

**FINANCIAL ASSISTANCE
FUNDING OPPORTUNITY ANNOUNCEMENT**



**U.S. Department of Energy
Energy Efficiency and Renewable Energy
Golden Service Center**

**Tribal Renewable Energy and Energy Efficiency
Deployment Assistance**

Funding Opportunity Announcement Number: DE-FOA-0000853

Announcement Type: Amendment 002

CFDA Number: 81.087

Issue Date: April 30, 2013

Application Due Date: June 20, 2013, 5:00 PM Eastern Time



Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

DE-FOA-0000853
Amendment No. 002

DATE: June 6, 2013
FROM: Laura Merrick, Contracting Officer
TO: All Prospective Applicants

SUBJECT: Amendment No. 002 to Funding Opportunity Announcement (FOA)
DE-FOA-0000853, "Tribal Renewable Energy and Energy Efficiency Deployment Assistance."

- I. The purpose of this amendment is to:
 1. Amend the FOA to add Appendix E, "Calculating Energy Savings:"
 - i. Under the Table of Content, Appendix E – Calculating Energy Savings is added;
 - ii. Add the following on page 2: "See Appendix E for instructions on how to calculate the percentage reduction in fuel use, conversion factors, and examples;"
 - iii. Add Appendix E, beginning on Page E-1.
- II. All other parts of the Funding Opportunity Announcement remain unchanged.
- III. All edits are highlighted in yellow to clearly call attention to the revisions that have been made in Amendments 001 and 002.



Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

DE-FOA-0000853
Amendment No. 002

DATE: May 24, 2013
FROM: Kristen Cadigan, Contracting Officer
TO: All Prospective Applicants

SUBJECT: Amendment No. 001 to Funding Opportunity Announcement (FOA)
DE-FOA-0000853, "Tribal Renewable Energy and Energy Efficiency Deployment Assistance."

II. The purpose of this amendment is to:

1. Amend the FOA to omit the word "fossil," such that a reduction of 30% in fuel use in tribal buildings is eligible (regardless of whether the fuel is fossil-based or renewable).

II. All other parts of the Funding Opportunity Announcement remain unchanged.

III. All edits are highlighted in yellow to clearly call attention to the revisions that have been made.

REGISTRATION AND APPLICATION SUBMISSION REQUIREMENTS

Registration Requirements:

1. Register and create an account on the EERE Exchange website at <https://eere-exchange.energy.gov/>.

This account will then allow the user to register for any open EERE FOA's that are currently in EERE Exchange. It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission.

The applicant will receive an automated response when the Application is received. This will serve as a confirmation of receipt. Please do not reply to the automated response. The applicant will have the opportunity to re-submit a revised Application for any reason as long as the relevant submission is submitted by the specified deadline. The Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements is found at <https://eere-exchange.energy.gov/Manuals.aspx>.

Questions related to the registration process and use of the EERE Exchange website should be submitted to: EERE-ExchangeSupport@hq.doe.gov

The EERE Exchange registration does not have a delay; however, the remaining **registration requirements below could take several weeks to process and are necessary in order for a potential applicant to receive an award under this Funding Opportunity Announcement.** Therefore, although not required in order to submit an Application through the EERE Exchange site, **all potential applicants lacking a DUNS number, or not yet registered with SAM or FedConnect should complete those registrations as soon as possible.**

2. Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>.
3. Register with the System for Award Management (SAM) at: <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.
4. Register in FedConnect at <https://www.fedconnect.net/>; use "Register as a Vendor" link. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf

5. Register in Grants.gov at <http://www.grants.gov/> to receive automatic updates when Amendments to this FOA are posted. See the Organization Registration User Guide at <http://www.grants.gov/assets/OrgRegUserGuide.pdf>. The Applicant User Guide is at <http://www07.grants.gov/assets/ApplicantUserGuide.pdf>. Please note that applications **will not** be accepted through Grants.gov.

Where to Access the Application Package:

The Application forms and instructions are available on the EERE Exchange website. To access these materials, go to <https://eere-exchange.energy.gov/> and select the appropriate funding opportunity number.

The applications forms must be completed on the EERE Exchange website at <https://eere-exchange.energy.gov/>, in accordance with the instructions. Applicants will receive a Control # once they “Apply to this FOA” on the EERE Exchange website. The file names of all files to be uploaded as part of the Application will need to include this Control Number.

Where to Submit the Application Package:

APPLICATIONS **MUST** BE SUBMITTED THROUGH EERE EXCHANGE SITE TO BE CONSIDERED.

Where to Ask Questions About the Funding Opportunity Announcement Content:

Questions regarding the content of this announcement must be submitted via email to: tribal@go.doe.gov not later than 3 business days prior to the application due date. Please include “DE-FOA-0000853 Question” in the subject line. Part VII of this announcement explains how to submit questions to the Department of Energy (DOE).

All questions and answers related to this FOA will be posted on the EERE Exchange website at: <https://eere-exchange.energy.gov/>. **Please note that you must first select this specific FOA Number in order to view the questions and answers specific to this FOA.** DOE will attempt to respond to a question within 3 business days, unless a similar question and answer has already been posted on the website.

Where to Submit Questions About the Registrations or Systems:

DUNS & Bradstreet: govt@dnb.com

SAM Federal Service Desk: <http://www.FSD.gov>

Grants.gov: support@grants.gov

By phone: 1-800-518-4726 (7:00 a.m. to 9:00 p.m., Eastern)

EERE Exchange: EERE-ExchangeSupport@hq.doe.gov or see the Users’ Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements found at <https://eere-exchange.energy.gov/Manuals.aspx>.

FedConnect: support@FedConnect.net

By phone: 1-800-899-6665 (8:00 a.m. to 8:00 p.m., Eastern)

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PART I - FUNDING OPPORTUNITY DESCRIPTION

A. Background

The [Department of Energy's](#) (DOE or the Department) [Office of Energy Efficiency and Renewable Energy](#) (EERE) invests in clean energy technologies that strengthen the economy, protect the environment, and reduce dependence on foreign oil. Through EERE's [Office of Weatherization and Intergovernmental Program](#) (WIP), DOE partners with State and local organizations to accelerate the deployment of energy efficiency and renewable energy technologies and practices by a wide range of government, community, and business stakeholders. WIP's Program activities include the State Energy Program, Weatherization Assistance Program, Energy Efficiency and Conservation Block Grant Program, and Tribal Energy Program.

The [Tribal Energy Program](#) offers financial and technical assistance to Indian Tribes for the evaluation and development of renewable energy resources and implementation of energy efficiency on tribal lands. Since 2002, the Tribal Energy Program has invested \$48.1 million in 175 tribal energy projects across the Nation. For more on these projects, see the program's [website](#).

In an effort to foster a more holistic engagement by the Department with Tribes on energy issues, the Tribal Energy Program is coordinating with DOE's Office of Indian Energy Policy and Programs to develop funding opportunities and provide technical assistance to Tribes.

The [Office of Indian Energy Policy and Programs](#) is charged by Congress under Title V of the Energy Policy Act of 2005 to direct, foster, coordinate, and implement energy planning, education, management, and programs that assist Tribes with energy development, capacity building, energy infrastructure, energy costs, and electrification of Indian lands and homes. For more information on the Office of Indian Energy Policy and Programs, please see its [website](#).

A recently completed analysis by the National Renewable Energy Laboratory shows that tribal renewable energy resources comprise approximately 5% of all U.S. renewable energy resources, with potential installed capacity of over 9 million MW. The current estimate is that there are approximately 125 MW of renewable energy currently installed on Indian lands.

Through this Funding Opportunity Announcement, DOE is continuing its efforts to promote tribal energy sufficiency and to spur increased renewable energy deployment and energy efficiency on Indian lands.

B. Description

In support of these programs' objectives, DOE is soliciting applications from Indian Tribes, Tribal Energy Resource Development Organizations and Tribal Consortia, to install "community-scale" or "facility-scale" renewable energy and/or energy efficiency energy projects on Indian lands (see definitions within this section below or in Appendix A). The renewable energy and/or energy efficiency projects are intended to provide electricity and/or heating and cooling or efficiency measures for existing tribal buildings, including homes, businesses, community buildings, government buildings, or other tribal facilities. This effort is being undertaken under the provisions of Title V of the Energy Policy Act (EPAAct) of 2005.

Projects selected under this Funding Opportunity Announcement (FOA or announcement) are intended to reduce energy costs and increase energy security for Indian Tribes and tribal members. The potential energy savings, level of commitment, and capabilities of the applicant and project participants to accomplish the project objectives will be major factors in selecting projects for funding. Applications should also demonstrate the potential for sustainability and the potential economic and environmental benefits to the Indian Tribe and Tribal community. The Indian Tribe, Tribal Energy Resource Development Organization, or Tribal Consortium must demonstrate the organizational and technical readiness and commitment to deploy renewable energy systems.

To be considered, it is required that applications demonstrate the potential of at least a 30% reduction in total fossil fuel use in existing Tribally-owned buildings. See Appendix E for instructions on how to calculate the percentage reduction in fuel use, conversion factors, and examples. The requirement of a 30% reduction in fossil fuel use must be based on the total actual annual fossil fuel consumed during the prior year, and may be for either a single building or the total percentage of multiple buildings. The 30% reduction in total fossil fuel use must occur during the project period. For combined heat and power projects proposed under this announcement, the displaced fossil fuel use at the central station power plant and both the thermal and electrical inputs and outputs of the system should be included in the calculation of the total fossil fuel reduction. Verification of the actual reduction in fossil fuel use will be required after installation of the renewable energy systems and/or energy efficiency measures, and a description of those verification methods must be included as part of the applicant's project description and implementation plan (see Criterion II under Part I.B and Part V.A.2).

In addition to meeting the 30% fossil fuel reduction, renewable energy systems for electric power generation only must also be a minimum of 10 kW rated capacity and a proven renewable energy resource must be demonstrated in the application. Applications proposing the installation of energy efficiency measures must have completed energy audits for the building(s) being proposed. Only commercial warrantied materials, supplies, or equipment will be considered and, to the maximum extent practicable, such materials, supplies and equipment must be made in the U.S.

DOE will not consider any application where the applicant has already taken irreversible actions regarding the proposed DOE funded project, including but not limited to demolition of existing buildings, site clearing, ground breaking, construction, installation, renovation, or building retrofits (see Part VIII.L, National Environmental Policy Act (NEPA) Requirements).

All proposed installations must be to existing "Tribally-owned buildings" or on Indian lands for use in existing Tribally-owned buildings. Proposed installations for planned building construction will not be considered. Proposed systems may be physically attached to the building or buildings or ground-mounted, but must be sited on Indian lands. For purposes of this announcement, a "Tribally-owned building" is one where the Indian Tribe, Tribal Energy Resource Development Organizations and Tribal Consortia has the authority to retrofit the building and is either owned by the Indian Tribe, Tribal Energy Resource Development Organizations, Tribal Consortia or Tribal members, or has a long-term lease. Buildings may include, but are not limited to, homes, schools, community buildings, clinics, government buildings, or other Tribal facilities.

To be considered, the projects must be “community-scale” or “facility-scale.” For purposes of this announcement, a “community-scale project” means a renewable energy or energy efficiency project to reduce **fossil** fuel use in multiple Tribally-owned buildings located on Indian lands. A “facility-scale project” means a renewable energy or energy efficiency project to reduce **fossil** fuel use in a single Tribally-owned building located on Indian lands. Applications for commercial or utility-scale projects, intended to export electricity off Indian lands for commercial sale, will not be considered.

“Renewable energy systems”, for purposes of this announcement, include electric power generation or heating or cooling applications. Renewable energy systems for electric power generation include, but are not limited to, photovoltaic (solar electric), biomass (including waste to energy), wind power, incremental hydropower, or other renewable energy hybrid systems for electric power generation. Heating or cooling applications include, but are not limited to, the use of biomass for high efficiency stoves, boilers or furnaces, active solar thermal systems for space or water heating, use of ground source heat pumps, wind energy for heating, direct-use hydrothermal (geothermal) resources for water and space heating, renewable-fueled combined heat and power systems for heating or cooling, or other renewable energy hybrid systems for heating and/or cooling.

“Energy efficiency measures”, for purposes of this announcement, include, but are not limited to, building envelope improvements (walls, roofs, foundation slab, ceiling, windows, doors, insulation), high-efficiency lighting, efficient appliances, efficient heating systems (furnaces, boilers, passive solar), efficient cooling systems (air conditioners, evaporative coolers), combined heat and power systems, high efficiency office equipment, and energy saving building electrical equipment.

It is DOE’s intent under this FOA to leverage funding received through “state or utility company renewable energy and energy efficiency incentive programs”; and has therefore included an evaluation criterion to address that intent (see Part IV.C.4.h, and Part V.A.2.). “State or utility company renewable energy or energy efficiency incentive program” means program(s) offered through a state, local government or utility that provides incentive payments, billing credits, rebate payments or other financial support to customers to promote the installation of renewable energy or energy efficiency projects. For available state or utility company incentive programs, see www.dsireusa.org.

Applications proposing the evaluation of product marketing opportunities, assessment of manufacturing opportunities, research, product development, or the construction of manufacturing facilities will not be considered.

DOE will only consider applications from an Indian Tribe, Tribal Energy Resource Development Organization, or Tribal Consortium on whose Indian Land the project will be located (see Part III, Eligibility Information and Appendix A, for further definition). Applications from a consortium of Indian Tribes will be accepted but must be submitted by a single Indian Tribe acting as the Applicant representing the consortium. Applications may also be submitted on behalf of an Indian Tribe(s) by authorized Tribal or Inter-tribal Organizations, provided evidence of that authority is supplied as part of the application (see Part III.A.(1) and Appendix A, for the definition of Tribal or Inter-tribal Organization).

A Tribal Council Resolution from each participating Indian Tribe, declaration (or resolution) from each Tribal Energy Resource Development Organization or Tribal Consortium, and a letter of commitment from all other project participants are required as a part of the application. If an application is being submitted on behalf of an Indian Tribe(s) by an authorized Tribal or Inter-tribal Organization, evidence of that authority is required as part of the application, along with a declaration (or resolution) from the Tribal or Inter-tribal Organization, and a letter of commitment from all other project participants. **All resolutions, declarations and letters of commitment must be specific to this Funding Opportunity Announcement and include any cost sharing commitments** (see Statements of Commitment and Cost Sharing File under Part IV.C., Content and Form of Application).

For projects selected under this FOA, DOE will provide, as Federal cost share, 50% of the total allowable cost of the project (i.e., the sum of the Government share, and the recipient share of allowable costs equals the total allowable cost of the project) up to \$250,000. All remaining project costs will constitute the recipient's cost share and must come from non-Federal sources unless otherwise allowed by law (see Part III.B and Appendix C). Cost share may include cash or in-kind contributions (e.g., contribution of time, services, or property; donated equipment, buildings, or land; donated supplies; or unrecovered indirect costs).

