

(1) Describe the nature of financial and technical assistance to be provided to the recipients and the activities that will be conducted to deliver the technical assistance; (10 Points)

Clean Energy Districts (CEDs) are forming in Iowa, rooted in the successful spirit of U.S. Soil & Water Conservation District “universal local” model. Resilient communities are the best environment to accomplish long lasting socio-economic improvement. The Clayton County Energy District (CCED) attempts to stem the development of a “perfect storm,” whereby negative climate change consequences, combine with the negative, rural Iowa economic impacts, caused by current energy systems, to create significant societal challenges. Clean Energy Districts are local, county based, independent, non profit, diverse and passionate boards, who inspire energy planning, market transformation and local investment.

As the second organized Clean Energy District in the nation, the CCED endeavors to serve as a successful role model for the propagation of Clean Energy Districts in every American county. **The CCED must expand staffing to fully carry out its mission of building community by keeping energy local and clean. Staffing increases will positively affect the areas of outreach and boots on the ground, technical assistance.**

Since December 2015, by facilitating locally led energy planning, market transformation, and investment the Clayton County Energy District (CCED) aims to aid in the of building of resilient Clayton County communities. The CCED’s dedication to keeping energy local and clean, will be accomplished through energy conservation planning, awareness and education outreach, technical assistance and networking. We do this work within all aspects of Clayton County rural life, in neighborhoods, on the farm and on Main street.

Clayton County is comprised of five towns with populations ranging from 1000 - 2000, and several smaller communities ranging in population from 100 - 850. The 2016, US Census Bureau estimates total county wide population at 17,590.

By passionately valuing the **local retention and reinvestment of energy dollars** we are championing resilient local economies throughout the county. The CCED’s outreach is aiming to create a burgeoning energy conservation job market and local energy ownership. For example, since 2011, the Winneshiek Energy District, the CCED mentor energy district to the north, has grown their solar contractor base from one to six. Solar contractors build locally owned energy. In many cases these local economic stimulating projects are financed by local lending institutions.

As the CCED facilitates an energy conservation job market the demand for energy auditor and solar contractor training will increase. As a result, we will spend time forging partnerships with regional educational institutions to develop a pool of local clean energy workers. The CCED also connects owners of local energy projects and local lenders.

Resilient Clayton County economies are stimulated and churned as new local energy efficiency

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and solar contractors hire locally trained labor to conduct locally financed energy efficiency and generation projects. From experience, the Winneshiek Energy District conservatively estimates based on a 10-year return, with this kind of local investments, over \$1 million is already staying in the local economy.

By passionately valuing **clean and local energy equity** the energy district does energy planning at the grassroots, to level the playing field, for the spectrum of household incomes. Clean Energy Districts slow the tide of energy dollars away from the local economy. This leads to a redistribution of wealth. With an 11.2% poverty rate and median household income of \$48,000 Clayton County's working poor will benefit from the work of our local clean energy movement.

The CCED's energy planning services are universally available to our farmers, the entire range of county wage earners, business owners, churches, schools, institutions and organizations. Essentially, energy efficiency planning and direct installation of energy efficiency measures are available to everyone, but particularly, the CCED targets the most vulnerable persons of the district. The CCED covers 100% of the cost of the direct installation of energy efficiency measures for: veterans, low to moderate income households, persons living with a disability and senior citizens. The RCDI grant funds would support the growth of energy planning and equity services.

The rate of adoption of energy conservation measures and installation of solar projects are high because of the unbiased, encouragement and follow through work of the Clean Energy District. Ultimately, the challenge for clean energy equity lies in the cost of providing high quality, professional technical assistance. The RCDI grant would be used to develop professional technical assistance. This equal opportunity, locally led effort is inspiring community members at all levels to participate in their energy district.

By passionately valuing **our common home, planet Earth**, the Clayton County Energy District is creating resilient communities. The CCED believes a happy community is not simply an economically prosperous community, but one which exists in a healthy environment. Famed conservationist, Aldo Leopold once said, "We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect." As good stewards, the CCED is moving Clayton County to sustainable and wise energy production and use, thereby valuing the land community of which we belong. Resilient communities do not simply consume or own natural resources; they conserve, or wisely champion clean energy generation and energy efficiency. Locally, we are doing our part to realize national clean energy goals and the subsequent long term health of the environment for future generations. RCDI funds will aid in the communication of this core tenet.

(2) Explain how financial and technical assistance will develop or increase the recipient's capacity. Indicate whether a new function is being developed or if existing functions are being expanded or performed more effectively; (7 Points)

The CCED has set the following objectives to achieve a locally led energy market transformation goal in Clayton County neighborhoods, on our rural farms and on our towns' Main streets.

Outreach:

- **(New activity) Distribution of 5700 LED lightbulbs at countywide community events such as farmers market, county fair and community celebrations - this is a straightforward energy efficiency stimulus**

LED Light Swaps will generate goodwill and create opportunity to educate the 10+ micro communities comprising the CCED. In an informal, low pressure, setting the CCED can quickly convey the lessons of energy efficiency. This project will spark a district wide LED transition which has tremendous potential impact toward our mission of building community by keeping energy local and clean. According to the U.S. Department of Energy a full conversion to LED lighting could save the U.S. \$250 billion in energy costs, reduce electricity consumption for lighting by nearly 50 percent and avoid 1,800 million metric tons of carbon emissions.

- **(Expanded activity)Conduction of (12) education, awareness, networking events These events will provide energy conservation & stewardship education by promoting energy efficiency measures**

Current efforts include training or educational workshops, led by local energy experts regarding, energy planning particularly solar power generation and energy efficiency. Also, the CCED now hosts periodic casual "Clean Energy Breakfasts," hosted throughout Clayton County to stimulate local clean energy conversation, projects and networking. Connecting the moving parts of the clean energy movement is key function of the CCED and this function often happens at energy district led events. These events obviously further the branding of the Clayton County Energy District and furthers the implementation of its beliefs and values.

- **(Expanded activity) Stimulate clean energy markets by providing vendor booth opportunity for energy efficiency product vendors and solar contractors**

The CCED clearly values the local retention and reinvestment of energy dollars. As a function of our goal to create a burgeoning energy conservation job market and local energy ownership we work to develop a business membership. Professional, "Business Level Members" who invest in the CCED receive the following benefits:

1. Booth space at various outreach events
2. Name mention and logo display on workshop promotional materials
3. Website recognition
4. Exposure to potential customers
5. Listing on our contractor referral list, including two way referral - meaning we tell potential customers about our business members and we tell business members about potential customers
6. The satisfaction of supporting their local, clean energy movement

- **(Expanded activity) Public speaking engagements throughout the county**
- **(New activity) Coordinate with town Chamber of Commerces and Economic Development Offices & provide energy planning outreach to Luana, Monona, Marquette, McGregor, Garnavillo, Elkader, Volga, Strawberry Point, St. Olaf, Strawberry Point, Farmersburg, Garber, Elkport, Edgewood & North Buena Vista.**
Creating awareness for the Clayton County Energy District in the CCED has just begun. Much more time needs to be devoted to giving the “stump speech” at various governmental, club and organization meetings. In addition, the CCED is building momentum through distribution of print materials and development of our online and social media presence.

Energy Efficiency & Clean Energy Production

- **(Expanded activity) Conduct (80 - 100) Household Home Efficiency Assessments and direct installs**

This activity is conducted through a partnership with the Green Iowa Americorp team. Our home energy efficiency program is the most relevant program in place. On average participants are realizing \$140 in annual utility bill savings. Essentially, energy efficiency planning and direct installation of energy efficiency measures are available to everyone, but particularly, the CCED targets the most vulnerable persons of the district. The CCED covers 100% of the cost of the direct installation of energy efficiency measures for: veterans, low to moderate income households, persons living with a disability and senior citizens. The following aspects of Home Energy Efficiency are addressed through this activity:

Combustion Safety Tests

Test to ensure that carbon monoxide is not back-drafting into the home from the water-heater, stove, furnace, fireplace, or any other appliance that is powered through combustion. Check gas-pipes and related appliances for gas-leaks prior to other work.

Blower Door Test

Blower door tests quantify the amount of air leaking through any gaps, cracks, or openings in a home's envelope. Air leakage causes home heating and cooling systems to work harder than needed, resulting in more energy consumption and higher heating and cooling bills. When our blower door test shows potential to reduce the amount of air infiltration into the home and still maintain a good level of air quality, we'll discuss the option of air sealing.

Thermal Imaging

While running the blower door, the team uses an infrared camera to pin-point areas of heat loss in the home that could be tightened through air-sealing or more major construction project

Direct Installation of Efficiency Upgrades

Energy-Efficient Light Bulb Installation

An average household dedicates 11% of its energy budget to lighting! We will swap out all of the home's light bulbs with LED (Light Emitting Diode) lights. LEDs are cost-effective, maintain high light-quality and visual appeal, use a fraction of the energy as traditional incandescent bulbs, and can last up to 21 years!

Efficient Aerators and Shower Heads

Install low-flow aerators in kitchen and bathroom sinks and stationary low-flow shower heads. Our program has helped the average homeowner reduce their annual water usage by over 4,900 gallons, and all without compromising the comfort of anyone's shower. Less water used can also affect the heating bill because the water heater will use less energy to heat the needed water.

Insulate Hot Water Pipes

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Insulating the first 6 feet of the pipes connected to the water heater reduces heat loss and increases efficiency.

Install Programmable Thermostat

Programmable thermostats are a convenient, effective way to manage when and how much a home is being heated.

Replace Furnace Filter

Dirty air filters can be up to 20% less efficient! We install new furnace filters.

Home Tightening

Air Sealing

*If the blower door test shows the home has potential to decrease air infiltration without threatening the air quality, the Green Iowa team will offer to perform air sealing on the home's exterior home envelope (where air gets in from outside). Problem areas often include: windows, floorboards, electrical outlets, rim joists, attic accesses, and doors. There are many practices and procedures that can be employed for air sealing a home. We use clear caulk, foam, and weather stripping. Homes with serious insulation problems will be referred to a local contractor. *Note: For your safety, Green Iowa can only perform Air sealing on homes in which the blower door test reports .33 Air Changes per hour or more.*

Duct Sealing

Leaky duct systems inefficiently transport air throughout a home. Taping duct seams creates a much more efficient heating, ventilation and cooling (HVAC) system

- **(Expanded activity)Provide info to rural residents regarding state & local tax incentives and utility rebates**

Serving as a resource for energy planning and understanding of energy policy takes time. This activity requires time and technical assistance. Resource information is provided via direct mailing, conversation and online.

- **(Expanded activity)Conduct (25) Farm Energy Audits, provide report/plans and follow through on project completion connecting producers with NCRS EQIP cost share programs, utility rebates and tax credits**

Farm Energy planning is likely the most “bang for the buck” offering of the CCED. In most cases, after performance of a high quality energy audit and a subsequent energy plan, developed by our certified energy planner, farmers are realizing a 5 year payback. This very short return on investment period, is because of implementation of current energy efficiency technologies, government cost share program, utility rebates, and the currently available solar tax credits. Through the use of local contractors, with locally trained employees, using local financing this project not only reduces energy consumption, in many cases generates planet sustaining, green energy. This significantly improves the farmer’s bottom line and leads to retention of local dollars and spurs local economic growth.

- **(New activity)Conduct (15) Public & Nonprofit facilities Energy Conservation Planning efforts &**
- **(Expanded activity)Connect businesses with energy conservation contractors, educate the business community about tax savings and utility rebate opportunity**

These activities are a high priority of the CCED and for maximum outcome, are best performed by a local program coordinator. Having someone who is known and resides in the district, and who can neutrally make connections and suggestions for energy planning is a significant task

for the recipient coordinator.

(3) Identify which RCDI purpose areas will be addressed with this assistance: housing, community facilities, or community and economic development; (3 Points)

The RCDI will be for the purposes of community and economic development. By facilitating a locally led energy market transformation, the Clayton County Energy District (CCED) is helping to build resilient Clayton County communities. The CCED's dedication to its mission of "keeping energy local and clean," is accomplished through energy conservation planning, awareness and education outreach, technical assistance and networking. We do this work within all aspects of Clayton County rural life, in neighborhoods, on the farm and on Main street. By executing our mission we value a vibrant local economy, energy equity and the environment.

I am wondering if the expanded answers provided in question one are more adequately used in answering this question.

(4) Describe how the results of the technical assistance will be measured. What benchmarks will be used to measure effectiveness? Benchmarks should be specific and quantifiable; (5 Points)

2018 measurables:

Measurements will include:

Attendance at outreach events
Inventory of current solar contractors in Clayton County
Inventory of solar installations in Clayton County
Other indicators include web traffic, mailing list size

Home Energy Efficiency Reports measure:

#LED Bulb Replacements
KwH saved on lighting bill
\$ saved on H2O bill
#Tons of carbon reduction measurement
\$/household savings
\$combined household energy bill savings

Farm Energy

Measurables will include similar indices as above (need to talk to Joel)
ROI #'s for solar projects & high dollar efficiency projects

Commercial, Public facility and NGO Reductions & Generations

Measurables will include similar indices as above
ROI #'s for solar projects & high dollar efficiency projects

(5) Demonstrate that it has conducted programs of financial and technical assistance and achieved measurable results in the areas of housing, community facilities, or community and economic development in rural areas.

(10 Points)

To date the CCED has conducted

- (1) Solar Workshop
- (1) LED Workshop
- (1) Legislator Solar Tour
- Cosponsored a Farm Energy Fair
- Kicked off a series of Energy Breakfast/ conservations
- Distributed Farm Energy Planning recruitment communication to Clayton County Pork Producers
- (13) Farm Energy Audits
- Coordinated 50+ Home Energy Efficiency Assessments
- Fostered conversation for solar generation for public institutions
- Inspired school student led “Green Teams” to search our energy savings opportunities
- Recruited (3) Clean Energy Contractors as “Business Level” CCED members
- Connected Moser’s Family Pharmacy, The Elkader Floral Shop, The Carter House Museum, Rock a Dot, Norby’s, Rivals Screen Printing, St. Joseph Church
- Made connections and forged relationships with The City of Elkader, Main St. Elkader, the City of Guttenberg, the Allamakee Clayton REC
- Developed outreach and branding materials
- Developed a subdomain web presence & social media accounts & email newsletter campaigns
- Current email contact list totals 183 recipients
- To stimulate awareness for energy efficiency developed plans to host LED light bulb swaps at county farmers markets
- Advocated for energy efficiency and renewable energy policies by registering IUB public comments
- Planned for a \$12,000 membership drive