FY 2015

Division of Energy and Mineral Development

Office of Indian Energy and Economic Development

[EMDP GRANT WRITING GUIDE FOR SMALL SCALE BIOMASS PROJECTS]

DISCLAIMER:
As of FY 2016 DEMD is employing a new funding process. This EMDP proposal guidance document was created within the framework of our old process. While the samples are mostly still relevant, there are some new requirements in the EMDP 2016 solicitation that may not be reflected in this document. So while you may use this sample as guidance, make sure to clearly address the requirements listed under "Contract Proposal Content Requirements" in the solicitation.

EMDP Grant Writing

Small Scale Biomass Projects

The following guide is meant to help tribes that are in the beginning conceptual stages of biomass development to apply for an **Energy and Minerals Development Program** (EMDP) grant. The grant is evaluated through the Department of Interior, Office of Indian Energy and Economic Development- **Division of Energy and Minerals** (DEMD).

This guide is a tool to assist in the writing of an EMDP grant for a Conceptual Study of a small-scale biomass-to-energy project. Through a three-step process, grant writers will navigate the EMDP grant writing process by 1) first detecting what type of study is being applied for, 2) collecting relevant tribal information and project data, and 3) providing an actual written draft proposal and budget. The final product of this guide will be a *draft* proposal; it is the grant writer's responsibility to edit the draft and ensure that all solicitation requirements are included. A copy of the federal solicitation with all proposal requirements can be found in the appendix. At any time in the writing process (before the solicitation deadline) writers may submit a draft proposal to DEMD staff (winter.jojola-talburt@bia.gov) for comments and feedback.

*****Disclaimer:** The purpose of this document is to show a general proposal outline. Use of this format is not required. Use of this format does not guarantee a proposal will be awarded funding or rank higher than a proposal not using this format. Using this outline does not guarantee that all required elements listed in the Federal Register Notice have been included in the proposal. *****

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Definitions:

Project: a collection of work, or studies, which has a specific purpose or goal, for the achievement of long term economic development. Projects usually require a long time period to complete.

Proposal: a current piece of work, study, or plan, as part of a larger project, which is presented to a person or group of people. For this guide, a *proposal* is the collection of work to be completed with requested EMDP funding.

Study: the process of examining or analyzing a particular question, with the objective of obtaining useful information, usually as a piece of a larger project and requires a shorter time period than the project to complete.

SECTION 1 – Determining Study Type

Before beginning to write an EMDP proposal, determine whether a Conceptual Study or Feasibility Study best describes the tribe's biomass project.

Conceptual studies help define resources and give a broad overview of biomass development options available to the tribe. Under the Feasibility Study category, studies are for projects that have advanced past the conceptual stage. Feasibility studies can provide information from in-depth technology analysis to market studies, to detailed business plans and economic assessments.

If your proposal is for a Biomass Conceptual Study then please continue with this guide. If your proposal is a Biomass Feasibility Study please contact DEMD directly (winter.jojola-talburt@bia.gov) to discuss your proposal and project in greater detail.

Conceptual Study	Feasibility Study
❖ **Definition:** Determining viable biomass to energy options for further in-depth investigation	❖ **Definition:** In-depth analysis of project resources, technical components, economics, and market viability
❖ **Examples** **Resource Study:** What are the Tribe's biomass to energy options? ✓ Study resource(s): quantity, quality, source **Technology Study:** We've already determined our biomass resource and now want to know what are our energy conversion systems options? ✓ Study technology: system types, costs, O&M, best fit, providers/developers **Energy Needs Study:** We've determined our resource and possible conversion technologies but are unsure of our energy needs ✓ Study energy generation: heat and/or power, scale (residential versus commercial), power users, power demand **Initial Economics Study:** We've determined possible resources, conversion technologies, and possible scale(s) but would like to assess initial project economics and risks ✓ Study economics of various conceptual development options (perform preliminary cash flow models and identify risks/assumptions of various development options)	❖ **Examples** **Detailed Engineering Study:** The project is well defined and ready for detailed engineering. ✓ Engineering Plans: site plans, system plans ✓ Construction Plan and Schedule ✓ Any other plans or schedules required to complete pre-construction engineering work **Economic Feasibility Study:** We've identified a resource, compatible technologies, and energy production scale, but have not yet performed detailed economics. ✓ Detailed Market Study: addresses who, where, SWOT, seed capital, loans investigation, preliminary investment requirements, PPA agreements ✓ Business Structure Study: type of business, code development ✓ Partnership Study: an analysis of potential business partnerships or investor opportunities

