustainable results and realize energy savings of \$6,880 per facility. This project is proven to produce quantifiable results that can be benchmarked. The repetition of the energy audit process will provide for early identification of potential problems allowing the facility manager to schedule facility based corrective actions. Utilization of a greater share of resources in the classroom- Cost savings from this project will help both students and teachers alike by providing additional resources to support increased learning. Not only will the savings support the energy education program but it will free up additional resources that can be used for things like additional labs, online access to STEM education virtual experiences and expanded services and school offerings. The project seeks to gain significant buy-in from stakeholders. Consortium partners (including school districts, higher education and private business) will be providing resources by participating. This provides opportunities for private business and higher educational institutions seeking to increase their engagement with students at all levels. Participating school districts should benefit by partner involvement by receiving additional resources.

C) SUSTAINABILITY - Planning for ongoing funding of the project, cost breakdown

13. Financial Documentation - All applicants must enter or upload the following supporting information. Responses should refer to specific information in the financial documents when applicable:

- a. Enter a project budget
b. Upload the Straight A Financial Impact Template forecasting the expected changes to the five-year forecast resulting from implementation of this project. If applying as a consortia or partnership, please include the five-year forecasts of each school district, community school or STEM school member for review.
c. If subsection (b) is not applicable, please explain why, in addition to how the project will demonstrate sustainability and impact.
Project budget uploaded

14. What is the total cost for implementing the innovative project?

204,522.00 * Total project cost

* Provide a brief narrative explanation of the overall budget. The narrative should include the source and amount of other funds that may be used to support this concept (e.g., Title I funding, RttT money, local funding, foundation support, etc.), and provide details on the cost of items included in the budget (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc).

Each facility will achieve an average energy savings \$6,880/year based upon the actual current energy usage. A one-time energy audit will provide for energy savings that will continue over the five year fiscal projection period (Energy Efficiency Programs in K-12 Schools: A guide to developing and implementing, greenhouse gas reduction programs; U.S. Environmental Protection Agency, 2011). Long-term energy saving will be sustained by the continuation of the program from year to year. The cost savings is easily identifiable and traceable. The energy savings from the district utility bills are used as the baseline for the savings analysis and reduction in the utility bill corresponding with the energy audit is the energy cost savings to the district. There are no recurring costs to continue the program. All tools and curriculum materials are reusable. The program includes one-time personnel costs includes stipends to teachers and facility managers to compensate them for time dedicated above their standard working day. There will be one-time cost for professional services provided by energy specialists and educators (Mentor Coach) to help integrate energy education and student performed energy audits into lesson plans. The one-time professional service cost is a total \$12,672 per facility. Two student scholarship awards per facility are included for a total of \$1,728. The scholarship is for the successful completion of the Student Energy Leader role. A senior student will assume the role as the team energy leader and provide peer to peer support for the underclassmen in the program. There is a one-time project soft cost \$1,225 per facility that includes program related district teacher and student transportation cost (CTC student intra-district travel and after-hours board meetings) and other incentive items such as plaques, student trophies/awards, printing, copy expenses and press materials. As part of this program, there will be a first of its kind, innovative project that will place special lighting for special needs students. The florescent lighting will be replaced with next generation classroom quality Light Emitting Diode (LED) lighting in one self-contained special needs/ autism spectrum classroom in each of the participating school facilities (CLASSROOM LIGHTING DESIGN FOR STUDENTS WITH AUTISM SPECTRUM DISORDERS; Emily Long, Kansas State University, 2010). The cost of the lighting system is to be covered by an already secured in-kind donation to the district and the LED lighting system becomes the property of the district. The intent of the donation is to introduce students to the next generation of energy efficient lighting and to demonstrate the positive impact lighting systems can have on educational outcomes, specifically for students in the autism spectrum. The LED lighting and controls donation to the school district is valued at \$7,412 per facility. Installation cost of \$3,864 per facility is included as a one-time program cost.

15. What new/recurring costs of your innovative project will continue once the grant has expired? If there are no new/recurring costs, please explain why.

