

DRAFT

**FOREST MANAGEMENT
PLAN**

FOR

**ROUNDHOUSE
RENEWABLE ENERGY**

ROUNDHOUSE RENEWABLE ENERGY
FOREST MANAGEMENT PLAN

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SECTION 1 - INTRODUCTION

Catalyst Renewables (“Catalyst”) is developing a 35 megawatt (MW) wood-fired renewable energy facility located in Oneonta, Otsego County, New York in support of New York State’s renewable portfolio standard that seeks to increase the amount of electricity available to consumers in New York that is generated from renewable resources to at least 25% by the end of 2013. Catalyst Renewables currently owns an interest in and operates the Lyonsdale Biomass wood-fired, combined heat and power facility located in the New York township of Lyonsdale, Lewis County. Catalyst is actively involved in the operation, ownership, and development of biomass energy production facilities in the State of New York.

Total fuel requirements to operate the proposed Roundhouse Renewable Energy facility will average approximately 1,100 green tons per day, or 365,000 green tons per year. This fuel will be supplied by a multitude of local logging companies, sawmill operators, and furniture manufactures in Central and Southern New York including Broome, Chenango, Cortland, Delaware, Madison, Montgomery, Otsego, and Schoharie counties.

Catalyst has developed this draft Forest Management Plan ("FMP") to manifest its commitment to sustainable forestry practices in compliance with the requirements established in the New York State Renewable Portfolio Standard ("RPS") program. The RPS is a state-sponsored program that seeks to establish a portfolio of renewable generation technologies to meet the goal of increasing renewable generation in New York. In its role as Central Administrator of the RPS, the New York State Energy Research and Development Authority (NYSERDA) prepared a comprehensive document entitled "Biomass Guidebook" that offers specific guidance to prospective biomass power project developers and operators on the requirements for eligibility of biomass-based projects to participate in the RPS. The format and policy objectives for the FMP are clearly established in the Biomass Guidebook.

This draft FMP will be submitted to NYSERDA and the New York State Department of Public Service (DPS) for their review and comments. Upon the approval of the FMP and the commencement of the RPS contract for the sale of renewable energy attributes to NYSERDA, the sustainable forestry mandates outlined in this document will be implemented by Roundhouse Renewable Energy throughout the term of the contract.

The goal of the fuel procurement activities at Roundhouse Renewable Energy will be to acquire biomass fuels including harvest wood and silvicultural waste wood using sustainable forest management practices and guidelines in order to conserve biological diversity, productive forest capacity, and to promote forest ecosystem health. Roundhouse Renewable Energy will work closely with landowners, loggers, foresters, regulators, and the community to ensure that the region’s forests are managed in a sustainable manner, thereby providing environmental and financial viability to the forest for future generations.

SECTION 2 - PROCUREMENT POLICY: HARVEST WOOD AND SILVICULTURAL WASTE WOOD

Upon approval by the DPS and NYSERDA, the FMP will be provided to each of the suppliers who provide biomass fuel to Roundhouse Renewable Energy. These suppliers will be required to be in compliance with the Roundhouse FMP for any biomass fuel delivered to the facility. They will also be required to prepare harvest plans for each parcel where harvested biomass is to be supplied to Roundhouse Renewable Energy during the term of the RPS contract for renewable energy attributes.

The harvest plan template included in Appendix A has the following general sections to be filled out by the fuel supplier for each parcel of land to be harvested:

1. Landowner information (name, address, acreage, estimated volume to be harvested, anticipated harvest date(s), etc.
2. Certification (if the parcel qualifies under an approved non-governmental certification program, the certification organization and number will be noted)
3. Map (area to be harvested, topography, skid road layout, locations of all streams, wetlands and water bodies, and forest type designation)
4. Landowner objectives
5. Potential ecological impacts (water quality, wildlife, aesthetics, recreation)
6. Silvicultural techniques and best management practices to be implemented.

The FMP procurement policy sets forth the following principles, goals and objectives that will be maintained in the sourcing of biomass fuel for Roundhouse Renewable Energy:

1. Minimize environmental impacts of the biomass fuel sourcing activities on the surrounding forest resources by promoting good forestry and silvicultural practices which enhance the value of the forest.
2. Preserve the basic forest biomass resources from which the biomass fuel is received as a by-product (i.e. sawmills, furniture manufacturers).
3. Develop long-term relationships with woodland owners, forest product industries and timber harvesters in the surrounding communities.
4. Provide assistance to woodland owners and timber harvesters in the implementation of required forestry guidelines and regulations as they apply to whole tree harvesting.
5. Promote the adoption of silvicultural and best management practices that conform with such practices that have been recognized, developed, and implemented in the fuel supply region throughout Central and Southern New York.