SECTION 2 – Gathering Information

Throughout *Section 3. Writing the Proposal and Budget* you will be asked to provide the information collected below. Organizing and managing this information early on, will help clearly and concisely convey the objective of the study. Not only will the collection of this information expedite the writing process, but it will also help the project team determine project knowns and unknowns- *usable* data versus *to-be-determined* data. This section will organize information into two groups: "Project and Study Motivation," and "Technical Information."

A. Project and Study Motivation:

We begin with a project motivation discussion **to provide** a clear picture of the goals of the project**, to define** project boundaries, and **to focus** foundational studies on achieving a final product.

1. General Community Information:

Much of the below information should overlap, or be easily determined, using the answers to the following 'why' questions (questions 2 & 3):

1. Identify tribal long term economic development strategy
2. Identify community socio-economic concerns
3. Identify general tribal goals (short and long term)
4. Identify project focus (motivation)
5. Identify tribal goals specifically for utilizing biomass heat and/or power

2. Why the Biomass to Energy Project?

Clearly state the "Why" in "Why develop a tribal biomass to energy project?" Demonstrating the "why" not only ensures that the project will be a solution to a real community issue, but also provides the project with a strong starting foundation. The answer to this question is analogous to an explanation of the big-picture community energy goals.

Understanding project motivation will help the project management team stay focused throughout project development and subsequent studies. This also helps to form a basis for decision making as the project moves further down the development path. If there is more than one motivation or goal for the project, be sure to note additional motivations and prioritize them.

Example: Why the Biomass to Energy Project?

The ____ Tribe is pursuing development of a waste to energy (WTE) anaerobic digestion system as part of their long term strategy for environmental sustainability. For the ___ Tribe, providing the community

with an environmentally sustainable organic waste management system and renewable energy is a high priority. Beyond waste management and energy production, the WTE system will provide additional benefits to the community such as jobs and decreased grid dependency.

3. Why the Biomass to Energy Study?

This "Why" question addresses the 'why' in "Why does the tribe need *this particular study* and EMDP grant funding?" Essentially the answer to this question is the justification of why the proposed study (study which will be using EMDP grant funding) is the necessary first (or next) step in the achievement of the biomass to energy project (stated in Section 2. Why the Project?). The answer to this question should provide insight into the objectives, or immediate goals, of the study.

Example: Why the Biomass to Energy Study?

The ___ Tribe is requesting EMDP grant funding to perform a resource study of the quantity and quality of organic waste generated on and near the reservation. Results from the resource study will provide the data needed to determine appropriate anaerobic digestion system types and size range. This study is crucial to the achievement of a WTE anaerobic digestion system, and the overall community goals for developing an environmentally sustainable organic waste management system and production of renewable energy.

The answers to items 1-3 of "Community, Project, and Study Goals" Will be used in the following sections:

- *Overview and Technical Summary*
- *Project Objective and Technical Description*
- *Scope of Work*

B. Technical Information:

Once project and study motivations have been addressed, it's time to start collecting relevant technical information. Below is a list of possible pertinent information. Do not be alarmed if not all information is gatherable. Depending on the degree project development, it is possible that some of the information will be learned via a future study.

1. Relevant Tribal Energy Businesses, Committees, Plans, or Initiatives

- Identify any Tribal Energy Businesses, Committees, Plan, or Initiatives that are related or pertinent to the purposed study.

2. Previous energy work or project related studies

- Identify any previous resource, engineering, or business related studies of this project.
- Identify any previous EMDP awards or technical assistance. For past project-related EMDP awards, locate a copy of the results of the awarded study (results should be included in EMDP proposal appendix).
- Identify any previously completed or planned energy efficiency work.
- Identify any general economic or energy related studies.

