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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: Investing In Our Future By Reinvesting Energy Savings Into A 6th - 12th Grade STEM Program

2. Executive summary: Provide an executive summary of your project proposal and which goal(s) in question 8 you seek to achieve. Please limit your responses to no more than three sentences.

Applicants may describe their relationships with the local solar energy business, University of Akron, and Western Reserve Local School District (WRJSD). Straight A funds will be paired with private equity funds to undertake solar panels. The resulting school district annual utility savings will then be used to enhance and sustain a STEM program in grades 6th-12th for students with and without disabilities.

4. Lead applicant primary contact: - Provide the following information:
   First Name, Last Name of contact for lead applicant: Jeffrey Zatchok
   Organizational name of lead applicant: Western Reserve Local School District
   Unique Identifier (RN/FeD Tax ID): 048397
   Address of lead applicant: 13850 Akron-Canafield Road, Berlin Center, Ohio 44401
   Phone Number of lead applicant: 330-547-0805
   Email Address of lead applicant: zatchok@wrjsd.k12.oh.us

5. Secondary applicant contact: - Provide the following information, if applicable:
   First Name, Last Name of contact for secondary applicant: N/A
   Organizational name of secondary applicant: N/A
   Unique Identifier (RN/FeD Tax ID): N/A
   Address of secondary applicant: N/A
   Phone number of secondary applicant: N/A
   Email address of secondary applicant: N/A

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 (RN/FeD Tax ID), Address, Phone Number, Email Address of Contact for All Secondary Applicants in the box below.

   The University of Akron
   Susan Ramlo, Ph.D., IRN: 062869 Department of Engineering & Science Technology and Department of Curriculum & Instructional Studies Schrank Hall South 123B Akron, Ohio 44325-9104 330-972-7057 sramlo@uakron.edu The University of Akron Charles H. Carlin, Ph.D. IRN: 062869 School of Speech-Language Pathology and Audiology Polsky Building 181 Akron, Ohio 44325-3001 330-972-6556 carlin@uakron.edu Valley Energy Solutions Ms. Erin Quinlan 8675 W Pine Lake Rd Salem, Ohio 44460 Office: 330-702-0147 email@valleynecosolutions.com

7. Partnership and consortium 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 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.

   Our innovative public and private sector partnership will produce energy savings that will be reinvested into middle and high school classrooms and in turn, improve student achievement in STEM content areas. Mr. Jeffrey Zatchok, Western Reserve superintendent and High School principal for 15 years. Member of the CORE team for the OSFC construction project of a new K-12 building at Western Reserve completed in December, 2011. This project included the use of a geothermal field for heating and cooling as well as other energy efficient systems to enable the project to receive a gold LEED certification.

   Rated an excellent school district by the state of Ohio for the past 12 years, High School and Elementary have been designated “Blue Ribbon” schools by the US DOE. Ms. Debbie Farelli, Western Reserve Local School District. 17 years of administrative practices in the public school system. Serves as an elementary and middle school principal and the Federal Programs Coordinator. Won and successfully implemented an Early Literacy Reading Grant. Leads standards implementations, developed parent involvement programs, and worked with the district teachers to transition to inclusive classrooms for students with learning disabilities Mr. Douglas McGlynn, Western Reserve Junior/Senior High School Principal. Over 33 years of Educational instruction and school Administration. Has many years of grant writing to improve instructional practices in the district. Susan Ramlo, Ph.D., Nationally recognized as a STEM education expert. 20 years of academic experience at The University of Akron. Using the STI method, she has incorporated new and existing elements into our district’s STEM program.

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 consortium partnership

11. Describe the innovative project.

   Current district funding is not sufficient enough to enhance the current STEM program at the 6-12th grade levels. STEM content is not infused across content areas and grade levels, and the district cannot keep pace with advances in STEM technology and research-based instructional practices. Further, the district does not have the financial resources to fully prepare students with and without disabilities for future STEM employment and postsecondary coursework, partly because energy costs amount to $131,000 a year and account for 2.5% of the district operating budget. Through Straight A funding as well as...
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.

13. Financial Documentation - Planning for ongoing funding of the project, cost breakdown

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.

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

1,387,767.00 **Total project 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.

24,000.00 **Specific amount of new/recurring cost (annual cost after project is implemented)**

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

159,005.00 **Specific amount of expected savings (annual)**

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 reduction 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.

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 implementation.

19. If school/district receives school improvement funds/support, include a brief explanation of how this project will advance the improvement plan.

20. Describing the professional development plan and how it will be funded.

21. Provide an explanation of the Professional Learning Communities (PLC) activities and external professional development, and these activities will be funded through solar energy savings.

22. Planning for ongoing funding of the project, cost breakdown

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.

23. Specific amount of new/recurring cost (annual cost after project is implemented)

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

25. 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.

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

27. 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.

28. Planning for ongoing funding of the project, cost breakdown

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.

29. Specific amount of new/recurring cost (annual cost after project is implemented)

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

31. 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.