Timber harvesters that provide harvest wood or silvicultural waste wood to Roundhouse Renewable Energy shall comply with all applicable federal, state, and local laws, ordinances and regulations as they pertain to the procurement, handling, processing, and delivery of those materials to the facility. In the event that Catalyst becomes aware of any violation, a verbal notice will be served to the violating party and a reasonable period of time will be provided to rectify the situation. If the violation is not resolved to the satisfaction of Catalyst's forester, then harvest wood or silvicultural waste wood will no longer be accepted from that harvester until adequate assurance is provided in the sole judgment of Catalyst's forester that such violation has been resolved and will not occur in the future.

To accommodate compliance monitoring and oversight, Roundhouse Renewable Energy commits to:

1. Make provisions for the monitoring and periodic inspections of harvesting operations by state authorities or approved non-governmental forest certification bodies to ensure that harvest operations conform to the FMP standards.
2. Keep a copy of all harvest plans for the biomass that has been supplied to Roundhouse Renewable Energy under the RPS to facilitate periodic inspections.

Timber harvesters that provide harvest wood or silvicultural waste wood to Roundhouse Renewable Energy will prepare individual Harvest Plans that incorporate commonly accepted forestry practices. Whenever necessary, Catalyst's forester will assist the harvester in preparing these plans in order to achieve the management goals of both the FMP and the forest landowner. Plans will be developed using the professional judgment of Catalyst's forester and certain generally recognized sustainable forestry guides.

Harvesting & silvicultural guides to be used by Roundhouse Renewable Energy will include but are not limited to:

New York State Forestry Best Management Practices for Water Quality. BMP Field Guide, 2000.

Leak, W.B., D.S. Solomon and P.S. DeBald. 1987 Silvicultural Guide for Northern Hardwood Types in the Northeast (Revised). U.S. Forest Service Res. Pap. NE-603

Marquis, D.A., R.L. Ernst, and S.L. Stout. 1992. Prescribing Silvicultural Treatments in Hardwood Stands of the Alleghenies (Revised). U.S. Forest Service Gen Tech Rep. NE-96

Frank, R.M. and J.C. Bjorkbom. 1973. A Silvicultural Guide for Spruce-Fir in the Northeast. U.S. Forest Service Gen Tech Rep. NE-6

Lancaster, K.F. and W.B. Leak. 1978. A Silvicultural Guide for White Pine in the Northeast. U.S. Forest Service Gen Tech Rep. NE-41

Chunko, S.E. (compiler). 2001. Best Management Practices for Pennsylvania Forests. The Pennsylvania State University.

The New Hampshire Forest Sustainability Standards Team. 1997. Good Forestry in the Granite State. Society for the Protection of New Hampshire Forests.

SECTION 3 – POTENTIAL ECOLOGICAL IMPACTS

One of the most important objectives of this FMP is to limit the potential adverse ecological impacts that could occur as a result of Roundhouse Renewable Energy's procurement of harvest wood and silvicultural waste wood from timber harvesters. This section lists the general assessments, considerations, and actions that will be taken to minimize such potential impacts on water quality, wildlife, aesthetics and recreation. While these general measures will be applicable to a wide range of sites, the individual Harvest Plans will account for the unique characteristics of each site by identifying the specific actions to be taken to minimize adverse ecological impacts relative to the existing conditions, past harvesting practices, and landowner objectives.

Silvicultural Systems: Uneven - Age or Even - Age Management

(a) Uneven-aged management will be implemented in stands where the trees are predominately uneven-aged and it is desirable to perpetuate large quantities of tolerant species. It will also be used where site conditions prevent the use of even-aged management or where recreation, aesthetics, wildlife, and other similar land uses are of deemed to be of such high importance that they preclude and cutting technique that completely removes the overstory.

(b) Even-aged management shall be practiced in stands where the trees are basically even-aged and it is desirable to perpetuate intolerant species in large quantities.

When the decision is made on what management technique will be used, the forester will also decide on the proper silvicultural system to achieve the desired results. The systems from which the forester can choose are the Selection System - Individual Tree System - Group Selection - Patch Clear Cut - Shelterwood System - Seed Tree System - Clearcutting and Coppice or Low - Forest System. Further explanation of the application and use of the above silvicultural systems can be found on pages 102.01, 102.2, 103.4 and 103.5 of the Timber Management Handbook of the NYS Department of Environmental Conservation.

