

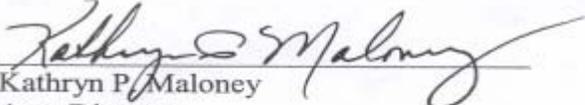
**USDA Forest Service
Northeastern Area**

Woody Biomass Business Plan



April 2008

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Introduction

The Northeastern Area (NA) Woody Biomass Business Plan (the WBBP) builds upon the draft NA White Paper entitled “Woody Biomass for Energy in the Northeastern US” by Morgan, Boughton, Milauskas, and other NA staff. The authors conclude that NA is well positioned to provide regional and national leadership in the use of woody biomass for energy and bio-refining. The report outlines challenges and opportunities related to woody biomass utilization in NA. NA can provide critical support to the national biomass effort by integrating State and Private Forestry (S&PF) programs with a focus on sustainable woody biomass utilization. This strategic approach will yield the full range of sustainable woody biomass products including heat, power, value-added wood products, and bio-refined products including liquid fuels and chemicals.

Since the development of the above mentioned White Paper, the Intergovernmental Panel on Climate Change (IPCC) released Working Group II and III reports on the impacts and potential mitigation measures for responding to climate change. The release of these reports and the initial IPCC Working Group I report has increased concerns about the causes and impacts of global climate. In his State of the Union address, President Bush acknowledged this growing concern and pledged to increase efforts to reduce energy consumption and increase the use of renewable energy. In Executive Order 13423-- Strengthening Federal Environmental, Energy, and Transportation Management (issued after the writing of the aforementioned White Paper), the President directs Federal agencies to implement a variety of sustainable practices including:

- Energy efficiency and reductions in greenhouse gas emissions.
- Use of renewable energy.
- Acquisition of green products and services.
- Increased diversion of solid waste.

The increased focus on the use of renewable energy sources, increased carbon sequestration, and greenhouse gas reduction, as well as the proximity of NA forests to 43% of the Nation’s population will cause increased pressure on these forests to provide renewable energy resources and support climate change strategies, as well as continue to provide current economic, ecological, and social benefits.

While new markets for biomass energy, carbon offsets, and carbon sequestration provide opportunities for more intensive forest management, they also increase concern about sustainability. Additional effort needs to be placed on conserving forestland and promoting the concepts of sustainable management to insure that eastern forests continue to provide the full range of benefits including clean air, clean water, clean energy and jobs.

NA will implement a WBBP focused on working with partners to maintain the sustainable use of woody biomass in the Northeast and Midwest. The WBBP identifies actions that will give states, businesses, entrepreneurs, the public and other organizations assistance in understanding and developing a successful woody biomass utilization pathway that contributes toward national and state renewable energy and climate change goals. Goals and objectives for NA and program areas relevant to a woody biomass program are listed along with specific program responsibilities and actions. Staffing and budget commitments are critical elements necessary for implementation.

Program Leadership

The Wood Education and Resource Center (WERC) has overall NA-wide leadership responsibility for WBBP implementation. WERC will devote 20 to 30 percent of its efforts toward the biomass program. WERC's primary mission is oriented toward wood industry competitiveness issues in 35 eastern hardwood states. Significant NA woody biomass program support must come from the NA program areas of Forest Stewardship, Urban Forestry, Fire, and Forest Health. This program support will include personnel time and program funds.

The Field Representatives and Field Office staffs are particularly important in providing program support and program implementation assistance. Field Office staff will provide direct assistance to State Forestry agencies, National Forest staffs, communities and groups interested in woody biomass program implementation.

WERC's mission is to foster interaction and information exchange with the forest products industry to enhance opportunities for sustained forest products production in the eastern hardwood region of the United States.

WERC is establishing the infrastructure and procedures for coordinating the overall NA-wide biomass efforts. The WERC capacity includes technical expertise, training and manufacturing facilities, an annual competitive grants opportunity, historical and present biomass project experience, and staff that can dedicate a percentage of time to the overall biomass effort. WERC is dedicating a full-time biomass coordinator and a program analyst (approx. ½ time) who will work with NA staff (at the Area-wide and Field Office levels) and area-wide partners in the development and implementation of the NA WBBP.

Linkages to National and Area Goals and Objectives

The WBBP links to the Forest Service (FS) National Strategic Plan and to FS Woody Biomass National Strategy (see Appendix 2).

