

Final Report

Of the

**Woody Biomass Task Force
The
Wisconsin Council On Forestry**

Covering the Period
Of
June 2004- August 2007

TO: The Wisconsin Council On Forestry

When the Council authorized the Woody Biomass Task Force in early 2004, carbon credits, cellulosic ethanol, and the issue of climate change were not in focus nor did Wisconsin have any public policy for the use of woody biomass to assist in meeting Wisconsin's fuel and energy demands. As a result the Task Force elected to focus on the creation of energy from wood and over the three year period met 10 times to discuss the Task Force issue "What role can Wisconsin's forests play in woody biomass utilization to meet a growing demand for energy and fuel?"

That effort was to culminate in comprehensive legislation for the production and utilization of woody biomass. Discussion by the Chair with the Natural Resources Division staff of the National Conference of State Legislatures indicated interest in comprehensive legislation that could be used as model state legislation. Our Task Force proceeded with this in mind.

During the process we received support from the University of Wisconsin LaFollette School for Public Affairs for a full study of all other state legislation dealing with woody biomass. Their study found a scattering of legislation that was noted as potential components of Wisconsin comprehensive legislation. We added our own ideas to that list.

The Task Force looked at woody biomass existing in our forests. We found over 605 million wet tons and the fact that we were harvesting less than our annual growth. Wisconsin unlike many other states actually gained over ½ million acres of forestland during the last decade.

When we looked at our forest resources we also looked at some of the issues impacting forest harvest including distribution of species, lack of regional markets and regional cultural differences impacting harvest and management practices. A special sub group identified the driftless area as an area of focus because of invasive species, lack of markets, wildlife issues and an opportunity to work with the Excel Energy – the owner of two power plants that have a shortage of woody biomass for power generation.

The Task Force also identified other potential benefactors from increased biomass production including the University of Wisconsin campuses and singled out the UW Stevens Point as one possible campus to burn wood since it consumes over 7,000 tons of coal and 616 MCF of natural gas for its heating system. The conversion also fits well with their forestry academic program.

The Task Force also engaged the Wisconsin School Boards Association and Wisconsin Association of School Administrators in efforts to increase wood energy systems. Only eight of the 426 school districts presently use wood. The Task Force proposed a Fuel for Schools Program similar to Vermont, which had through cost sharing and other means, secured changes in their school districts. Even their state capital is heated with wood.

The Task Force also explored, but not in depth, the need for construction of other wood energy production facilities. Wisconsin, unlike other states, has a great deal of co-firing occurring in industry - particularly in paper manufacturing. Our energy company rep's analysis was not

encouraging for large power plants use of wood to produce energy. Rather they concluded, the focus might be on five megawatt or smaller facilities.

The 12 members of the Task Force were carefully selected to reflect the wide range of interests and expertise available and include individuals who understand the issues dealing with woody biomass use for energy production. These members are listed in Appendix A.

Members expressed their personal and professional perspectives depending on their experiences in wood utilization. All however agreed on three principals.

First, that if we were to increase the demand for woody biomass usage, we needed to increase the supply as well. Wisconsin is fortunate to have a very diverse wood industry, which makes high usage of available woody biomass. The proposed components are an attempt to balance the supply and demand.

Secondly, there was a strong feeling that an expanded educational process was needed to encourage private woodland owners to manage sustainably while making their woodlands available for our wood using industry. Several components of our legislation address this issue.

The third is that there is a long-standing disconnect between agriculture and forestry even though our working lands are evenly divided in acreage between the two industries.

In fact agricultural producers own 25% of the private forestlands. Many of these producers do not look at their forestland as part of their agricultural enterprise. Yet these interests are likely to intersect as we move to cellulosic ethanol and the wood chemical market.

The Task Force by its process of reviewing all other state legislation and offering its own suggestions prepared a list of possible components. That had not been done anywhere else in the United States.

There was insufficient time to fully address all components of the proposed legislation beyond identification. As a result there is no economic, environmental or societal cost analysis given for each of the components identified.

Nor were there any attempts to address any concerns of special interests including any industry that might be impacted by the legislation.

We will leave it to the political process to identify those components that are politically, economically, environmentally and socially acceptable.

Our Task Force asks the council to accept this final report and then do what it feels necessary to implement any part of it.

William Horvath, Chair,
Woody Biomass Task Force

Acknowledgements

The Woody Biomass Task Force when authorized by the Council on Forestry was not given specific instructions or goals for products other than periodical reports and recommendations. The Chair was given free reign to select the Task Force members.

The result was that the Chair was able to assemble 12 resident experts as a Task Force. There were no declines in the request to serve. In fact, there were requests from more than a dozen people to join the Task Force, but the membership was kept at 12 to accommodate busy schedules requiring attendance at quarterly meetings from June 7, 2004 to August 7, 2007.

Members of the Task Force are listed in Appendix A. Only three of the original members left during the four years. Alex DePillis left the Division of Energy, DOA, for outside employment. Bill Ward, Proctor & Gamble and Forestry Council member and Vice Chair of the Task Force stepped down from both positions due to a change in responsibilities with in his company.

Alex was replaced by Cheryl Rezabek, and Bill Ward by Jim Hoppe, Packaging Corporation. Gene Francisco replaced John Koning due to ill health. John was particularly missed since he had worked on woody biomass issues since the 1980's and helped assemble the diverse interests for the Task Force.

The 15 members who served are owed a debt of gratitude for their diligent attendance and participation in the deliberation of the Task Force.

The Chair would also like to thank others who regularly attended or gave counsel to the Task Force including:

Terry Mace, utilization and Marketing Specialist, Division of Forestry for counsel to the Chair and Task Force members as it deliberated on various issues over the three years.

Al Christianson, Ladysmith City Manager who participated in all but two meetings and who graciously hosted the Task Force for one of its meetings.

Clyde Samsel, Past President of the Wisconsin Woodland Owners Association and tireless advocate for a Fuel for Schools Program for the Tri County School District.

Tony "T.J." Morice, Marth Wood Shaving Supply Inc. in Marathon for attending and offering his counsel on behalf of the wood pellet industry.

Dean Fellman, Kretz Lumber Company for attending and providing insight into biomass from the lumber producer perspective.

David Donovan, Xcel Energy for participating and providing information on state mandates for producing energy from alternative fuels and offering assistance to find ways to remove excess biomass for use in Exel Energy's two power plants.

Earl Gustafson, Wisconsin Paper Council, for his input on issues important to the paper industry.

Contents

Task Objectives – June 15, 2004	7-9
Task Force Meeting Highlights	10-15
Appendix A - Task Force Membership	16-18
Appendix B - Comprehensive Legislation for the Production and Utilization of Woody Biomass	19-21
Appendix C - Legislative Components for the Production and Utilization of Woody Biomass	22-37
Appendix D - Legislature Reference Bureau Draft Legislation	38-157
Appendix E - A State Wood Bridge Program; Guard Rail and Highway Signage	158-159
Appendix F - Technical College Education in Logging, Maintenance of Wood – Fuel Heating Systems and Monitoring Emissions of Air Contaminants	160
Appendix G - Public Utility Thermal Energy Capture	161-164
Appendix H - The Establishment of a Wisconsin Timber Products Commodity Exchange	165-192

**Wisconsin Council on Forestry
Woody Biomass Task Force
Task Objectives 1-8 as modified
June 15, 2004**

Task Group Issue Description:

The Forests of Wisconsin provide a wide range of economic, social and environmental uses. Acreage of forestland continues to grow. Presently \$18.5 billion dollars are exported each year from Wisconsin to meet energy needs. The issue is what role Wisconsin forests can play in woody biomass utilization to meet a growing demand for energy and fuel.

Recommended outcome:

Presently Wisconsin has no energy policy and no public policy for the use of woody biomass to assist in meeting Wisconsin's fuel and energy demands. The outcome of this task group was to provide public policy and a legislative framework to more effectively use woody biomass to meet those needs.

Action Plan:

Task 1

Review current forest inventory analysis (FIA) data.

Objective:

To determine the amount of available woody biomass in the state that would serve as a basis for decision making in its use for fuel and energy.

Responsible Party:

Task force and DNR.

Timeframe:

3 months (March – May 2004) Completed and reported to the Council.

Task 2

Beyond FIA, conduct an economic analysis of increased biomass use.

Objective:

Determine how the increased use of woody biomass would impact the state's economy.
Update the economic impacts of renewable energy in Wisconsin (1994)

Responsible Party: Alexander De Pillis and John Koning, The interest is to use a graduate student to do this.

Timeframe:

Completion of the FIA review to December 2004.

Task 3

Review woody biomass use for fuel and energy in the state by public and private sectors to ascertain obstacles in its use.

Objective:

Find ways to reduce economic and social obstacles to increase use of woody biomass for fuel and energy. Possible study by region with focus on schools.

Responsible Party: Alexander De Pillis and Tom Scharff and Terry Mace.

Timeframe:

December 2004 – June 2005

Task 4

Review of industrial wood residue use in the state, obstacles and opportunities for use.

Objectives:

To make greater use of industrial wood now being buried or discarded.

Responsible Party: Terry Mace with assistance from Greg Hines. Need grant for a study.

Timeframe:

December 2004 – June 2005 (concurrent with Task 3)

Task 5

Explore feasibility for development of small power plants with co-firing capacity in Northern Wisconsin defined as 1-5 MW.

Objective:

The utilization of woody biomass for energy from the Northern one-half of the state, which has the bulk of the woody biomass supply. Questions: What incentives are needed to increase use?

Responsible Party: Rob Benninghoff

Timeframe:

June 2005-December 2005

Task 6

Explore other environmental benefits from woody biomass utilization including city urban tree disposal, ecosystem health and wildlife benefits.

Objective:

Obtain and maximize the full range of benefits from biomass use for energy and fuel.

Responsible Party:
DNR urban forestry and wildlife staff

Timeframe:
June – December 2005

Task 7

Develop a support system backed by research and institutional arrangements that will provide growth and maintenance of utilization of woody biomass for fuel and energy.

Objective:
Institutionalize the use of woody biomass utilization through research and support systems in public and private facilities.

Responsible Party:
UW system and others.

Timeframe:
December 2005 – June 2006

Task 8

Conduct an analysis of existing state legislation and public policy nationwide dealing with woody biomass utilization.

Objective:
Develop overall state legislation that can be used to support increased woody biomass utilization and to develop model legislation for use by the Council of State Governments.

Responsible Party: Bill Horvath and Terry Mace has lead role.
Task force committee, state legislature

Timeframe:
By 2005

.

July 03, 2004

Task Force Meeting Highlights
From
June 2004 – August 22, 2007

The Council on Forestry at its first meeting on September 11, 2003 was told by Governor Doyle to establish its own priorities. The Council identified those priorities at its March 18, 2004 meeting by establishing five Task Forces including the Woody Biomass Task Force.

Bill Horvath was appointed chair of the Woody Biomass Task Force. Terry Mace, DNR Forest Utilization and Marketing Specialist and John Koning, USFS Forest Products Lab and long time advocate for wood biomass utilization assisted in securing potential members of the Task Force and in drafting the original eight objectives adopted by the Task Force and adopted subsequently by the Council at its December, 2004 meeting.