Selected applicants will be required to document progress in quarterly reports and the project results in a comprehensive final report, as well as present at the annual Tribal Energy Program Review to be held each fall in Denver, Colorado. For planning purposes, applicants should plan to attend and present project activities each fall during the project period, beginning fall of 2013. Travel costs for this review (one-week each) should be included in the proposed budget.

<p>Awards under this Funding Opportunity Announcement are contingent upon the availability of appropriated funds.</p>
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C. Merit Review Criteria Discussion

The Merit Review Criterion Discussion to be included as part of the Project Narrative File should address each of the following, as each will be rated per the criteria included under Part V.A.2, Merit Review Criteria. See Part IV.C., Content and Form of Application, for additional instructions on the content and form of the application package.

Criterion I: Goals and Objectives (10%)

- Provide a concise overview of the proposed project including: a discussion of the goals or objectives of the project and the project location(s). Maps, photographs, or other visuals may be included as an attachment, if needed, under the Site and Resource Maps File (see Part IV.C.4.a.)
- Provide a description of the Indian Tribe, Tribal Energy Resource Development Organization or Tribal Consortium including the long-term energy goals or vision, organizational structure, and demographics. If an authorized Tribal or Inter-tribal Organization is applying on behalf of an Indian Tribe, also provide a description of the Tribal or Inter-tribal Organization. Maps, photographs, or other visuals may be included as an attachment, if needed, under the Site and Resource Maps File (see Part IV.C.4.a.)

- Provide a description of the anticipated economic and environmental benefits to the Indian Tribe(s) and Tribal members as a result of the project and describe how the project integrates into the long-term energy goals of the Indian Tribe, Tribal Energy Resource Development Organization or Tribal Consortium.
- Identify the need for and impact of DOE's contributions to the viability of the project.

Criterion II: Project Description and Implementation Plan (40%)

- Provide a detailed description of the proposed project.
- Identify the existing building(s) affected by the proposed project, including: number of building(s), age of the building(s) (date the building was constructed), building(s) type (e.g., homes, schools, community buildings, clinics, or tribal government buildings); size of each building (square footage); and location of each building. Maps, photographs, or other visuals may be included as an attachment, if needed, under the Site and Resource Maps File (see Part IV.C.4.a.).
- Describe the current annual energy use of each existing Tribally-owned building affected by the project, including: fuel type (e.g., diesel fuel, propane, heating oil, wood, natural gas or electric); quantify the current annual energy use or heating or cooling load of each building (gallons, tons/year, therms, BTU/year, or kWh); quantify the current cost of energy by fuel type; and provide a description of the current energy supplier. Supply evidence documenting the total fossil fuel consumed during the prior year, energy costs by fuel type, and any other relevant data as attachments under the Energy Use and Savings File (see Part IV.C.4.b.).
- For proposed energy efficiency measures, summarize the energy audit results for each building affected by the proposed project and supply the energy audit reports as attachments under the Energy Use and Savings File (see Part IV.C.4.b.).
- Quantify the potential fossil fuel savings (amount, cost, and percentage) as a result of the proposed project. Supplemental calculations of energy use or cost savings may be included under the Energy Use and Savings File (see Part IV.C.4.b.). **The potential must be at least a 30% reduction in the building(s) total fossil fuel use, and, systems for electrical power generation only must also be a minimum of 10 kW rated capacity.**
- If renewable energy or renewable-fueled combined heat and power systems are being proposed, describe the availability and sustainability of the renewable energy resource(s). Supply evidence including site maps, resource maps, and/or quantitative resource data documenting those resources and include as part of the Site and Resource Maps File (see Part IV.C.4.a.). Evidence may also be in the form of a previously completed feasibility study. Include any agreements, such as for biomass feedstock supply under the Agreements File (see Criterion 4, Roles, Responsibilities, Capabilities, and Resources). If the proposed project includes feedstock supply, provide information that demonstrates the sustainability of the forest or other resource proposed, quantify the available biomass feedstock (tons per year), and describe the land ownership and the harvesting and/or delivery plan.
- If renewable energy systems are being proposed, describe the renewable energy technologies to be installed and the rationale for choosing those technologies. Describe the design, hardware specifications and warranties associated with that hardware. Performance specifications and warranties, engineering drawings, and any other supplemental data should be included as an attachment under the Design and Engineering File (see Part IV.C.4.c.). Also include a discussion of the interconnection or

net metering arrangements and include any agreements, if obtained, under the Agreement File (see Part IV.C.4.f.). **Only commercial warrantied materials, supplies, or equipment will be considered and, to the maximum extent practicable, such materials, supplies and equipment must be made in the U.S.**

- If energy efficiency measures are being proposed, provide a detailed description of the building energy efficiency measures (e.g., building envelope, high-efficiency lighting, efficient appliances, efficient heating systems, efficient cooling systems, combined heat and power systems, high efficiency office equipment, and energy saving building electrical equipment) to be implemented and provide supplemental engineering information including materials and/or equipment list(s) under the Design and Engineering File (See Part IV.C.4.c.). **Only commercial warrantied materials, supplies, or equipment will be considered and, to the maximum extent practicable, such materials, supplies and equipment must be made in the U.S.**
- Describe the methodology to be used to implement energy efficiency measures and/or install the renewable energy systems.
- Provide an economic assessment for the proposed project including estimated costs and sources and types of funding (e.g., state or utility company incentive, grant, cash, loans, contributions of time, equipment, or resources). Any supplemental data may be included as an attachment under the Economics file (see Part IV.C, Content and Form of Application). NOTE: Evidence of funding commitments is required as specified under Section IV (below) and the Statement of Commitment and Cost Sharing, Part IV.C.4.e.
- Identify any barriers or obstacles that could impede the project and describe plans to overcome those barriers or obstacles. Examples of barriers or obstacles might include permitting or approval delays, suppliers/vendor contracts, equipment delivery, or project financing/funding.
- Describe how the reduction in fossil fuel use (amount, cost, and percentage) will be verified after the installation of the renewable energy system(s) and/or energy efficiency measures.
- Describe the long-term system(s) operation and maintenance plan.

Criterion III: Roles, Responsibilities, Resources, and Capabilities (30%)

- Provide a description of the management concept for the project including the names, roles and responsibilities, and capabilities of the applicant and each participating organization involved in the project. The descriptions should include:
 - 1) Identification of who will represent the applicant as the Business Contact and the Technical Contact under the DOE agreement, if one is awarded. The Business Contact is a representative authorized to act on behalf of the applicant in the daily administration of the grant and to negotiate the agreement (not necessarily the signatory). Note that all DOE official written correspondence related to this announcement, or agreement if one is awarded, would be addressed to the Business Contact. The designated Technical Contact is one authorized to act as project manager on behalf of the applicant and would be the prime point of contact for DOE's Project Officer during the project performance, if an agreement is awarded. The Business Contact and Technical Contact must be representatives of the Indian Tribe, Tribal Energy Resource Development Organization or Tribal Consortium, or authorized Tribal or Inter-tribal Organization, if applicable.
 - 2) The management approach and organizational structure for implementing the proposed project, including organizational and individual roles and responsibilities.

- 3) Capabilities of the applicant and each participant with a brief summary of experience and qualifications. Attach individual resumes under the Resume File (see Part IV.C.4.i.).
 - 4) If consultants, contractors, or vendors have not been identified, indicate that in the Project Narrative and supply a Subcontract Plan which includes a description of the selection process to be employed, statement of work, and criteria for selection, as an attachment (see Subcontract Plan under Part IV.C.4.h.).
 - 5) Describe and provide evidence of any business agreements between the applicant and project participants, including consultants, contractors, vendors, and any other agreements, such as an interconnection, net metering, or lease agreements, if applicable. Include any business or other agreements under the Agreements File (see Part IV.C.4.f.).
- Describe level of involvement and amount and type of cost sharing by the applicant and each participant involved in the project, including any state or utility company incentive program funds. Supply evidence of those commitments of time, resources, or financial contributions in the form of Tribal Council Resolutions, declarations, or letters of commitment (see Statement of Commitment and Cost Sharing File under Part IV.C.4.e.).

Criterion IV: State and Utility Company Incentive (10%)

- Describe the state and/or utility company incentive program under which the applicant has been accepted, including any requirements (e.g., project size, installation deadlines, and maximum incentive); and
- Supply evidence of that acceptance as an attachment to the application (see Part IV.C.4.g).

Criterion V: Project Activities and Schedule (10%)

- Provide a detailed description of each of the activities or tasks to be performed under the proposed project and the results or milestones associated with each of those activities or tasks; and
- Include a timeline of activities or tasks to be conducted including milestones (preferably a Gantt chart or task schedule). Successful applicants will use this project timeline to report progress

PART II - AWARD INFORMATION

A. Type of Award Instrument

DOE anticipates awarding grants under this funding opportunity announcement.

B. Estimated Funding

Approximately \$2,500,000 is expected to be available for new awards under this announcement in Fiscal Year 2013 (FY2013). The actual level of funding, if any, depends on Congressional appropriations for this program. Funding for all awards and future budget periods are contingent upon the availability of funds appropriated by Congress for the purpose of this program and the availability of future-year budget authority. It is DOE's intent that projects resulting from this FOA will be fully funded in FY 2013.

C. Maximum and Minimum Award Amount

Ceiling (i.e., the maximum amount for an individual award made under this announcement):
\$250,000

Floor (i.e., the minimum amount for an individual award made under this announcement):
\$50,000.

D. Expected Number of Awards

DOE anticipates making ten (10) to twenty (20) awards under this announcement, depending on the size of the awards and level of Congressional appropriations, if any.

E. Anticipated Award Amount

DOE anticipates that awards will be in the \$50,000 to \$250,000 range for the total project period.

F. Period of Performance

DOE anticipates making awards with project periods from one to two years, but no longer than 3 years, and must include the period of time required to verify the reduction in fossil fuel use (amount, cost and percentage) after the installation of the renewable energy system(s) and/or energy efficiency measure(s).

G. Type of Application

DOE will accept only new applications under this announcement (i.e., applications for renewals of existing DOE funded projects will not be considered).

H. Environmental Review in Accordance with National Environmental Policy Action (NEPA)

The federal funds distributed under this FOA are subject to the National Environmental Policy Act, 42 U.S.C. §§ 4321 et seq. (NEPA). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions. For additional background on NEPA, please see DOE's NEPA website, at <http://nepa.energy.gov/>.

While NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, all projects selected for an award will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their proposed project.

PART III - ELIGIBILITY INFORMATION

A. Eligible Applicants

In accordance with 10 CFR 600.6(b) and consistent with the EAct 2005 authorities, eligibility for award under this Funding Opportunity Announcement is restricted to: (1) an Indian Tribe; (2) Tribal Energy Resource Development Organization; or (3) Tribal Consortium; and on whose (4) Indian Lands the project(s) will be located. More specifically,

- 1) "Indian Tribe," for purposes of this announcement, means any Indian tribe, band, nation or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims

Settlement Act (85 Stat. 688) [43 U.S.C. §§ 1601 et seq.], which are recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

For purposes of this announcement, an eligible “Indian Tribe” (including Alaska Native villages, but not regional or village corporations), must be federally recognized as listed in *Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs*, published by the Department of Interior’s Bureau of Indian Affairs in the Federal Register on August 10, 2012, 77 FR 47868.

“Tribal Organization,” for purposes of this announcement means any legally established organization of an Indian Tribe, which is controlled, sanctioned, or chartered by the recognized governing body of that Indian Tribe. A “Tribal Organization” may include, but is not limited to, a subsidiary, subdivision, or instrumentality of an Indian Tribe, established under Congressional, State or Tribal law to act on behalf of an Indian Tribe. Applications may be submitted by an authorized “Tribal Organization”, provided evidence of the authority to submit an application, relative to the proposed project, is supplied as part of the application. Evidence may include, but is not limited to, a constitution, resolution, ordinance, executive order, charter or other legal documentation. DOE will determine the sufficiency of the authorization based on the evidence submitted as part of the application.

“Inter-Tribal Organization,” for purposes of this announcement, means any organization comprised of *two or more* Indian Tribes, established under Congressional, State, or Tribal law to act on behalf of the participating Indian Tribes. “Inter-Tribal Organizations” may include, but are not limited to, inter-tribal councils, regional tribal organizations or associations, and tribal federations. Applications may be submitted by an authorized “Inter-Tribal Organization”, provided evidence of the authority to submit an application, relative to the proposed project, is supplied as part of the application. Evidence may include, but is not limited to, a resolution, ordinance, executive order, charter, P.L. 93-638 contract, or other legal documentation. DOE will determine the sufficiency of the authorization based on the evidence submitted as part of the application.

- 2) “Tribal Energy Resource Development Organization” for purposes of this announcement means an “organization” of two or more entities, at least one of which is an Indian Tribe (see “Indian Tribe” above) that has the written consent of the governing bodies of all Indian Tribes participating in the organization to apply for a grant or loan, or other assistance under 25 U.S.C. § 3503, where “organization” means a partnership, joint venture, Limited Liability Company (LLC) or other unincorporated association or entity that is established to develop Indian Energy.”
- 3) “Tribal Consortium” (plural consortia), for purposes of this announcement, means a group of organizations, at least one of which is an Indian Tribe as defined above, that have chosen to submit a single application. Under this announcement, a Tribal Consortium is eligible to submit an application provided the application is submitted by a single Indian Tribe representing the consortium.
- 4) “Indian Lands” or “Indian Country” for purposes of this Announcement, is defined as:
 - (a) any land located within the boundaries of an “Indian reservation” (see definition below), pueblo, or rancheria;

- (b) any land not located within boundaries of an Indian reservation, pueblo, or rancheria, the title to which is held –
 - (i) in trust by the United States for the benefit of an Indian Tribe or an individual Indian;
 - (ii) by an Indian tribe or an individual Indian, subject to restriction against alienation under laws of the United States; or
 - (iii) by a dependent Indian community;
- (c) land that is owned by an Indian tribe and was conveyed by the United States to a Native Corporation pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. § 1601 et seq.), or that was conveyed by the United States to a Native Corporation in exchange for such land;
- (d) lands held in fee simple (purchased or owned); and
- (e) lands under a long-term Federal land lease.
- (f) land that was conveyed to a Native Corporation pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. § 1601 et seq.) and subsequently conveyed to another entity, provided that entity is either a Native village or Tribal governmental entity or the land is held, invested, managed for and on behalf of a Native village or Tribal governmental entity.

For purposes of this Announcement and as defined under Part 503 of EPart 2005, the term “Indian Reservation” includes an Indian reservation in existence in any State or States as of the date of enactment of Title V of EPart 2005; a public domain Indian allotment; and a dependent Indian community located within the borders of the United States, regardless of whether the community is on original or acquired territory of the community; or within or outside the boundaries of any State or States.