0.00 * Specific amount of new/recurring cost (annual cost after project is implemented)

* Narrative explanation/rationale: Provide details on the cost of items included in the budget (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc.). If there are no new/recurring costs, please explain why.

Generally speaking, the provided energy education curriculum materials and energy education specific supplies are reusable and therefore are little to no recurring educational costs to apply the concepts. Once the program is fully implemented, the program goals become the teacher goals and are integrated into their lesson planning each semester. Benefits are maximized to the students, teachers and the measured energy performance of the school facilities. The industry standard is for school facilities to be audited or commissioned once every three years. The students will be performing an American Society of Heating Refrigeration, and Air Conditioning Engineers (ASHRAE) level energy audit using the curriculum and tools provided. The energy education tools and supplies are to take the learning out beyond the classroom into the students' school environment. Some school districts organizational structure allows for all costs incurred to be absorbed into daily operations with no cost increase. Others have included around \$5,000 for recurring stipends, engagement of facility managers in the classroom, and ongoing updates. This is an issue we can better evaluate once into the program.

16. Are there expected savings that may result from the implementation of the innovative project?

104,070.00 * Specific amount of expected savings (annual)

* Narrative explanation/rationale: Provide details on the anticipated savings (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc.)

Energy savings will result from the teacher led work of the student who conduct the facility based energy audits. Student results and recommendations will be reviewed by the project CEMs, facility manager, and district treasurer. Reports will be presented to the district administration and a presentation made to the school board. The student auditors performing an ASHRAE level energy audit will identify building operations and equipment that is not operating to peak performance. Students will learn why these issues are important and what to do to improve their performance and save energy. Students will study and measure the operations and performance of the school facility heating and air conditioning systems, building automation controls, and lighting. The student audit process will provide data and recommendations to be used by the facility department to make changes and adjustments to the building systems that will provide for improved efficiency and building comfort. Students

will confirm the energy savings by measuring the building performance after the initial audit findings are implemented by the faculty department. The identified energy savings and the value of recommended future actions will be calculated and reported by the students. There will be savings above the cost of the program that will go back to the school district to be reallocated by the district treasurer. Each facility will achieve an average energy savings \$6,880 based upon the actual current energy usage. A one-time energy audit will provide for energy savings that will continue over the five year fiscal projection period (Energy Efficiency Programs in K-12 Schools: A guide to developing and implementing, greenhouse gas reduction programs; U.S. Environmental Protection Agency, 2011). Longer term energy saving will be sustained by the continuation of the program from year to year. The cost savings is easily identifiable and traceable. The energy savings from the district utility bills are used as the baseline for the savings analysis. Program Total Cost (All districts): \$26,675 x # of Districts One Time In-Kind Grant for LED Lighting Equipment (All Districts): \$7,412 x # of Districts The project will aid in spending reductions by shifting administrative/operational dollars from the utility bill over to the educational delivery budget. The proposed program will achieve energy savings sufficient to cover the cost of the energy education program. National statistics support the fact that performing American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) level facility energy audits produce a median savings of 16% (Lawrence Berkeley study on commissioning, 2009, 2011). The US EPA reports that districts can achieve up to 25% improved energy cost savings using simple behavioral and operations modifications. School district spends on average \$75/ student for gas and \$130/ student on electric. There is a one time cost of \$16,536 per district to cover the teacher and facility manager stipend, the services of the certified energy managers and building commissioning technician, teacher coach, certified lighting professional, project administration, and a student leader scholarship. These are tools necessary to introduce and integrate the school facility based energy education program into the teacher lesson plans using an innovative hands-on approach. There is \$1,225 set aside to cover program related student transportation and for program incentives as printing, publishing, copies, awards, and plaques The LED lighting installation includes the donated lighting hardware and controls are valued at \$7,412. The lighting system becomes the property of the school district.

17. Provide a brief explanation of how the project is self-sustaining. If there are ongoing costs associated with the project after the term of the grant, this explanation should provide details on the cost reductions that will be made that are at least equal to the amount of new/recurring costs detailed above. If there are no new/recurring costs, explain in detail how this project will sustain itself beyond the life of the grant.