The NA mission is to *lead and help to support sustainable forest management and use across the landscape to provide benefits for the people of the 20 Northeastern and*

Midwestern States and the District of Columbia. The NA Strategic Plan has two primary goals and several objectives under these goals. The two goals are:

- **GOAL 1: Promote sustainable forest management**
- **GOAL 2: Enhance the capacity of forests to provide public benefits**

The NA WBBP primarily focuses on Objective 2B: *Help the Northeast and Midwest meet its need for renewable energy and greenhouse gas reduction through the sustainable utilization of woody biomass.* The Plan also identifies strategies that support a number of Objectives under Goal 1 (B&C) and Goal 2 (A, C, & D).

Performance Measures

Within the WBBP, we have a variety of strategies that are carried out to support the Northeastern Area-wide goals. To measure our effectiveness in working towards Goal 1 and 2 we have chosen two related performance measures.

The first performance measure is the **total renewable energy generated from wood and wood waste in the Northeast and Midwest.** Data to measure progress on this performance measure are collected by the DOE's Energy Information Agency on an annual basis.

Our second performance measure will be the **amount of greenhouse gas reduction resulting from Northeastern Area efforts.** This will be expressed in tons of carbon sequestered or by tons of carbon use offset through woody biomass utilization.

Strategies

NA WBBP strategies are to:

1. Identify and analyze opportunities for the sustainable use of woody biomass as an energy source
2. Develop case studies, fact sheets, subject area briefs, workshops, and conferences that support development of the sustainable use of woody biomass;
3. Identify market needs, analyze the opportunity, fund pilot projects, work with the financial community and existing businesses and start-ups;
4. Increase biomass availability through more intensive forest management, improved harvesting technology, and increased short rotation woody crop (SRWC) planting; and
5. Work with cities, schools, hospitals, and businesses to demonstrate the use of woody biomass for energy (heating, cooling, process steam, power) and other value-added uses.

These specific strategies and supporting actions are further refined below. Where Northeastern Area staff groups are indicated in brackets, both Area Office and Field Office staffs are included as appropriate to their organizational role.

1. Identify and analyze opportunities for the sustainable use of woody biomass as an energy source.

Actions:

- Develop a geo-spatial database of woody biomass related information (multiple data layers) within NA (using the FS Arc Info platform and compatible with Stewardship Analysis Program (SAP)). Engage State Forestry agencies in determining what layers to include such as: forest and urban woody biomass type and quantities, fire hazard, fire safe communities, type of biomass, infrastructure, existing and planned biomass using facility location and type (refinery, heat, power, value-added, etc.) (**Staff: WERC with assistance from FH/CF/Fire**);
- Utilize NA geo-spatial information system capability to perform analyses of data that will provide relevant resource information to planners, land managers, developers, investors, states, and organizations seeking to economically site biomass using plants and determine forest resource capacity (**Staff: WERC**);
- Encourage the analysis of the impacts of increased biomass utilization on forest health, nutrient cycling, watershed condition, and fire hazard. (**Staff: FH/CF-FRM/Fire**)

2. Develop case studies, fact sheets, subject area briefs, workshops, and conferences that support development of the sustainable use of woody biomass.

Actions:

- Market and communicate NA's efforts and successes within the biomass area to agencies, partners, venture capitalists, states, companies, congressional contacts and other interested parties. Utilize meetings, workshops, publications, media, and personal contacts (**Staff: All**);
- Develop information materials: power points of what we have done, what are our potentials, highlight efforts within FS, and with other interest groups, symposia, congressional briefings (**Staff: All**);
- Establish a library of information including a history of biomass related grants and project results and outcomes (**Staff: WERC**);
- Develop case history information briefs on successful use of woody biomass, including an analysis of key success factors and commonalities or opportunities as to how they were established and operate (development funding, operating principles, financials, etc.) (**Staff: WERC**);
- Explore, establish and develop partnerships within and outside of NA and collaborate for increased effectiveness(**Staff: WERC**); and

- Communicate the benefits and impacts of more intensive biomass utilization **(Staff: All)**

3. Identify market needs, analyze the opportunity, fund pilot projects, work with the financial community and existing businesses and start-ups.