B. Cost Sharing

DOE will share 50% of the total allowable cost of the project (i.e., the sum of the Government share, and the recipient share of allowable costs equals the total allowable cost of the project) up to \$250,000. All cost share must come from non-Federal sources, unless otherwise allowed by law (see note below and Appendix C). Under this Funding Opportunity Announcement, DOE encourages a portion of the recipient cost share to come from a “state or utility company renewable energy or energy efficiency incentive program”. See Appendix C and 10 CFR Part 600.224 for more on cost share.

If the source of funds being proposed as non-Federal cost share against this announcement are from a Federal source, allowed by law, specifically identify those funds and that authority as part of the application.

Except for pre-award costs with prior DOE approval, only costs share contributions made during the period of the project, if awarded, can be considered (See Part IV.G, Funding Restrictions and 10 CFR 600.125). Costs incurred prior to the notification of selection of award cannot be considered as cost share or for reimbursement by DOE.

NOTE: Per the Indian Self-Determination Act (Public Law 93-638) as codified and amended, funding under the Indian Self-Determination Act may be used as non-Federal cost share by Indian Tribes on Federal grants.

For Tribal self-governance funding agreements, see 25 U.S.C. Section 458cc(j), *Funds*, “All funds provided under funding agreements entered into pursuant to this

subchapter, and all funds provided under contracts or grants made pursuant to this subchapter, shall be treated as non-Federal funds for purposes of meeting matching requirements under any other Federal law.”

For self-determination contract funding, see 25 U.S.C Section 450h(c), *Use as matching shares for other similar Federal grant programs*, “The provisions of any other Act notwithstanding, any funds made available to a tribal organization under grants pursuant to this section may be used as matching shares for any other Federal grant programs which contribute to the purposes for which grants under this section are made.”

For compact funding, see 25 U.S.C. Section 450j-1(j), “Notwithstanding any other provision of law, a tribal organization may use funds provided under a self-determination contract to meet matching or cost participation requirements under other Federal and non-Federal programs.”

C. Questions Regarding Eligibility

DOE will not make eligibility determinations for potential applicants prior to the date on which applications to this FOA must be submitted. The decision whether to submit an application in response to this FOA lies solely with the applicant.

PART IV - APPLICATION AND SUBMISSION INFORMATION

A. Address to Request Application Forms

Application forms and instructions are available on the EERE Exchange website. To access these materials, go to <https://eere-exchange.energy.gov/> and select the appropriate funding opportunity number. (Also see Section H of this Part below.)

Note: The maximum file size that can be uploaded to the EERE Exchange website is 10MB. Files in excess of 10MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10MB but is still within the maximum page limit specified in the FOA it must be broken into parts and denoted to that effect. (e.g. ControlNumber_ApplicantName_Project_Part_1, Part_2, etc.)

B. Letter of Intent and Pre-Application

Neither Letters of Intent nor Pre-applications are required.

C. Content and Form of Application

You must complete the following application forms found on the EERE Exchange website at <https://eere-exchange.energy.gov/>, in accordance with the instructions. **Applicants will receive a Control Number once they select “Apply to this FOA” on the EERE Exchange website and should include the Control Number in the file name, as indicated below.**

1. SF-424 - Application for Federal Assistance (Required)

Complete all required fields in accordance with the instructions on the form. The list of certifications and assurances referenced in Field 21 can be found at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>, under Certifications and Assurances. Note: The

dates and dollar amounts on the SF-424 are for the complete project period and not just the first year, first phase or other subset of the project period.

Under the Project/Performance Site Location(s) section of the SF-424-Application for Federal Assistance, Indicate the primary site where the work will be performed. If a portion of the project will be performed at any other site(s), identify the site location(s) in the blocks provided. **Note that the Project/Performance Site Congressional District must be entered in the format of the 2-digit state code followed by a dash and a 3-digit Congressional district code; for example, VA-001.** In the form, place the mouse cursor in this field for additional instructions. Use the “Next Site” button to expand the form to add additional Project/Performance Site Locations.

Save the information in a single file titled “ControlNumber_ApplicantName_App424”.

2. Project Summary/Abstract File (Required)

The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the Technical and Business Contacts for the project (see below under Project Narrative File for description), the project title, the objectives of the project, a description of the project, including methods to be employed (i.e., benefits, outcomes), the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information, as the Department may make it available to the public if an inquiry is made under the Freedom of Information Act (FOIA). The project summary must not exceed **2 pages** when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right), single spaced, with font not smaller than 11 point.

Save the information in a single file titled “ControlNumber_ApplicantName_Summary”.

3. Project Narrative File (Required)

The project narrative must not exceed **20 pages**, including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5” by 11” paper with 1 inch margins (top, bottom, left, and right), single spaced. EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application. See Section VIII.D for instructions on how to mark proprietary application information.

Save the information in a single file titled “ControlNumber_ApplicantName_Project”.

Note: The maximum file size that can be uploaded to the EERE Exchange website is 10MB. Files in excess of 10MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10MB but is still within the maximum page limit specified in the FOA it must be broken into parts and denoted to that effect. (e.g. ControlNumber_ApplicantName_Project_Part_1, Part_2, etc.)

The project narrative must include:

- Cover Page
The cover page must indicate the name of the Applicant (Indian Tribe or Tribal Energy Resource Development Organization), name of Tribal or Inter-tribal Organization (if applicable), project title, description of the existing “Tribally-owned” building(s) to be affected by the proposed project, project location(s), current **fossil** fuel use of affected “Tribally-owned” building(s), projected reduction in **fossil** fuel use (amount, cost, and percentage), Funding Opportunity Announcement title and number (DE-FOA-0000853), and both the technical and business points of contact for the applicant, denoting the names, titles, addresses, telephone numbers, and electronic mail addresses. The Business Contact is a representative authorized to act on behalf of the applicant to negotiate the agreement. All DOE official correspondence related to this announcement, or agreement if one is awarded, would be addressed to the business point of contact. The designated Technical Contact is a representative authorized to act as project manager on behalf of the applicant and would be the prime point of contact for DOE’s Project Officer during project performance, if an agreement is awarded. The Business Contact and Technical Contact must be representatives of the Indian Tribe, Tribal Energy Resource Development Organization or Tribal Consortium, or authorized Tribal or Inter-tribal Organization, if applicable. The cover page should also identify the name and type of organization for each key participant including consultants or contractors, along with the names, titles, addresses, telephone numbers, and electronic mail addresses of participant contacts.
- Table of Contents
The narrative shall include a table of contents and page numbers corresponding to the elements outlined in these guidelines.
- Merit Review Criterion Discussion
This section should be formatted to address each of the sections described under Merit Review Criteria Discussion (Part I.B) and the associated criteria and sub-criteria listed in Part V.A.2. Provide sufficient information so that reviewers will be able to evaluate the application in accordance with the merit review criteria. DOE WILL EVALUATE AND CONSIDER ONLY THOSE APPLICATIONS THAT ADDRESS SEPARATELY EACH OF THE MERIT REVIEW CRITERION AND SUB-CRITERIA (Part V.A.2.).

The Project Narrative must include the following Merit Review Criteria Discussion Sections:

Criterion I:	Goals and Objectives
Criterion II:	Project Description and Implementation Plan
Criterion III:	Roles, Responsibilities, Resources, and Capabilities
Criterion IV:	State and Utility Company Incentive
Criterion V:	Project Activities and Schedule

All the components of the Project Narrative (listed above) must be within the Project Narrative page limit specified above. The files listed below may be included as Attachments to the Project Narrative and will not count towards the Project Narrative

page limit. Please note that some of the required documents listed below may have their own page limits to which you must adhere.

4. Attachments

During the submittal of your application in Exchange, files are denoted as “Required” or “Optional”; however, those files designated as “if applicable” below (or Optional in the Exchange system) may be necessary to fully address the merit review criteria.

a. Site and Resource Maps File (If applicable)

Supply any maps, photographs, or other visuals of the project location or building(s) affected by the proposed project as defined under Part I.B. Include evidence of the renewable energy resource (if applicable) including resource maps and quantitative resource data as defined under Part I.B. Evidence may also be in the form of a previously completed feasibility study. Save this information in a single file titled “ControlNumber_ApplicantName_MapsResources”.

b. Energy Use and Savings File (If applicable)

Supply evidence of the actual annual fossil fuel consumed during the prior year, costs by fuel type, projected fossil fuel savings (amount, cost, and percentage), and any other supplemental data on current energy use or fossil fuel savings. For any energy efficiency measures proposed, supply an energy audit report(s) for each existing Tribally-owned building affected by the proposed project. Save this information in a single file titled “ControlNumber_ApplicantName_EnergyUseSavings”.

c. Design and Engineering File (If applicable)

Supply copies of any performance specifications, warranties, engineering drawings, material or equipment list(s), and any other supplemental data. Save this information in a single file titled “ControlNumber_ApplicantName_Engineering”.

d. Economics File (If applicable)

Supply any supplemental data to support the economic analysis including financial pro-forma calculations or cash flow analyses. Save this information in a single file titled “ControlNumber_ApplicantName_Economics”.

e. Statements of Commitment and Cost Sharing File (Required)

A Tribal Council Resolution by each participating Indian Tribe, declaration (or resolution) from each Tribal Energy Resource Development Organization or Tribal Consortium, and a letter of commitment from all other project participants are required as a part of the application.

If an application is being submitted on behalf of an Indian Tribe(s) by an authorized Tribal or Inter-tribal Organization, a declaration (or resolution) from the Tribal or Inter-tribal Organization, evidence that documents that the Tribal or Inter-tribal organization is authorized to act on behalf of an Indian Tribe(s), and a letter of commitment from all other project participants must be provided as part of the application.

All Tribal Council Resolution(s), declarations (or resolutions) and letters of commitment must be specific to this Funding Opportunity Announcement and include a statement of the level and type of cost share commitments to meet the minimum requirement (see Part III.B, Cost Sharing).

The Tribal Council Resolution(s) and declaration(s) must not only authorize the submittal of the application, but also include a commitment for the proposed project, and include:

- 1) A description of building(s) and/or land proposed for use as part of the proposed project;
- 2) Identify whether the building(s) and/or land is held in Trust, held in fee simple (owned) and by whom, or under a long-term lease and by whom; and
- 3) If the owner or lease holder is not the Tribe, provide a commitment in writing from the land owner or lease holder authorizing the applicant's use of those building(s) and/or land for the proposed project.

The statements of cost share commitment should include a detailed estimate of the cash value (basis of and the nature of; e.g., equipment, labor, facilities, cash, etc.) of all contributions to the project by project participants. Note that "Cost Sharing" is not limited to cash investment. In-kind contributions (e.g., contribution of time, services, or property; donated equipment, buildings, or land; donated supplies; or unrecovered indirect costs) incurred as part of the project may be considered as all or part of the cost share. Note that only cost share contributions made during the period of the project can be considered; therefore, only the "lease value" of buildings and land for the period of the proposed project can be considered, not the total value of those assets. The "Cost Sharing" definition is contained in 10 CFR 600.30, 600.101, 600.123, 600.224, and OMB Circular A-110. Foregone fee or profit by the applicant shall not be considered Cost Sharing under any resulting Award. Reimbursement of actual costs will only include those costs that are reasonable, allowable and allocable to the project as determined in accordance with the applicable cost principles prescribed in 10 CFR 600.127 and 10 CFR 600.224 for the respective participants.

See Appendix C and 10 CFR Part 600 for additional information on Cost Share.

Save this information in a single file titled
"ControlNumber_ApplicantName_Commitments".

f. Agreements File (If applicable)

Provide evidence of any business agreements between the applicant and participants, including consultants, contractors, or vendors, and any other agreements, such as interconnection, net metering, lease agreements, and biomass supply agreements, if applicable. Save this information in a single file titled "ControlNumber_ApplicantName_Agreements".

g. State and Utility Company Incentive (If applicable)

Provide evidence of acceptance in a state or utility company incentive program. Any other supplemental information on the incentive program may be included. Save as a single file titled "ControlNumber_ApplicantName_Incentive".

h. Subcontract Plan File (If applicable)

A Subcontract Plan is required if project participants (i.e., consultants, contractors, or vendors) have not been identified. Include a description of the selection process to be employed, statement of work, and criteria for selection. Save this information in a single file titled "ControlNumber_ApplicantName_SubcontractPlan".

i. Resume File (Required)

Provide a resume for each key person proposed (Tribal representative or staff, consultant, or contractor) as part of the project. A key person is any individual who contributes in a substantive, measurable way to the execution of the project. Save all resumes in a single file titled "ControlNumber_ApplicantName_Resume".

The biographical information for each resume must not exceed **2 pages** when printed on 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right), single spaced, with font not smaller than 11.

j. Budget File SF 424 A Excel, Budget Information – Non-Construction Programs (Required)

Use the SF 424 A Excel, "Budget Information – Non Construction Programs" form on the DOE Financial Assistance Forms Page at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>.

The budget **must** reflect the total project budget including both the requested DOE funds and the proposed cost share contributions. Only a cumulative project budget is required, not a separate budget for each year of the project

Funds may be requested under any of the Object Class Categories (budget categories) as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (see Part IV, G). As the nature of the potential projects are considered non-construction, cost are generally not categorized under Construction; therefore, those costs should be included under the Contractual cost category.

Save the information in a single file titled "ControlNumber_ApplicantName_SF424A".

k. Budget Justification File for SF-424A Budget (Required)

Justify the **total** project costs (both the requested DOE funds and the proposed cost share contributions proposed) by budget category/Object Class Category (e.g., identify key persons and personnel categories and the estimated costs for each person or category; provide a list of equipment and cost of each item; identify proposed consultant/contractor/vendor work and cost of each consultant/contractor/vendor; describe purpose of proposed travel, number of travelers and number of travel days; list general categories of supplies and amount for each category; and provide any other information you wish to support your budget).

The budget justification must also include the basis for the proposed costs (e.g., estimated based previous actual expenses, quotes, published prices). If indirect

costs are being proposed and you have an approved indirect rate agreement, include the indirect rate agreement as part of the SF424AJustification file.

As part of the budget justification, identify the following information for each party contributing cost sharing: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing (e.g., cash; contribution of time, services, or property; donated equipment, buildings, or land; donated supplies; or unrecovered indirect costs). Also, if cost sharing is proposed, statements of cost share commitment must be provided as part of the Statements of Commitment and Cost Sharing File.

See Appendix D for additional information on the level and type of information required.