3. Energy Consumption and Cost information

- Identify current power costs from utilities serving the community, such as heating and electricity bills with retail prices ($/kWh), or rates and demand quantities (kWh).
- Identify heating and power consumptions quantities relevant to the proposal.

4. Infrastructure information

- Identify reservation, project location, and relevant transportation information specifically pertaining to the biomass feedstock (e.g. transportation distance between forest residue and biomass power plant).
- Identify utility transmission lines running through the reservation and project site. Include any additional interconnection information.

5. Location and siting information

- Identify general reservation location information.
- Identify siting specifics regarding where (or what potential sites) on the reservation the project will be located. Provide acreage estimates, current land use information, road and utility access information.
- Identify whether or not there are known culturally or environmentally sensitive sites that may be impacted by the proposed project site(s).

6. Resource information

- Identify preferred resources (e.g. biomass feedstock) including *quality* and *quantity* information. General information can be found at http://www.nrel.gov/gis/biomass.html.
- Identify the location(s) where resource will be collected and processed for the project
- If applying for a resource study identify similar resource studies (if any) done in the area.

7. Technology information

- Identify preferred technologies (if any) and concerns or comments regarding compatibility with desired biomass resource(s).
- If working with a technology provider, identify the provider and their role in the study and overall project.

8. Business/Economic Information

- Provide information regarding the role of tribal companies, or utilities that will be involved in the project.
- Provide information regarding any costs associated with resource procurement or pre-treatment
- Identify or estimate (if possible) any economic benefits such as: number of jobs, potential revenue streams, royalties, and reinvestment plans as a result of economic development
- Identify the tribe's viewpoint, or planned methodology (if possible), to make- the biomass project a sustainable business endeavor
- Identify possible market(s) for the final product (e.g. biofuels, heat and/or power). Market can be a commercial utility buyer (e.g. to a local business utilizing the heat.)

9. Scope of Work (SOW) Tasks & Schedule Estimate

- Provide a list and estimated schedule of tasks expected to be **completed by the Tribe** (e.g. Release Biomass Request for Proposals, Identify and choose qualified consultants, provide quarterly updates to DEMD).
- Provide a list and estimated schedule ~~of~~ tasks expected to be **completed by the Tribal Consultant** (e.g. site visits, memo's, monthly summaries, and reports)
- Example SOW items: kick off meeting, site visits, review of local and regional quantity and quality of organic waste stream, technology review of applicable waste to energy conversion systems, monthly memos of work completed to date, final report, and final presentation to council.

The above information collected in items 1-9 of "Gathered Technical Information" will be used in the following sections:

- *Project Objective and Technical Description*
- *Scope of Work*
- *Detailed Budget*

SECTION 3 – Writing the Proposal and Budget

The following information provides suggestions for writing each required component of the EMDP proposal and budget estimate, **not the entire grant packet.** The **grant packet must include**: a current tribal resolution authorizing the proposed study, a proposal describing the planned activities and deliverable products, detailed budget estimate, and the designated tribal project lead person authorized to make decisions.

EMDP Grant Packet:

- **Tribal Resolution**
- **EMDP Proposal Components**
  - I. Overview and Technical Summary of the Project
  - II. Project Objective and Technical Description, Scope of Work
  - III. Deliverable Products
  - IV. Resumes of Key Personnel
- **Detailed Budget Estimate**
  - I. Contracted Personnel Costs
  - II. Travel Estimates
  - III. Data Collection and Analysis Costs
  - IV. Resumes of Key Personnel
- **Representative Contact Information**

➢ Tribal Resolution

It is the responsibility of the tribe to include the Tribal Resolution in the grant packet.

➢ EMDP Proposal Components

I. Overview and Technical Summary of the Project

Overview

a. Introduction

Provide approximately a paragraph introducing the tribe, reservation location, the project, and the purposed study. Specify the tribal project coordinator and if a tribal entity such as a tribal corporation will have a role in the project development. Specify the amount of money being requested from the EMDP grant program.