Variability of the forest stands in Central and Southern New York region often demand the use of more than one silvicultural system at any one site. Each site can be unique and requires the knowledge and experience of a forester to make the appropriate decision regarding which silvicultural systems are appropriate for that site.

Water Quality

The use of applicable erosion and sedimentation devices and practices will be required. Each harvesting operation shall take into consideration the impact of the harvest on wetlands, streams and open bodies of water. Timber harvesters must be required to implement the Timber Harvesting Guidelines for New York by NYS Dept. of Environmental Conservation. These guidelines include, but are not limited to the following:

1. Compliance with New York's Water Resources Law regarding stream crossings on classified streams.
2. Crossing at right angles to avoid disturbing pools and bends in the stream.
3. Protection of stream banks by crossing at points with low banks, rocky bottoms and minimally
4. Inclined slopes.
5. Installing log fords, portable bridges, or temporary culverts to minimize stream bottom damage.
6. Avoiding skidding in stream.
7. Felling trees away from streams or bodies of water and pulling all logging debris or slash out of the water.
8. Providing a fifty foot buffer of trees to protect the water from direct sunlight when applying the clear cut system. This prevents a rise in the water temperature.

Wildlife and Fisheries

The following considerations will be required when applicable to harvesting operations.

1. Landowners will be made aware of wildlife habitat and fishery options in determining management goals.
2. Roundhouse Renewable Energy will compile and keep on file maps of areas of special concern and coordinate with the DEC Bureau of Fish & Wildlife Services when harvesting operations are to take place.
3. Harvesting operations will be modified or curtailed wherever they might result in adverse impacts on rare or endangered species that are recognized by the DEC.
4. When landowner objectives require silvicultural alterations for the creation of specific wildlife habitat, guidance will be requested from the DEC Bureau of Habitat.

Landowner Concerns

Upon notification by the harvester, Catalyst's forester will contact the forest landowner to initiate preparation of a harvesting plan if a plan has not already been prepared.

In addition, Catalyst's forester will inform the landowner of the availability of the NYS Sponsored Cooperating Consulting Forester and the Cooperating Timber Harvester Programs.

Catalyst's forester will advise the landowner of any of the aforementioned concerns that may apply to their site and recommend that a timber harvesting agreement be drawn up that clearly describes the transaction taking place between the landowner and the harvester. Upon request, Catalyst's forester will provide the landowner with a copy of a typical timber harvesting agreement.

SECTION 4 – SUMMARY

Roundhouse Renewable Energy’s fuel procurement efforts will have a profound effect on the forestlands of surrounding communities. Through this Forest Management Plan our goal is to; improve the quality of the forests we work in, encourage neighboring forest landowners to become better stewards of their forests, and promote the use of forest products due to their renewable nature. We believe we are proceeding with great concern for the welfare of these forests and their stewards by employing professional and experienced forest management personnel to administer this program.

APPENDIX A

HARVEST PLAN TEMPLATE

| | | |
|------------------------------|--------|-----------|
| <i>Landowner Information</i> | | |
| Landowner: | | |
| Address: | | |
| City/Town: | State: | Zip Code: |
| Phone: | | |

Total Property Acreage: _____

Acreage of Area to be Harvested: _____

Total Estimated Volume of Harvest: _____

Proposed Harvester: _____

Proposed Harvest Date: _____ through _____

Harvest Plan Prepared by: _____

Phone: _____

Date Prepared: _____

Is this property certified under an approved non-governmental certification program?

Yes No

If yes, identify which program and record certification number.

If no, continue to second page and complete harvest plan.

Forest Stewardship Council, Certification # _____

Sustainable Forestry Initiative, Certification # _____

Tree Farm, Certification # _____

A map that shows areas to be harvested, topography, skid road layout, locations of all streams wetlands and water bodies and forest type designation is attached.

Landowner's Objectives for the Property:

Potential Impact from Harvesting on the Ecology of the Site:
(Summary for entire site and actions to minimize the impact should be noted)

Water Quality:

Wildlife:

Aesthetics:

Recreation:

Note: A parcel owned by a single landowner may have several forest stands that require different management prescriptions. Information for each stand where biomass will be harvested should be recorded separately.

Stand Number: _____ Forest Type: _____

Size (acres): _____ Age Distribution: _____

Size Class: _____

Dominant Species:

General Vigor:

Insect/Disease Problems:

Harvest History:

Average Basal Area: _____ Average Number Trees/acre: _____

Relative Stocking: _____

Estimated Volume to Harvest: _____

Harvest Objective:

Type of Harvest:

Silvicultural Techniques to be Used:

Best Management Practices to be Implemented:
