WOOD BIOMASS ENERGY
PRELIMINARY FEASIBILITY ASSESSMENT GRANTS

ANNOUNCEMENT AND REQUEST FOR APPLICATIONS
RE-ADVERTISED DATE: JUNE 1, 2016

OPEN APPLICATION

SUBMIT APPLICATIONS TO:
PURPOSE

The purpose of the Wood Biomass Energy Preliminary Feasibility Assessment Grants is to provide financial incentive for Montana facilities to hire the services of a qualified firm to conduct a preliminary feasibility assessment of integrating a wood biomass energy system.

The objective of a Preliminary Feasibility Assessment (PFA) is to provide the facility manager with preliminary information regarding the technical and economic viability of installing a wood biomass energy system. The PFA is intended to be an introductory step for facilities. This approach to assessing projects in stages, beginning with a preliminary feasibility assessment, provides a low cost option to better identify the most viable projects to move forward with a more in depth, investment-grade assessment. The PFA will provide general information and direction to the facility managers, assisting them to make a decision on whether to proceed with further analysis and/or project design and installation. The PFA will mostly focus on evaluating the economic viability of a project, while providing a brief summary of technology and integration options, opportunities and challenges. A typical PFA includes a brief description of the facility heating system, energy usage analysis, breakdown of estimated total project costs, and a life-cycle cost analysis including estimated payback period.

Facilities approved for this funding will be required to select and hire an analyst from the list of firms pre-qualified by the Montana Department of Natural Resources and Conservation (DNRC), provided as Attachment A, which is incorporated herein by reference. Hired analysts will complete preliminary feasibility assessments for wood biomass energy system installations at approved facilities. The minimum scope of work to be provided by the analyst through this DNRC program is attached as Attachment B: Scope of Work, which is incorporated herein by reference.

The use of wood for energy benefits Montana by reducing energy costs for facilities, increasing utilization of forest biomass, providing a more diversified forest product market, and enhancing economic development, and providing a local, renewable energy source.

BACKGROUND

The DNRC manages the Wood Energy Program (formerly Fuels for Schools and Beyond) designed to promote and facilitate the use of wood for value-added markets including energy. As an incentive for biomass energy installations, the DNRC program offers funding assistance for preliminary feasibility assessments. Funding for this program is federal funding provided by the USDA Forest Service. Since 2003, the DNRC has sponsored over 70 feasibility assessments and provided grant funding to assist in the design and construction of 14 projects in Montana. There continues to be interest from additional facilities at varied scales in Montana who have limited resources with which to evaluate project feasibility.
GENERAL GUIDELINES AND INSTRUCTIONS

ELIGIBLE APPLICANTS

Eligible applicants are public, non-profit and tribal facilities, and private businesses. All applicants must be spending a minimum of $20,000 in heating costs per year.

ELIGIBLE ACTIVITIES

Hire the services of a pre-qualified analyst to conduct a preliminary feasibility assessment for integrating a wood biomass energy system at proposed facility.

APPLICATION PROCESS

Applications will be processed as received on a rolling basis. Applications are evaluated on a first-come, first-served basis.

1. Applicant submits completed Preliminary Feasibility Assessment (PFA) Application Form (Attachment C, which is incorporated herein by reference) to DNRC including utility data and cover letter. DNRC may request additional information pertinent to the application.

2. DNRC conducts a pre-screening of each PFA application to determine the potential likelihood of economic viability for a wood biomass energy system installation at the proposed facility and whether it warrants a PFA by a professional firm.

   Factors evaluated in the pre-screening include:
   - Facility has a high heat and/or hot water demand.
   - Facility has relatively high heating costs.
   - The estimated cost/btu of wood fuel is less than current cost of fossil fuel/btu.
   - Facility has an existing centralized (steam/hydronic) heat distribution system.
   - The current boiler system is old and due for replacement.
   - Facility is in proximity to a wood fuel source with a reasonable delivered cost.
   - There is space available on site for a biomass boiler, fuel storage, and access for delivery trucks.
   - Installation is proposed for a new facility construction project.