Actions:

- Conduct an Area-wide analysis of current markets for woody biomass **(Staff: WERC)**
- Analyze the volume of biomass available for use in urban environments on a sustainable basis. **(Staff: CF-UF)**
- Fund feasibility studies for conversion to use of biomass feedstock and bio-refined products for heat, power, fuels, and other value-added products. **(Staff: FH/CF/Fire/WERC)**
- Develop a regional price reporting system for biomass products. **(Staff: WERC)**
- Develop success stories and technical analyses that encourage urban facilities to convert to woody biomass energy use. **(Staff: CF-UF)**
- Develop success stories and technical analyses that encourage the use of hazardous fuels treatments to provide materials for woody biomass energy use. **(Staff: Fire)**
- Analyze and promote opportunities for additional residue brokering capacity in the region. **(Staff: WERC)**
- Evaluate increased production of wood pellet fuels. **(Staff: WERC)**
- Support improved technology related to the small scale use of wood for heating and cooling. **(Staff: WERC)**
- Explore increased use of wood fuels for combined heat and power and district heating. **(Staff: WERC)**
- Analyze the impacts of the increased use of woody biomass related to carbon offset and greenhouse gas reduction strategies. **(Staff: WERC and CF-FRM)**

4. Increase biomass availability through more intensive forest management, improved harvesting technology, and increased short rotation woody crop (SRWC) planting.

Actions:

- Increase interaction with USDA-Natural Resources Conservation Service to make sure that Timber Stand Improvement (TSI) practices that increase woody biomass availability and improve forest health are approved within federal cost share programs. **(Staff: CF-FRM)**
- Increase interaction with the National Agroforestry Center to encourage production of woody crops for energy **(Staff: CF-FRM)**

- Increase communication efforts on the value of TSI in forest health and in providing financial returns **(Staff: CF-FRM)**
- Encourage the use of mechanical fuels treatments to provide additional woody biomass materials **(Staff: Fire)**
- Assess and demonstrate new technology for “light on the land” harvesting **(Staff: CF-FRM)**
- Provide assistance to landowners interested in developing SRWC plantations **(Staff: CF-FRM)**
- Work with State Nurseries to determine opportunities for growing SRWC planting stock **(Staff: CF-FRM)**

5. Work with cities, schools, hospitals, and businesses to demonstrate the use of woody biomass for energy (heating, cooling, process steam, power) and other value-added uses.

Actions:

- Fund demonstration projects that improve rural and urban woody biomass utilization, while maintaining sustainability **(Staff: All)**;
- Collaborate with partners for increased effectiveness. Cooperate on meetings, workshops, publications, and technology transfer **(Staff: All)**;
- Develop analytical tools for use by customers/clients **(Staff: All)**;
- Identify/facilitate appropriate supply/demand networks for woody biomass utilization (including energy products) **(Staff: WERC)**;
- Develop community fire plans that recognize the use of woody biomass for energy **(Staff: Fire)**;
- Develop disaster recovery plans that recognize utilization of woody debris **(Staff: Fire)**;
- Identify opportunities for improvement or expansion within current biomass infrastructure **(Staff: WERC)**.

Appendix 1 includes further development of these strategies. Each strategy is prioritized, responsibilities are assigned, resource needs are estimated on an annual basis, and timelines are provided from FY 2008-20012.

Potential Activities by Program Area

Cooperative Forestry Program Activities

Urban and Community Forestry

Program Activities

- Communicate the opportunities for the use of urban wood resources to community leaders
- Encourage incorporation of volume measures into community green infrastructure assessments.
- Develop tools for communities to assess their carbon sequestration potential at the community level.
- Survey urban communities for value-added woody biomass utilization programs versus chip and landfill
- Identify communities that need assistance or are interested in woody biomass energy projects.
- Conduct pilot projects to demonstrate market demand and feasibility at a metropolitan scale supported with funding under current U&CF Program authorities.

Forest Resources Management

Program Activities

- Identify high priority areas for implementation of more focused or intensive forest management to develop biomass utilization opportunity maps
- Develop best management practices for biomass harvesting that maintain site quality and are cost effective for loggers to implement.
- Work with NRCS to ensure that appropriate TSI practices are included in cost-share programs.
- Work with forest landowners to develop biomass management and delivery systems that enable landowners to receive adequate compensation for more intensive management.
- Provide information on the impacts of carbon sequestration strategies on biomass utilization opportunities.
- Develop SRWC plantation management guidelines for landowners.
- Work with State Forest nurseries to evaluate opportunities to provide SRWC planting stock.
- Develop/recommend “light on the land” technology/methods guides for loggers.
- Work with states and other organizations to develop techniques and monitor effects of intensive biomass utilization on water resources.