32. Are there expected savings that may result from the implementation of the innovative project?
The district will incorporate a co-teaching, PBL, and differentiated instruction model in regular education classrooms, which will in turn support all students. PBL is an experiential learning approach that focuses on investigating and solving real-world problems and utilizes an integrated curriculum. PBL promotes inquiry, engagement, in-depth understanding, and innovative thinking. PBLs, especially authentic PBLs, enable the embedding of instruction in some authentic context. Thus, these problems are authentic and meaningful to support student learning. Within this context, students are self-directed and engaged in the problem solving process (Jonassen, 2000). An authentic learning environment is one in which the cognitive demands are consistent with the cognitive demands in the environment for performance of the task. The National Renewable Energy Laboratory in Golden Colorado, PV WATTS is a proven software model that DOE launched and both State and Federal entities apply in the analysis of solar projects and proposed outputs. The educational component of this effort is replicable as well given its focus on student outcomes versus procurement of hardware and software.

*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.

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

22. If so, how?

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

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?

**Narrative explanation**
Upon award notification in December, we will aggressively deploy our public/private sector team to plan for Implementation of the STEM enhancements beginning January 7, 2014. The team will meet with the Inventor Cloud development team to plan training and implementation. The faculty of the University of Akron will begin planning professional development for science teachers in grades 6-10 for the first phase of Implementation. The team will meet with the 6th-10th grade classroom teachers to plan for the initial Project Based Assessment to establish a baseline to measure growth. The project plan will be rolled out to the K-12 staff and community. October 2013-December 2013 Continue legal review with PPA of Mahoning Co. Facilitate land utilization study Refine insurance and maintenance costs Finalize school management team Complete solar array site survey October 2013-December 2013 Detailed STEM discussion with University of Akron Develop a communication plan for public dissemination December 2013-December 2013 Analysis of program with lead faculty January 2014-January 2015 Start of professional development Initial announcement to public

**Implementation (MM/DD/YYYY):** 02/01/2014-08/31/2014

**Grades 6-10 student achievement will be measured by comparing the baseline project data to the May project data. The mode of instruction, performance, and assessment will be measured through classroom observations, walkthrough observations, and teacher lessons, projects, and assessments. Collection and review of student work samples, observation of classroom performance, electronic portfolios, interest inventories, and student scheduling requests will be used to measure student achievement, growth, and interest in STEM based careers. Analysis of energy cost savings generated by the solar panels will be reviewed every six months to track total annual energy savings. Financial records will be monitored and reviewed biannually to track the reinvestment into the STEM program. Quarterly meetings will be held to evaluate the program and determine further needs.**

**Summative evaluation (MM/DD/YYYY):** 05/01/2014-05/30/2015

**Students in grades 6-10 will be given a PBL task in February 2014 to establish a baseline to measure growth. The 6th–10th grade science teachers will participate in professional development in PBL in February 2014 and implement a PBL activity by May. By August 2014 all K-12 staff will have received professional development on assessment of performance based projects, differentiating instruction; additionally the 6-12 staff will be trained in the Inventor Cloud Program. Equipment will be purchased and installed and the curriculum will be integrated into the school program by September 2014 for the 2014-2015 school year. Construction of the solar panel array will begin during the spring 2014. Actual power production and thus reduced utility cost savings is estimated to begin in June 2014. The Grant chart that follows highlights major program efforts and draft milestone dates. The program management team will be led by one designated program manager on the private sector need and augmented by a program manager on the public sector team. Collectively these two individuals will report quarterly to the School Board on updates, issues and risk mitigation as well as budget management. February 2014-March 2014 Classroom content launch January 2014 Proposed ribbon cutting with the state December 2013-February 2014 Begin permitting effort February 2014-March 2014 Start land clearing and site preparation March 2014-June 2014 Installation of the solar panel array June 2014-July 2014 Final inspection (and in each phase) July 2014 Begin power generation**

**Narrative explanation**
Our public/private sector approach is replicable. Public and private sector partners can examine our project and form a similar learning arrangement. Federal tax codes for private entities also facilitate replication. The solar component makes sense if private equity investors can team with certified and reliable solar installers like Valley Energy Solutions and if the school has available land area for location of the solar panel array. The STEM educational component of this effort is replicable as well given its focus on student outcomes versus procurement of hardware and software. The appropriate investment into faculty requires that the STEM education in the classroom can be replicated via detailed assessment of our report and appropriate dialogue and interaction with our faculty and the subject matter experts at University of Akron.
Goal performance or grades in co-taught classrooms before funding and after years 1, 2, 3, 4, and 5.

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.

| Energy Savings | The district will monitor and track the energy savings every six months by comparing the cost of the utilities before and after the solar panel arrays are installed. Reinvestment of the savings realized by the solar panel arrays: The district will monitor the money that is reinvested into the STEM education program. A budget tracking the amount of the reinvestment used for professional development, equipment, supplies, and instruction will be reviewed annually and compared to student achievement and growth to establish the effectiveness of the program. Change in teaching techniques and mode of delivery: Through annual observations, walk through observations, and teacher professional learning community meetings, the administration will document evidence of teachers employing the PBL approach in each classroom. Teacher plans and student artifacts will also act as data and evidence of PBL activities and assessments. Increase in student achievement: Student work samples will be collected in electronic portfolios to measure the increase in achievement as it relates to the synthesis, application, and transfer of skills learned in the classroom to solve real world problems. Track students to identify if the early exposure to STEM activities result in an increase in students choosing STEM related career or postsecondary education pathways. The program will be evaluated annually to determine the amount of funds redirected into the STEM education program, the targeted use of funds, and the impact on student achievement. Trend data will be evaluated every 3 years to monitor the influence the program has on student's post-secondary education and career paths. |

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. Jeffrey Zatchok Superintendent Western Reserve Local School District October 25, 2013