The nature of the need for continual energy efficiency audits makes this project completely self sustaining. As technology improves and school facilities age, regular audits will always be needed in order to maintain or increase a facility's efficiency. The numbers do not lie--the cost savings are verifiable, credible and permanent. This project will expose students of all ages to energy, and strategically increase their knowledge and application of skills for the 21st century--critical thinking and problem solving; creativity and innovation; communication and information; collaboration; contextual learning; information and media literacy. By turning the district's facilities into students' learning labs, there is a significant added benefit from a cost savings perspective. Ultimately districts save money by going through a rigorous energy audit and infusing the students in that process benefits the districts and the students themselves. This project will aid in spending reductions by shifting administrative/operational dollars over to the educational budget. The proposed program will achieve energy savings sufficient to cover the cost of the energy education program. Statistics support the fact that performing American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) level facility energy audits produce a median savings of 16% (Lawrence Berkeley study on commissioning, 2009, 2011). The US EPA reports that districts can achieve up to 25% improved energy cost savings using behavioral and operations modifications. School district spends on average \$75/ student for gas and \$130/ student on electric. (Energy Efficiency Programs in K-12 Schools: A guide to developing and implementing, greenhouse gas reduction programs; U.S. Environmental Protection Agency, 2011). This program proposes to achieve a 4.6% natural gas cost savings and 6.2% electric cost savings based upon recent measured data of school districts audited by Energy Optimizers, USA. This program will use the more conservative numbers to forecast generated savings. Through strategic partnerships with organizations that have relevant experience in innovative projects and credible and verifiable success in their fields, this project is positioned for a high probability for success. The Ohio Energy Project and Energy Optimizers, USA are both highly regarded organizations that will be critical to the success of this program. The energy education program focuses on using the facility as a learning tool. Students participating in this program will continue to progress in their understanding of the efficient use of energy as it affects their everyday world. As the students develop greater skill and understanding they will be challenged to pass on what they have learned. Seniors will provide for peer to peer training of younger students. Annual repetition of the energy audit process will provide for early identification of potential facility operations problems allowing the facility manager to plan facility based corrective actions and refine their capital replacement budget plan to create lasting impact. Educational and Financial Benefit to School District: -Significant cost savings -Time savings for facilities staff -Advanced knowledge of current savings opportunities for facilities staff -Students provide valuable data for further analysis -Added bonus of support gained from students and staff with daily operations -Added by-in from students, staff, district leadership and community for the development of future capital projects -Variety of exposure for high school students to many careers related to the field of energy, including an understanding of laborers (HVAC) and advanced degrees (engineering) -Improved communication skills in students through development of reports and presentations of report findings and communication with younger students

D) IMPLEMENTATION - Timeline, communication and contingency planning

18. Fill in the appropriate dates and an explanation of the timeline for the successful implementation of this project. In each explanation, be sure to briefly describe the largest barriers that could derail your concept or timeline for implementation and your plan to proactively mitigate such barriers. In addition, the narrative should list the stakeholders that will be engaged during that stage of the project and describe the communication that occurred as the application was developed.

Describe the ongoing communication plan with the stakeholders as the project is implemented. (Stakeholders can include parents, community leaders, foundation support and businesses, as well as educational personnel in the affected entities.)

* Proposal Timeline Dates

Plan (MM/DD/YYYY): 12/15/2013

* Narrative explanation

Phase One: Program Launch Preparation: Districts Identify: 1) Facility Managers 2) Teachers -Energy Optimizers USA Project Manager confirm participating districts -Teacher letters prep teachers of scope, intentions and include timeline-Facility Manager letters preps the facility managers of scope,intentions and include timeline 1) Straight A Grant Fund Award Announcement-December - Districts and teachers notified of award 2) Training by PM and Ohio Energy Project staff -Mentor Coaches oriented to the mission and focus of the program. They receive training on tools and educational materials available through the project and are familiarized with the professional services available to them and teachers. Mentor Coaches are former teachers contracted by program organizers who will mentor district teachers and serve as their resource for the program.

