

Watershed Agricultural Council

Agriculture ♦ Forestry ♦ Conservation Easements ♦ Economic Initiatives

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EXPLORING WOODY BIOMASS ENERGY OPTIONS FOR FACILITIES IN THE NEW YORK CITY WATERSHED REGION

PART A – PROGRAM ANNOUNCEMENT & REQUEST FOR APPLICATIONS

PROJECT SUMMARY

For over 15 years, the Watershed Agricultural Council (WAC) has engaged in a variety of initiatives aimed at sustaining the economic viability of farming and forestry in the communities of the New York City Watershed Region. As part of this strategy, the Council is allocating \$35,000 to fund preliminary biomass feasibility assessments at local institutions. **This effort is targeted toward facilities requiring space heating and hot water needs for buildings or combinations thereof exceeding 50,000 ft² in size.** Selected applicants will receive an on-site engineering assessment and detailed report of the economic, environmental and technical feasibility of retrofitting or replacing an existing boiler system to accommodate wood as a renewable fuel option.

This initiative follows in the footsteps of other efforts in New York and neighboring states like Vermont, Massachusetts and Pennsylvania where public schools, hospitals and similar facilities are using modern, automated and efficient wood heating technology to reduce energy costs. To aid in this effort, a biomass energy consultant with experience in small-scale wood-fired boiler systems will be retained under contract to WAC and whose technical services will be provided to each awarded applicant at no cost. Individual projects are expected to get underway in Winter 2008 with completion before April 30, 2009. Preference will be given to suitable schools or other public buildings and institutions within the New York City Watershed Region (Delaware, Dutchess, Greene, Putnam, Schoharie, Sullivan, Ulster and Westchester Counties). All project proposals must be received by the Watershed Agricultural Council no later than **October 15, 2008** to be considered.

BACKGROUND INFORMATION

Wood for energy comes in chip or pellet form from a variety of sources including urban trees and construction waste, low value wood from forestry practices, residues from wood products manufacturing, energy crops cultivated on marginal farm lands, and non-commercial forest improvement operations. Use of wood biomass for energy can result in significant savings over fossil fuels while reducing greenhouse gas emissions and keeping energy dollars circulating within a community.

In Vermont, where the *Fuels for Schools* program has existed for over 20 years, fuel costs for institutions converting to wood energy were lowered 30%-50% compared to no. 2 fuel oil and 15% - 20% as compared to natural gas. Savings when compared with propane or electricity were even more significant. Where it is feasible to make the switch, the movement toward wood energy continues to expand to other public buildings such as hospitals and nursing homes, correctional facilities and college campuses. A wealth of knowledge regarding usage of wood for energy may be found at the Biomass Energy Resource Center's (BERC) website, <http://www.biomasscenter.org>.

The Watershed Agricultural Council has joined in a national effort guided by the US Forest Service toward increasing the use of wood residues in biomass energy production in the region. Federal and local support

enables WAC to provide full funding for several institutions interested in renewable energy options to conduct complete preliminary feasibility assessments – usually the first step in any capital project of this type. At this time, the Council is seeking proposals from institutions wishing to have an on-site woody biomass conversion feasibility study and engineering assessment completed to aid facility managers, voters and other decision-makers in pursuing biomass as a viable energy solution.

PROGRAM DESCRIPTION

Funding is currently available to examine the energy systems of several local institutions (preferably schools, hospitals, or other public buildings exceeding 50,000 ft²) to determine if conversion to wood fueled system makes sense.

The Watershed Woody Biomass Program will assist facilities with conducting a detailed feasibility analysis for each selected facility, examining the economic and energy efficiency of both the current system and the proposed new wood-based system. Preference will be shown to sites already examining alternative energy choices and expressing a commitment, both institutionally and financially, to implement an actual boiler conversion if appropriate.

The average cost for each preliminary feasibility study of this kind is approximately \$5,000 and total current funding available for these assessments is limited to \$35,000. Therefore, the Council anticipates selecting several participants. As a service to our participants, to encourage reciprocity among successful implementations and good summary reporting of the regional effort, the WAC will be providing an independent expert consultant in the field of small-scale biomass boiler technologies to conduct the feasibility analyses at each facility.