There is no specific format for the budget justification, but should include the information described above and in appendix A. Save the budget justification as a single file titled "ControlNumber_ApplicantName_SF424AJustification".

i. Subaward Budget File(s) (If applicable)

Provide a separate budget for each subawardee (consultant/contractor/vendor) that is expected to perform work estimated to be more than \$100,000 or 30 percent of the total work effort (whichever is less). Use the SF-424 A Excel for Non Construction Programs, This form can be found on the DOE Financial Assistance Forms Page at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>. Save each Subaward budget in a separate file titled "ControlNumber_ApplicantName_Subawardee_SF424A".

The budget justification must include the same justification information described in paragraph k. above. Save each Subaward budget justification in a single file titled "ControlNumber_ApplicantName_Subawardee_Budget.pdf".

m. Financial Statements (Required)

Provide financial statements for the applicant. The financial statements should include a balance sheet, statement of income and retained earnings or statement of activities (listing income and expenses), and cash flows. Save as a single file titled "ControlNumber_ApplicantName_Financial"

n. SF-LLL Disclosure of Lobbying Activities (Required)

Complete SF- LLL "Disclosure Form to Report Lobbying." (Indicate "None" if not applicable.) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying." The form is available in the optional document box on the Adobe Application Package attached to this FOA or may be obtained under "Application Forms" at <https://www.eere-pmc.energy.gov/Forms.aspx>. Save as a single file titled "ControlNumber_ApplicantName_SF-LLL".

Summary of Required Forms/Files

Your application must include the following documents:

	Name of Document	Format	File Name
1.	SF-424 Application for Federal Assistance	Part of Adobe Application Package	ControlNumber_LeadOrganization_App424
2.	Project/Performance Site Location(s)	Part of Adobe Application Package	N/A
3.	Project Summary/Abstract File	PDF	ControlNumber_ApplicantName_Summary
4.	Project Narrative File	PDF	ControlNumber_ApplicantName_ProjectNarrative
a.	Site and Resource Maps File	PDF	ControlNumber_ApplicantName_MapsResources
b.	Energy Use and Savings File	PDF	ControlNumber_ApplicantName_EnergyUseSavings
c.	Design and Engineering File	PDF	ControlNumber_ApplicantName_Engineering
d.	Economics File	PDF	ControlNumber_ApplicantName_Economics
e.	Statements of Commitment and Cost Sharing File	PDF	ControlNumber_ApplicantName_Commitments
f.	Agreements File	PDF	ControlNumber_ApplicantName_Agreements
g.	State and Utility Company Incentive	PDF	ControlNumber_ApplicantName_Incentive
h.	Subcontract Plan File, if applicable	PDF	ControlNumber_ApplicantName_SubcontractPlan
i.	Resume File	PDF	ControlNumber_ApplicantName_Resumes
j.	Budget File- SF 424 A Excel, Budget Information - Non-Construction Programs	Excel	ControlNumber_ApplicantName_SF424A
k.	Budget Justification File for SF 424 A Budget	Excel	ControlNumber_ApplicantName_SF424AJustification
l.	Subaward Budget File(s), if applicable	Excel	See Instructions
m.	Financial Statements	PDF	ControlNumber_ApplicantName_Financial
n.	SF-LLL	PDF	ControlNumber_ApplicantName_SF-LLL

D. Submissions from Successful Applicants

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information

- Name and phone number of the Designated Employee Responsible for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Representation of Limited Rights Data and Restricted Software, if applicable
- Accounting System and Financial Systems Information
- Environmental Questionnaire

E. Submission Dates and Times

1. Pre-application Due Date

Pre-applications are not required.

2. Application Due Date

Applications must be received by **June 20, 2013**, not later than **5:00 PM Eastern Time**. You are encouraged to transmit your application well before the deadline. **APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

F. Intergovernmental Review

This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

G. Funding Restrictions

Cost Principles

Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR Part 600. The cost principles for State and Local Governments (including Indian Tribes) are in the Office of Management and Budget (OMB) Circular A-87. Cost principles for commercial organizations are in the Federal Acquisition Regulations (FAR) Part 31.

Pre-award Costs

Per 10 CFR 600.125, applicants must obtain the prior written approval of the DOE Contracting Officer for the inclusion of pre-award costs for periods greater than the 90 calendar days immediately preceding the effective date of the award. DOE should be notified for the inclusion of any proposed costs incurred less than 90 days prior to the effective date of the award. **Costs incurred prior to the notification of selection of award cannot be considered for DOE reimbursement or as cost share.**

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not obtain prior DOE approval, receive an award, or if the award is made for a lesser amount than the applicant expected.

H. Submission and Registration Requirements

1. Where to Submit

APPLICATIONS MUST BE SUBMITTED THROUGH THE EERE EXCHANGE WEBSITE TO BE CONSIDERED FOR AWARD UNDER THIS ANNOUNCEMENT. You cannot submit an application through the EERE Exchange website unless you are registered. Please read the registration requirements below carefully and start the

process immediately. Submit electronic applications through the EERE Exchange website at <https://eere-exchange.energy.gov/>.

If you have problems completing the registration process or submitting your application, send an email to the EERE Exchange helpdesk at EERE-ExchangeSupport@hq.doe.gov.

It is the responsibility of the applicant to verify successful transmission, prior to the Application due date and time.

2. Registration Process Requirements

There are several one-time actions that must be completed before submitting an Application in response to this FOA, as follows:

- Register and create an account on the EERE Exchange website at <https://eere-exchange.energy.gov/>.

This account will then allow the user to register for any open EERE FOA's that are currently in EERE Exchange. It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission.

The applicant will receive an automated response when the Application is received. This will serve as a confirmation of receipt. Please do not reply to the automated response. The applicant will have the opportunity to re-submit a revised Application for any reason as long as the relevant submission is submitted by the specified deadline. The Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements is found at <https://eere-exchange.energy.gov/Manuals.aspx>.

Questions related to the registration process and use of the EERE Exchange website should be submitted to: EERE-ExchangeSupport@hq.doe.gov

The EERE Exchange registration does not have a delay; however, the remaining **registration requirements below could take several weeks to process and are necessary in order for a potential applicant to receive an award under this Funding Opportunity Announcement.** Therefore, although not required in order to submit an Application through the EERE Exchange site, **all potential applicants lacking a DUNS number, or not yet registered with SAM or FedConnect should complete those registrations as soon as possible.**

- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>.
- Register with the System for Award Management (SAM) at: <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.

- Register in FedConnect at <https://www.fedconnect.net/>; use “Register as a Vendor” link. To create an organization account, your organization’s CCR MPIN is required. For more information about the CCR MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at https://www.fedconnect.net/FedConnect/PublicPages/FedConnect_Ready_Set_Go.pdf
- Register in Grants.gov at <http://www.grants.gov/> to receive automatic updates when Amendments to this FOA are posted. See the Organization Registration User Guide at <http://www.grants.gov/assets/OrgReqUserGuide.pdf>. The Applicant User Guide is at <http://www07.grants.gov/assets/ApplicantUserGuide.pdf>. Please note that applications will **not** be accepted through Grants.gov.

3. **Electronic Authorization of Applications and Award Documents**

Submission of an application and supplemental information under this announcement through electronic systems used by the Department of Energy, including Grants.gov and FedConnect, constitutes the authorized representative’s approval and electronic signature.

Submission of award documents, including modifications, through electronic systems used by the Department of Energy, including FedConnect, constitutes the authorized representative’s approval and acceptance of the terms and conditions of the award. Award acknowledgement via FedConnect constitutes the authorized representative’s electronic signature.

PART V - APPLICATION REVIEW INFORMATION

A. Review Criteria

1. Initial Review Criteria

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from consideration. Those applicants will be notified in writing as to why the application was ineligible for further consideration.

2. Merit Review Criteria

The following factors will be used in the comprehensive evaluation of applications. The sub-criteria under each criterion are of equal weight, unless specified.

Criterion I: Goals and Objectives

Weight: 10%

- Clarity and completeness of the following:
 - 1) Discussion of project goals and objectives and project location(s); and
 - 2) Description of the Indian Tribe, Tribal Energy Resource Development Organization, or Tribal Consortium including the long-term energy goals or vision, organizational structure, and demographics. If applicable, clarity of

the description of the Tribal or Inter-tribal Organization submitting the application on behalf of the Indian Tribe.

- Extent to which the proposed project provides economic or environmental benefits to the Indian Tribe(s) and Tribal community and integrates into the long-term energy goals of the Indian Tribe, Tribal Energy Resource Development Organization, or Tribal Consortium.
- Soundness of the discussion that justifies the need for and impacts of DOE funding.

Criterion II: Project Description and Implementation Plan

Weight: 40%

- Clarity and completeness of the discussion of the proposed project (10%), including:
 - 1) Overview of the proposed project; and
 - 2) Description of the building(s) to be affected.
- Potential energy generation or savings (10%), including:
 - 1) Quality of actual energy use data; and
 - 2) Projected reduction in fossil fuel use.
- Technical and economic viability of the proposed project (20%), including
 - 1) Adequacy of the available renewable energy resource(s) and/or quality of the energy audit(s);
 - 2) Viability of the design and availability of commercial renewable energy technologies and/or viability of the energy efficiency measures and completeness of the materials or equipment list(s). Only commercial warranted materials, supplies, or equipment will be considered and, to the maximum extent practical, such materials, supplies and equipment must be made in the U.S.;
 - 3) Reasonableness of the methodology to be used to install renewable energy system(s) and/or implement energy efficiency measure(s);
 - 4) Quality of the economic assessment and ability to fund the project;
 - 5) Clarity and completeness of the discussion of barriers that could impede the project and reasonableness of the plan to overcome those barriers;
 - 6) Reasonableness of the plan to verify the reduction in fossil fuel use (amount, cost, and percentage) will be verified after the installation of the renewable energy system(s) or energy efficiency measure(s); and
 - 7) Reasonableness of the operation and maintenance plan.

Criterion III: Roles, Responsibilities, Resources, and Capabilities

Weight: 30%

- Soundness of the project management concept (10%), including:
 - 1) Management approach and organizational structure for implementing the project, including organizational and individual roles and responsibilities; and
 - 2) Capabilities of the applicant and participants to comprehensively address all aspects of the proposed project or reasonableness of the plan to obtain qualified suppliers, subcontractors, or consultants.

- Level of commitment (20%) of the applicant and each participating organization as evidenced by the (1) level of involvement and, (2) amount of cost sharing identified in the Tribal Council Resolutions, declarations, and letters of commitment.

Criterion IV: State and Utility Company Incentive

Weight: 10%

- Quality of the description of the state or utility company incentive program, including any requirements; and
- Level of commitment from a state or utility company incentives program as evidenced by the acceptance documentation.

Criterion V: Project Activities and Schedule

Weight: 10%

- Clarity and completeness of the description of each activity necessary to complete the project and reasonableness of the milestones; and
- Likelihood of achieving project objectives through realistic milestones and logical task structure.

3. Other Selection Factors

The selection official may consider the following program policy factors in the selection process:

- Geographic diversity of selected projects
- Diversity of technologies
- Current cost of energy
- Applicant's financial need

B. Review and Selection Process

1. Merit Review

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance". This guide is available at <http://energy.gov/management/office-management/operational-management/financial-assistance> under Financial Assistance Policy and Guidance.

It is very important that those documents, Project Abstract and Project Narrative file, that will be used during the Merit Review Process do not contain any Personally Identifiable Information as described in Appendix B.

2. Pre-Selection Clarification

Based upon the results of the merit review of written applications, DOE may determine that pre-selection clarifications are necessary from certain applicants. These pre-selection clarifications will be for the purposes of clarifying the application and may take the form of one or more of the following procedures: written responses to DOE's written clarification questions; video or conference calls with DOE representatives; and/or in person-meetings or presentations at DOE or applicant site. DOE, based upon the results of the merit review of written applications and in its sole discretion, may decide

not to hold any pre-selection clarifications. The information provided by applicants to DOE through pre-selection clarifications is incorporated in their application and contributes to the merit review evaluation and DOE's selection decisions. Selection for participation in pre-selection clarifications does not signify that applicants have been selected for negotiation of award. Applicant costs incurred to participate in pre-selection clarifications (such as travel or other presentation costs) are application costs and are only allowable to awardees as indirect expenses to Federally sponsored projects to the extent that those costs are allowable, allocable and reasonable.

3. Selection

The Selection Official may consider the merit review recommendations, program policy factors, and the amount of funds available in selecting those applications for funding.

4. Discussions and Award

The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude the award to the applicant.

C. Anticipated Notice of Selection and Award Dates

DOE anticipates notifying applicants selected for award on or about August 31, 2013 and making awards by September 30, 2013.

PART VI - AWARD ADMINISTRATION INFORMATION

A. Notice of Selection

1. Notice of Selection

DOE will notify applicants selected for award. This notice of selection is **not** an authorization to begin performance. (See Section IV.G with respect to the allowability of pre-award costs.)

Non-selected Notification

Organizations whose applications have not been selected will be advised as promptly as possible. This notice will explain why the application was not selected.

2. Notice of Award

A Financial Assistance Award or Assistance Agreement issued by the Contracting Officer is the authorizing award document. It normally includes, either as an attachment or by reference:

- (1) Special Terms and Conditions;
- (2) Applicable program regulations, if any;
- (3) Application as approved by DOE;
- (4) DOE assistance regulations at 10 CFR part 600;
- (5) National Policy Assurances To Be Incorporated As Award Terms;

- (6) Intellectual Property Provisions
- (7) Statement of Project Objectives
- (8) Federal Assistance Reporting Checklist, which identifies the reporting requirements; and
- (9) Budget Summary

B. Administrative and National Policy Requirements

1. Administrative Requirements

The administrative requirements for DOE grants and cooperative agreements are contained in Title 10 CFR Part 600 (See: [10 CFR 600](#)).

DUNS and SAM Requirements

Additional administrative requirements for DOE grants and cooperative agreements are contained in 2 CFR, Part 25 (See: <http://ecfr.gpoaccess.gov>). Prime awardees must keep their data at the System for Award Management (SAM) current at <https://www.sam.gov>. SAM is the government-wide system that replaced CCR. If you had an active registration in the CCR, you have an active registration in SAM. Subawardees at all tiers must obtain DUNS numbers and provide the DUNS to the prime awardee before the subaward can be issued.

Subaward and Executive Reporting

Additional administrative requirements necessary for DOE grants and cooperative agreements to comply with the Federal Funding and Transparency Act of 2006 (FFATA) are contained in 2 CFR, Part 170 (<http://ecfr.gpoaccess.gov>). Prime awardees (applicant or recipient) must register with the new FFATA [Subaward Reporting System database](#) and report the required data on their first tier subawardees (e.g., sub-recipients, subcontractors, consultants, vendors). Prime awardees (applicant or recipient) must report the executive compensation for their own executives as part of their registration profile in SAM.

2. Special Terms and Conditions and National Policy Requirements

The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at:

<http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>.

The National Policy Assurances To Be Incorporated as Award Terms are located at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>.

Applicant Representations and Certifications

Corporate Felony Conviction and Federal Tax Liability Representations (March 2012)

By submitting an application in response to this FOA the Applicant represents that:

- (1) It is **not** a corporation that has been convicted (or had an officer or agent of such corporation acting on behalf of the corporation convicted) of a felony criminal violation under any Federal law within the preceding 24 months,
- (2) **No** officer or agent of the corporation have been convicted of a felony criminal violation for an offence arising out of actions for or on behalf of the corporation under Federal law in the past 24 months,
- (3) It is **not** a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

For purposes of these representations the following definitions apply:

A Corporation includes any entity that has filed articles of incorporation in any of the 50 states, the District of Columbia, or the various territories of the United States [but not foreign corporations]. It includes both for-profit and non-profit organizations.

Applicant Lighting Efficiency Certification (April 2012)

In submitting an application in response to this FOA the Applicant certifies that if chosen for a **grant** award and the award is in excess of \$1,000,000 it will, by the end of the Federal Government’s fiscal year, upgrade the efficiency of its facilities by replacing any incandescent lighting of the type for which section 325 of the Energy Policy and Conservation Act (42 USC 6295) establishes a standard that does not meet or exceed the energy efficiency standard for incandescent light bulbs set forth in that section with a lamp that meets or exceeds the standards for lamps established in or pursuant to that section.

Incandescent reflector lamps shall meet or exceed the lamp efficacy standards shown in the table:

Rated lamp wattage	Lamp spectrum	Lamp diameter (inches)	Rated voltage	Minimum average lamp efficacy (lm/W)
40–205	Standard Spectrum	>2.5	≥125V	6.8*P ^{0.27}
			<125V	5.9*P ^{0.27}
		≤2.5	≥125V	5.7*P ^{0.27}
			<125V	5.0*P ^{0.27}
40–205	Modified Spectrum	>2.5	≤125V	5.8*P ^{0.27}
			<125V	5.0*P ^{0.27}
		≤2.5	≥125V	4.9*P ^{0.27}

			<125V	$4.2 * P^{0.27}$
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Note 1: P is equal to the rated lamp wattage, in watts.

Note 2: Standard Spectrum means any incandescent reflector lamp that does not meet the definition of modified spectrum in 10 CFR 430.2.

Subject to the exemption below, the standards specified in this section shall apply to ER incandescent reflector lamps, BR incandescent reflector lamps, BPAR incandescent reflector lamps, and similar bulb shapes.

Subject to the exemption below, the standards specified in this section shall apply to incandescent reflector lamps with a diameter of more than 2.25 inches, but not more than 2.75 inches.

Exemption: The standards specified in this section shall not apply to the following types of incandescent reflector lamps:

- (A) Lamps rated at 50 watts or less that are ER30, BR30, BR40, or ER40 lamps;
- (B) Lamps rated at 65 watts that are BR30, BR40, or ER40 lamps; or
- (C) R20 incandescent reflector lamps rated 45 watts or less.

For purposes of this Certification, the following definitions apply:

- (A) Facilities mean the room(s), area(s), or building(s) that are used to complete a majority of the work under the project.
- (B) In excess of \$1,000,000 means the total value of the grant including all budget periods funded with Federal funds and recipient cost share is greater than \$1,000,000.
- (C) Federal Government's fiscal year begins October 1st and ends September 30th.
- (D) Except as provided in subparagraph (4) below, the term "incandescent lamp" means a lamp in which light is produced by a filament heated to incandescence by an electric current, including only the following:
 - (1) Any lamp (commonly referred to as lower wattage nonreflector general service lamps, including any tungsten-halogen lamp) that has a rated wattage between 30 and 199 watts, has an E26 medium screw base, has a rated voltage or voltage range that lies at least partially within 115 and 130 volts, and is not a reflector lamp.
 - (2) Any lamp (commonly referred to as a reflector lamp) which is not colored or designed for rough or vibration service applications, that contains an inner reflective coating on the outer bulb to direct the light, an R, PAR, ER, BR, BPAR, or similar bulb shapes with E26 medium screw bases, a rated voltage or voltage

range that lies at least partially within 115 and 130 volts, a diameter which exceeds 2.25 inches, and has a rated wattage that is 40 watts or higher.

(3) Any general service incandescent lamp (commonly referred to as a high- or higher-wattage lamp) that has a rated wattage above 199 watts (above 205 watts for a high wattage reflector lamp).

(4) The term “incandescent lamp” does not include any lamp excluded by the Secretary, by rule, as a result of a determination that standards for such lamp would not result in significant energy savings because such lamp is designed for special applications or has special characteristics not available in reasonably substitutable lamp types.

(E) The term “base” means the portion of the lamp which connects with the socket as described in ANSI C81.61–1990.

(F) The term “bulb shape” means the shape of lamp, especially the glass bulb with designations for bulb shapes found in ANSI C79.1–1980 (R1984).

(G) The term “lamp efficacy” means the lumen output of a lamp divided by its wattage, expressed in lumens per watt (LPW).

(H) The term “lamp wattage” means the total electrical power consumed by a lamp in watts, after the initial seasoning period referenced in the appropriate IES standard test procedure and including, for fluorescent, arc watts plus cathode.

3. Intellectual Property Provisions

The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at <http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms>.

C. Reporting

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, to be attached to any award agreement. The DOE F 4600.2 form can be found at https://www.eere-pmc.energy.gov/procurenet/FinancialAssistance/Forms/DOE_Forms/DOEF4600_2.doc.

PART VII - QUESTIONS/AGENCY CONTACTS

A. Questions

Questions regarding the content of this announcement must be submitted via email to: tribal@go.doe.gov not later than 3 business days prior to the application due date. **Please include “DE-FOA-0000853 Question” in the subject line.**

All questions and answers related to this FOA will be posted on EERE Exchange at: <https://eere-exchange.energy.gov/>. **Please note that you must first select this specific FOA Number in order to view the questions and answers specific to this FOA.** DOE will attempt to respond to a question within 3 business days, unless a similar question and answer has already been posted on the website.

Questions concerning this FOA should be submitted not later than 3 calendar days prior to the application due date. Questions submitted after that date may not allow the Government sufficient time to respond.

Questions related to the registration process and use of the EERE Exchange website should be submitted to: EERE-ExchangeSupport@hq.doe.gov or see the Users' Guide for Applying to the Department of Energy EERE Funding Opportunity Announcements found at <https://eere-exchange.energy.gov/Manuals.aspx>.

PART VIII - OTHER INFORMATION

A. Amendment

Amendments to this announcement will be posted on the EERE eXCHANGE web site and the Grants.gov system. However, you will only receive an email when an amendment or an announcement is posted on these sites if you register for email notifications for this FOA in Grants.gov. DOE recommends that you register as soon after the release of the FOA as possible to ensure you receive timely notice of any amendments or other announcements.

Applications will **not** be accepted through Grants.gov. <http://www.grants.gov/>. **All** applications must be submitted electronically through the EERE Exchange website at <https://eere-exchange.energy.gov/>.

B. Government Right to Reject or Negotiate

DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

C. Commitment of Public Funds

The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

D. Proprietary Application Information

DOE will use data and other information contained in applications strictly for evaluation purposes. Applicants should not include confidential, proprietary, or privileged information in their applications unless such information is necessary to convey an understanding of the proposed project.

Applications containing confidential, proprietary, or privileged information must be marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Government is not liable for the disclosure or use of unmarked information, and may use or disclose such information for any purpose.

The cover sheet of the application must be marked as follows and identify the specific pages containing confidential, proprietary, or privileged information:

Notice of Restriction on Disclosure and Use of Data:

“Pages [*list applicable pages*] of this document may contain confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes or in accordance with a financial assistance or loan agreement between the submitter and the Government. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source.”

The header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: “Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure.”

In addition, every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

E. Evaluation and Administration by Non-Federal Personnel

In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

F. Intellectual Property Developed under this Program

Patent Rights: The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See “Notice of Right to Request Patent Waiver” in paragraph G below.)

Rights in Technical Data: Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE's own needs or to insure the commercialization of technology developed under a DOE agreement.

G. Notice of Right to Request Patent Waiver

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause

permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

H. Notice of Right to Conduct a Review of Financial Capability

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

I. Notice of Potential Disclosure under Freedom of Information Act

Applicants should be advised that identifying information regarding all applicants, including applicant names and/or points of contact, may be subject to public disclosure under the Freedom of Information Act, whether or not such applicants are selected for negotiation of award.

J. Lobbying Restrictions

By accepting funds under this award, you agree that none of the funds obligated on the award shall be expended, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

K. DOE's Financial Interest in Equipment

DOE will retain a financial interest in any equipment acquired with Federal funds or supplied by the recipient or project participants as cost share. When equipment with a fair market value of \$5,000 or more is no longer needed for the purpose originally authorized for the project, the recipient or project participant may elect to retain title only after compensating the DOE for the percentage of the fair market value that is attributed to the Federal participation in the project.

L. National Environmental Policy Act (NEPA) Requirements

The National Environmental Policy Act (NEPA) of 1969, as amended, applies when a Federal agency proposes to take an action, including providing funding. If it is determined that a specific action has no significant individual or cumulative effect on the quality of the human environment, it may be Categorically Excluded; however, a review of the proposed action (including projects selected for funding under this FOA) and a determination by the agency will be required. Tribal Historic Preservation Office (THPO) or State Historic Preservation Office (SHPO) review and/or approval may be required depending on the age of the building or whether the site is considered culturally or historically significant.

If selected for award, an applicant will be restricted from taking any irreversible action using Federal or cost shared funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE reaching a final NEPA decision regarding the project. Irreversible actions include, but are not limited to, demolition of existing buildings, site clearing, ground breaking, construction, installation, renovation, or building retrofits.

Appendix A – Definitions

“Amendment” means a revision to a Funding Opportunity Announcement.

"Applicant" means the legal entity or individual signing the Application. This entity or individual may be one organization or a single entity representing a group of organizations (such as a Consortium) that has chosen to submit a single Application in response to a Funding Opportunity Announcement.

"Application" means the documentation submitted in response to a Funding Opportunity Announcement.

“Authorized Organization Representative (AOR)” is the person with assigned privileges who is authorized to submit grant applications through Grants.gov on behalf of an organization. The privileges are assigned by the organization’s E-Business Point of Contact designated in the CCR.

"Award" means the written documentation executed by a DOE Contracting Officer, after an Applicant is selected, which contains the negotiated terms and conditions for providing Financial Assistance to the Applicant. A Financial Assistance Award may be either a Grant or a Cooperative Agreement.

"Budget" means the cost expenditure plan submitted in the Application, including both the DOE contribution and the Applicant Cost Share.

“Business Contact” means a representative authorized to act on behalf of the applicant to negotiate the agreement, as all DOE official correspondence related to this announcement, or agreement if one was awarded, would be addressed to the business point of contact.

“Community-scale project” for purposes of this Funding Opportunity Announcement only, means a renewable energy or energy efficiency project to reduce fossil fuel use in multiple Tribally-owned buildings located on Indian lands (see definition of “Tribally-owned building” below).

"Contracting Officer" means the DOE official authorized to execute Awards on behalf of DOE and who is responsible for the business management and non-program aspects of the Financial Assistance process.

"Cooperative Agreement" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and Substantial Involvement (see definition below) is anticipated between DOE and the Applicant during the performance of the contemplated activity.

"Cost Sharing" means the respective share of Total Project Costs to be contributed by the Applicant and by DOE. The percentage of Applicant Cost Share is to be applied to the Total Project Cost (i.e., the sum of Applicant plus DOE Cost Shares) rather than to the DOE contribution alone.

“Credential Provider” is an organization that validates the electronic identity of an individual through electronic credentials, PINS, and passwords for Grants.gov and FedConnect. Funding Opportunity Announcements which require application submission through Grants.gov require that the individual applying on behalf of an organization first be registered with the Credential Provider at http://www.grants.gov/applicants/register_credential_provider.jsp.

“Data Universal Numbering System (DUNS) Number” is a unique nine-character identification number issued by Dun and Bradstreet (D&B). Organizations must have a DUNS number prior to registering in the CCR. Call 1-866-705-5711 to receive one free of charge. http://www.grants.gov/applicants/request_duns_number.jsp

“E-Business Point of Contact (POC)” is the individual who is designated as the Electronic Business Point of Contact in the CCR registration. This person is the sole authority of the organization with the capability of designating or revoking an individual’s ability to conduct CCR transactions.

“E-Find” is a Grants.gov webpage where you can search for Federal Funding Opportunities in FedGrants. <http://www.grants.gov/search/searchHome.do>

“Energy Efficiency Measures” for purposes of this Funding Opportunity Announcement only include, but are not limited to, building envelope improvements (walls, roofs, foundation slab, ceiling, windows, doors, insulation), high-efficiency lighting, efficient appliances, efficient heating systems (furnaces, boilers, passive solar), efficient cooling systems (air conditioners, evaporative coolers), combined heat and power systems, high efficiency office equipment, and energy saving building electrical equipment.

“Facility-scale project” for purposes of this Funding Opportunity Announcement only, means a renewable energy or energy efficiency project to reduce fossil fuel use in a single Tribally-owned building located on Indian lands (see definition of “Tribally-owned building” below).

“Financial Assistance” means the transfer of money or property to an Applicant or Participant to accomplish a public purpose of support authorized by Federal statute through Grants or Cooperative Agreements and sub-awards. For DOE, it does not include direct loans, loan guarantees, price guarantees, purchase agreements, Cooperative Research and Development Agreements (CRADAs), or any other type of financial incentive instrument.

“FedConnect” is where federal agencies post opportunities and make awards via the web. Any Applicant can view public postings without registering. However, registered users have numerous added benefits including the ability to electronically submit Applications / Responses to the government directly through this site. <https://www.fedconnect.net/FedConnect/>

“Federally Funded Research and Development Center (FFRDC)” means a research laboratory as defined by Federal Acquisition Regulation 35.017.

“Funding Opportunity Announcement (FOA)” is a publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds. Funding opportunity announcements may be known as program announcements, notices of funding availability, solicitations, or other names depending on the agency and type of program.

"Grant" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and no Substantial Involvement is anticipated between DOE and the Applicant during the performance of the contemplated activity.

"Grants.gov" is the "storefront" web portal which allows organizations to electronically find grant opportunities from all Federal grant-making agencies. Grants.gov is THE single access point for over 900 grant programs offered by the 26 Federal grant-making agencies. <http://www.grants.gov>

"Indian Country" for purposes of this Funding Opportunity Announcement only, is defined as Indians Lands. See definition of Indian Lands below.