The Task Force held quarterly meetings from June 2004 through August 8, 2007.

June 2004

The first meeting of the Task Force was held in Stevens Point.

The major item of focus was refining the eight tasks drafted by John Koning, Terry Mace and Bill Horvath that would guide the work of the task force. Those were approved by the Forestry Council at its meeting December 16, 2004. The second item was a review of the forestry inventory analysis with DNR Forestry Specialist, Vern Everson. The FIA review was conducted in terms of woody biomass availability within all forests in Wisconsin. That completed the first task of the Task Force.

October 25, 2004

The second meeting focused on utilization of wood for thermal energy in Wisconsin schools. A representative of the Tri County school district and a spokesman for the Wisconsin School Board Association and Wisconsin Association of School Administrators discussed a possible Fuel for Schools Program to encourage school districts to heat with wood. The Barron school district had used wood since the 1980's and was invited to make a presentation at the September Forestry Council meeting. The Task Force recommendation for endorsing a Fuel for Schools program was adopted by the Forestry Council at its December 16, 2004 meeting as well as a recommendation to support legislation modifying state legislation to exempt capital costs for conversion to wood burning in state aid funding.

Discussion also began with the UW Stevens Point relative to using that campus as a pilot in converting their heating system to burn wood. A Task Force recommendation for a U.W. Stevens Point pilot was adopted by the Forestry Council at its December 16, 2005 meeting.

Discussion began with Professor Don Nichols, Director of UW Madison's La Follette School of Public Affairs, about conducting a nationwide search for all state legislation and

public policy on woody biomass utilization. He agreed to assign two graduate students to conduct the study over a year's time. This began the last of the 8 tasks identified by the Task Force. The Council on Forestry endorsed the study at its December 16, 2004 meeting.

The Task Force also began discussions with Al Christianson, City Manager, Ladysmith, as to Ladysmith's interest in woody biomass usage.

December 9, 2004

Discussion began on the use of wood for energy production by utilities led by Task Force member, Rob Benninghoff. The fuel supply and incentives needed by electrical energy producers were discussed. The future for a large power plant producing energy by burning wood is limited due to the lack of available fuel wood.

Discussion with representative of the Nature Conservancy, DNR, Wild Turkey Federation and Ruff Grouse Society began on a project to integrate forestry, wildlife and energy production in the state. The project would be in the Driftless Area. The Chair traveled to the NWTf headquarters in South Carolina for a meeting with the Federation, NRCS and USFS. An agreement was reached with the USFS providing \$65,000 to the Federation and the National Association of Conservation Districts for a pilot project in the Driftless Area.

Discussion also began with NRCS on creating a woody biomass standard when the Environmental Quality Incentive Program was used for cost sharing on forestry. This in part resulted in an invitation for Paul DeLong, State Forester, and the Chair to make a presentation to the NRCS State Technical Committee on the need for a forestry sub committee. The Forestry Council supported the Task Force recommendation to create a Forestry Subcommittee at its meeting February 6, 2006.

February 24, 2005

The Task Force heard a report from two sub-task groups. One recommended establishing a pilot wood energy project in the Driftless Area. The second was for a wood commodity exchange. The latter was presented in full by Rob Benninghoff, WPS, and endorsed by the Task Force and Forestry Council as a Great Lakes Wood and Timber Commodity Exchange on February 6, 2006.

The Task Force also heard presentations from a DNR air emission specialist on issues resulting from wood burning. Conversion to wood and establishing permits for small industry seeking to burn wood for thermal heat causes problems for small industry because of the complexity of the permits.

Discussion began with the two grad students of the La Follette School of Public Affairs on expectation regarding their research on legislation and gathering potential elements for comprehensive legislation. The Chair reported he had conversations with the National Conference of State Legislatures which is interested in the project for their model legislation process.

April 4, 2005

The Task Force continued discussion on a Fuel for Schools Program, EQIP forestry standard, and UW Stevens Point project. Dick Hartman made a presentation on the DOE tribal renewable energy program.

Final recommendation on the Upper Great Lakes Timber & Biomass Commodity Exchange (name change) was developed. This led to a DOE/FS grant application for funding and later \$75,000 was reserved by the Governor for a feasibility study.

The Task Force began developing and formalizing a list of components for comprehensive woody biomass legislation.

July 28, 2005

The meeting was held in Ladysmith at the invitation of Al Christianson, City Manager. Discussion was on the feasibility of a community wide assessment and feasibility study on woody biomass utilization. (Task 3 of the workplan)

Discussions were held with USDA Rural Development to investigate possible funding for projects at the community level.

Don Wichert presented the Focus on Energy plan for 2005/6.

The Task Force continued its review of the components for woody biomass legislation.

November 9, 2005

The Task Force heard a presentation on hazardous fuel reduction on National Forests and updates on the Driftless Area Project and the Great Lakes Timber and Biomass Exchange.

It also heard a presentation on the Governor's Bio Fuels Consortium co-chaired by Task Force member, Tom Scharff and by a representative of Chevron Energy, a Division of Chevron that specializes on conversions of building for wood burning.

Detailed discussions continued on the components for comprehensive legislation on the production and utilization of biomass.

March 21, 2006

Updates were continued on projects including Fuel for Schools, Driftless Area, Upper Great Lakes Timber & Biomass Commodity Exchange, UWSP wood conversion project and Bio Fuels Consortium.

Alex DePillis, DOA, Division of Energy, reported on a RFP for possible study of conversion to wood heat on other campuses. Don Wichert reported that a Focus on Energy grant for wood chips for institutional use as a one time grant of \$65,000.

The Task Force toured the UWSP heating facility and discussed with U.W. staff, potential for a broader project including a district system with other private and public facilities in the area.

The Task Force continued its discussion on the legislative components for comprehensive legislation. Modifications were made on sections for tech school involvement; logging infrastructure development; renewable portfolio standards; and electrical power generation.

June 20, 2006

Updates were given on the Upper Great Lakes Timber & Biomass Commodity Exchange, Driftless Areas project, Fuel for Schools and UWSP heating system conversion projects.

Gene Francisco, Executive Director, Wisconsin Professional Logger Association, briefed the Task Force on opportunities on USFS lands using the stewardship contracting process to reduce fuel loads. Several areas of the forests are eligible, but opportunities to tie in for additional biomass are limited.

T. J. Morice, Marth Wood Shaving Supply, Inc. briefed the Task Force on the pellet fuels industry and projections for growth.

Don Kreye, Chevron Energy Solutions, reviewed a Weyauwega cheese plant wood heating conversion plan. The plant needs 2,500 tons of wood biomass per month.

The Task Force continued its discussion on the components for comprehensive legislation. Added for discussion was an incentive program for timber stand improvement to increase biomass supply, income tax credits for donating wood to schools and ecosystem services of woodlands.

September 12, 2006

The Task Force continued updates on the Biofuels Consortium, Upper Great Lakes Timber & Biomass Exchange, UWSP heating conversion project, Driftless Area Project and Fuel for Schools Project.

Cheryl Rezabek, DOA Division of Energy, reviewed the Governor's efforts for energy independence on four campuses and its impact on the UW Stevens Point project.

For the first time, the Task Force reviewed drafted legislative components available from the Legislative Reference Bureau.

December 12, 2006

The Task Force reviewed the Governor's \$5 million commitment for cellulosic ethanol and impact on wood supply; Division of Energy, DOA, efforts to assist small businesses secure emission permits; and state energy independence projects on four campuses and DOA's role in securing consultants in that effort.

The Task Force heard from retired Wheeler Corp employee, Bud Flood, on opportunities for wood bridges in Wisconsin. Nearly 1,000 have been built with 80/20 matching between Department of Transportation and county/town government. Short span bridges are cheaper if made from wood, but the wood used in construction is from out of state.

A presentation was made by Laurel Sukup, DNR, on the Governor's Solid Waste Task Force Report. The report shows tree material only 1.6% of total load of waste deposited. Biggest load (26.7%) comes from demolition and construction material that contains wood.

Task Force discussed biomass research needs with Pat Walsh, UW Madison rep on Task Force.

Focus on Energy Task Force, Rep. Don Wichert reported doubling of budget for this fiscal year.

The Chair announced that the Wisconsin Forestry Council wants review of present components for legislation and possible selection of top priorities.

Continued review of components starting with component 25 was held.

Discussion began on a definition of "woody biomass" for the legislation package.

May 30, 2007

Task Force heard a report on Energy Independence on University campuses.

Tom Scharff, Task Force member and member on Governors Global Warming Task Force, reported on objectives.

The Task Force selected a final definition of woody biomass for inclusion in comprehensive legislation.

Additional LRB drafts of components were distributed by the Chair.

The Task force reviewed a draft report on seven components selected by the Council on Forestry. Selected changes were made to Section 1 on policy. The Task Force learned that We Energies has agreed to a match of \$200,000 for a feasibility study for the Great Lakes Timber & Biomass Exchange.

The Task Force selected a final list of components for comprehensive woody biomass legislation.

Task Force selected future focus of work for presentation to the Council on Forestry. Focus to include: A Fuel for Schools Program; Upper Great Lakes Timber & Biomass Commodity Exchange; a UW Forest Sustainability and Technology Center; Driftless Area Project; a focused afforestation program for the state's million acres of idle land; outreach education and identification of barriers specific to woody biomass; and harvesting and

transportation issues relative to woody biomass. (the last two were offered by the paper industry)

Appendix A

MEMBERSHIP WOODY BIOMASS TASK FORCE GOVERNORS COUNCIL ON FORESTRY

1. *Bill Horvath, Chairman
350 McDill Avenue
Stevens Point, WI 54481
Telephone: 715-341-4021
billhorvath@charter.net
2. Jim Hoppe
Packaging Corp. of America
N9090 County Road E
Tomahawk WI 54487
Telephone: 715-453-2131, Ext. 380
jhoppe@packagingcorp.com
3. Tom Scharff, Director of Power & Energy
Stora Enso
PO Box 8050
WI Rapids, WI 54495-8050
Telephone: 715-422-3073
Thomas.scharff@storaenso.com
4. Greg Hines, Coordinator
USDA NRCS Glacierland RC&D
3086 Voyager Drive, Suite 1
Green Bay, WI 54311
Telephone: 920-465-3006
greg.hines@wi.usda.gov
5. Rob Benninghoff
Director – Renewable & Special Projects
Wisconsin Public Service
700 N. Adams Street
PO Box 19002
Green Bay, WI 54307-9002
Telephone: 920-433-1128
rdbenninghoff@wisconsinpublicservice.com
6. Cheryl Rezabek
Section Chief, Energy Initiative & Information Center
Energy Efficiency Bureau—Div. Of Energy

PO Box 7868
Madison, WI 53707-7868
Telephone: 608-261-7754
Cheryl.Rezabek@Wisconsin.gov