Forest Health Program Activities

Program Activities

- Coordinate risk and disease maps with fire, stewardship, and urban resource information to develop biomass utilization opportunity maps
- When working with federal land managers, evaluate biomass utilization as a treatment option to improve forest health where appropriate
- Develop demonstration and pilot projects to demonstrate woody biomass utilization as a control option
- Develop and evaluate techniques to treat infested biomass to facilitate transportation to potential markets
- Develop projects to assess the impact of insects and diseases on SRWC prior to large scale planting efforts

Cooperative Fire Management Program Activities

Program Activities

- Provide appropriate fire information for biomass utilization opportunity maps
- Analyze WUI areas for high risk/priority treatment
- Determine opportunities to work with communities within existing wildfire protection plans to generate woody biomass through mechanical thinning operations.
- Coordinate with NA woody biomass program to direct market development efforts toward high risk / need areas.
- Provide connections to FEMA to improve planning for forest resource recovery operations after natural disasters
- Through the Army Environmental Center connect the NA Woody Biomass Program to interested DOD facilities in NA

WERC Program Activities

Activities

- Provide staff support for Area-wide WBBP implementation and coordination(1.5 person years);
- Provide technical assistance to NA staff groups as necessary to increase woody biomass utilization for energy;
- Provide opportunities for project funding through a competitive grants program and other funding mechanisms;
- Oversee the development of the Area-wide woody biomass geo-spatial database;
- Develop specific demonstration projects and pilot projects in cooperation with NA staff groups;

- Develop and implement market development strategies in cooperation with other NA staff groups; and
- Coordinate reporting of accomplishments by NA staffs in implementing the WBBP.

Risks

In order to be successful the NA biomass program must address these elements:

- Successfully implementing the WBBP will require a high degree of coordination with other efforts including the Forest Service biomass program and its National Biomass Coordinator. Alignment of program strategy and goals with national and state policies is critical. Consultation and collaboration will be necessary within NA including the Executive Team, Northern Research Station, R9, DOE, EPA, state energy and forestry programs, other USDA agencies (NRCS, RD, FSA), DOE, and local utilities. Regular monitoring of these efforts should be done.
- Leadership “buy-in” and support of the NA WBBP is critical.
- Long-term program support in funding and personnel is necessary.
- Relevance to national and state biomass efforts must be proven.

Operations & Communications

Customer / Clients

There exists a real need for the information, services, technical assistance and cooperative project development and funding that NA can provide. Primary customers and clients of the NA biomass effort include Forest Service staff, other USDA agencies (RD and NRCS), other federal agencies (DOD, DOE, DOI (BIA NPS), and EPA), state energy officials, state foresters, state departments of agriculture and education, hospital and prison administrators, air quality regulators, corporations (energy users, technology and equipment providers, and biomass suppliers), the financial industry, entrepreneurs, researchers, and the public.

The NA biomass effort under WERC will provide opportunities for information analysis and dissemination, collaboration, technology transfer and project funding. The action items under the previously described information and communications goals and objectives will facilitate relevant and useful information and results to targeted customers. Partnerships, success stories, publications, web-based information, workshops, video conferences will be used to achieve desired outcomes.

Management Team

The NA Biomass Coordinator (NABC) will report to the Director of WERC. The NABC will also coordinate program goals and objectives with the three NA Field Representatives, NA Executive Team, and appropriate NA personnel.

Strategic alliances will be developed and expanded to compliment resident NA skills.

Knowledge and Skills Required for Program Success

The skills, energy, and financial resources required for success of the WBBP does not rest with one NA Staff. Success requires collaborative efforts across NA programs. Continuous learning will necessarily be an integral part of successful efforts due to the rapidly developing biomass technologies and continual federal and state program developments and initiatives.

Communications

Communicating NA's biomass efforts will require several areas of outreach:

- State and federal agencies
- Industry/venture capitalists
- Other partnering organizations such as: universities and non-profits
- Rural and urban interests

NA Field Offices are particularly important in the Communications effort. The WERC Director and Biomass Coordinator will work with the Field Representatives to insure that messages about the Northeastern Area's Woody Biomass efforts are accurate and consistent across the region.