Implement (MM/DD/YYYY): 01/02/2014

* Narrative explanation

Phase Two: Integration of Energy Education into Curriculum:- January 1) Teleconference meeting with school facility managers to address program goals, intentions, timeline and review program implementation 2) In person energy audit training for coaches by Certified Energy Managers (CEM) and project energy auditors 3) Teacher telephone conference 4) Teacher/Mentor Coach in person meeting to review data collection, curriculum, Green Team project, review process, and share program contact info. 5) CEMs on-call for questions 6) Weekly individual Coach/Teacher meeting led by Mentor Coach and scheduled with teacher in person and by phone 7) Energy audit training for teachers led by CEMs and Mentor Coaches Phase Three: Student Service Learning- February 1) Student activities begin at all grade levels -Science of energy education initiated in the classroom -Students connect with energy professionals and audit concepts introduced 2) Green Teams established at all grade levels 3) Energy Audit Project begins 4) Monthly meeting with students and CEMs Phase Four: LED Lighting Installation Project - February 1) LED lighting project initiated - Project team includes: facility manager, classroom teacher, lighting installation professional, and student leader 2) March: Lighting installation completed -Schedule set

Summative evaluation (MM/DD/YYYY): 05/01/2014

* Narrative explanation

Phase Five: Reporting (All Phases) - March/April 1) Reporting by teachers to Mentor Coaches 2) Mentor Coaches compile individual reports into single report 3) Mentor Coaches reports presented to Springfield-Clark CTC project lead as the project fiscal agent -includes update on teacher training on audit procedures and energy curriculum -includes update on integration of material into teacher curriculum March: Mid Term Update -Districts report (via Mentor Coaches) progress of students using the program and program material to Project Manager -Mentor Coaches report status of energy audits to Project Manager -Mentor Coaches report on LED Project to Project Manager to include: teacher observations; energy savings; facility managers' observations May: Final Project Report - Educational (student progress; completion of energy audits; student presentation of energy audits to the school board; teacher program evaluation) -Mentor Coaches Report June: Final Reporting Compiled by Project Manager -Facility manager's observations: CEMs report; audit results and summations -LED Project Report (teacher observations; energy savings) -Treasurer's report (financial impact) -Mentor Coaches report -Conclusions and next steps June: Project completion -Final reporting to Department of Education by Springfield-Clark CTC Communications Plan: - Activities/achievements of the students communicated through local media, families, service clubs, business owners in the community and local elected officials -Press releases issued by the district (drafted provided by Mentor Coach), frequent updates posted on district's website and social media, and in district newsletters -Students write articles for the school newspaper and make presentations about the project at district school board meetings, and service clubs -Students share their experience with other students through setting up and running energy and science fairs - Business owners and local elected officials invited to observe a formal presentation by students on the findings of the educational energy audit -Public relations activities will align with current trends of reducing carbon footprint, reducing dependency on foreign oil, climate initiatives, etc. Obstacles- Obstacles would include securing a teacher willing to think outside the box open to innovative teaching methods who has an extra 72 hours to offer -The alignment of the standards to the existing lessons the teacher already has planned -The right teacher who is involved for right reasons not just the huge stipend -A teacher willing to learn facility issues. -Facility and classroom collaborating. Does not happen. Both have their own agenda.

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

Students: Students participating in this innovative project will gain a stronger foundation for the science of energy. They will also gain significant hands-on learning by using the district facilities as a learning lab. By going through the energy education curriculum and ultimately joining the professional energy engineers in auditing the facilities, students are gaining critical skills in analytics, measuring, investigation and problem solving. They also gain skills in the area of crafting presentations, creative writing, topic position and presentation delivery as they prepare to present their findings and report to the district school board. They will be empowered to communicate their findings which will have a significant impact on them by positioning them as a respected source of data and direction. Additionally, the impact of their energy education will follow the students home and into the community. Results have shown that students begin to implement what they have learned at home and educate family members. Communities have also seen a positive impact as students have gotten engaged in energy related projects in their communities as a whole. Teachers: Teachers of all grade levels participating in this project will have the opportunity to be provided with new materials to supplement their teaching of the science of energy. They will have the unique opportunity to implement the use of their facility as a learning lab for their students giving them the real world application of what they have learned in their class. Schools: School districts will benefit from the student engaged professional energy audit by learning what behavioral changes and equipment/control changes can be made to have a positive impact on their energy use. This data is proven to have quantifiable results that have substantial value and lasting impact. Communities: Communities will see great impact by this innovative approach to education as students become more engaged with energy efficiency projects in their local communities. They are excited for opportunities to use their education to benefit others in their community. Additionally, this helps establish relationships with local community colleges and higher education institutions to