7. Laurel Sukup, WI DNR
Forest Industry Sector Specialist
107 Sutliff Avenue
Rhineland, WI 54501
715-365-8936
Laurel.Sukup@dnr.state.wi.us
8. Don Wichert, Director Renewable Energy Program
WI Energy Conservation Corp.
211 S. Paterson, 3rd Floor
Madison, WI 53703
Telephone: 608-249-9322 Ext. 120
Donw@weccusp.org
9. E. G. Nadeau, Director, Planning, Research &
Development
Cooperative Development Services
131 West Wilson St., Suite 400
Madison, WI 53703
Telephone: 608-258-4393
egnadeau@inepress.net
10. Robert Drevlow, P.E., C.E.M.
Energy Advisor
618 Beaser Avenue
Ashland, WI 54806
Telephone: 715-682-2362 ext. 154
rdrevlow@cesa10.k12.wi.us
11. Pat Walsh, Energy & Environment Specialist
University of Wisconsin Extension
Dept. of Biological Systems Engineering
Madison, WI 53706
608-265-8152
pwwalsh@wisc.edu
Governors Council on Forestry Members
12. Richard F. Hartmann, Director
Planning and Development
St. Croix Chippewa Indians of Wisconsin

PO Box 45287
Hertel, WI 54845
715-349-2195
dichar@stcroixtribalcenter.com

13. Gene Francisco, Executive Director
Wisconsin Professional Loggers Association
1546 Kuhle Dr.
Sun Prairie, WI 53590
608-825-3964
608-332-3810 (cell)
608-825-3964 (fax)
gfrancisco@charter.net

Special Advisor

**Terry Mace, Forest Utilization & Marketing Specialist
Division of Forestry DNR
USFS Forest Products Lab, Room 130
1 Gifford Pinchot Drive
Madison, WI 53726-2398
Telephone 608-231-9333
Terry.Mace@dnr.state.wi.us**

5-25-07

Appendix B

Comprehensive Legislation for the Production and Utilization of Woody Biomass

When the Woody Biomass Task Force was formed in 2004, it identified eight tasks to complete. The 8th and final task was to “conduct an analysis of existing state legislation (nationally) and well as public policy for dealing with woody biomass utilization.”

It became clear from the onset that a review of state public policy and legislation was beyond the capacity of the Task Force unless it has outside assistance.

The Task Force, with financial assistance from the DOA Division of Energy, contracted the University of Wisconsin-Madison LaFollette School of Public Affairs to pull together all state legislation nationwide related to woody biomass. Two graduate students, under the guidance of Director Don Nichols, prepared the final report to the Task Force. Their report found little state legislation dealing with woody biomass production or utilization but extensive legislation on the energy side and efforts to produce energy with alternative fuel. Many states had a single piece of legislation. Vermont, for instance, had developed a cost-share program with school districts to convert their schools for wood biomass heating. Idaho had state tax credit for converting gas-burning fireplaces to wood. Minnesota had legislation for a loan program to landowners willing to plant hybrid poplar for a source of biomass for an energy production facility.

These components and others surfaced by the Task Force become the basis for what is entitled “Comprehensive Legislation for the Production and Utilization of Woody Biomass”.

At the time the Task Force was created there was little emphasis on bio fuels and bio chemicals. Early on the Task Force decided not to address these issues and that judgment was sound as the Governor created a Consortium on Bio-Based Industry in 2006.

From the beginning discussions on components provided an insight into where public policy proposals might impact existing industry as Wisconsin has one of the most integrated wood industries in the United States dominated by the largest sector – the paper industry.

The Task Force through this discussion found Wisconsin had many of barriers to increase the supply of wood biomass because of changes occurring in private forestland ownership; an aging and under capitalized logging industry; parcelization of forestland with increasing barriers to access those lands for wood production; lack of technical assistance; and lack of incentives for landowners and business to invest in biomass production - to just name a few.

The component list developed had a mix of incentives, mandates, tax benefits and public policy issues that addressed both the supply and demand side. In addition the definition of

woody biomass for the purpose of comprehensive legislation was not finalized until the June 2007 meeting of the Task Force.

For instance state energy standards require an increase in production of energy from alternative fuels. On the demand side energy companies encounter difficulty in securing woody biomass at prices that are competitive with competing fossil fuel and renewable alternatives. There are numerous hurdles that would have to be overcome before it was available. It is in this context of supply and demand that the components list was developed. The breakdown between both supply and demand is found in Appendix C.

Secondly, the Governor has called on the university system and other state facilities to secure their energy through alternative fuels including biomass.

Without increased incentives to open more of the 8 million acres of privately held land for biomass production and public policy allowing production of biomass from state held lands, Wisconsin will continue to be a woody biomass deficit state even though our forests contain some 1 billion tons of wood biomass on the 16 million acres of forestland.

Throughout the discussion on the components it was made clear by some members that they could not support certain components because they would be in conflict with company policy or personal philosophy. As a result the Task Force did not take a formal vote on each and every component.

In that sense the components resulted only in the surfacing of issues that might be solved legislatively or by public policy.

By definition, “comprehensive” as an adjective means extensive or full. The list of components is full disclosure of issues for the production and utilization of wood biomass as it pertains to the production of thermal and electrical energy. In addition the definition of woody biomass for the purpose of comprehensive legislation was not finalized until the June 2007 meeting of the Task Force. A different definition was given to the LRB early in the process to begin bill drafting. That definition needs to be ignored in LRB drafts and replaced by that given in Section 2.

The component list is presented in that manner as a list with possible legislative solutions. There was no attempt to place a judgment on the component through economic, environmental or value to a particular political or social policy. Each component would need to be evaluated in that context.

Several of the components have very little impact. For instance, changing the purpose of management of state forests for the inclusion of woody biomass production has no direct outlay of funding to meet forest management goals.

Another component calls for the creation of a Forest Sustainability and Technology Center in the University system. The drafter raised the question on funding sources of which there are several. The Task Force did not identify a funding source for the Center.

The Legislative Reference Bureau often pointed to the need for a funding source for components and if grants were involved the amount and administering source. In most cases the Task Force did not identify source or amount due to the lack of time for such discussion.

The legislative process would sort this out if one or all components could be enacted.

Appendix C

Legislative Components for the Production and Utilization of Woody Biomass.

Legislative Reference Bureau drafting. The Task Force had access to the Legislative Reference Bureau, which is responsible for drafting state legislation. This was made available through the offices of Senator Roger Breske and Representative Don Friske. Both are members of the Council on Forestry. Each component was drafted separately for two reasons.

First, drafting could start before the list of components was agreed upon. Each of those components was divided between 5 drafters in LRB and communication on intent and wording was between the Chair and the drafter. Both legislators took no role in review of the drafts but all drafts were prepared by LRB and sent to Senator Breske and Representative Friske and forwarded by their offices to the Chair.

Not all components have LRB drafts. Most do totaling 32 separate drafts as some components were split into more than one. Each section has in its status, a LRB draft number if it has been completed.

Not all drafts have been reviewed by the Task Force and in some cases, suggested changes have not been incorporated into the drafts. This is noted in the status listed for each component.

All corresponding LRB drafts are attached in Appendix D.

Potential components are listed and numbered as sections for easy reference along with a description and status of the component.

Section 1: Sets out public policy relative to the production and utilization of woody biomass. The LRB indicated they would not draft the policy section unless it was a combined into one document with all components. Other state legislation was used to assemble the draft policy. It would only be used if a single comprehensive piece of legislation was prepared. It serves a useful purpose to explain legislative intent on the need for the legislation.

State Policy: The following are declared to be the policies of the state concerning the production and utilization of woody biomass to alleviate energy shortages as declared in Chapter 1, Section 12 of the Wisconsin Statutes. “**Alleviation of Energy Shortages.** All agencies of the state shall, to the fullest extent possible, investigate and consider the conservation of energy resources as an important factor when making any major decision which would significantly affect energy usage.”

1. That the maximum production of woody biomass in an environmentally safe, sustainable and economical manner is in the best interest of the state in

order to fully utilize the forest resources to produce fuel, energy and bio chemicals.

2. That encouragement should be given to individuals, public institutions and private business to increase production and utilization of woody biomass for fuel, energy and bio chemicals.
3. That research, development and innovation in the design, operation and management of woody biomass facilities are necessary to improve the utilization of woody biomass, to lower costs and to provide incentives for the use of systems that utilize woody biomass.
4. That the burning of woody biomass for heat and electricity as a substitute for the burning of non-renewable fuels, such as coal and natural gas to generate steam, heat, or electricity is in the public interest and should be encouraged, if done with a state approved program that protects our forest resources, protects public health, and protects our natural environment.
5. That the implementation of the production and utilization of woody biomass requires the involvement and cooperation of all persons and entities comprising this state's society, including individuals, schools, private organizations and businesses. To achieve this involvement and cooperation, state government should rely to the extent feasible on technical and financial assistance, education and mandatory practices to implement these policies.
6. That in order to achieve the goals of the policy, the legislature recognizes the necessity of the state's regulatory role and the need to give municipalities and counties certain powers to achieve environmentally safe, sustainable and economical production and utilization of woody biomass. Status: Approved by the Task Force.

Section 2: Definition of terms in the legislation. Task Force has settled on terms for several items including the definition of woody biomass, U.W. Sustainable Forestry and Technology Center and Agroforestry Center. Any comprehensive legislation would include additional definitions as required by the Legislature Reference Bureau. The DNR recommends that definitions be set out in rules rather than legislation. Status: Definitions were approved by the Task Force.

Definitions

The following definitions are recommended for inclusion in the comprehensive legislation.

1. Woody biomass includes:
 - a. Forest related materials including: slash, brush, low commercial value materials or undesirable species and residues from mills, logging and forest thinning.

- b. Woody material harvested for forest fire fuel reduction or forest health and watershed improvement.
 - c. Solid woody waste materials, including landscape or right of way tree trimmings, waste pallets, crates and manufacturing, construction and demolition wood wastes, excluding pressure treated, chemically treated or painted wood wastes and wood waste contaminated with plastics.
 - d. Trees planted for the purpose of energy production.
 - e. Trees or parts of trees where higher value markets do not exist.
2. Sustainable Forestry and Technology Center refers to a center established in the University of Wisconsin which conducts research, advises state agencies, establishes demonstrations and conducts education and programs that will ensure:
- a. healthy and protected forests,
 - b. a thriving and diverse forest ecosystem,
 - c. a productive and stable forest products economy,
 - d. a strong and broadly shared conservation and stewardship ethic and,
 - e. a forest resource that provides a wide variety of recreational opportunities.
3. Afforestation means the practice and/or process of establishing forest cover on land not currently forested for the production of wood, fiber, energy and other uses to meet the needs of our forest industries and society.
4. A carbon credit means a financial derivative instrument, expressed in metric tonne of carbon dioxide equivalents, representing a reduction of greenhouse gases emitted to the atmosphere achieved through approved offset, reduction or sequestration mechanisms.
5. Agroforestry means the practice of integrating trees and agricultural crops and/or livestock, and considered a productive conservation system. Agroforestry practices include windbreaks, silvopastural, alley cropping, forest farming and riparian forest buffers. Status: Approved by the Task Force.