Evaluation/Oversight and Review of NA Biomass efforts

Regular evaluation of the NA WBBP efforts will be necessary to assure alignment with NA and national program goals.

- Consult and collaborate with the WERC Director on direction and progress.
- Meet periodically with the NA Executive Team for updates and accomplishment review.
- Meet with federal, state and local officials and organizations with an interest in NA's biomass efforts.

Conclusion

The forests of the Northeastern Area are a tremendously important resource. As concern about energy independence and climate change grows, many are recognizing that these forests are nationally significant “strategic resources”. It is important to understand that these forests are owned by a variety of individuals, businesses, communities, and governmental bodies with a wide range of management objectives. This WBBP delineates the strategies that will help this diverse set of landowners identify how they can use new markets for woody biomass to accomplish their management objectives. NA managers must work together to accomplish this task. NA WBBP efforts will integrate contributions from Forest Health, Stewardship, Urban and Community Forestry and Cooperative Fire Management (at the Area-wide and Field Office levels) into an overall program that derives leadership and direction from WERC.

Appendix 1

Tables 1-5 describe actions, activities, priorities, resource needs and timelines for the 5 strategies developed within the NA Biomass Business Plan. These actions are supported by Area-wide and Field Office specialists with S&PF as well as many of our partners.

Table 1. Strategy 1 - Identify and analyze opportunities for the sustainable use of woody biomass as an energy source.

Strategy 1: Identify and analyze opportunities for the sustainable use of woody biomass as an energy source

	Actions/Activities	Priority	Responsibility	Resources \$/Yr	Timeline				
					FY08	FY09	FY10	FY11	FY12
1	Develop a geo-spatial database of woody biomass related information (multiple data layers) within NA (using the FS Arc Info platform and compatible with Stewardship Analysis Program (SAP)). Engage State Forester to determine what information layers to include. (Staff: WERC with assistance from FH/CF/Fire);	1	WERC, IRM, Field Office, NAASF, NRS	\$50,000					
1a	Identify potential uses for the system				X				
1b	Identify necessary data layers w/State Forestry agencies				X				
1c	Collect the required data				X	X	X	X	X
2	Utilize NA geo-spatial information system capability to perform analyses of data that will provide relevant resource information to planners, land managers, developers, investors, states, and organizations seeking to economically site biomass using plants and determine forest resource capacity (Staff: WERC);	2	WERC, IRM, NAASF, FS Research, Field Office Staff	\$50,000					
2a	Activity: Produce maps of current woody biomass demand				X	X	X		
2b	Activity: Produce maps of estimated woody biomass supply with cost curves						X	X	X
3	Encourage the analysis of the impacts of increased biomass utilization on forest health, nutrient cycling, watershed condition, and fire hazard. (Staff: FH/CF-FRM/Fire)	3	WERC, IRM, NAASF, FS Research, Field Office Staff	\$20,000			X	X	X
3a	Action: Produce an EAB-Woody biomass map product		WERC, IRM, FHP, NAASF, FS Research			X	X	X	X
3b	Action: Produce a Fire Safe Communities Fuels Treatment Map		WERC, IRM, Fire, NAASF, FS Research				X	X	X

Table 2. Strategy 2 - Develop case studies, fact sheets, subject area briefs, workshops, and conferences that support development of the sustainable use of woody biomass.

Strategy 2: Develop case studies, fact sheets, subject area briefs, workshops, and conferences that support development of the sustainable use of woody biomass

	Actions/Activities	Priority	Responsibility	Resources \$/Yr	Timeline				
					FY08	FY09	FY10	FY11	FY12
1	Develop information materials: power points of what we have done, what are our potentials, highlight efforts within FS, and with other interest groups, symposia, congressional briefings (Staff: All)	1	L.McCreery, L.Singleton, S.Milauskas	\$20,000	X	X	X	X	X
2	Establish a library of information including a history of biomass related project results and outcomes (Staff: WERC);	1	C.Rhodes, D.Hawkins, L.Osborn, L.McCreery	\$10,000					
2a	Use an Information Management Database System for storage and management of Library information		E.Cesa, L.Osborn		X				
2b	Setup physical library in Princeton		C.Rhodes, D.Hawkins, L.Osborn,		X				
3	Develop case history information briefs on successful use of woody biomass, including an analysis of key success factors and commonalities or opportunities as to how they were established and operate (development funding, operating principles, financials, etc.) (Staff: WERC);	2	L.McCreery, L.Singleton, S.Milauskas & Partners	\$5,000		X	X	X	X
4	Market and communicate NA's efforts and successes within the biomass area to agencies, partners, venture capitalists, states, companies, congressional contacts and other interested parties. Utilize meetings, workshops, publications, media, and personal contacts (Staff: All);	2	McCreery, Cesa, Field Office reps, NA Staff reps			X	X	X	X
4a	Present/display at regional meeting/conferences			\$10,000		X	X	X	X
4b	Develop biomass e-mail list and distribute NA updates		McCreery, Cesa, Field Office Staff		X	X	X		
5	Explore, establish and develop partnerships within and outside of NA and collaborate for increased effectiveness (Staff: WERC); and	3	McCreery, Milauskas, Cesa, Field Reps, Field Office Staff						
5a	Focus on existing partners		L.McCreery, L.Singleton, S.Milauskas, Field Office Staff		X	X			
5b	Focus on new partners		L.McCreery, L.Singleton, S.Milauskas, Field Office Staff			X	X	X	X
6	Communicate the benefits and impacts of more intensive biomass utilization (Staff: All)	1				X	X	X	X
6a	Develop regional guideline document for sustainable biomass utilization		McCreery, Buccowich, NAASF	\$20,000	X	X			
6b	Develop web documents illustrating good/bad practices		McCreery, Buccowich, NAASF	\$20,000	X	X	X		

Table 3. Strategy 3-Identify market needs, analyze the opportunity, fund pilot projects, work with the financial community and existing businesses and start-ups.

Strategy 3: Identify market needs, analyze the opportunity, fund pilot projects, work with the financial community and existing businesses and start-ups

	Actions/Activities	Priority	Responsibility	Resources \$/Yr	Timeline				
					FY08	FY09	FY10	FY11	FY12
1	Conduct an Area-wide analysis of current markets for woody biomass	1	Cesa, Steele, McCreery	\$50,000	X	X			
2	Analyze the volume of biomass available for use in urban environments on a sustainable basis. (Staff: CF-UF)	2	McCreery, Cesa, & Contractor	\$200,000		X	X	X	
3	Fund feasibility studies for conversion to use of biomass feedstock and bio-refined products for heat, power, fuels, and other value-added products. (Staff: FH/CF/Fire/WERC)	1	Cesa, Milauskas, McCreery	\$300,000	X	X	X	X	X
4	Develop a regional price reporting system for biomass products. (Staff: WERC)	1	McCreery, & NAASF	\$10,000		X	X	X	
5	Develop success stories and technical analyses that encourage urban facilities to convert to woody biomass energy use. (Staff: CF-UF)	1	Rodbell, McCreery, Cesa, Singleton, Field Office Staff	\$5,000	X	X	X		
6	Develop success stories and technical analyses that encourage the use of hazardous fuels treatments to provide materials for woody biomass energy use. (Staff: Fire)	1	Zentz, McCreery, Singleton	\$5,000		X	X	X	
7	Analyze and promote opportunities for additional residue brokering capacity in the region. (Staff: WERC)	3	McCreery, NAASF, Field Office Staff	\$5,000			X	X	X
8	Evaluate increased production of wood pellet fuels. (Staff: WERC)	2	McCreery, Clark	\$10,000		X	X	X	
9	Support improved technology related to the small scale use of wood for heating and cooling. (Staff: WERC)	2	McCreery, Field Office Staff, Partners	\$100,000		X	X	X	X
10	Explore increased use of wood fuels for combined heat and power and district heating. (Staff: WERC)	1	McCreery, Milauskas, Field Office Staff, Partners	\$100,000	X	X	X	X	X
11	Analyze the impacts of the increased use of woody biomass related to carbon offset and greenhouse gas reduction strategies. (Staff: WERC and CF-FRM)	1	Steele, Milauskas, Buccowich, McCreery, Field Office Staff	\$10,000	X	X	X	X	

Table 4.- Strategy 4 - Increase biomass availability through more intensive forest management, improved harvesting technology, and increased short rotation woody crop (SRWC) planting.