potentially develop dual enrollment opportunities for students. Business and Technical Professionals: Students will have the opportunity to experience working in a professional environment and learn of the expectations and excitement that are present in future career opportunities. The students exposure to real world problem solving, work expectations and goals will provide motivation as the connection between classroom learning and career potentials are expanded. Professionals will have the opportunity to share their expertise with the future workforce.

E) SUBSTANTIAL IMPACT AND LASTING VALUE - Impact, evaluation and replication

20. Describe the rationale, research or past success that supports the innovative project and its impact on student achievement, spending reduction in the five-year fiscal forecast or utilization of a greater share of resources in the classroom.

The rationale behind this project stems from work being performed by Ohio Energy Project (OEP), a non-profit organization that works with Ohio teachers on energy education. Their experience is relevant and impactful. There is scores of evidence-based data available that supports the STEM or inquiry-based approach to learning--teaching students to create, acquire, analyze, synthesize, evaluate, understand and communicate knowledge and information in a global context. The goal is to make curriculum relevant and engaging through practical, problem solving processes and tools of engineering and technology. The curriculum is structured to help young people from broad and diverse backgrounds and is flexible so that teachers can incorporate it in ways that fit the individual needs of students. It aligns directly with Ohio Common Core standards and Revised Science Content Standards making this project an innovative tool for teachers with hands-on lasting impact for students. This project will make curriculum relevant and engaging through the practical, problem solving processes and tools of engineering and technology. There is complete alignment between high school STEM instructional program and higher education and workforce standards. The project applies evidence?based approaches to a trans?disciplinary curriculum using project?based learning, differentiated instruction, and authentic assessment of mastery. The school is designed to bridge the gap between how we live and how we learn in the 21st century by blending formal schooling with cooperative learning experiences involving postsecondary education, work and informal education. STEM education produces exactly the kind of thinkers, innovators and problem solvers our world demands. It emphasizes the technological design process and integrates subjects in ways that emphasize connections across disciplines. A STEM-literate workforce will attract investment and jobs, and good jobs and economic opportunity will attract and retain world-class talent. This project seeks to marry the relevance of energy education and the inquiry-based learning strategy by using the actual school facilities as the tool/learning lab by partnering the students with professional energy engineers to conduct professional energy audits. The districts benefit financially by the cost savings realized through the energy efficiency audit recommendations. Energy auditing is like a physical examination for your facility. Knowing the energy health of your facility allows you to make data driven decisions in planning and operations. Performing annual American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) level energy audits just as annual physicals will provide for the continued health of the operations. The program will produce energy savings measured from the individual facility energy audits ranging from \$53,114 to \$11,229 (saving from small to largest facility). The total is \$104,070 energy savings for the program. ASHRAE level facility energy audits produce a median savings of 16%. The energy saving that is achieved will be sustained by the continuation of the program from year to year. The cost to continue the program is \$8,914 per year per facility to cover additional energy audit supplies and energy based curriculum materials. It is a simple comparison of the utility bills before and after the energy audit process. The cost savings realized by the energy efficiency audit program will free up funding that can be redirected back into the classroom. The outcome of the LED lighting project will produce the total projected facility energy savings. LED lighting is 78% more efficient than standard fluorescent lighting. The rationale behind this project is supported by substantial evidence and hard numbers.