Section 3: Establishment of an afforestation program by DNR. This section requires DNR to develop an afforestation program to increase wood and woody biomass supply. There are roughly 1 million acres of idle working lands that could be considered according to a recent study completed by the University of Wisconsin. It would require identification of suitable lands in cooperation with county and township government. The Task Force discussed what this might do to land classification and creation of a competing land use. DNR comments point out this is a potential issue as well. It would also require

DNR to establish a biomass production standard. It also establishes a state funded program in DNR for the purpose of afforestation and a program funded through DNR to cost share on invasive species. Status: The state already has a forestry cost sharing program (WFLGP) that includes cost sharing on invasive species. However the program is under funded. See LRB Draft 0141 in Appendix D.

Section 4: Amending MFL. In order to increase woody biomass production the Managed Forest Lands Act is amended by adding woody biomass production as an authorized purpose. It would authorize additional property tax reduction where vacant land is added in a contract for afforestation and production of woody biomass.

The biggest change is changing the concept of producing merchantable timber to one of producing wood products that would include woody biomass and changes in the concept of cutting merchantable timber to that of harvesting wood products. The yield tax for woody biomass harvest stays at 5% and requires the DNR Forestry Division to estimate fair market volume of the woody biomass.

The minimum acreage for addition of vacant land for biomass production would remain consistent with existing legislation.

The Task Force agreed during its review that such an amendment would be helpful to increase woody biomass production. It did not discuss minimum acreage or severance tax on woody biomass harvest. The drafter in LRB kept that consistent with current law. Status: See LRB Draft 0142.

Section 5: Report of forestland sales and or transfer. Presently the county register of deeds records the sale or transfer of all land involving forestland. Most county tax offices list various forms of forestland i.e. MFL, Farm Forestland etc. for tax purposes. This section would require a report on the submission of all sales or transfer of 10 acres or more of forestland in a county to the DNR. The purpose would be to provide public policy guidance to state and industry on the availability of woody biomass or potential forest products, as parcelization is one of the greatest threats to the availability of wood for the wood industry. Knowledge of the transfer will help guide public policy to assure supply. Status LRB Draft 0152

Section 6: Motor Vehicle Fuel Tax Exemption. This section would create a motor fuel tax exemption for gasoline and diesel fuel sold to a master logger and used by the Master Logger in logging operations in the state that result in providing wood or woody biomass for fuel production.

It also creates an alternative fuel tax exemption for alternative fuel produced from wood or woody biomass and used by a master logger in logging

operations in the state that result in providing wood or woody biomass for fuel production.

The Task Force had lengthy discussion on tax incentives for businesses to produce woody biomass for fuel. The logging industry through professional logger certification would be given extra incentives in keeping with Task Force recommendations. Status: See LRB Draft 0276

Section 7: Creation of a Sustainable Forestry & Technology Center in the University of Wisconsin system. The Center would be required by U.W. Regent action. The Center would:

1. Conduct research on technology for the uses of wood and fiber including the use of woody biomass in thermal energy production for homes and industry.
2. Conduct research on the production of bio fuels and bio chemicals related to woody biomass.
3. Conduct research on short rotation woody vegetation including but not limited to poplar, willow and other fast growing species for the production of energy.
4. Conduct research on forest sustainability.
5. Conduct an outreach and educational programs for forestland owners on forest sustainability and production of woody biomass through University Extension in cooperation with the Department of Natural Resources.

The Task Force felt strongly that additional education needed to be provided to woodland owners in order for them to practice sustainable forestry and woody biomass production. LRB-0420 is a stand-alone version for extension education. This section is also created under other LRB drafts that are more inclusive in an approach for education linked to research through a Sustainable Forestry and Technology Center at the University.

No LRB drafts contain the elements 1-5 in a comprehensive fashion. They are focused solely on woody biomass. LRB was instructed to redraft to include those elements but these revisions have not been made.

There is a need for a broader focused center on Sustainable Forestry not just on woody biomass. The Task Force recognizes that woody biomass production is but part of the total picture of the need for sustainable forest management.

Status: See LRB Draft 0420/1 and LRB Draft 383 and LRB Draft 411.

Section 8: Creation of a Fuel for Schools Program. A program administered by the Department of Public Instruction is created by providing a levy limit exemption for capital expenditures and biomass fuel costs for schools. It

amends the state loan program by offering 0% loans through an interest buy down provision offered through banks.

It would create a grant program equal to 50% of the construction cost for woody biomass burning equipment. It requires an energy audit and evaluation that includes recommendations in each school district and requires maintenance of effort.

The program would reduce school costs, create local logging jobs, help secure sustainable forestry and reduce energy consumption from out of state sources.

It creates an added GPR funding incentive when school districts utilize thermal energy produced by wood and conduct energy audits.

In addition, Focus on Energy has awarded a grant to a private firm to update a 1999 heating cost survey in schools. An application for USFS funding has been sent by the state forester to develop a pilot: "Fuel for Schools Program". As reported earlier, the Task Force has met with the administration of both the Wisconsin School Boards Associations and the Wisconsin Association of School Administrators who have given their support for such a program. The Wisconsin Forestry Council has also by official action endorsed development of a program. Status: See LRB Draft 0161.

Section 9: Amending School Forest Legislation authorizing language is amended by allowing school forests to grow woody biomass for the production of energy.

The Task Force spent considerable time in discussion of school forest role in production of woody biomass. School forests range considerably in size from a few acres to several thousand.

The Task Force felt that any amending legislation ought to be permissive and felt this would add to curriculum development. The draft legislation is in keeping with authorization for woody biomass production on state forests and MFL lands. Status: See LRB Draft 0162.

Section 10: K-12 Forestry Education Requirements. This section amends existing legislation by adding woody biomass for energy production as a purpose. Status: See LRB Draft 0162.

Section 11: Urban wood waste disposal. Wood wastes resulting from forestry or tree management in urban areas would be banned from landfills and municipalities would be required to offer urban wood waste for renewable energy or other uses. It also would ban deposition of uncontaminated wood resulting from demolition of a structure in any landfill.

It would require DNR to audit available urban woody biomass including urban wood waste. It would require communities to annually report to DNR on the volume and disposition of woody biomass and other wood waste. It would set out collection requirements for woody biomass use utilizing a zonal approach based on availability and economical transportation costs. It would provide incentives for municipalities and counties to use wood and woody biomass as an alternative fuel.

The Governor in 2006 created a Blue Ribbon Solid Waste Task Force that reviewed all aspects of land filling. Wood from trees amounts to less than 2% of the volume of deposited waste while demolition and construction material amounted to nearly 27%. This volume includes uncontaminated wood. The Task Force decided to draft legislation that prohibits wood being deposited in any solid waste facility if it is:

- a. uncontaminated wood resulting from the demolition of a structure,
- b. wood resulting from storm damage to trees,
- c. wood resulting from insect or disease damaged to trees, and
- d. wood resulting from the removal by a municipality or county of woody vegetation that has a diameter of at least one inch

Status: See LRB Draft 1979.

Section 12: Public Building Energy Systems. This requires the Department of Administration to evaluate the cost and feasibility of using a wood burning energy system as an energy source for each state building, structure or facility the construction or modification of which is supervised by DOA. It establishes a procedure for the State Building Commission to approve such a design if feasible. Status: See LRB Draft 0275.

Section 13: Public Building Construction. This section would require the use of certified wood in all public building construction. It also requires local government to use DOA certified wood products in construction and require evaluation in wood burning systems in new construction.

The Task Force did not have time to evaluate the requirements of this bill, but it did agree it would meet the objectives of forest certification. The Task Force also discussed the requirement for public facilities to consider creation of a heating and cooling district system such as downtown Minneapolis utilizes to optimize efficiency. THE LRB draft does not include this provision. What the final or forest resource impact would be was not determined. Status: See LRB Draft 0275.

Section 14: Tax credits for wood thermal heating in homes.

Part A

This section would authorize tax credits up to 10% not to exceed \$5000 for installing wood burning systems for thermal energy and for converting wood burning fire places to a wood stove. These tax credits would also be extended for the purchase of other woody biomass using energy equipment. Status: See LRB Draft 0256 and LRB Draft 0257.

Part B

A sales tax and use exemption is provided for the purchase of woody biomass in heating and cooling equipment for residential use. Status: See LRB Draft 0213

Part C

This section would establish an energy loan program for loans up to \$10,000 when installing wood burning systems for thermal energy made available through commercial lending institutions.

LRB Draft 0399 accomplishes the objective of establishing a loan program for owner occupied dwellings for the purpose of installing wood burning furnaces or retrofitting existing furnaces as wood burning furnaces. It authorizes the Department of Administration to enter into agreements with other agencies, or private entities (including banks) to administer the programs. The loans would be up to \$10,000 for 15 years for those systems with guaranteed energy savings. Status: See LRB Draft 0399.

Note: The Task Force discussion was not complete on Part A or C.

Section 15: Business Energy Grant Program. This section amends Wisconsin law by authorizing an energy loan to businesses engaged in logging. The state would administer a grant program to businesses investing in woody biomass for thermal and electrical energy production up to 1000 kW of electrical energy.

It would also provide for grants to a business to fund construction of a new facility for the production of energy using woody biomass or to fund conversion of an existing facility.

The Task Force did not provide guidance to LRB to establish amounts. Status: See LRB Draft 2065.

Section 16: Energy Production Credits.

Part A

Will provide for an energy production tax credit for industrial users that install woody biomass thermal heat systems that reduce air emissions.

Part B

Will exempt wood energy systems from property tax and provide preferential tax treatment for woody biomass converted to wood fuels and chemicals through an accelerated depreciation schedule.

Part C

Will provide incentives for the manufacturer of woody biomass energy equipment in the state and incentives to fuel providers to provide woody biomass for fuel.

Part D

Will create an income tax and franchise tax exemption for income derived from manufacturing fuels and chemicals from wood. Status: See LRB Draft 0216.

Part E

Will create an income and franchise tax credit for the amount that the person paid in the taxable year on the purchase of equipment that converts wood or woody biomass into thermal or electrical energy for use in the person's business. See LRB Draft 0225.

The Task Force discussed various levels of business tax credits. The LRB Draft 0225 amends existing legislation 70.11 that lists all property tax exemption. It would exempt all property that produces thermal or electrical energy.

LRB Draft 1977 addresses the issue of a tax exemption for the use of woody biomass by creating an income and franchise tax credit for the amount a taxpayer pays on the purchase of woody biomass produced in the state that the taxpayer uses to produce thermal or electrical energy for sale to customers in the state. These tax incentives were designed to assist producers increase biomass production. Status: See LRB Drafts 0216, 0225 and 1977.

The Task Force felt strongly that tax incentives needed to be given to those producing equipment and industrial users of wood. Status: Discussion is not complete for this section.

Section 17: Sign Manufacturing Business Incentives. This section establishes a grant and income tax incentive for businesses that produce signs made from wood or wood composites. Technology for developing signs with wood composites already exists and is used in other states. Status: No LRB draft for grants and income tax incentives was developed to carry out this section although drafts for Section 16 have some implications.

Section 18: Certified Loggers on State Land. This section amends state legislation requiring the use of certified loggers working on state lands and county forests.

The Task Force discussed providing incentives to loggers for residue harvest through tax credits, business loans and certification assistance. NOTE: The Department of Natural Resources presently has rules relative to certified loggers working on state forests. DNR feels legislation is not necessary. However, there are no incentives for residue harvest and this is not included in the LRB Draft 1978. Status: See LRB Draft 1978.

Section 19: County Government Private Forest Land Assistance. Chapter 59 would be amended to authorize county government to assist private forestland owners through a technical assistance program. It would establish a 50% matching grant program for counties wishing to establish such a program. NOTE: Presently 29 counties operate a county forest. In addition Vernon County has an established private forestland assistance program. There are 270,000 Wisconsin woodland owners. Sustainable forestry on their 8 million acres requires adequate technical assistance beyond the 92 DNR private forestland foresters consulting foresters and industry foresters, if public policy is carried out to achieve sustainable forestry on all privately held forested acres.

Collectively 71 counties have nearly 400 employees in land and water management activities with many related to state funded programs. In addition to county forests they also manage large acreages of county parks. Land and water conservation department employees assist NRCS in carrying out farm bill conservation programs, which sometimes require technical assistance in establishing vegetative cover including forests.

The 71 county land and water conservation committees of county boards are unanimously on record requesting a 50% matching program from DNR to fund the program.

Status: LRB Draft 0633. This draft only creates authorizing legislation for county forestry activities on private lands.

Section 20: Woody Biomass Production. This section would amend state statutes impacting townships, counties, state highway and utilities resulting from highway and utility clearing of wood vegetation. It will delete the statutory exemption which permits DOT to burn woody biomass produced from highway construction activities and instead require the agency to make it available for beneficial uses.

It will authorize a zonal approach to determine the economics and other practical aspects of biomass disposal. It will require the state, townships,

counties and utilities to make the woody biomass produced by road right-away clearing to be available for other uses.

Status: The zonal approach to all county's and the state to use alternative methods was agreed upon by the Task Force to ensure the practical use of these requirements. That zonal approach is not in the draft language but could be adopted in the rule making process. Status: See LRB Draft 1973.

Section 21: State Aid to Counties. This section provides that each county would receive state aid in the amount equal to 0.5% (one-half of one percent) of the volume of woody biomass produced in the county and used for commercial and industrial purposes in the previous year. The Department of Revenue would develop administrative rules.

Status: This section was drafted to increase woody biomass production. Twenty-nine counties have county forests and thousands of acres that could be harvested for biomass. As presently drafted it may be difficult for counties to account for woody biomass and wood. This provision was not discussed thoroughly by the Task Force. See Draft LRB 0309.

Section 22: State Forestry cost sharing for woody biomass production. Presently the state forestry cost-share program with private landowners is silent on the use of cost share funds for woody biomass production. This section amends state legislation to authorize cost sharing for the purpose. Status: See Draft LRB 0141.

Section 23: State Forest purposes. This section amends the statutes dealing with state forests by authorizing woody biomass production as a purpose in addition to production of re-occurring wood products. This section may be accomplished by an administrative rule change. However this has not occurred. Status: LRB Draft 0153.

Section 24: Cooperatives. Cooperatives are authorized under Chapter 18 of the statutes. This section amends that statute by adding woody biomass as an authorized purpose. NOTE: The Wisconsin statute dealing with cooperatives is recognized as one of the best if not the best in the country.

Wood cooperatives or other cooperatives operating under this law can engage in activities related to woody biomass. Few have done so. The amendment is designed to recognize woody biomass activities as a legitimate function of cooperatives.

The LRB drafter does not think an amendment to the statute is necessary since the broad language of the existing law could authorize wood cooperatives or wood related activities. The Task Force feels cooperatives

are one avenue to expand wood production and feel they provide a very successful model to build one particularly by expanding the activities of existing cooperatives.

Status: A grant program is proposed to encourage existing cooperatives to expand into this area. This is not included in the draft provided by the LRB. See LRB Draft 0405.

Section 25: Agroforestry Center. This section requires the U.W. Board of Regents to establish an Agroforestry Center in the College of Agriculture and Life Sciences to encourage the production of forestry products in agricultural enterprises. One of the center's purposes will be to encourage the use of woody biomass production in family enterprises. NOTE: Of the 8 million acres of private forestland in Wisconsin, 25% is owned by farmers. Farmers do not generally recognize the value of their forestland as part of their economic unit.

A recent university study concluded that there are roughly 1 million acres of working farmland idled by over-production, consolidation of farms and farm abandonment. A center could focus attention on agricultural producers and the opportunity for alternative cropping to produce woody biomass and other products. Status: See LRB Draft 0411.

Section 26: Resources Conservation & Development. This section amends Chapter 92 of the statutes by recognizing county government roles in resource conservation and development. It authorizes and establishes a grant program to county government through DATCP to provide for multi-county projects in woody biomass production and utilization. NOTE: RC&D project areas were authorized by the 1962 Farm Bill. Congress made authorization as a USDA program permanent in the 2002 Farm Bill. NRCS administers the program in cooperation with the USFS. Creation of RC&D project areas is the result of county government petitioning the USDA Secretary of Agriculture and is a function of county government.

Presently the entire state of Wisconsin is covered by 7 USDA authorized RC&D project areas that receive federal assistance. An established cost share program would direct their activities into woody biomass where appropriate. Status: See LRB Draft 164.

Section 27: Energy production and carbon sequestration. This section amends existing legislation (Act 141) and establishes certain objectives relative to energy production. Act 141 amended in 2006 requires each retail electric provider to increase its renewable generation above their average renewable generation in the baseline years 2001, 2002 and 2003. The increases of 2% and 4% measured as a percent of retail sales must be achieved by 2010 and

2015 respectively. The goal of the state is to generate 10% of its electricity from renewable resources by 2015

Presently the value of carbon offsets in the form of credits is sold in the voluntary compliance market such as the Chicago Climate Exchange. This section amends legislation to provide a monetary credit to those producing energy from woody biomass since emissions are now reduced and establishes a set of “Clean Development Mechanisms” (CDMs), similar to those methods contained within emerging standards such as the Kyoto Protocol, which landowners can employ through biomass planting and forest management to apply for creation of carbon credits through a certifying agency.

This section amends legislation making it mandatory that DNR register carbon sequestration from the creation or preservation of carbon reserves, including the planting of trees. The DNR already has been given the responsibility (see NR 439, - WI Administrative Code) to certify and quantify emission reductions. Draft legislation would add carbon sequestration. Status: See LRB Draft 2102.

Section 28: Establishment of an afforestation program. This section authorizes a bond program for the establishment of an afforestation program for the production of woody biomass to be used for energy production. It would pay landowners up front for a period of seven years to produce the wood i.e. hybrid poplar or other fast growing species. It would establish a state set-aside program similar to CRP for the production of woody biomass. Status: While not drafted by LRB, the concept complements Section 3 and would be used to increase woody biomass for energy production.

Section 29: Capturing utility thermal heat. This section provides mechanisms to all energy companies to capture thermal heat produced to serve other public purposes. It establishes a state shared risk program to encourage co-generation of energy and steam to encourage economic development and the bio economy. It would also establish a 25 year tax credit system for each ton of woody biomass used to replace or enhance the performance supply or environmental impact of wood fuel for the production of heat or electricity, transportation including fuel for equipment used in the wood gathering process. It will encourage utilities to produce thermal as well as electrical energy from a closed loop system.

This section would also require state institutions to consider co-generation for energy, heating and cooling to meet the Governor’s goals for energy independence and encourage district heating and energy systems. Status: Only part of this is drafted by LRB. It deals with capturing thermal heat by energy companies. That facet is important to guarantee investment in thermal heat capture. See proposed concept # 26. Appendix H.

Section 30: Great Lakes Timber & Biomass Commodity Exchange. This authorizes in statutes an exchange with state participation and would set out certain requirements and certifications. It establishes a broker's list and utilizes state bonding authority. It sets a feasibility study in motion with state funding in the amount of \$400,000.

Presently the concept of a Great Lakes Commodity Exchange developed by the Task Force and endorsed by the Forestry Council has received support from other quarters. In 2006, Governor Doyle had set aside \$75,000 for the feasibility study. In early 2007 WE Energy offered to match up to \$200,000 for a feasibility study. It is estimated that a feasibility study would cost over \$400,000. \$75,000 has also been awarded by USDA FS.

The consultants for the study have been identified and include a consultant used in establishing the Chicago Climate Exchange.

If the feasibility study is positive, additional legislation would be needed because of the state regulatory role, and state bonding required.

Status: The LRB Draft 1980/P1 simply authorizes state funding in the amount of \$400,000 for the Department of Financial Institution to conduct a study and prepare a report on the feasibility. This would provide a backup on funding for the study already being sought through other sources. See LRB Draft 1980.

See Appendix H.

Section 31: Tax Incremental Financing Districts. This section amends legislation by authorizing biomass energy production as a purpose.

Drafters in LRB believe that present statutory language is inclusive enough to authorize biomass energy production. With recent emphasis on biomass energy, additional language adding this provision might be useful so that when a community uses TIF districts they are aware of this possibility.

Status: No LRB draft was secured to implement this component. The LRB noted that TIF district legislation is presently sufficient to incorporate activities with energy production.

Sections That Address Increasing Supply

Section 3 – Creating a state afforestation program

Section 4 – Amending the MFL Program for biomass production

Section 5 – Reporting of forestlands sales and transfer

Section 7 – Creating Sustainable Forestry & Technology Center at U.W

Section 9 – Amending school forest legislation

Section 10 – Forestry education requirements

Section 11 – Urban wood waste disposal

Section 18 – Certified loggers on state land

Section 19 – Establishing a matching grant program with counties for technical assistance to woodland owners

Section 20 – Directing state and county government to increase woody biomass through mandates on wood disposal from highway and right of way clearing

Section 23 – Authorizing the production of biomass as a purpose on state forestland.

Section 21 – State aid to counties that produce woody biomass

Section 22 – Amending state cost sharing legislation to encourage wood biomass production

Section 23 – Amend state forest authorized purpose

Section 24 – Amend cooperative legislation

Section 25 – Establish an Agroforestry center

Section 26 – Establishes a state RC&D program to create wood supply

Section 28 – Establish an afforestation program

Section 30 – Establish a Great Lakes Timber and Biomass Commodity Exchange

Sections That Create Demand

Section 6 – Motor Vehicle fuel tax exemption

Section 8 – Creating a Fuel for Schools Program

Section 12 – Public facility construction consideration for burning wood

Section 13 – Requiring public facilities construction to use certified wood

Section 14 – Creating loans and tax credits for home wood fuel

Section 15 – Creating an energy grant, program for business

Section 16 – Energy production credits for industrial users

Section 17- Sign manufactures business incentives

Section 27 – Creating a carbon credit and carbon sequestration system

Section 29 – Capturing utilities thermal heat

Section 31 – Amend TIF District legislation

Appendix D

The Woody Biomass Task Force forwarded the 31 identified components for comprehensive legislation to the Legislative Reference Bureau. The original components list often lacked sufficient detail to enable the LRB drafters to prepare a bill. As a result all draft bills were either a first draft pd1 or are listed as pd2 where it was redrafted at the request of the Task Force. Even with a second draft they should not be viewed as a final draft.