Use the information collected in **Section 2. A. 1** and **Section 2. A. 2**

b. Project History

Provide a brief history of project and project motivation. Disclose whether the tribe has signed or has intentions to sign an agreement with a specific developer. State any past endeavors relating to this study or other energy or economic development studies. Also state any previously utilized EMDP funds or technical assistance (place results of past project-related EMDP awards in the proposal appendix).

Use the information collected in ***Section 2. B. 1*** and **Section 2. B. 2**

c. Purpose of Proposed Study

Provide a brief description of why the tribe needs the proposed energy development study. Keep in mind that this is intended to be a high level summary of the project objective and scope of work sections that appear later in the proposal.

Use the information collected in **Section 2. A. 3**
If necessary include items such as an actual energy bill for a community building, business, etc. in the proposal appendix.

d. Projected Economic Benefits

Describe the planned utilization of the economic benefits produced by the project. Describe the Tribe's strategic plan outlining objectives, goals, and methodology for creating sustainable tribal economic development. Include quantifications of possible economic benefits (revenue, royalty income, number of jobs, etc.) that would result from completion of the project, and reinvestment plans for equity gained (income) as a result of actual economic development of the proposed resource to be studied.

Use the information collected in **Section 2. B. 8**

Technical Summary

a. Location

Describe the reservation location, as well as the specific project site location.

Use the information collected in **Section 2. B. 5**

If applicable detailed maps should be included in the appendix. Also include infrastructure information.

Use the information collected in **Section 2. B. 4**

b. Biomass Resource and Potential

Describe the biomass resource(s) that are to be studied and/or utilized in the project. If the biomass resource exists on or near the reservation, provide an estimate of quantity and quality and discuss possible procurement and transportation of the resource. If the proposal is for a resource assessment study, provide as much known or pertinent researched information as possible. Supporting documentation may include: information regarding resource development taking place on or near the reservation, estimated transportation distances and hauling costs, and identification of previous similar resource assessment done in the area.

Use the information collected in **Section 2. B. 6**

c. Marketability of Project Products

Describe the end-products of the project that the tribe would like to market. Describe the existing or potential market for the commodity in the area, and discuss if the tribe has a plan to market this resource. Also discuss the infrastructure available to deliver the products to the desired market.

Use the information collected in **Section 2. B. 8** and **Section 2. B. 4**

d. Timeline

Explain whether the proposal will begin a new study, or continue a study that has already been partially completed. Estimate how long the study is projected to last. (Note: DEMD cannot guarantee funding for a project from one fiscal year to the next.) If applicable, indicate what the total investment and time frame would be to complete a full and uninterrupted study.

Use the market information collected in **Section 2. B. 9**

II. Project Objective and Technical Description, Scope of Work

Project Objective

Describe the purpose and objectives of the proposed study.

Technical Description

It is appropriate to reiterate pertinent information from the previous Project Overview and Technical Summary sections, however, keep in mind that this section should be more technical in nature and provide justification for the scope of work described in the following section.

Use the information collected in **Section 2. A. 1, 2, 3** and **Section 2. B. 2**

a. Scope of Work

The Scope of Work should include all work items to be completed by the tribe, as well as work items expected to be completed by a consultant.

Use the information from **Section 2. B. 9**

Example: Scope of Work

1· Release Woody Biomass Resource Study RFP:

The tribally released biomass resource study will seek a qualified consultant to perform the following tasks:

Consultant Task 1· Quantify the biomass resource(s), and determine procurement sites and costs· Characterize the biomass resources in terms of Btu content, water content, potential pollutants, and potential pretreatment requirements·

Consultant Task 2· Build up the resource assessment with a technology screening that describes types of biomass to energy conversion technologies compatible with identified resources· Include pros and cons of each technology·

Consultant Task 3· Identify viable development options for biomass to be further researched in a technology and marketability study·

Consultant Task 4: Provide Tribal Council with a final report and presentation of study results

2· Choose Consultant:

Tribal Council will choose a qualified consultant to perform the resource study and provide the tribe with next-step recommendations·

3· Final Review:

Tribal Council will review final resource assessment provided by consultant, and determine next steps in the biomass to energy project·

b. Schedule of Events

Provide an estimated timeline for this proposed study; format can be in a paragraph, outline, or Gantt chart.