Selected applicants will receive an “engineer for a day” visit from a contractor hired by WAC to conduct the assessment. Free of charge and with no obligation from you, the engineer will survey your facility and heating system and prepare a written report which will detail the technical and economic feasibility of integrating a biomass boiler system including:

- Costs and savings projected (including an estimated “payback through savings scenario”);
- Amount of biomass projected to be consumed annually;
- Economic viability of the new system, contrasted with that of the old system;
- The supply, availability and accessibility of raw material to fuel the system (including the amount and condition of material generated in the vicinity of the site, source of material, cost estimates of material purchase and delivery, and potential contractors that can deliver the biomass);
- Identified source(s) of funding for the retrofit or installation including state construction aid to education, energy service contracts (ESCos), carbon offset banks, etc.
- Research of existing air quality regulations and implications for project.
- Potential reduction in greenhouse-gas emissions as compared to existing energy source;
- Number of community members served by facility and/or economic impact to community
- Support of and commitment to a future wood energy conversion project from the community (governing board, elected officials, partnering organizations, local businesses, etc.).

Based on the results of this Preliminary Feasibility Assessment, your facility may appear a good candidate for a biomass boiler installation. The next step would be to work with an architectural and engineering firm to plan and design your system. Additional support is available from this program to assist your facility in taking the next step.

To create a profile of your current energy needs, you may consider using the Wood Energy Calculator available from a similar project underway in Michigan at <http://michiganwoodenergy.org/>. The website and calculator are geared toward a specific program in their region. However, the information on the site is widely applicable and has a variety of resources helpful for researching the topic of community-based wood energy options.

EVALUATION CRITERIA & SELECTION PROCEDURES

Parties seeking selection under this program must submit a completed application packet. The Watershed Woody Biomass Working Group will evaluate each application thoroughly based on the following review criteria:

1. Impact of proposed project on use of local wood residues generated from one or more of the following sources: sawmills, forest management activities, and urban wood waste
2. Scientific or technical merit of project as determined by completion of preliminary information table in RFP-Part C
3. Role in serving as a pilot or demonstration facility and ability to pursue full retrofit or installation project if appropriate
4. Prior interest in/commitment to renewable energy projects (through previous completion of energy audits, preliminary engineering assessments, or other energy-related initiatives)
5. Demonstration of organizational commitment to project. i.e. written statement of approval from organization's governing board.

Applications will be reviewed and ranked by the Watershed Woody Biomass Working Group based on the evaluation criteria. The Working Group selects proposals and decides on specific allocation of available funds.

The Working Group will not evaluate incomplete applications. The Council reserves the right to reissue this request if no applications adequately meet the evaluation criteria. Selected applicants may be required to sign a Cooperator's Agreement and provide pre-arranged access to their facility by a biomass energy contractor. Applicants may be asked to provide additional documents such as organizational reports or, financial statements as necessary. A summary statement of the review and evaluation by the committee will be provided to applicants upon request.

The Northeastern Area Division of State & Private Forestry of the US Forest Service provides significant funding to the WAC Forestry Program to support forestry/wood products-related economic development activities and projects within the NYC Watersheds. These funds are in the form of grant money and are used to:

- Promote forestry as a preferred land use for protecting water quality.
- Promote and enhance regional economic activity within the forest/wood products industry.
- Improve the economic viability of forestry as an enterprise within the NYC Watersheds.
- Support the development of business relationships between wood processors and wood users in the NYC Watershed.

PROJECT REPORTING

Selected applicants will be notified by mail and work will commence in December 2008. Awarded applicants will have until April 30, 2009 to successfully complete the preliminary feasibility assessment with the contractor provided to them. The contractor will be providing periodic updates to WAC and the facility personnel on relevant findings that surface during the project. When the contractor completes all phases of the study, each site will receive three hardcopies and a PDF file of the final report and one resource binder with pertinent information to aid an organization in moving forward. Participants may be required to complete a brief exit interview to evaluate the success of this cooperative program.

ELIGIBILITY

Any municipality, institution, organization, or business in a NYC Watershed county (Delaware, Dutchess, Greene, Putnam, Schoharie, Sullivan, Ulster and Westchester) is eligible to submit an application under the Watershed Woody Biomass Program. Preference will be given to public facilities. However, potential applicants existing outside a watershed county are welcome to inquire if interested in this program.

REQUIRED MATERIALS FOR APPLICATION

Application materials can be recreated on your computer as long as they follow the exact format as the enclosed forms. Handwritten application materials will not be accepted. Additional copies of the application (either electronic or paper) can be obtained by contacting the WAC office.

The following materials must be submitted to the WAC as a complete package for consideration under this program:

1. Completed application with appropriate signatures - PART B
2. Completed Table of Preliminary Questions for Woody Biomass Application - PART C
3. Completed Energy Plan - PART D

SUBMISSION GUIDELINES & DEADLINES

All application materials must be received at the WAC office before 5pm on **October 15, 2008**. To inquire about assistance with application development contact Collin Miller at (607) 865-7790 ext 112.