21. Is this project able to be replicated in other districts in Ohio?

Yes

No

22. If so, how?

Ohio Energy Project's teacher-centric educational approach starts with year-round training opportunities at regional meetings throughout the State. OEP will connect new and returning teachers directly to energy industry experts who understand and translate complex energy information into compelling educational instruction. From visits to nuclear reactor labs to classroom activity kits, OEP brings teachers the latest science in the energy field. Teachers will discover new technologies, alternative sources, renewables and more through the professional development created by teachers for teachers. CEU hours are available for all programs. Graduate credit is available for select programs. At the professional development training sessions, teachers will network with other educators and energy professionals. Programs meet multiple Ohio Academic Content & Common Core Standards for elementary through high schools courses. Student Benefits - Become energy leaders - Apply skills to teach peers friends and family about energy efficiency - Learn to save money and energy - Understand how to use energy-saving devices - Strategize to make energy efficient choices - Get Home Energy Efficiency Kits with: - Compact Fluorescent Light (CFL) Bulbs - LED Nightlight - Refrigerator / Freezer and Hot Water Temperature Gauges - Weather stripping - Door sweep - Temperature thermometer - Shower heads and aerators in certain service territories OEP's program is being used right now in more than 610 school buildings in Ohio. *Note: Not every school district is eligible for the kit program due to their location as they are provided by certain utility companies. For districts not eligible, Project Manager will investigate funding opportunities.

23. Describe the substantial value and lasting impact that the project hopes to achieve.

This project will engage students in real-world science of energy education through their performance of an educational energy audit of their school facility. It is a well-conceived and thoroughly developed proven educational program in which teachers will integrate energy education, energy audits, service learning educational approaches and alighting to the Common Core and Revised Science Standards into their daily activities. Student educational outcomes will be increased, particularly in science and math. Students will gain knowledge of careers in science, math, and engineering professions very early in their education. Through the installation of LED lighting in the District's Special Needs classroom, those students who would likely be negatively affected by the electronic flicker inherent in fluorescent lighting will experience a direct positive impact on learning. The educational benefits of this program will increase student educational outcomes, especially in science and math. Students will also become more informed about energy efficiency and facility operations through this program. Spending reduction This project will aid in spending reductions by shifting administrative/operational dollars over to the educational delivery budget. Specifically, the proposed program will achieve energy savings sufficient to cover the cost of the energy education program. Districts will save money on energy costs through findings in the auditing process and commissioning of equipment. The savings achieved will persist over the life of the equipment, as documented in the Lawrence Berkeley study. Teachers will be provided with materials that can be utilized year after year, as well as skills in service learning, environmental and facilities education that will last the duration of their careers. By installing next generation LED classroom lighting in the District's Special Needs/Autism Spectrum classroom energy savings will be realized, providing substantial, measurable value. Utilization of a greater share of resources The program will utilize a greater share of resources in the classroom by providing professional experts and coaches to teachers, as well as materials and lesson plans. Teachers are provided with a new set of curricula and training techniques to integrate into their educational art through the use of consortium professionals. Teachers will tailor the project to meet individual student learning objectives in a way to excite and motivate students through the assistance of Mentor Coaches who will assist the teacher in assimilating and integrating the program materials into their lesson plans.

24. What are the specific benchmarks related to the fund goals identified in question 9 that the project aims to achieve in five years? Include any other anticipated outcomes of the project that you hope to achieve that may not be easily benchmarked.