Use the information from **Section 2. B. 9**

c. Responsible Parties

Provide a descriptive list of persons responsible for execution and administration of the items listed in the scope of work. All persons must have documented professional qualifications necessary to perform the work (include resumes in the appendix).

III. Deliverable Products

Describe all deliverable products that the proposed project will generate and relate them back to the SOW. Include all technical data to be obtained during the study. Discuss any planned status reports as well as the parameters of the final report. Keep in mind that quarterly and final reports are requirements of the EMDP grant program.

Use the information from **Section 2. B. 9**

IV. Resumes of Key Personnel

Provide the resumes of the key personnel intended to perform EMDP project work and the nature of their involvement, including their relationship to the applicant, such as tribal staff, consultant, subcontractor, etc.

➢ Detailed Budget Estimate

Budget Summary (Optional)

The budget summary should describe the budget estimate and must be sufficiently detailed for the DEMD reviewers to gain an understanding of allocations of proposed funds. The budget should reflect all reasonably anticipated costs and contingencies. Budget break-outs and organization is highly suggested; e.g. break down funds by deliverable(s) and/or task(s) and the associated cost per hour to complete the deliverables and/or task(s). Additionally break-out all sub-budgets such as travel, consulting, or contracting.

Budget Estimate

Provide a clear and comprehensive budget breakdown for study line items, in an easy to read financial chart format. Include breakout items such as contract and consulting fees, fieldwork, lab and testing fees, travel and all other relevant project expenses. Remember to review Section B.11 of the grant solicitation (*What the Energy and Mineral Development Program Cannot Fund*) and verify that all items requested are allowable expenses. The budget estimate must include the following sections:

I. Contracted Personnel Costs

Provide estimated contracted personnel costs and tribal costs.

a. Tribal staff costs

Tribal salaries may be included only if the personnel are directly involved in the project and only for the duration of the project. Fringe benefits are not fundable and must be excluded. Note: position descriptions and/or resumes should be attached in the appendix.

b. Consultant costs

Includes all contracted personnel, consultants, subcontractors, and their respective positions and time (staff-hour) allocations for the proposed functions of a project. Note: position descriptions and/or resumes should be attached in the appendix.

c. In-kind contributions

Detail any in-kind contributions (dollars, personnel time, etc.) from the tribe toward the project.

II. Travel Estimates

Provide estimated travel costs for the consultant and tribal staff.

a. Travel Estimates

Estimates should be itemized by airfare, vehicle rental, lodging, and per diem, based on the current federal government per diem schedule. Include any local travel and estimated tribal vehicle use with hours per week/mileage per week, etc.

III. Data Collection and Analysis Costs

Costs should be itemized in sufficient detail for the reviewer to evaluate the charges. If applicable, include sampling costs, mobilization, footage rates, testing and lab analysis costs per sample.

IV. Other Costs

Provide estimated other costs not yet presented in the budget. Example “other costs” include: report generation, drafting, and advertising costs for a proposed project.

➢ Representative Contact Information

This is the contact information for the tribal project manager/grant manager who will be notified if the grant proposal is awarded funding.

Should any questions arise in the writing process, or upon completion of the draft proposal and budget, please feel free to send in questions and drafts to Winter Jojola-Talburt of the DEMD office at (winter.jojola-talburt@bia.gov or 720.407.0668). Division staff will respond with comments and suggestions.

SECTION 4 – Putting the Grant Packet Together

Completion and submittal is the responsibility of the grant writer, or project lead. Incomplete grant packets will not be considered. To ensure a strong proposal Tribes may utilize the free technical assistance of DEMD and may contact the DEMD office with any questions or concerns regarding your project. DEMD staff will also provide feedback for draft EMDP proposals submitted to its staff for review prior to grant submission deadline.

SECTION 5 – Appendix

EMDP Grant solicitation via Grants.gov, link to solicitation:

http://www.grants.gov/web/grants/search-grants.html?keywords=energy%20and%20minerals

EMDP Grant solicitation via IEED website, link to solicitation:

http://www.bia.gov/cs/groups/xbia/documents/document/idc1-029754.pdf