NOTE: The Review Committee will not evaluate incomplete applications. Make sure your application package is complete! Applicants will be notified by mail of their selection status within 4-6 weeks of the application deadline.

COMPLETED APPLICATIONS MAY BE MAILED, FAXED, OR E-MAILED AS AN MS WORD ATTACHMENT TO:

Collin Miller, CF
Wood Products Utilization & Marketing Specialist
Watershed Agricultural Council
33195 State Highway 10
Walton, NY 13856
Phone: (607) 865-7790 ext112
Fax: (607) 865-4932
collinmiller@nycwatershed.org

Major funding for the Watershed Woody Biomass Program is provided by the Rural Development through Forestry: Economic Action Program administered by the US Forest Service Northeastern Area's Division of State & Private Forestry. Significant technical assistance for this project is also provided by the New York State Department of Environmental Conservation.

*The Watershed Agricultural Council (WAC) is a non profit organization with offices in Hamden, Walton and Yorktown Heights. WAC's mission is to support the economic viability of agriculture and forestry through the protection of water quality and the promotion of land conservation in the New York City watershed region. The WAC is funded by New York City Department of Environmental Protection, the U.S. Department of Agriculture, the U.S. Forest Service and other federal and foundation sources.
The WAC is an equal opportunity employer and provider.*

**WOODY BIOMASS PROGRAM APPLICATION
PART B - INFORMATION FORM**

Date: _____

Name of Company or Institution submitting application: _____

Contact Person: _____

Name of Owner or Chief Operating Officer (if different than above): _____

Mailing Address: _____

City/State/Zip: _____ County: _____

Daytime Business Telephone Number: _____

Business Fax Number: _____

E-Mail Address: _____

Authorized Signatures: The signature below is that of the person authorized to testify as to the accuracy of this application.

Signature: _____ Date : _____

Title: _____

FOR COUNCIL USE ONLY

Date Reviewed: _____ Approved: ___ Yes ___ No* Amount Approved: \$ _____

Signature of Working Group Chairman: _____

Signature of WAC Officer: _____

* Reason for denial:

PART C - PRELIMINARY QUESTIONS FOR WOODY BIOMASS PROGRAM APPLICATION

Name of Facility: _____

Location: _____

Number of Buildings Being Heated at this Facility: _____

Total Square Footage Being Heated at this Facility: _____

Types of Heating Systems Employed	Fuel Units Consumed Annually	Installation Year	Year of Last System Update	Square Footage Being Heated
Natural Gas	cu. ft.			
Fuel Oil (No. ___)	gal.			
Coal (Hard / Soft)	ton			
Wood/Biomass Specify _____	ton			
Electric	kWh			
Electric Ground Source Heat Pump	kWh			
Other Specify _____	_____			

* Note: The capital costs for installing a wood energy system are significantly higher and usually take longer for an institution to realize simple payback on their investment. However, as the cost of fossil fuels continue to rise, converting to wood as an energy source will offer immediate savings and take less time to realize a full return on the investment. In some cases, alternative funding sources for your project may be available.

It is highly recommended that applicants visit www.michiganwoodenergy.com to complete a preliminary financial feasibility check using the Wood Energy Calculator. For a complete excel spreadsheet program visit the Wood Fueled Boiler Financial Feasibility Program at <http://forest.wisc.edu/extension/boilermanual.htm>.

Reviewing your energy bills in these formats will provide you with a clearer picture of the simple payback period of converting to wood and thus, whether or not to pursue funding through this program.

APPLICATION PART D - ENERGY PLAN

Name of Company/Organization submitting application: _____

The ultimate goal of this project is to identify organizations that demonstrate the highest likelihood of completing successful installation of a renewable wood energy system dependant on encouraging results from the preliminary feasibility assessment.

In the space below, summarize the short and long-term energy goals (2-5 years) for your organization/company and how you feel that the Watershed Woody Biomass Program can help you achieve those goals. Provide as much detail as possible about your current energy outlook (including recent fuel consumption patterns, energy needs, costs and budgets, etc.), previous history of energy efficiency improvements at your facility, institutional commitment for adapting new technology and results from the fuel cost calculator simulation tools provided earlier in this application.

(If you need more space, attach and label additional pages including a letter or statement from your organization’s governing board. Refer to the evaluation criteria when completing this portion of the application.)