NOTIFICATION AND GRANT AWARD

Applicants will be notified of DNRC’s decision within 3 weeks of DNRC’s receipt of complete application materials. Applicants not selected to move forward will be notified of the decision and the reason for denial.
DNRC anticipates signing grant agreements with successful applicants within an additional 3 weeks. The grant agreement will detail the payment and reporting requirements of the grant award. Grant payments will be issued as a single reimbursement check upon the DNRC’s receipt of the grantee’s final report. The final report will provide detail on the project’s expenditures, contractor used, the final assessment, and a report of the grantee’s planned next steps given the results of the assessment.

**FUNDING AVAILABLE**

DNRC will award up to $3,500 per applicant on a reimbursement basis. DNRC may consider awards of greater than $3,500 if the applicant is seeking assessment of a number of facilities within a limited geographic or sector-based cluster. The DNRC reserves the right to offer a different grant amount than proposed by applicants. Applicants must consult with the DNRC before incurring any expenses, as pre-award costs are not allowed without written approval from DNRC. See below for applicant cost-share requirements.

Public, non-profit and tribal facilities. No cost-share required. $3,500 maximum award.

Private businesses. Require a minimum 50:50 non-federal to federal cost-share; applicant must contribute at least 50% of the total assessment cost in non-federal match, and the DNRC’s federal share will be no more than 50% of the total assessment cost. $3,500 maximum award.

Funding for this program is federal funding provided by the USDA Forest Service.

**GUIDELINES FOR APPROVED PROJECTS AND SCOPE OF WORK**

1. Upon project approval, DNRC requires that the approved facility select and hire a firm from the list of pre-qualified analysts to conduct the assessment.

2. It is the responsibility of the facility to contact the analyst, and negotiate full scope of work and rates. In accepting grant funding from DNRC, the facility is required to hire the analyst to perform the minimum scope of work detailed by DNRC in Attachment B: Scope of Work. If the facility wants an assessment above and beyond the scope of the basic PFA provided by the DNRC Program, the facility may be responsible for covering additional costs.

3. Once an analyst is selected by a facility and cost of services is determined, the facility will submit the name of selected firm and cost of services to DNRC in order for DNRC to establish the grant award amount. DNRC will then create a grant agreement with the facility that details the terms of reimbursement. DNRC anticipates signing agreements with successful applicants within 3 weeks of project approval.

In accordance with Montana Code Annotated section 49-3-207, the grantee agrees that the hiring of persons to perform work on the project will be made on the basis of merit and qualifications and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing work on the project.

**SUBMISSION GUIDELINES**

Applications will be processed as received on a rolling basis. Applications are evaluated on a first-come, first-served basis.
Application must include:

- Cover Letter. Describe applicant’s interest in a wood biomass energy installation including potential benefits to the facility and community.
- Completed Preliminary Feasibility Assessment Application Form (Attachment C)
- Copy of a recent bill for each utility account that provided fuel for space heat and hot water, as requested in Sec. V of the Application Form.

Submit Application to:

Angela Wells, DNRC- Forestry Division Office, 2705 Spurgin Rd., Missoula MT 59804-3199, or awells@mt.gov.

LEGAL AUTHORITY

The DNRC Forest Products and Biomass Program and related activities, including this Request for Proposals, are authorized by Montana Code Annotated, sections 2-15-112, 18-4-304, and 76-13-136.


CONTACT

For further information in completing your application, contact:

Angela Wells, Stewardship Program Manager
Montana DNRC
2705 Spurgin Road
Missoula, MT 59804-3199
Phone: (406) 542-4221
awells@mt.gov

ATTACHMENTS

Attachment A: List of Pre-Qualified Biomass Energy Analysts
Attachment B: Scope of Work
Attachment C: Preliminary Feasibility Assessment Application Form
The following firms are currently pre-qualified to conduct preliminary feasibility assessments for wood biomass energy installations under the Montana DNRC Biomass Energy Pre-Feasibility Assessment Grant Program. Facilities awarded a Pre-Feasibility Assessment Grant under this program are required to select an analyst from this listing.