Strategy 4: Increase biomass availability through more intensive forest management, improved harvesting technology, and increased short rotation woody crop (SRWC) planting

	Actions/Activities	Priority	Responsibility	Resources \$/Yr	Timeline				
					FY08	FY09	FY10	FY11	FY12
1	Increase interaction with USDA-Natural Resources Conservation Service to make sure that Timber Stand Improvement (TSI) practices that increase woody biomass availability and improve forest health are approved within federal cost share programs. (Staff: CF-FRM)	1	Buccowich/ Morgan, Field Office Staff	\$10,000	X	X	X	X	X
2	Increase interaction with the National Agroforestry Center to encourage production of woody crops for energy (Staff: CF-FRM)	2	Overton/ Morgan, Field Office Staff	\$20,000		X	X	X	X
3	Increase communication efforts on the value of TSI in forest health and in providing financial returns (Staff: CF-FRM)	2	Buccowich/ Morgan, Field Office Staff	\$10,000	X	X	X	X	
4	Encourage the use of mechanical fuels treatments to provide additional woody biomass materials (Staff: Fire)	1	Zentz/ Fire Staff	\$100,000		X	X	X	X
5	Assess and demonstrate new technology for “light on the land” harvesting (Staff: CF-FRM)	2	Buccowich/ Morgan, Milauskas/ McCreery, Field Office Staff	\$100,000		X	X	X	
6	Provide assistance to landowners interested in developing SRWC plantations (Staff: CF-FRM)	2	Overton/ Morgan, Field Office Staff	\$10,000		X	X	X	X
7	Work with State Nurseries to determine opportunities for growing SRWC planting stock (Staff: CF-FRM)	1	Overton/ Morgan, Field Office Staff	\$25,000	X	X	X	X	

Table 5. – Strategy 5 - Work with cities, schools, hospitals, and businesses to demonstrate the use of woody biomass for energy (heating, cooling, process steam, power) and other value-added uses.

Strategy 5: Work with cities, schools, hospitals, and businesses to demonstrate the use of woody biomass for energy (heating, cooling, process steam, power) and other value-added uses.

Actions/Activities	Priority	Responsibility	Resources \$/Yr.	Timeline				
				FY08	FY09	FY10	FY11	FY12
1 Collaborate with partners for increased effectiveness. Cooperate on meetings, workshops, publications, and technology transfer (Staff: All);	1	McCreery, Milauskas, Cesa, & Other Staffs	\$30,000	X	X	X	X	X
2 Develop analytical tools for use by customers/clients (Staff: All);	2	McCreery, FPL staff, Field Office Staff, & External Partners	\$100,000		X	X	X	
3 Fund demonstration projects that improve rural and urban woody biomass utilization, while maintaining sustainability (Staff: All);	1	E.Cesa, S.Milauskas, L.McCreery, Field Office Staff	\$300,000	X	X	X	X	X
4 Identify/facilitate appropriate supply/demand networks for woody biomass utilization (including energy products) (Staff: WERC);	2	L.McCreery, Field Office Staff, External Partners	\$50,000		X	X	X	
5 Develop community fire plans that recognize the use of woody biomass for energy(Staff: Fire);	1	Zentz, McCreery, & Brooks			X	X	X	X
6 Develop disaster recovery plans that recognize utilization of woody debris (Staff: Fire);	1	Zentz, McCreery, Field Office staff			X	X	X	X
7 Identify opportunities for improvement or expansion within current biomass infrastructure (Staff: WERC).	3	L.McCreery, Field Office Staff, External Partners	\$30,000		X	X	X	X

Appendix 2

The Forest Service’s Strategic Plan for FY 2007-2012 identifies seven major goals. Of these seven major goals, the NA WBBP identifies strategies that support accomplishment of Goals 1, 2, and 6.

- **GOAL 1: Restore, Sustain, and Enhance the Nation’s Forests and Grasslands**
- **GOAL 2: Provide and Sustain Benefits to the American People**
- **GOAL 6: Engage Urban America with Forest Service Programs**

At the national level the Forest Service’s is developing a Woody Biomass Utilization Strategy for Restoring and Maintaining Ecosystem Health. This national strategy focuses on achieving four goals:

- **Assuring Supply.**
- **Identifying and Building Partnerships.**
- **Developing Science and Delivering Technology.**
- **Seeking New Markets.**

The NA WBBP identifies strategies that support accomplishment of these four National Strategy goals.