"Indian Lands" for purposes of this Funding Opportunity Announcement only, is defined as:

- (a) any land located within the boundaries of an "Indian reservation" (see definition of Indian Reservation below), pueblo, or rancharia;
- (b) any land not located within boundaries of an Indian reservation, pueblo, or rancharia, the title to which is held –
 - (i) in trust by the United States for the benefit of an Indian tribe or an individual Indian;
 - (ii) by an Indian tribe or an individual Indian, subject to restriction against alienation under laws of the United States; or
 - (iii) by a dependent Indian community;
- (c) land that is owned by an Indian tribe and was conveyed by the United States to a Native Corporation pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. § 1601 et seq.), or that was conveyed by the United States to a Native Corporation in exchange for such land;
- (d) lands held in fee simple (purchased or owned);
- (e) lands under a long-term Federal land lease; or
- (f) land that was conveyed to a Native Corporation pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. § 1601 et seq.) and subsequently conveyed to another entity, provided that entity is either a Native village or tribal governmental entity or the land is held, invested, and/or managed for and on behalf of a Native village or tribal governmental entity. Also, see Indian Country.

"Indian Reservation" for purposes of this Funding Opportunity Announcement only and as defined under Section 503 of EPOA 2005, includes an Indian reservation in existence in any State or States as of the date of enactment of Title V of EPOA 2005; a public domain Indian allotment; and a dependent Indian community located within the borders of the United States, regardless of whether the community is on original or acquired territory of the community; or within or outside the boundaries of any State or States.

"Indian Tribe" for purposes of this announcement, means any "Indian tribe, band, nation or other organized group or community" (see below for further definition), including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688) [43 U.S.C. §§ 1601 et seq.], which are recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians. For purposes of this announcement, an eligible "Indian Tribe" (including Alaska Native villages, but not regional or village corporations), must be federally recognized as listed in *Indian Entities Recognized and Eligible to Receive Services*

from the United States Bureau of Indian Affairs, published by the Department of Interior's Bureau of Indian Affairs in the Federal Register on August 10, 2012, 77 FR 47868.

“Inter-Tribal Organization” for purposes of this announcement, means any organization comprised of *two or more* Indian Tribes, established under Congressional, State, or Tribal law to act on behalf of the participating Indian Tribes. “Inter-Tribal Organizations” may include, but are not limited to, inter-tribal councils, regional tribal organizations or associations, and tribal federations. Applications may be submitted by an authorized “Inter-Tribal Organization”, provided evidence of the authority to submit an application, relative to the proposed project, is supplied as part of the application. Evidence may include, but is not limited to, a resolution, ordinance, executive order, charter, P.L. 93-638 contract, or other legal documentation. DOE will determine the sufficiency of the authorization based on the evidence submitted as part of the application.

"Key Personnel" mean the individuals who will have significant roles in planning and implementing the proposed Project on the part of the Applicant and Participants, including FFRDCs.

“Marketing Partner Identification Number (MPIN)” is a very important password designated by your organization when registering in CCR. The E-Business Point of Contact will need the MPIN to assign privileges to the individual(s) authorized to perform CCR transactions on behalf of your organization. The MPIN must have 9 digits containing at least one alpha character (must be in capital letters) and one number (no spaces or special characters permitted).

"Participant or Partner or Sub-recipient or Sub-awardee" for purposes of this Funding Opportunity Announcement only, means any entity, except the Applicant substantially involved in a Consortium, or other business arrangement (including all parties to the Application at any tier), responding to the Funding Opportunity Announcement.

“Principal Investigator” refers to the technical point of contact/Project Manager for a specific project award.

"Project" means the set of activities described in an Application, State plan, or other document that is approved by DOE for Financial Assistance (whether such Financial Assistance represents all or only a portion of the support necessary to carry out those activities).

“Project Manager” refers to the technical point of contact or principal investigator for a specific project award.

“Proposal” is the term used to describe the documentation submitted in response to a Funding Opportunity Announcement. Also see Application.

“Recipient or Prime Recipient” means the organization, individual, or other entity that receives a Financial Assistance Award from DOE, is financially accountable for the use of any DOE funds or property provided for the performance of the Project, and is legally responsible for carrying out the terms and condition of the award.

“Renewable Energy Systems” for purposes of this Funding Opportunity Announcement only includes electric power generation or heating or cooling applications. Renewable energy systems for electric power generation include, but are not limited to, photovoltaic (solar electric),

biomass (including waste to energy), wind power, incremental hydropower, or other renewable energy hybrid systems for electric power generation. Heating or cooling applications include, but are not limited to, the use of biomass for high efficiency stoves, boilers or furnaces, active solar thermal systems for space or water heating, use of ground source heat pumps, wind energy for heating, direct-use hydrothermal (geothermal) resources for water and space heating, renewable-fueled combined heat and power systems for heating and cooling, or other renewable energy hybrid systems for heating and/or cooling.

"Selection" means the determination by the DOE Selection Official that negotiations take place for certain Projects with the intent of awarding a Financial Assistance instrument.

"Selection Official" means the DOE official designated to select Applications for negotiation toward Award under a subject Funding Opportunity Announcement.

"State or Utility Company Renewable Energy or Energy Efficiency Incentive Program" for purposes of this Funding Opportunity Announcement only means program(s) offered through a state, local government or utility that provides incentive payments, billing credits, rebate payments or other financial support to customers to promote the installation of renewable energy or energy efficiency projects.

"Sub-awardee or Participant or Partner or Sub-recipient" for purposes of this Funding Opportunity Announcement only, means any entity, except the Applicant substantially involved in a Consortium, or other business arrangement (including all parties to the Application at any tier), responding to the Funding Opportunity Announcement.

"System for Award Management (SAM)" is a Federal Government owned and operated free web site that consolidates the capabilities in Central Contractor Registration (CCR), Federal Agency Registration (RedReg), Online Representations and Certifications Application (ORCA), and Excluded Parties List System (EPLS).

"Substantial Involvement" means involvement on the part of the Government. DOE's involvement may include shared responsibility for the performance of the Project; providing technical assistance or guidance which the Applicant is to follow; and the right to intervene in the conduct or performance of the Project. Such involvement will be negotiated with each Applicant prior to signing any agreement.

"Technical Contact" means a representative authorized to act as project manager on behalf of the Applicant and would be the prime point of contact for DOE's Project Officer during project performance, if an agreement were to be awarded.

"Technology Investment Agreement (TIA)" is a type of assistance instrument used to support or stimulate research projects involving for-profit firms, especially commercial firms that do business primarily in the commercial marketplace. TIAs are different from grants and cooperative agreements in that the award terms may vary from the Government-wide standard terms (See DOE TIA regulations at 10 CFR Part 603). The primary purposes for including a TIA in the type of available award instruments are to encourage non-traditional Government contractors to participate in an R&D program and to facilitate new relationships and business practices. A TIA can be particularly useful for awards to consortia (See 10 CFR 603.225(b) and 603.515, Qualification of a consortium).

"Total Project Cost" means all the funds to complete the effort proposed by the Applicant, including DOE funds (including direct funding of any FFRDC) plus all other funds that will be committed by the Applicant as Cost Sharing.

"Tribal Consortium" (plural consortia), for purposes of this Funding Opportunity Announcement only, means a group of organizations, at least one of which is an Indian Tribe, that have chosen to submit a single application, provided the application is submitted by a single Tribe representing the consortium.

"Tribal Energy Resource Development Organization" for purposes of this Funding Opportunity Announcement only means an "organization" of two or more entities, at least one of which is an Indian Tribe (see "Indian Tribe" above) that has the written consent of the governing bodies of all Indian Tribes participating in the organization to apply for a grant or loan, or other assistance under 25 U.S.C. § 3503, where "organization" means a partnership, joint venture, Limited Liability Company (LLC) or other unincorporated association or entity that is established to develop Indian Energy.

"Tribal Organization" for purposes of this announcement means any legally established organization of an Indian Tribe, which is controlled, sanctioned, or chartered by the recognized governing body of that Indian Tribe. A "Tribal Organization" may include, but is not limited to, a subsidiary, subdivision, or instrumentality of an Indian Tribe, established under Congressional, State or Tribal law to act on behalf of an Indian Tribe. Applications may be submitted by an authorized "Tribal Organization", provided evidence of the authority to submit an application, relative to the proposed project, is supplied as part of the application. Evidence may include, but is not limited to, a constitution, resolution, ordinance, executive order, charter or other legal documentation. DOE will determine the sufficiency of the authorization based on the evidence submitted as part of the application.

"Tribally-owned Building" for purposes of this Funding Opportunity Announcement is one where the Indian Tribe, Tribal Energy Resource Development Organizations and Tribal Consortia has the authority to retrofit the building and is either owned by the Indian Tribe, Tribal Energy Resource Development Organizations, Tribal Consortia or Tribal members, or has a long-term lease. Buildings may include, but are not limited to, homes, schools, community buildings, clinics, government buildings, or other Tribal facilities

Appendix B – Personally Identifiable Information

In responding to this Announcement, Applicants must ensure that Protected Personally Identifiable Information (PII) is not included in the following documents: Project Abstract, Project Narrative, Biographical Sketches, Budget or Budget Justification. These documents will be used by the Merit Review Committee in the review process to evaluate each application. PII is defined by the Office of Management and Budget (OMB) and DOE as:

Any information about an individual maintained by an agency, including but not limited to, education, financial transactions, medical history, and criminal or employment history and information that can be used to distinguish or trace an individual's identity, such as their name, social security number, date and place of birth, mother's maiden name, biometric records, etc., including any other personal information that is linked or linkable to an individual.

This definition of PII can be further defined as: (1) Public PII and (2) Protected PII.

- a. **Public PII:** PII found in public sources such as telephone books, public websites, business cards, university listing, etc. Public PII includes first and last name, address, work telephone number, email address, home telephone number, and general education credentials.
- b. **Protected PII:** PII that requires enhanced protection. This information includes data that if compromised could cause harm to an individual such as identity theft.

Listed below are examples of Protected PII that Applicants must not include in the files listed above to be evaluated by the Merit Review Committee.

- Social Security Numbers in any form
- Place of birth associated with an individual
- Date of birth associated with an individual
- Mother's maiden name associated with an individual
- Biometric record associated with an individual
- Fingerprint
- Iris scan
- DNA
- Medical history information associated with an individual
- Medical conditions, including history of disease
- Metric information, e.g. weight, height, blood pressure
- Criminal history associated with an individual
- Employment history and other employment information associated with an individual
- Ratings
- Disciplinary actions
- Performance elements and standards (or work expectations) are PII when they are so intertwined with performance appraisals that their disclosure would reveal an individual's performance appraisal
- Financial information associated with an individual
- Credit card numbers
- Bank account numbers
- Security clearance history or related information (not including actual clearances held)

Listed below are examples of Public PII that Applicants may include in the files listed above to be evaluated by the Merit Review Committee:

- Phone numbers (work, home, cell)
- Street addresses (work and personal)
- Email addresses (work and personal)
- Digital pictures
- Medical information included in a health or safety report
- Employment information that is not PII even when associated with a name
- Resumes, unless they include a Social Security Number
- Present and past position titles and occupational series
- Present and past grades
- Present and past annual salary rates (including performance awards or bonuses, incentive awards, merit pay amount, Meritorious or Distinguished Executive Ranks, and allowances and differentials)
- Present and past duty stations and organization of assignment (includes room and phone numbers, organization designations, work email address, or other identifying information regarding buildings, room numbers, or places of employment)
- Position descriptions, identification of job elements, and those performance standards (but not actual performance appraisals) that the release of which would not interfere with law enforcement programs or severely inhibit agency effectiveness
- Security clearances held
- Written biographies (e.g. to be used in a program describing a speaker)
- Academic credentials
- Schools attended
- Major or area of study
- Personal information stored by individuals about themselves on their assigned workstation or laptop unless it contains a Social Security Number

Appendix C – Cost Share Information

Cost Sharing or Cost Matching

The terms “cost sharing” and “cost matching” are often used synonymously. Even the DOE Financial Assistance Regulations, 10 CFR Part 600, use both of the terms in the titles specific to regulations applicable to cost sharing. DOE almost always uses the term “cost sharing,” as it conveys the concept that **non-federal share is calculated as a percentage of the Total Project Cost**. An exception is the State Energy Program Regulation, 10 CFR Part 420.12, State Matching Contribution. Here “cost matching” for the non-federal share is calculated as a percentage of the federal funds only, rather than the Total Project Cost.

How Cost Sharing Is Calculated

As stated above, cost sharing is calculated as a percentage of the Total Project Cost. Following is an example of how to calculate cost sharing amounts for a project with \$1,000,000 in federal funds with a minimum 20% non-federal cost sharing requirement:

Formula: Federal share (\$) divided by Federal share (%) = Total Project Cost

Example: \$1,000,000 divided by 80% = \$1,250,000

Formula: Total Project Cost (\$) minus Federal share (\$) = Non-federal share (\$)

Example: \$1,250,000 minus \$1,000,000 = \$250,000

Formula: Non-federal share (\$) divided by Total Project Cost (\$) = Non-federal share (%)

Example: \$250,000 divided by \$1,250,000 = 20%

See the sample cost share calculation for a blended cost share percentage below. **Keep in mind that FFRDC funding is DOE funding.**

What Qualifies For Cost Sharing

While it is not possible to explain what specifically qualifies for cost sharing in one or even a couple of sentences, in general, if a cost is allowable under the cost principles applicable to the organization incurring the cost and is eligible for reimbursement under a DOE grant or cooperative agreement, then it is allowable as cost share. Conversely, if the cost is not allowable under the cost principles and not eligible for reimbursement, then it is not allowable as cost share. In addition, costs may not be counted as cost share if they are paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing.

The rules associated with what is allowable as cost share are specific to the type of organization that is receiving funds under the grant or cooperative agreement, though are generally the same for all types of entities. The specific rules applicable to:

- Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations are found at 10 CFR600.123;
- State and Local Governments (including Indian Tribes) are found at 10 CFR600.224;
- For-profit Organizations are found at 10 CFR600.313.

In addition to the regulations referenced above, other factors may also come into play such as timing of donations and length of the project period. For example, the value of ten years of donated maintenance on a project that has a project period of five years would not be fully allowable as cost share. Only the value for the five years of donated maintenance that corresponds to the project period is allowable and may be counted as cost share.

Additionally, DOE generally does not allow pre-award costs for either cost share or reimbursement when these costs precede the signing of the appropriation bill that funds the award. In the case of a competitive award, DOE generally does not allow pre-award costs prior to the signing of the Selection Statement by the DOE Selection Official.

Following is a link to the DOE Financial Assistance Regulations. You can click on the specific section for each Code of Federal Regulations reference mentioned above.

DOE Financial Assistance Regulations:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=98a996164312e8dcf0df9c22912852b0&rqn=div5&view=text&node=10:4.0.1.3.9&idno=10>

As stated above, the rules associated with what is allowable cost share are generally the same for all types of organizations. Following are the rules found to be common, but again, the specifics are contained in the regulations and cost principles specific to the type of entity:

(A) *Acceptable contributions*. All contributions, including cash contributions and third party in-kind contributions, must be accepted as part of the recipient's cost sharing if such contributions meet all of the following criteria:

- (1) They are verifiable from the recipient's records.
- (2) They are not included as contributions for any other federally-assisted project or program.
- (3) They are necessary and reasonable for proper and efficient accomplishment of project or program objectives.
- (4) They are allowable under the cost principles applicable to the type of entity incurring the cost as follows:

(a) *For-profit organizations*. Allowability of costs incurred by for-profit organizations and those nonprofit organizations listed in Attachment C to OMB Circular A-122 is determined in accordance with the for-profit costs principles in 48 CFR Part 31 in the Federal Acquisition Regulation, except that patent prosecution costs are not allowable unless specifically authorized in the award document.

(b) *Other types of organizations*. Allowability of costs incurred by other types of organizations that may be subrecipients under a prime award is determined as follows:

(i) *Institutions of higher education*. Allowability is determined in accordance with OMB Circular No. A-21 -- Cost Principles for Educational Institutions

(ii) *Other nonprofit organizations.* Allowability is determined in accordance with OMB Circular A-122, Cost Principles for Non-Profit Organizations

(iii) *Hospitals.* Allowability is determined in accordance with the provisions of 45 CFR Part 74, Appendix E, Principles for Determining Costs Applicable to Research and Development Under Grants and Contracts with Hospitals

(iv) *Governmental organizations.* Allowability for State, local, or federally recognized Indian tribal government is determined in accordance with OMB Circular No. A-87, Cost Principles for State, Local, and Indian Tribal Governments

(5) They are not paid by the Federal Government under another award unless authorized by Federal statute to be used for cost sharing or matching.

(6) They are provided for in the approved budget.

(B) *Valuing and documenting contributions*

(1) *Valuing recipient's property or services of recipient's employees.* Values are established in accordance with the applicable cost principles, which mean that amounts chargeable to the project are determined on the basis of costs incurred. For real property or equipment used on the project, the cost principles authorize depreciation or use charges. The full value of the item may be applied when the item will be consumed in the performance of the award or fully depreciated by the end of the award. In cases where the full value of a donated capital asset is to be applied as cost sharing or matching, that full value must be the lesser or the following:

- (a) The certified value of the remaining life of the property recorded in the recipient's accounting records at the time of donation; or
- (b) The current fair market value. If there is sufficient justification, the Contracting Officer may approve the use of the current fair market value of the donated property, even if it exceeds the certified value at the time of donation to the project. The Contracting Officer may accept the use of any reasonable basis for determining the fair market value of the property.

(2) *Valuing services of others' employees.* If an employer other than the recipient furnishes the services of an employee, those services are valued at the employee's regular rate of pay, provided these services are for the same skill level for which the employee is normally paid.

(3) *Valuing volunteer services.* Volunteer services furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as cost sharing or matching if the service is an integral and necessary part of an approved project or program. Rates for volunteer services must be consistent with those paid for similar work in the recipient's organization. In those markets in which the required skills are not found in the recipient organization, rates must be consistent with those paid for similar work in the labor market in which the recipient competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.

(4) *Valuing property donated by third parties.*

- (a) Donated supplies may include such items as office supplies or laboratory supplies. Value assessed to donated supplies included in the cost sharing or matching share must be reasonable and must not exceed the fair market value of the property at the time of the donation.
- (b) Normally only depreciation or use charges for equipment and buildings may be applied. However, the fair rental charges for land and the full value of equipment or other capital assets may be allowed, when they will be consumed in the performance of the award or fully depreciated by the end of the award, provided that the Contracting Officer has approved the charges. When use charges are applied, values must be determined in accordance with the usual accounting policies of the recipient, with the following qualifications:
 - (i) The value of donated space must not exceed the fair rental value of comparable space as established by an independent appraisal of comparable space and facilities in a privately-owned building in the same locality.
 - (ii) The value of loaned equipment must not exceed its fair rental value.

(5) *Documentation.* The following requirements pertain to the recipient's supporting records for in-kind contributions from third parties:

- (a) Volunteer services must be documented and, to the extent feasible, supported by the same methods used by the recipient for its own employees.
- (b) The basis for determining the valuation for personal services and property must be documented.

**SAMPLE COST SHARE CALCULATION
FOR BLENDED COST SHARE PERCENTAGE**

The following example shows the math for calculating required cost share for a project with \$2,000,000 in Federal funds with four tasks requiring different Non-federal cost share percentages:

<u>Task</u>	<u>Proposed Federal Share</u>	<u>Required Federal Share %</u>	<u>Non-federal Cost Share %</u>
Task 1 (R&D)	\$1,000,000	80%	20%
Task 2 (R&D)	500,000	80%	20%
Task 3 (Demonstration)	400,000	50%	50%
Task 4 (Outreach)	<u>100,000</u>	100%	0%
	\$2,000,000		

Federal share (\$) divided by Federal share (%) = Task Cost

Each task must be calculated individually as follows:

Task 1
\$1,000,000 divided by 80% = \$1,250,000 (Task 1 Cost)
Task 1 Cost minus federal share = Non-federal share
\$1,250,000 - \$1,000,000 = **\$250,000 (Non-federal share)**

Task 2
\$500,000 divided 80% = \$625,000 (Task 2 Cost)
Task 2 Cost minus federal share = Non-federal share
\$625,000 - \$500,000 = **\$125,000 (Non-federal share)**

Task 3
\$400,000 / 50% = \$800,000 (Task 3 Cost)
Task 3 Cost minus federal share = Non-federal share
\$800,000 - \$400,000 = **\$400,000 (Non-federal share)**

Task 4
Federal share = \$100,000
Non-federal cost share is not mandated for outreach = **\$0 (Non-federal share)**

The calculation may then be completed as follows:

<u>Task</u>	<u>Proposed Federal Share</u>	<u>Federal Share %</u>	<u>Required Non-federal Cost Share \$</u>	<u>Required Non-federal Cost Share %</u>	<u>Total Project Cost</u>
Task 1	\$1,000,000	80%	\$250,000	20%	\$1,250,000
Task 2	500,000	80%	125,000	20%	625,000
Task 3	400,000	50%	400,000	50%	800,000
Task 4	<u>100,000</u>	100%	<u>0</u>	0%	<u>100,000</u>
	\$2,000,000		\$775,000		\$2,775,000

Blended Cost Share %

Non-federal share (\$775,000) divided by Total Project Cost (\$2,775,000) = 27.9% (Non-federal)

Federal share (\$2,000,000) divided by Total Project Cost (\$2,775,000) = 72.1% (Federal)

Appendix D – Budget Justification

Using the “Object Class Categories” in the SF-424A Budget form, justify the costs in each category **for each budget period of the project.**

The SF424A Budget form and the Budget Justification must include both Federal (DOE), and Non-Federal (cost share) funds, thereby reflecting TOTAL PROJECT COSTS proposed.

For each sub-recipient with total costs of more than \$100,000 or 30% of the total project budget or more (whichever is less), a separate budget justification form must be submitted

For sub-recipients with estimated costs less than \$100,000, provide what Statement of Project Objectives task(s) are being performed, the purpose/need for the effort, and a basis of the estimated costs that is considered sufficient for DOE evaluation.

All costs incurred by the Applicant’s sub-recipients, vendors, contractors, consultants and Federal Research and Development Centers (FFRDCs), should be entered only in section f. Contractual. All other sections are for the costs of the Applicant only.

Personnel

List costs solely for employees of the Applicant. Identify positions to be supported. Key personnel should be identified by title. All other personnel should be identified either by title or a group category. State the amounts of time (e.g., hours or % of time) to be expended, the composite base pay rate, total direct personnel compensation and identify the rate basis (e.g., actual salary, labor distribution report, technical estimate, state civil service rates, etc.). Identify the number of employees (on a Full Time Equivalent) that will be employed in each position or group category. See example below.

Task # and Title	Position Title	Budget Period 1			Budget Period 2			Project Total Hours	Project Total Dollars	Rate Basis
		Time (Hours)	Pay Rate (\$/Hr)	Total Budget Period 1	Time (Hours)	Pay Rate (\$/Hr)	Total Budget Period 2			
Task 1. Task Name	Sr. Engineer (1)	2000	\$85.00	\$170,000	200	\$50.00	\$10,000	2400	\$190,000	Actual Salary
Task 2 Task Name	Process Engineers (3)	6200	\$35.00	\$217,000	400	\$35.00	\$14,000	7200	\$252,000	Actual Salary
Task 3 Task Name	Technician (1)	1800	\$20.00	\$36,000	0	\$0.00	\$0	1800	\$36,000	Actual Salary

Fringe

A federally approved fringe benefit rate agreement, or a proposed rate supported and agreed upon by DOE for estimating purposes is required if reimbursement for fringe benefits is requested. If a fringe benefit rate has been negotiated with, or approved by, a federal government agency, a copy of the latest rate agreement must be included with this application. If there is not a current, federally approved rate agreement negotiated and available, provide a copy of the proposal with the application. If selected, the rate agreement will be finalized during award negotiations. Calculate the fringe rate and enter the total amount in Section B, line 6.b. (“Fringe Benefits”) of form SF-424A.

IMPORTANT: Provide all fringe rates, along with a complete explanation and the full calculations used to derive the total fringe costs. If the total fringe costs are a cumulative amount of more than one calculation or rate application, the explanation and calculations should identify all rates used, along with the base they were applied to (and how the base was derived), and a total for each (along with grand total). The rates and how they are applied should not be averaged to get one fringe rate. **NOTE:** The fringe rate should be applied to both the Federal Share and Recipient Cost Share.

Travel

See example of travel detail below. Identify total Foreign and Domestic Travel as separate items. Purpose of travel are items such as professional conferences, DOE sponsored meetings, project management meetings, etc. Identify number of travelers, estimated cost per traveler, and duration of trip. The Basis for Estimating Costs could be items such as past trips, current quotations, Federal Travel Regulations, etc. All listed travel must be necessary for performance of the Statement of Project Objectives. **NOTE:** All projects should include travel for 1-2 travelers to the Tribal Energy Program Review during each year of the project. Each review is approximately 4-5 days.

Purpose of travel	No. of Travelers	Depart From	Destination	No. of Days	Cost per Traveler	Cost per Trip	Basis for Estimating Costs
Budget Period 1							
Domestic Travel							
Visit to reactor mfr. to set up vendor agreement	2	Denver CO	Dallas TX	2	\$650	\$1,300	Internet prices
Domestic Travel subtotal						\$1,300	
International Travel							
Visit to technology provider to discuss IP agreement	2	Denver CO	Berlin Germany	5	\$4,000	\$8,000	Previous experience
International Travel subtotal						\$8,000	
Budget Period 1 Total						\$9,300	
(Repeat as necessary for each Budget Period)							

Equipment

Equipment is generally defined as an item with an acquisition cost greater than \$5,000 and a useful life expectancy of more than one year. All proposed equipment should be identified, providing a basis of cost such as vendor quotes, catalog prices, prior invoices, etc., and briefly justifying its need as it applies to the Statement of Project Objectives. If it is existing equipment, and the value of its contribution to the project budget is being shown as cost share, provide logical support for the estimated value shown. If it is new equipment which will retain a useful life upon completion of the project, provide logical support for the estimated value shown. For equipment over \$50,000 in price, also include a copy of the associated vendor quote or catalog price list. See example below.

Equipment Item	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 1					
EXAMPLE ONLY!!! Thermal shock chamber	2	\$20,000	\$40,000	Vendor Quote	Reliability testing of PV modules- Task 4.3
Budget Period 1 Total			\$40,000		
(Repeat as necessary for each Budget Period)					

Supplies

Supplies are generally defined as an item with an acquisition cost of \$5,000 or less and a useful life expectancy of less than one year. Supplies are generally consumed during the project performance. Further definitions can be found in 10 CFR 600.

Proposed supplies should be identified, providing a basis of cost such as vendor quotes, catalog prices, prior invoices, etc., and briefly justifying the need for the Supplies as they apply to the Statement of Project Objectives. Note that Supply items must be direct costs to the project at this budget category, and not duplicative of supply costs included in the indirect pool that is the basis of the indirect rate applied for this project.

General Category of Supplies	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 1					
EXAMPLE ONLY!!! Wireless DAS components	10	\$360.00	\$3,600	Catalog price	For Alpha prototype - Task 2.4
Budget Period 1 Total			\$3,600		
(repeat as necessary for each Budget Period)					

Contractual

The applicant must provide and justify all costs related to sub-recipients, vendors, contractors, consultants and FFRDC partners. See example below.

Sub-recipients (partners, sub-awardees):

For each sub-recipient with total project costs of more than \$100,000 or 30% of the total project budget or more (whichever is less), a separate budget justification form must be submitted. For sub-recipients with estimated costs less than \$100,000 or 30% of the total project budget or less, provide what Statement of Project Objectives task(s) are being performed, the purpose/need for the effort, and a basis of the estimated costs.

Vendors (includes contractors and consultants):

Identify all vendors, contractors and consultants supplying commercial supplies or services used to support the project. The support to justify vendor costs (in any amount) should provide the purpose for the products or services and a basis of the estimated costs that is considered sufficient for DOE evaluation.

Federal Research and Development Centers (FFRDCs):

For FFRDC partners, the applicant should provide a Field Work Proposal (if not already provided with the original application), along with the FFRDC labor mix and hours, by

category and FFRDC major purchases greater than \$25,000, including Quantity, Unit Cost, Basis of Cost, and Justification.

Sub-Recipient Name/Organization	Purpose/Tasks in SOPO	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
EXAMPLE ONLY!!! XYZ Corp.	Partner to develop optimal fresnel lens for Gen 2 product - Task 2.4	\$48,000	\$32,000	\$16,000	\$96,000
	Sub-total	\$48,000	\$32,000	\$16,000	\$96,000
Vendor Name/Organization	Product or Service, Purpose/Need and Basis of Cost (Provide additional support at bottom of page as needed)	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
EXAMPLE ONLY!!! ABC Corp.	Vendor for developing custom robotics to perform lens inspection, alignment, and placement (Task 4). Required for expanding CPV module mfg. capacity. Cost is from competitive quotes.	\$32,900	\$86,500		\$119,400
	Sub-total	\$32,900	\$86,500	\$0	\$119,400
FFRDC Name/Organization	Purpose	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
					\$0
	Sub-total	\$0	\$0	\$0	\$0
Total Contractual		\$80,900	\$118,500	\$16,000	\$215,400

Construction

Construction, for the purpose of budgeting, is defined as all types of work done on a particular facility, including erecting, altering, or remodeling. ***If real property construction is contemplated under this project, special instructions will be provided.***

Other Direct Costs

Other direct costs are direct cost items required for the project which do not fit clearly into other categories, and are not included in the indirect pool for which the indirect rate is being applied to this project. Basis of cost are items such as vendor quotes, prior purchases of similar or like items, published price list, etc.