1. Energy analysis and benchmark report - Analyze and Benchmark the Past 2-Years of Utility Bills of All Existing Facilities 2. Monthly utility bill analysis reports and tracking. - Utility bills entered into the US EPA Energy Star Portfolio Manager program - Compare to previous months/years to determine abnormalities and energy usage reductions. 3. Annual utility bill analysis and budgeting assistance - Work directly with the financial and business administrator(s) to assist with energy usage and cost forecasting for the next year's budgets 4. Quarterly facility walk through and analysis of all existing buildings - A Certified Energy Manager will walk through your facility(s), with the school Green Team to identify potential energy conservation opportunities. 5. Lighting project installation - The lighting project manager will work with the facility manager and classroom teacher to schedule the installation of the LED lighting - The classroom teacher reports their observations and opinions 6. Energy audit report - Students prepare and deliver the School Facilities Energy Audit Report to board - Detailed written report will be reviewed and provided for the appropriate facility administrator(s) and/or school board - Annual facility improvement planning and budgeting - Assist the facility managers and administrators with establishing and updating the districts' 5-year permanent improvement list. - Both short-term and long-term opportunities identified 2. Energy Star analysis, report and recognition - Submit documents that will enable the district to become recognized and accredited by Energy Star. 3. Develop and implement a district "Energy and Environmental Efficiency Program" - Assist and lead the district to create a district Green Team to develop, implement and sustain this program. This team should include a minimum of the following: (1) Facility or maintenance manager; (1) Board member (1) Principal or assistant principal from each school; (3) Teachers (3) Students (2) Community Members - Review current energy usage reports; - Establish target energy reduction goals; - Establish district guidelines or policies for: - Temperature set-points, personal appliances guidelines, behavioral expectations), community use policies, occupant comfort and maintenance guidelines; district recycling programs; district cleaning supply options, etc. - Create competition and recognition programs to recognize those who are instrumental in meeting the school districts goals. - Create a "Green Suggestions Program" for the district to utilize for suggestions on how the district can be more energy efficient and environmentally responsible. - Establish student-driven "Energy and Environmental Stewardship Teams" that will be responsible for: - Energy Waste Patrol - issuing energy waste tickets to teachers and administrators when they are not following the agreed upon district's "Energy and Environmental Efficiency Plan". - Energy Education Team - establish a team of High School and Middle School students to teach younger students about energy and the environment. They will utilize fun and interactive teaching tools. - Energy Audit Teams - establish a team of High School, Middle School and grade school students to conduct facility energy audits of their own buildings. - Educational activities and after-school energy training and educational activities will be implemented with the students and staff. 4. Financial consultation and assistance for completing capital energy conservation project implementations 5. Public relations assistance - Provide press releases to local news media to gain positive recognition for the district's efforts in reducing energy. - Align Public Relations with current trends of reducing carbon footprint, reducing dependency on foreign oil, climate initiatives, etc.

25. Describe the plan to evaluate the impact of the concept, strategy or approaches used.

* Include the method by which progress toward short- and long-term objectives will be measured. (This section should include the types of data to be collected, the formative outputs and outcomes and the systems in place to track the program's progress).

* Include the method, process and/or procedure by which the program will modify or change the program plan if measured progress is insufficient to meet program objectives.

Educational Assessment of Science of Energy - Teachers will report increase of knowledge in the classroom reflected in test results. It is anticipated proficient knowledge will be obtained when students achieve an 80% or better. -Pre and post test will be encouraged for this measurement. -Educational material teachers receive will be retaught to new students every year and districts will not need to purchase new curriculum. Energy Savings Assessment - Audit report for each facility will be generated and data collected. It is considered proficient if 10% energy savings is realized according to the baseline of the past five years of use. - Facility manager will implement recommended savings measures to save energy in the facility which will be reflected on the energy bill. - Facility managers and students will study and evaluate the electrical use of each facility and compare it annually with positive behavioral changes. - Facility managers will report electrical use (in the form of cost savings) to Springfield-Clark CTC as fiscal agent annually. Monthly utility bills will be collected for each facility. The data will be uploaded into the US EPA's energy star Portfolio Manager Program. The program will provide building specific performance data. LED lighting will be installed - Teachers will report behavior changes with new lighting - Teachers will add weekly comments on the performance of the LED lighting and any apparent effect on the student. District Green Teams - Because Green Teams will remain active throughout the year, energy will be top of mind for students, teachers and school personnel - Green Team members will assist in evaluation of project and make regular recommendations for improvement and adjust activity based upon project outcomes and evaluations. - Green Team members will use the audits and resulting recommendations to be facilitate incorporate with Facility Managers - Students will create a Power Point Presentation with audit findings and recommendations - Students will present to the classroom, School Board and other community partners - Students will submit press releases to district and local media.

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 timeframe. The Governing Board of the Straight A Fund reserves the right to conduct evaluation of the plan and request additional information in the form of data, surveys, interviews, focus groups, and any other related data to the legislature, governor, and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant agency and/or all identified partners to abide by all assurances outlined in the Assurance section of the CCIP. In the box below, enter "I Accept" and indicate your name, title, agency/organization and today's date.

I Accept Rick Smith Springfield-Clark CTC 10/25/2013