Where there is significant information or questions by the LRB drafter, it is included with the draft bill as a drafters note.

The reader should review both the component list for intent and the draft bill under the “status” of the component, where the draft bill is referenced.

Also of note several of the bill drafts were in 2006 with the majority in the first half of 2007.

2007 BILL

1 AN ACT *to amend* 26.30 (3) (d); and *to create* 20.370 (1) (cw), 20.370 (5) (bz),
2 26.383 and 26.387 of the statutes; **relating to** establishing an afforestation
3 program, awarding grants to control invasive species in forests, requiring the
4 exercise of rule-making authority, and making an appropriation.

Analysis by the Legislative Reference Bureau

This bill requires that the Department of Natural Resources (DNR) establish a program for the purpose of increasing the production of wood products and woody biomass (wood production) in this state. DNR's duties under this program include the following:

1. Identification of privately owned forest lands on which wood production would most likely benefit the state.
2. Awarding of grants for projects to grow trees for the wood production. A grant must equal the amount contributed by the landowner.
3. Making of loans for projects to grow trees for the production of woody biomass.
4. Conduct research for the development of technologies for increasing wood production.

Current law authorizes DNR to conduct activities to detect and control harmful diseases and insects in timber and on forest lands in this state. This bill establishes a program to provide matching grants to owners of forest lands to control diseases and nonnative harmful species in timber and on forest lands. The nonnative harmful species for which grants may be awarded include plants, birds, and mammals as well

BILL

as insects. The amount of a grant may be for up to 50 percent of the costs incurred by the landowner.

For further information see the *state and local* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

1 **SECTION 1.** 20.005 (3) (schedule) of the statutes: at the appropriate place, insert
2 the following amounts for the purposes indicated:

				2007- 08	2008- 09
3					
4	20.370	Natural resources, department of			
5	(1)	LAND			
6	(cw)	Forestry — afforestation	SEG A	1,000,000	1,000,000
7	(5)	CONSERVATION AIDS			
8	(bz)	Resource aids — afforestation			
9		aids; invasive species control			
10		aids	SEG A	200,000	1,000,000

11 **SECTION 2.** 20.370 (1) (cw) of the statutes is created to read:

12 **20.370 (1) (cw)** *Forestry — afforestation.* The amounts in the schedule for
13 afforestation activities conducted by the department under s. 26.387 (2) (a), (d), (e),
14 and (f).

15 **SECTION 3.** 20.370 (5) (bz) of the statutes is created to read:

16 **20.370 (5) (bz)** *Resource aids — afforestation aids; invasive species control aids.*
17 The amounts in the schedule for afforestation grants and loans under s. 26.387 (2)
18 (b) and (c) and for grants for forest invasive species control under s. 26.383

19 **SECTION 4.** 26.30 (3) (d) of the statutes is amended to read:

BILL

1 26.30(3) (d) ~~“Forests” or “forest lands” means~~ “Forest” or “forest land” means
2 any area on which trees exist, standing or down, alive or dead, actually or potentially
3 valuable for forest products, watershed or wildlife protection or recreational uses in
4 contrast to shade, horticulture or ornamental trees valuable for landscape,
5 agricultural, aesthetic or similar purposes.

6 **SECTION 5.** 26.383 of the statutes is created to read:

7 **26.383 Invasive species control grants. (1) DEFINITIONS.** In this section,
8 unless the context requires otherwise:

9 (a) “Control” has the meaning given in s. 26.30 (3) (a).

10 (b) “Invasive species or disease” means any nonindigenous plant, insect, bird,
11 or mammal or any disease that is harmful, injurious, or destructive to forest land or
12 timber or that adversely affects sustainable forestry.

13 (c) “Forest land” has the meaning given in s. 26.30 (3) (d).

14 (d) “Forest pest” has the meaning given in s. 26.30 (3) (c).

15 (e) “Sustainable forestry” has the meaning given in s. 28.04 (1) (e).

16 **(2) GRANTS.** The department shall establish a cost–share program under which
17 to award grants for up to 50percent of the costs incurred by owners who are required
18 to control forest pests under s. 26.30 (6) and by other owners of forest lands or timber
19 who seek to control invasive species or disease on forest lands or in timber under their
20 ownership or control. The department shall promulgate rules establishing criteria
21 for awarding these grants. A grant awarded under this subsection to any owner who
22 is required to control forest pests under s. 26.30 (6) may not be used by the owner for
23 payment of charges assessed under s. 26.30 (9).

24 **SECTION 6.** 26.387 of the statutes is created to read:

BILL**SECTION 6**

1 **26.387 Afforestation program. (1)** In this section, “woody biomass” means
2 byproducts and waste generated by the practice of cutting and harvesting timber and
3 woody vegetation with a diameter of at least one inch.

4 **(2)** The department shall establish an afforestation program for the purpose
5 of increasing the amount of wood products and woody biomass produced in this state.
6 Under the program, the department shall do all of the following:

7 (a) Identify, in cooperation with counties and towns, privately owned forest
8 lands on which the production of wood products and woody biomass would most
9 likely benefit the economy of the state.

10 (b) Award grants to landowners for projects to grow trees for the production of
11 wood products and woody biomass. A grant under this program shall equal the
12 amount contributed by the landowner to the project. The department shall
13 promulgate rules establishing requirements for making these grants.

14 (c) Make loans to landowners to grow trees for the production of woody biomass.
15 The term of a loan made under this program may not exceed 7 years. The department
16 shall promulgate rules establishing requirements for making these loans.

17 (d) Conduct, or contract for, research and development of technologies for
18 increasing the production of wood products and woody biomass.

19 (e) Establish a pilot project to determine the economic and environmental
20 benefits of increasing the growing and harvesting of hybrid poplar, willow, and other
21 fast-growing woody species for the production of wood products and woody biomass.

22 (f) Establish standards for the growing of woody biomass to be used in
23 conjunction with afforestation activities that are conducted for the purpose of
24 growing woody biomass to be used in the generation of energy.

25 **SECTION 91 35. Nonstatutory provisions; Natural Resources.**

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0141/ldn
MGG:cjs:rs

April 17, 2007

I attempted to include the grants for the control of invasive species in the current forest pest control program under s. 26.30. However, I reread your original instructions and realize that the definition of "forest pest" under s. 26.30 (3) (c) is probably too narrow. I therefore created a separate section for the grants to control invasive species. See 26.383, as created in this draft. Please review the definition of "invasive species" to make sure it achieves your intent.

Mary Gibson-Glass
Senior Legislative Attorney
Phone: (608) 267-3215

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 **AN ACT** *to renumber and amend* 77.86 (5) (b); *to amend* 20.370 (1) (cr), 77.82
2 (1) (a) 2, 77.82 (1) (b) 1, 77.82 (2) (e), 77.82 (4), 77.82 (5) (a), 77.82 (7) (b) (intro.),
3 77.82 (8), 77.86 (1) (title), 77.86 (1) (a), 77.86 (1) (b), 77.86 (1) (c), 77.86 (1) (d),
4 77.86 (2), 77.86 (3), 77.86 (4), 77.86 (6), 77.87 (1), 77.87 (2), 77.87 (4), 77.876 (3),
5 77.88 (1) (b) 3, 77.88 (5) (a) 2, 77.88 (5) (b) 2 and 77.88 (6); and *to create* 77.81
6 (5), 77.81 (6), 77.82 (4c) and 77.86 (5) (b) 2 of the statutes; **relating to** woody
7 biomass produced on managed forest land.

Analysis by the Legislative Reference Bureau

This is a preliminary draft. An analysis will be provided in a later version.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

8 **SECTION 1.** 20.370 (1) (cr) of the statutes is amended to read:
9 20.370**(1)** (cr) *Forestry —recording fees.* All moneys received under ss. 77.82
10 (2m) (d) and ~~(4) (4f)~~ and 77.88 (2) (d) for the payment of fees to the registers of deeds
11 under s. 77.91 (5).

1 **SECTION 2.** 77.81 (5) of the statutes is created to read:

2 77.81 (5) “Wood products” means merchantable timber and woody biomass.

3 **SECTION 3.** 77.81 (6) of the statutes is created to read:

4 77.81 (6) “Woody biomass” means by-products and waste that are generated
5 by the practice of harvesting timber and wood vegetation with a diameter of at least
6 one inch and that are salable.

7 **SECTION 4.** 77.82 (1) (a) 2 of the statutes is amended to read:

8 77.82 (1) (a) 2. At least 80% of the parcel must be producing or capable of
9 producing a minimum of 20 cubic feet of ~~merchantable timber~~ wood products per acre
10 per year.

11 **SECTION 5.** 77.82 (1) (b) 1. of the statutes is amended to read:

12 77.82 (1) (b) 1. A parcel of which more than 20% consists of land that is
13 unsuitable for producing ~~merchantable timber~~ wood products, including water,
14 marsh, muskeg, bog, rock outcrops, sand dunes, farmland, roadway or railroad and
15 utility rights-of-way.

****NOTE: If wood products that come from woody biomass are not measured in
cubic feet, s. 77.82 (1) (a) 2 and (b) 1. will need to be changed.

16 **SECTION 6.** 77.82 (2) (e) of the statutes is amended to read:

17 77.82 (2) (e) A statement of the owner’s forest management objectives for the
18 production of ~~merchantable timber~~ wood products, in sufficient detail to provide
19 direction for the development and approval of a management plan. The petition may
20 also state additional forest management objectives, which may include wildlife
21 habitat management, aesthetic considerations, watershed management and
22 recreational use.

23 **SECTION 7.** 77.82 (4) of the statutes is amended to read:

1 **77.82 (4)** ADDITIONS TO MANAGED FOREST LAND. An owner of land that is
2 designated as managed forest land under an order that takes effect on or after April
3 28, 2004, may petition the department to designate as managed forest land an
4 additional parcel of land if the additional parcel is at least 3 acres in size and is
5 contiguous to any of that designated land. The

6 **(4f)** FEE FOR MANAGED FOREST LAND ADDITIONS. A petition under sub. (4) or (4c)
7 shall be accompanied by a nonrefundable \$20 application fee unless a different
8 amount for the fee is established by the department by rule at an amount equal to
9 the average expense to the department of recording an order issued under this
10 subchapter. The fee shall be deposited in the conservation fund and credited to the
11 appropriation under s. 20.370 (1) (cr). The petition shall be filed on a department
12 form and shall contain any additional information required by the department.

13 **SECTION 8.** 77.82 (4c) of the statutes is created to read:

14 **77.82(4c)** ADDITIONS TO MANAGED FOREST LAND FOR AFFORESTATION. An owner of
15 land that is designated as managed forest land may petition the department to
16 designate as managed forest land an additional parcel of land, if the additional parcel
17 of land is contiguous to any of the designated land and if it is to be used for
18 afforestation.

 ****NOTE: Compare this provision to s. 77.82 (4) in existing law. (See above.) Do
you want a 3-acre or other minimum requirement? Note that under s. 77.82 (7) (b) 2 the
total parcel, once the afforestation land is included, will still have to meet the 80percent
and other requirements under s. 77.82 (1).

19 **SECTION 9.** 77.82 (5) (a) of the statutes is amended to read:

20 **77.82 (5) (a)** Upon receipt of a petition under sub. (2), (4), (4c), or (4m), the
21 department shall provide written notice of the petition to each clerk of each
22 municipality in which the land is located.

23 **SECTION 10.** 77.82 (7) (b) (intro.) of the statutes is amended to read:

1 77.82(7) (b) (intro.) After considering the testimony presented at the public
2 hearing, if any, and the facts discovered by its investigation, the department shall
3 approve a petition under sub. (4) or (4c) if it determines all of the following:

4 **SECTION 11.** 77.82 (8) of the statutes is amended to read:

5 77.82(8) ORDER. If a petition under sub. (2), (4m), or (12) is approved, the
6 department shall issue an order designating the land as managed forest land for the
7 time period specified in the petition. If a petition under sub. (4) or (4c) is approved,
8 the department shall amend the original order to include the additional parcel. The
9 department shall provide the petitioner with a copy of the order or amended order
10 and shall also file a copy with the department of revenue, the supervisor of
11 assessments and the clerk of each municipality in which the land is located, and shall
12 record the order with the register of deeds in each county in which the land is located.

13 **SECTION 12.** 77.86 (1) (title) of the statutes is amended to read:

14 77.86(1) (title) ~~CUTTING~~ HARVESTING REGULATED.

15 **SECTION 13.** 77.86 (1) (a) of the statutes is amended to read:

16 77.86 (1) (a) Except as provided under sub. (6), no person may ~~cut~~
17 ~~merchantable timber~~ harvest wood products on managed forest land on which the
18 payment under s. 77.84 (2) is delinquent.

19 **SECTION 14.** 77.86 (1) (b) of the statutes is amended to read:

20 77.86(1) (b) Except as provided under sub. (6), an owner who intends to ~~cut~~
21 ~~merchantable timber~~ harvest wood products on managed forest land shall, at least
22 30 days before the ~~cutting~~ harvesting is to take place, on a form provided by the
23 department, file a notice of intent to ~~cut~~ harvest and request approval of the proposed
24 ~~cutting~~ harvesting from the department.

25 **SECTION 15.** 77.86 (1) (c) of the statutes is amended to read:

1 77.86(1) (c) If the proposed ~~cutting~~ harvesting conforms to the management
2 plan, the department shall approve the request.

3 **SECTION 16.** 77.86 (1) (d) of the statutes is amended to read:

4 77.86 (1) (d) If the proposed ~~cutting~~ harvesting does not conform to the
5 management plan, the department shall assist the owner in developing an
6 acceptable proposal before approving the request.

7 **SECTION 17.** 77.86 (2) of the statutes is amended to read:

8 77.86(2) BOND. The department may require an owner who intends to ~~cut~~
9 ~~merchantable timber~~ harvest wood products on managed forest land to file with the
10 department a noncancelable bond furnished by a surety company licensed to do
11 business in this state in the amount expected to be required as payment of the yield
12 tax under s. 77.87 (1).

13 **SECTION 18.** 77.86 (3) of the statutes is amended to read:

14 77.86(3) TIME LIMIT. All ~~cutting~~ harvesting specified in the notice under sub.
15 (1) (b) shall be commenced within one year after the date the proposed ~~cutting~~
16 harvesting is approved. The owner shall report to the department the date on which
17 the ~~cutting~~ harvesting is commenced.

18 **SECTION 19.** 77.86 (4) of the statutes is amended to read:

19 77.86(4) REPORTING. Within 30 days after completion of any ~~cutting~~ harvesting
20 approved under this section, the owner shall report to the department, on a form
21 provided by the department, a description of the species of wood, kind of product and
22 the quantity of each species ~~cut~~ harvested as shown by the scale or measurement
23 made on the ground as cut, skidded, loaded or delivered, or by tree scale certified by
24 a forester acceptable to the department if the wood is sold by tree measurement.

****NOTE: Do the methods of measuring in s. 77.86 (4) work for woody biomass?

1 **SECTION 20.** 77.86 (5) (b) of the statutes is renumbered 77.86 (5) (b) (intro.) and
2 amended to read:

3 77.86(5) (b) (intro.) Any owner who intentionally ~~cuts merchantable timber~~
4 harvests wood products in violation of this section is subject to a forfeiture equal to
5 20% the total of the following amounts:

6 1. Twenty percent of the current value of the any merchantable timber ~~cut~~
7 harvested, based on the stumpage value established under s. 77.91 (1)

8 **SECTION 21.** 77.86 (5) (b) 2 of the statutes is created to read:

9 77.86(5) (b) 2. Twenty percent of the fair market current value of any woody
10 biomass harvested.

11 **SECTION 22.** 77.86 (6) of the statutes is amended to read:

12 77.86(6) EXCEPTION. This section does not apply to an owner who ~~cuts~~ harvests
13 wood on managed forest land for use as fuel in the owner's dwelling.

14 **SECTION 23.** 77.87 (1) of the statutes is amended to read:

15 77.87(1) TAXATION. The department shall assess a yield tax against each owner
16 who ~~cuts merchantable timber~~ harvests wood products under s. 77.86. ~~The For~~
17 merchantable timber, the yield tax shall equal ~~5%~~ 5 percent of the value of the
18 merchantable timber ~~cut~~ harvested, based on the stumpage value established under
19 s. 77.91 (1). For woody biomass, the yield tax shall equal 5 percent of the current fair
20 market value of the woody biomass harvested. The department shall mail a copy of
21 the certificate of assessment to the owner at the owner's last-known address.

22 **SECTION 24.** 77.87 (2) of the statutes is amended to read:

23 77.87(2) SUPPLEMENTAL TAX. At any time within one year after a report is filed
24 under s. 77.86 (4), the department, after notifying the owner and providing the owner
25 with the opportunity for a hearing, may determine whether the report is accurate.

1 If the department determines that the quantity of ~~merchantable timber cut~~ wood
2 products harvested exceeded the amount on which the tax was assessed under sub.
3 (1), the department shall assess a supplemental tax on the additional amount as
4 provided under sub. (1).

5 **SECTION 25.** 77.87 (4) of the statutes is amended to read:

6 77.87(4) OWNER'S LIABILITY. The owner is personally liable for a tax assessed
7 under sub. (1) or (2). An unpaid tax becomes a lien against the ~~merchantable timber~~
8 ~~that was cut~~ wood products that were harvested. If the ~~merchantable timber cut~~ is
9 wood products harvested are mingled with other ~~wøøð~~ forest products, the unpaid
10 tax becomes a lien against all of the wood products and other forest products while
11 they are in the owner's possession, or in the possession of any person other than a
12 purchaser for value without notice in the usual course of business.

****NOTE: Since "wood products" is now a defined term, I changed "wood products"
under current law in s. 77.84 (4) to "forest products."

13 **SECTION 26.** 77.876 (3) of the statutes is amended to read:

14 77.876(3) OWNER'S LIABILITY. The owner is personally liable for an assessment
15 under sub. (1). An unpaid assessment becomes a lien against the ~~merchantable~~
16 ~~timber cut~~ wood products harvested. If the ~~merchantable timber cut~~ is wood
17 products harvested are mingled with other ~~wøøð~~ forest products, the unpaid
18 assessment becomes a lien against all of the wood products and other forest products
19 while they are in the owner's possession or in the possession of any person other than
20 a purchaser for value without notice in the usual course of business.

21 **SECTION 27.** 77.88 (1) (b) 3 of the statutes is amended to read:

22 77.88(1) (b) 3 Intentional ~~cutting~~ harvesting by the owner in violation of s.
23 77.86

1 **SECTION 28.** 77.88 (5) (a) 2 of the statutes is amended to read:

2 77.88 (5) (a) 2 Five percent of the total of the stumpage value of the
3 merchantable timber on the land and the current fair market value of the woody
4 biomass on the land, less any amounts paid by the owner under ss. 77.84 (2) (a) and
5 (am) and 77.87.

6 **SECTION 29.** 77.88 (5) (b) 2 of the statutes is amended to read:

7 77.88 (5) (b) 2 Five percent of the total of the stumpage value of the
8 merchantable timber on the land and the current fair market value of the woody
9 biomass on the land, less any amounts paid by the owner under ss. 77.84 (2) (a) and
10 (am) and 77.87.

11 **SECTION 30.** 77.88 (6) of the statutes is amended to read:

12 77.88 (6) DETERMINATION OF STUMPAGE VALUE. In determining the stumpage
13 value of ~~merchantable timber~~ wood products for purposes of this section, an
14 estimator agreed upon by the parties or, if they cannot agree, a forester appointed
15 by a judge of the circuit court in the county in which the land is located shall perform
16 the estimate. For merchantable timber, the forester shall estimate the volume of
17 merchantable timber on the land. For woody biomass, the forester shall estimate the
18 current fair market value. The estimate obtained shall be final. The department
19 shall determine the current stumpage value of the merchantable timber, based on
20 the rule promulgated under s. 77.91 (1). The owner shall pay the entire cost of
21 obtaining the estimate.

****NOTE: If foresters are not logically the persons to do estimates for woody
biomass, this section will need to be changed.

22

(END)

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0142P ldn
MGG:wlj:rs

March 13, 2007

This is item 6 on your list of components for the comprehensive legislation.

I did not draft anything for item 6B because I did not understand what was intended. If something additional needs to be drafted, please call me.

I have placed some embedded notes in this preliminary draft for your consideration.

I have not set different rates under s. 77.84 (2) for "woody biomass" acres and for "merchantable timber" acres. As drafted the same taxation rate applies to each acre that is producing wood products, regardless of whether it is woody biomass or merchantable timber or a combination. A differentiation can be made if an acre produces one or the other. However, I am not sure that is the case. If you want different rates, please call me.

Mary Gibson-Glass
Senior Legislative Attorney
Phone: (608) 267-3215

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 77.22 (2) (em) and 77.235 of the statutes; **relating to** reporting
2 sales of forest land.

Analysis by the Legislative Reference Bureau

Under current law, generally, a person who owns real property and who sells that real property to another person must submit a real estate transfer form to the register of deeds for the county in which the property is located. The real estate transfer form requires the property owner to specify certain information related to the sale, including the value of the property and the amount of any real estate transfer fee paid to the county related to the sale. On or before the 15th day of each month, the register of deeds submits to the county treasurer all real estate transfer forms and fees received by the register during the previous month.