General description	Cost	Basis of Cost	Justification of need
Budget Period 1			
EXAMPLE ONLY!!! Grad student tuition	\$16,000	Established UCD costs	Support of graduate students working on project
Budget Period 1 Total	\$16,000		
(Repeat as necessary for each Budget Period)			

Indirect Costs

A federally approved indirect rate agreement, or rate proposed supported and agreed upon by DOE for estimating purposes is required if reimbursement of indirect benefits is requested. If there is a federally approved indirect rate agreement, a copy must be provided with this application and if selected, must be provided electronically to the Contracting Officer for this project. If there is no current, federally approved indirect rate agreement or if the federally approved indirect rate agreement has been changed or updated, a rate proposal must be included with the application. If selected, the rate agreement will be finalized during award negotiations. Calculate the indirect rate dollars and enter the total in the Section B., line 6.j. (Indirect Charges) of form SF 424A.

IMPORTANT: Provide a complete explanation and the full calculations used to derive the total indirect costs. If the total indirect costs are a cumulative amount of more than one calculation or rate application, the explanation and calculations should identify all rates used, along with the base they were applied to (and how the base was derived), and a total for each (along with grand total). The rates and how they are applied should not be averaged to get one indirect cost percentage. **NOTE:** The indirect rate should be applied to both the Federal Share and Recipient Cost Share.

Cost Share

A detailed presentation of the cash or cash value of all cost share proposed for the project must be provided. Identify the source and amount of each item of cost share proposed by the Applicant and each sub-recipient. Letters of commitment must be submitted for all third party cost share (other than award recipient).

Note that "cost-share" is not limited to cash investment. Other items that may be assigned value in a budget as incurred as part of the project budget and necessary to performance of the project, may be considered as cost share, such as: contribution of services or property; donated, purchased or existing equipment; buildings or land; donated, purchased or existing supplies; and/or unrecovered personnel, fringe benefits and indirect costs, etc. For each cost share contribution identified as other than cash, identify the item and describe how the value of the cost share contribution was calculated.

Funds from other Federal sources MAY NOT be counted as cost share, unless otherwise allowed by law. This prohibition includes FFRDC sub-recipients. Non-Federal sources include private, state or local government, or any source not originally derived from Federal funds.

NOTE: Per the Indian Self-Determination Act (Public Law 93-638) as codified and amended, funding under the Indian Self-Determination Act may be used as non-Federal cost share by Indian Tribes on Federal grants. See Part III.B, Cost Sharing for citations.

Fee or profit will not be paid to the award recipients or subrecipients of financial assistance awards. Additionally, foregone fee or profit by the applicant shall not be considered cost sharing under any resulting award. Reimbursement of actual costs will only include those costs that are allowable and allocable to the project as determined in accordance with the applicable cost principles prescribed in 10 CFR 600.127, 10 CFR 600.222 or 10 CFR 600.317. Also see 10 CFR 600.318 relative to profit or fee. See example below.

Funding Opportunity Announcement
Tribal Renewable Energy and Energy
Efficiency Deployment Assistance
DE-FOA-0000853

Organization/Source	Type (cash or other)	Cost Share Item	Budget Period 1 Cost Share	Budget Period 2 Cost Share	Budget Period 3 Cost Share	Total Project Cost Share
ABC Company EXAMPLE ONLY!!!	Cash	Project partner ABC Company will provide 40 PV modules for product development at 50% off the of the retail price of \$680	\$13,600			\$13,600
		Totals	\$0	\$0	\$0	\$0
Total Project Cost:		\$312,300	Cost Share Percent of Award:			0.0%

Appendix E – Calculating Energy Savings

For the purposes of this Funding Opportunity Announcement (FOA), *fuel*, referred to in this document simply as *energy*, is any form of energy that is consumed by a building. Table 1 provides a list of typical forms of energy that are used in buildings.

Energy savings is the difference between the total energy usage before the project and the projected energy usage after the project. The equation for calculating the percentage of energy savings is shown in Equation 1.

Equation 1

$$\text{Savings (\%)} = \frac{\text{Energy usage before project (kBtu)} - \text{Energy usage projected after project (kBtu)}}{\text{Energy usage before project (kBtu)}} \times 100$$

In order to calculate the total energy consumed by a building, each fuel type (electricity and any other fuel used for heating, cooling, or other uses) must be converted to a common unit of thousands of British thermal units (kBtu) before they are added together.

To simplify the analysis and to provide an equivalent basis of comparison, **all** applicants should use a common set of conversion factors (see Table 1 below). The common conversion factors (multipliers in Table 1) not only convert energy values to a common unit (kBtu), but also include the effects of inefficiencies in energy conversion and distribution based on values found on the ENERGY STAR website.

The general process for calculating fuel energy savings is as follows:

1. Identify all sources of energy that are used by the building or buildings
2. Establish a baseline of the energy currently used by the building or group of buildings (referred to as “energy usage before project” in Equation 1).
3. Determine projected energy usage of the building(s) after the proposed project is completed (referred to as “projected energy usage after project” in Equation 1).
4. Convert energy values to the common unit of kBtu using the unit conversion multipliers provided in Table 1 below.
- 5.

Table 1. Conversion to thousands of Btu (kBtu)

To convert to kBtu from:	Input units	Multiply by:
Electricity	kWh	11.4
Natural Gas	Therm	100
Natural Gas	100 cubic feet (CCF)	100
Diesel, Fuel Oil (1, 2, 4), Heating Oil	Gal	139
Fuel Oil (5 & 6)	Gal	150
Propane	Gal	91.6
Propane	cubic feet (CF)	2.5
Coal	lb	12.5
Coal	Ton	25,000

Steam	1000s lbs	1,500
Steam	lbs	1.5
Chilled Water	Ton-hours	12
Any Fuel	million Btu (or MMBtu)	0.001

- Sum energy usage values together for the before-project case and sum the energy usage values together for the after-project case.
- Calculate the projected fuel savings using Equation 1.

For instance where renewable energy systems, including renewable-fueled combined heat and power systems are proposed, the “energy usage projected after project” would be reduced by the amount of energy projected to be generated for and used in the building or buildings (i.e., energy displaced by the renewable energy system).

For purposes of this FOA, all renewable energy system inputs including biomass, are assumed to be zero for calculating the percentage of fuel (energy) savings; meaning that the “before the project fuel source” being replaced by a renewable energy or renewable-fueled system is 100% offset by the renewable energy or renewable-fueled system (see Example #2 and #3 below). The following example is used to demonstrate how to apply these factors and calculate the percentage reduction in the building(s) total energy use.

Example #1:

Proposed Project: A 20,000 ft² building is projected to save 20% of its electricity usage and 40% of its natural gas usage after implementing a number of energy efficiency measures. The total annual energy usage for the building in 2012 was 340,000 kWh of electricity and 6,400 therms of natural gas.

Find: Percentage of energy savings resulting from the proposed project.

Method: The general steps described above are followed in this example.

- Identify all sources of energy that are used by the building or buildings.
- Establish the baseline energy usage before the proposed project is implemented.
- Determine projected energy usage after the project.

Table 2 shows the building energy usage for this example before and after the proposed project is implemented. The figures in the table are provided in the typical units for these forms of energy, kWh and therms.

Table 2. Example #1 building energy usage

	Before	After	% Savings
Electricity (kWh)	340,000	272,000	20%
Natural gas (therms)	6,400	3,840	40%

- Convert the various forms of energy values to the common unit of kBtu using the multipliers provided in Table 1. The energy values with mixed units of kWh and therms

are multiplied by the unit conversion factors for the given form of energy to get the energy values in the common units of kBtu.

Table 3. Example #1 conversion of energy values from mixed units to common units of kBtu

	Energy Usage (Mixed Units)			Units conversion factor	Energy Usage (Common Units)		
	Before	After	Units		Before	After	Units
Electricity	340,000	272,000	kWh	11.4	3,876,000	3,100,800	kBtu
Natural gas	6,400	3,840	therms	100	640,000	384,000	kBtu

- Sum the energy usage values for the before-project case and sum the energy usage values for the after-project case as shown for this example in Table 4 below.

Table 4. Example #1 summation of before and after project energy usage in common units of kBtu

	Building Energy Usage		
	Before	After	Units
Electricity	3,876,000	3,100,800	kBtu
Natural gas	640,000	384,000	kBtu
Sum	4,516,000	3,484,800	kBtu

- Calculate the projected percentage of fuel savings using Equation 1.

For this example, the building used 4,516,000 kBtu of energy in 2012. The proposed energy efficiency measures are projected to reduce the annual energy usage to 3,484,800 kBtu after the project is implemented. The percent of energy savings is calculated as:

$$\text{Energy Savings (\%)} = \frac{4,516,000 \text{ kBtu} - 3,484,800 \text{ kBtu}}{4,516,000 \text{ kBtu}} \times 100 = 23\%$$

Example #2:

Proposed Project: A 20,000 ft² building is projected to save 20% of its electricity usage using a photovoltaic (solar electric) system projected to produce 68,000 kWh, and 100% of its natural gas usage by replacing a natural gas boiler with a biomass-fueled boiler. The total annual energy usage for the building in 2012 was 340,000 kWh of electricity and 6,400 therms of natural gas.

Find: Percentage of energy savings resulting from the proposed project.

Method: The general steps described above are followed in this example.

- Identify all sources of energy that are used by the building or buildings.
- Establish the baseline energy usage before the proposed project is implemented.
- Determine projected energy usage after the project.

Table 2 shows the building energy usage for this example before and after the proposed project is implemented. The figures in the table are provided in the typical units for these

forms of energy, kWh and therms. Note that the electricity usage after the project is reduced by the amount of energy projected to be generated by the photovoltaic (solar electric) system or 68,000 kWh and its natural gas is 100% offset by the biomass-fueled boiler reducing the therms to be used after the project to 0.

Table 5. Example #2 building energy usage

	Before	After	% Savings
Electricity (kWh)	340,000	272,000	20%
Natural gas (therms)	6,400	0	100%

- Convert the various forms of energy values to the common unit of kBtu using the multipliers provided in Table 1. The energy values with mixed units of kWh and therms are multiplied by the unit conversion factors for the given form of energy to get the energy values in the common units of kBtu.

Table 6. Example #2 conversion of energy values from mixed units to common units of kBtu

	Energy Usage (Mixed Units)			Units conversion factor	Energy Usage (Common Units)		
	Before	After	Units		Before	After	Units
Electricity	340,000	272,000	kWh	11.4	3,876,000	3,100,800	kBtu
Natural gas	6,400	0	therms	100	640,000	0	kBtu

- Sum the energy usage values for the before-project case and sum the energy usage values for the after-project case as shown for this example in Table 7 below.

Table 7. Example #2 summation of before and after project energy usage in common units of kBtu

	Building Energy Usage		
	Before	After	Units
Electricity	3,876,000	3,100,800	kBtu
Natural gas	640,000	0	kBtu
Sum	4,516,000	3,100,800	kBtu

- Calculate the projected percentage of fuel savings using Equation 1.

For this example, the building used 4,516,000 kBtu of energy in 2012. The proposed renewable energy systems are projected to reduce the annual energy usage to 3,100,800 kBtu after the project is implemented. The percent of energy savings is calculated as:

$$\text{Energy Savings (\%)} = \frac{4,516,000 \text{ kBtu} - 3,100,800 \text{ kBtu}}{4,516,000 \text{ kBtu}} \times 100 = 31\%$$

Note: If under example #2, a biomass-fueled combined heat and power (CHP) system was used in place of the photovoltaic (solar electric) system and the biomass boiler (assuming the biomass-fueled CHP system produced the same amount of electricity as the photovoltaic system), the result would be same (31.3% savings).

Example #3:

Proposed Project: A 20,000 ft² building is projected to save 20% of its electricity usage using a photovoltaic (solar electric) system projected to produce 68,000 kWh, and an additional 40% of its electrical and 100% of its natural gas by replacing a natural gas boiler with a biomass-fueled combined heat and power (CHP) system. The total annual energy usage for the building in 2012 was 340,000 kWh of electricity and 6,400 therms of natural gas.

Find: Percentage of energy savings resulting from the proposed project.

Method: The general steps described above are followed in this example.

1. Identify all sources of energy that are used by the building or buildings.
2. Establish the baseline energy usage before the proposed project is implemented.
3. Determine projected energy usage after the project.

Table 2 shows the building energy usage for this example before and after the proposed project is implemented. The figures in the table are provided in the typical units for these forms of energy, kWh and therms. Note that the electricity usage after the project is reduced by the amount of energy projected to be generated by the photovoltaic (solar electric) system (20% or 68,000 kWh) and an additional 40% by the electricity produced by the CHP system (40% or 136,000 kWh) for 204,000 kWh and its natural gas is 100% offset by the biomass-fueled CHP system reducing the therms to be used after the project to 0.

Table 8. Example #3 building energy usage

	Before	After	% Savings
Electricity (kWh)	340,000	136,000	60%
Natural gas (therms)	6,400	0	100%

4. Convert the various forms of energy values to the common unit of kBtu using the multipliers provided in Table 1. The energy values with mixed units of kWh and therms are multiplied by the unit conversion factors for the given form of energy to get the energy values in the common units of kBtu.

Table 9. Example #3 conversion of energy values from mixed units to common units of kBtu

	Energy Usage (Mixed Units)			Units conversion factor	Energy Usage (Common Units)		
	Before	After	Units		Before	After	Units
Electricity	340,000	136,000	kWh	11.4	3,876,000	1,550,400	kBtu
Natural gas	6,400	0	therms	100	640,000	0	kBtu

5. Sum the energy usage values for the before-project case and sum the energy usage values for the after-project case as shown for this example in Table 10 below.

Table 10. Example #3 summation of before and after project energy usage in common units of kBtu

	Building Energy Usage		
	Before	After	Units
Electricity	3,876,000	1,550,400	kBtu
Natural gas	640,000	0	kBtu
Sum	4,516,000	1,550,400	kBtu

6. Calculate the projected percentage of fuel savings using Equation 1.

For this example, the building used 4,516,000 kBtu of energy in 2012. The proposed systems are projected to reduce the annual energy usage to 1,550,400 kBtu after the project is implemented. The percent of energy savings is calculated as:

$$\text{Energy Savings (\%)} = \frac{4,516,000 \text{ kBtu} - 1,550,400 \text{ kBtu}}{4,516,000 \text{ kBtu}} \times 100 = 66\%$$