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<tr>
<th>FIRM NAME</th>
<th>SERVICES PROVIDED</th>
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Axmen Energy Group  
Contact: Aaron Hanson  
7655 Highway 10 West  
Missoula, MT 59808  
406-239-5184  
aaron@axmen.com

Biomass Energy Resource Center  
Adam Sherman  
128 Lakeside Ave. Suite 401  
Burlington, VT 05401  
(802) 658-6060 x7863  
asherman@biomasscenter.org

CTA Architects Engineers  
Contact: Nathan Ratz  
306 West Railroad Avenue, Suite 104  
Missoula, Montana 59802  
406-728-9522  
nathanr@ctagroup.com

Honeywell International, Inc.  
Contact: Thomas Monter  
301 E. Buckles Rd.  
Hayden, Idaho 83835  
Voice: 208-772-1780  
Cell: 208-651-7254  
thomasmonter@honeywell.com

Radiant Engineering, Inc.  
Contact: Robert Knebel, PE  
501 E. Peach St. Suite A  
Bozeman, Montana 59715  
406-587-3442  
bobk@radiantengineering.com

Sustainability, Inc.  
Alaska Wood Energy Associates  
Contact: William A. Wall  
PO Box 988  
Seeley Lake, Montana 59868  
Office: 406-677-5006  
Cell: 406-210-9984  
williamwall11@gmail.com

Tetra Tech  
Contact: Keith Henn  
412-921-8398  
keith.henn@tetratech.com

Wisewood, Inc.  
Contact: Andrew Haden  
PO Box 28357  
Portland, Oregon 97228  
503-608-7366  
andrew@wisewood.us

McKinstry  
Contact: Tom Phillips  
228 W. Main, Suite C  
Missoula, MT 59802  
406-203-1621  
tomph@mckinstry.com

Precision Energy Services, Inc.  
Contact: Mike Oswald  
PO Box 1004  
Hayden, Idaho 83835  
208-772-4457  
oswaldmw@pes-world.com
ATTACHMENT B

SCOPE OF WORK

Pre-qualified energy analysts will conduct the following Scope of Work for the pre-feasibility assessment:

1) Initial Facility Review
   a) Review facility information provided in DNRC application (furnished by DNRC or facility)
   b) Verify facility information as needed via correspondence with facility
   c) Investigate the current heating system to determine steps to integrate a biomass system
   d) Work with facility staff to understand their needs and existing issues related to the heating and cooling system

2) Preliminary Site Investigation to include the following:
   a) Available space (within existing structures or space for newly constructed building)
   b) Street access and space available for fuel storage and deliveries
   c) Any building or site constraints (i.e. topography, permitting, historical preservation, etc.)
   d) Estimate proper size of biomass heating system to meet needs of facility
   e) Based on site information gathered, formulate options for installing a biomass energy system. This may include generating an assessment of a few project options and/or scenarios for different types of technologies, wood fuels and/or financial scenarios.

3) Preliminary Cost Estimating
   Provide preliminary cost estimates for installing a biomass energy system on site. Total project cost estimates will include, at a minimum, cost breakdown of:
   a) design and engineering,
   b) fees and permitting,
   c) mechanical integration to existing or new HVAC system,
   d) biomass energy unit (boiler or furnace package),
   e) structure to house biomass energy unit, conveyance and fuel storage (as needed),
   f) emission controls (if required)
   g) other equipment, materials, and construction costs.

4) Economic Analysis
   30 year life cycle cost analysis that incorporates, at a minimum:
   a) Baseline data on existing heating system (i.e. fossil fuel costs/unit, average annual fuel usage, average annual heating costs)
   b) Projected volume of wood fuel required to meet heat demand
   c) Estimated wood fuel cost per unit and annually
   d) Total project cost
   e) Projected savings, cash flow analysis and payback schedule

5) Final Report
   Final report will include:
   a) Executive summary of the preliminary assessment including brief discussion of:
      • the site features and opportunities and obstacles identified
      • the various technology or installation options assessed, if more than one
      • general perspectives of the assessment results, project viability, and recommended next steps
   b) Life cycle cost analyses of all assessed options in easy-to-understand spreadsheet formats

6) Submit Final Report to both facility and DNRC
   The final report will be submitted to both the facility and DNRC. The analyst may be asked to make a joint presentation to facility staff and DNRC.
PRELIMINARY FEASIBILITY ASSESSMENT
APPLICATION FORM

COMPLETE THE FOLLOWING INFORMATION:

Date filled out: _______________________
By (name): _______________________________________________
Facility Name: ____________________________________________
City: ____________________________________________________
Applicant’s DUNS # ________________________________________
Applicant’s CAGE Code _____________________________________

Principal Contact Person: __________________________________
Mailing Address: __________________________________________
Phone: ________________________________________________
FAX: _________________________________________________
Email: ________________________________________________

I. FACILITY INFORMATION

Check one:
- Existing Facility
- New Construction

(If new, fill in all available information for the proposed heating system and estimated energy usage.)

Check one:
- Public
- Private business
- Non-profit
- Other

Describe: __________________________________________________

Year of construction: _______________
Years of major renovations: _________________________________
Year of most recent energy audit: ________________

Have you implemented significant energy conservation measures related to space heat and hot water? YES / NO?
- Boiler room accessible to semi tractor/trailer vehicles

How is heat delivered to rooms? (check all applicable):
- Hot water
- Steam

Size of facility: ______________ sq. ft. heated space
No. of buildings _______ No. of floors _______
No. of occupants ______________

II. HEATING SYSTEM

Configuration (check one or more):
- Heating plant in one location
- Heating plant with exterior wall location?
- Different heating plants in different locations;

How many?:
- Individual, room-by-room heating systems

Is current heating system due for replacement soon? YES / NO?
- Ducted air
- Electric heat

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How is space heat generated? (check all applicable):

- ☐ Hot water boiler  
- ☐ Warm air furnace (in mechanical room)  
- ☐ Gas duct heaters or roof-top systems  
- ☐ Steam boiler  

Capacity (BTU or KW)  

- ☐ Electric Boiler  
- ☐ Electric baseboard  
- ☐ Electric duct coils  
- ☐ Electric furnace  
- ☐ Heat pumps  
- ☐ Other; Type:

II. FUEL SOURCES

What fuels are used? (check all applicable):

- ☐ Natural gas  
- ☐ Propane  
- ☐ No 2 fuel oil/ Diesel  
- ☐ Electric

Describe fuel storage (number, capacity, location of tanks):

________________________________________________________  
________________________________________________________

Is this fuel also for: other uses; just space heat?

III. DOMESTIC HOT WATER (DHW)

Uses of domestic hot water (check all applicable):

- ☐ Lavatories  
- ☐ Kitchen  
- ☐ Showers: Heavily used? Yes No  
- ☐ Other large uses:

Type of system (check all applicable):

- ☐ Single tank-type heater  
- ☐ Multiple tank-type heaters  
- ☐ Off heating boiler, with separate storage tank  
- ☐ Hot water generator with separate storage tank  
- ☐ Other

Describe location of heater(s), including areas/uses served:

________________________________________________________  
________________________________________________________

Describe fuel storage (number, capacity, location of tanks):

________________________________________________________  
________________________________________________________

IV. FUEL USAGE AND COSTS (THIS MUST BE COMPLETED IN ORDER FOR APPLICATION TO BE PROCESSED)

How much did you spend on the following fuels for heating last year?

- Natural Gas $__________/year  ___________ therms/year  
- Propane $__________/year  ___________ gallons/year  
- No 2 Fuel Oil $__________/year  ___________ gallons/year  
- Diesel $__________/year  ___________ gallons/year  
- Electric $__________/year  ___________ kilowatt hours/year

Attach a copy of a recent bill for each utility account.
VI. CONTROLS
Type of system (check all applicable):
- Thermostats on individual devices, not central control system
- Pneumatic controls system Manufacturer: _____________ Approximate Age:__________________
- Direct digital control system Manufacturer: _____________ Approximate Age:__________________

VII. OTHER INFORMATION
Below provide any other information that will help us understand your space heating and hot water systems:

VIII. BUILDING ENVELOPE

<table>
<thead>
<tr>
<th>Single pane</th>
<th>Double pane glass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall type</td>
<td>Insulation value</td>
</tr>
<tr>
<td>Roof type</td>
<td>Insulation value</td>
</tr>
</tbody>
</table>

IX. WOOD FUEL COSTS (IF KNOWN)
- Wood pellet cost delivered to facility $_________/ton
- Wood chip cost delivered to facility $_________/ton
- Distance to nearest wood pellet and wood chip suppliers?_________________________________________________
- Can logs or wood fuel be stockpiled on site or at a nearby facility?________________________________________

X. DESCRIPTION OF INTEREST
Submit a cover letter with application form that describes your interest in a wood biomass energy installation including potential benefits to the facility and community.

Submit Application to:

Angela Wells
Montana DNRC
2705 Spurgin Road
Missoula, MT 59804
Phone (406) 542-4221
Fax (406) 542-4217
awells@mt.gov

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