This bill requires that the real estate transfer form indicate whether the recorded sale involves ten acres or more of land that is assessed, for property tax purposes, as either agricultural forest land or productive forest land. Under the bill, on or before the 15th day of each month, the register of deeds must submit a written report to the Department of Natural Resources that identifies all such sales of forest land during the previous month.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 77.22 (2) (em) of the statutes is created to read:

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to amend* 28.04 (2) (a); and *to create* 28.04 (1) (f) of the statutes;
2 **relating to** the production of woody biomass in state forests.

Analysis by the Legislative Reference Bureau

This is a preliminary draft. An analysis will be provided in a later version.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 **SECTION 1.** 28.04 (1) (f) of the statutes is created to read:

4 28.04(1) (f) "Woody biomass" means byproducts and waste generated by the
5 practice of cutting and harvesting timber and woody vegetation with a diameter of
6 at least one inch.

7 **SECTION 2.** 28.04 (2) (a) of the statutes is amended to read:

8 28.04(2) (a) The department shall manage the state forests to benefit the
9 present and future generations of residents of this state, recognizing that the state
10 forests contribute to local and statewide economies and to a healthy natural

1 environment. The department shall assure the practice of sustainable forestry and
2 use it to assure that state forests can provide a full range of benefits for present and
3 future generations. The department shall also assure that the management of state
4 forests is consistent with the ecological capability of the state forest land and with
5 the long-term maintenance of sustainable forest communities and ecosystems.
6 These benefits include soil protection, public hunting, protection of water quality,
7 production of recurring forest products and of woody biomass, outdoor recreation,
8 native biological diversity, aquatic and terrestrial wildlife, and aesthetics. The range
9 of benefits provided by the department in each state forest shall reflect its unique
10 character and position in the regional landscape.

11

(END)

2007 BILL

1 AN ACT *to create* 38.04 (30) of the statutes; **relating to** requiring instruction
2 in technical colleges in logging, maintenance of wood-fuel heating systems, and
3 monitoring the emission of air contaminants.

Analysis by the Legislative Reference Bureau

Beginning in the 2008-09 school year, this bill requires that instruction in each of the following is offered by one or more technical colleges:

1. Logging.
2. The maintenance of wood-fuel heating systems.
3. Monitoring the emission of air contaminants.

For further information see the *state and local* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

4 **SECTION 1.** 38.04 (30) of the statutes is created to read:
5 **38.04 (30)** INSTRUCTION IN WOOD-FUEL HEATING SYSTEMS, MONITORING AIR
6 CONTAMINANTS, AND LOGGING. Beginning in the 2008-09 school year, the board shall

BILL

SECTION 1

1 ensure that instruction in each of the following is offered by one or more district
2 boards:

3 (a) The maintenance of wood–fuel heating systems.

4 (b) Monitoring the emission of air contaminants.

5 (c) Logging.

6 (END)

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to amend* 119.04 (1); and *to create* 20.255 (2) (dr), 115.28 (33), 120.12
 2 (27) and 121.91 (4) (L) and (m) of the statutes; **relating to** providing grants to
 3 school districts for wood-fuel heating systems, requiring school district energy
 4 conservation audits, increasing a school district's revenue limit for wood fuel
 5 and wood-fuel heating systems, and making an appropriation.

Analysis by the Legislative Reference Bureau

This is a preliminary draft. An analysis will be provided in a later version.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

6 SECTION 1. 20.255 (2) (dr) of the statutes is created to read:
 7 20.255(2) (dr) *Wood-fuel heating system grants.* A sum sufficient for grants
 8 to school districts for converting to wood-fuel heating systems under s. 115.28 (33).
 9 SECTION 2. 115.28 (33) of the statutes is created to read:
 10 115.28(33) WOOD-FUEL HEATING SYSTEM GRANTS. From the appropriation under
 11 s. 20.255 (2) (dr), award grants to school districts for the purpose of converting

1 heating systems to wood fuel. The amount of a grant may not exceed an amount
2 equal to 50 percent of the cost of conversion.

3 **SECTION 3.** 119.04 (1) of the statutes is amended to read:

4 119.04(1) Subchapters IV, V and VII of ch. 115, ch. 121 and ss. 66.0235 (3) (c),
5 66.0603 (1m) to (3), 115.01 (1) and (2), 115.28, 115.31, 115.33, 115.34, 115.343,
6 115.345, 115.361, 115.38 (2), 115.45, 118.001 to 118.04, 118.045, 118.06, 118.07,
7 118.10, 118.12, 118.125 to 118.14, 118.145 (4), 118.15, 118.153, 118.16, 118.162,
8 118.163, 118.164, 118.18, 118.19, 118.20, 118.24 (1), (2) (c) to (f), (6) and (8), 118.245,
9 118.255, 118.258, 118.291, 118.30 to 118.43, 118.51, 118.52, 118.55, 120.12 (5) and
10 (15) to ~~(26)~~ (27), 120.125, 120.13 (1), (2) (b) to (g), (3), (14), (17) to (19), (26), (34), (35),
11 (37), ~~(37m)~~, and (38), 120.14, and 120.25 are applicable to a 1st class city school
12 district and board.

13 **SECTION 4.** 120.12 (27) of the statutes is created to read:

14 120.12(27) ENERGY CONSERVATION AUDIT. Periodically contract with a qualified
15 contractor for an energy conservation audit of school district facilities.

16 **SECTION 5.** 121.91 (4) (L) and (m) of the statutes are created to read:

17 121.91 (4) (L) The limit otherwise applicable to a school district's revenue
18 under sub. (2m) in any school year is increased by an amount equal to the amount
19 spent by the school district in that school year for wood used to heat school district
20 facilities.

21 (m) The limit otherwise applicable to a school district's revenue under sub. (2m)
22 in any school year is increased by the costs incurred by the school district in that
23 school year to purchase and install a wood-fuel heating system or to convert an
24 existing heating system to wood fuel.

25 **SECTION 6. Initial applicability.**

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to amend* 26.39 (2) and 28.20, and *to create* 26.39 (1) (c) of the statutes;
2 relating to forestry education curriculum for grades kindergarten to 12 and
3 the harvesting of woody biomass from school forests.

Analysis by the Legislative Reference Bureau

This is a preliminary draft. An analysis will be provided in a later version.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

4 SECTION 1. 26.39 (1) (c) of the statutes is created to read:

5 26.39(1) (c) "Woody biomass" means by-products and waste generated by the
6 practice of cutting and harvesting timber and woody vegetation with a diameter of
7 at least one inch.

8 SECTION 2. 26.39 (2) of the statutes is amended to read:

9 26.39 (2) FORESTRY EDUCATION CURRICULUM; SCHOOLS. Using the moneys
10 appropriated under s. 20.370 (1) (cu), the department, in cooperation with the Center

1 for Environmental Education in the College of Natural Resources at the University
2 of Wisconsin–Stevens Point, shall develop a forestry education curriculum for grades
3 kindergarten to 12. The curriculum shall include information regarding how woody
4 biomass is produced and used.

5 SECTION 3. 28.20 of the statutes is amended to read:

6 **28.20 Community forests.** Any city, village, town or school district may
7 acquire land, engage in forestry and appropriate funds for such purpose. The forest
8 property may be located outside the city, village, town or school district limits. A
9 school district may allow the harvesting of woody biomass from a forest that is owned
10 or operated by the school.

11

(END)

2007 BILL

1 AN ACT *to create* 20.115 (7) (cm) and 92.30 of the statutes; **relating to** resource
2 conservation and development forestry grants.

Analysis by the Legislative Reference Bureau

This bill requires the Department of Agriculture, Trade and Consumer Protection (DATCP) to administer a program under which DATCP makes grants to county land conservation committees for forestry projects conducted by resource conservation and development councils. A grant may not exceed 50 percent of the cost of a project. Resource conservation and development councils are created under the federal Resource Conservation and Development Program, administered by the federal Department of Agriculture. Wisconsin currently has seven councils. The federal program provides technical assistance and financial assistance to councils to develop and carry out area plans and projects in designated areas to conserve and improve the use of land, develop natural resources, and improve and enhance the social, economic, and environmental conditions in primarily rural areas.

For further information see the *state and local* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 20.005 (3) (schedule) of the statutes: at the appropriate place, insert
4 the following amounts for the purposes indicated:

BILL

2007-08 2008-09

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23

20.115 Agriculture, trade and consumer protection, department of

(7) AGRICULTURAL RESOURCE MANAGEMENT

(cm) Resource conservation and devel-

opment grants

GPR

A

-0-

-0-

SECTION 2. 20.115 (7) (cm) of the statutes is created to read:

20.115 (7) (cm) *Resource conservation and development forestry grants.* the amounts in the schedule for resource conservation and development forestry grants under s. 92.30.

SECTION 3. 92.30 of the statutes is created to read:

92.30 Resource conservation and development forestry grants. (1) In this section, “resource conservation and development council” means a council under 16 USC 3451 (3).

(2) The department shall administer a program under which the department makes grants to county land conservation committees for forestry projects conducted by resource conservation and development councils. To be eligible for a grant under this section, a project must relate to forestry on private lands. A grant under this section may be used to provide technical assistance, to conduct a demonstration or educational project, or for the operation of other projects related to the development of forestry. A grant under this section may not exceed 50 percent of the cost of the project.

(END)

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0164/ldn
RCT:lmk:nwn

March 6, 2007

This draft corresponds to item 25 of the woody biomass package.

For this draft, I have included an appropriation from the general fund but have specified "\$-0-" for expenditure in fiscal years 2007-08 and 2008-09. When you know the dollar amounts that you need to include in the proposal, contact me and I will either redraft the proposal or draft an amendment, whichever is appropriate.

Please contact me with any questions or redraft instructions.

Rebecca C. Tradewell
Managing Attorney
Phone: (608) 266-7290
E-mail: becky.tradewell@legis.wisconsin.gov

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 77.54 (50) of the statutes; **relating to** a sales and use tax
2 exemption for heating and cooling equipment that uses wood or woody biomass
3 as a fuel.

Analysis by the Legislative Reference Bureau

This bill creates a sales and use tax exemption for heating and cooling equipment that uses wood or woody biomass as a fuel and is for residential use. The bill defines “woody biomass” as byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has at least a one-inch diameter.

Because this bill relates to an exemption from state or local taxes, it may be referred to the Joint Survey Committee on Tax Exemptions for a report to be printed as an appendix to the bill.

For further information see the ***state and local*** fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

4 SECTION 1. 77.54 (50) of the statutes is created to read:

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 70.111 (18m) of the statutes; **relating to** a property tax
2 exemption for energy systems that use wood or woody biomass.

Analysis by the Legislative Reference Bureau

This bill creates a personal property tax exemption for any system that converts wood or woody biomass into usable forms of thermal or electrical energy. Under the bill, “woody biomass” means byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has at least a one-inch diameter.

Because this bill relates to an exemption from state or local taxes, it may be referred to the Joint Survey Committee on Tax Exemptions for a report to be printed as an appendix to the bill.

For further information see the ***state and local*** fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 70.111 (18m) of the statutes is created to read:
4 70.111(18m) WOOD AND WOODY BIOMASS ENERGY SYSTEMS. (a) In this subsection,
5 “woody biomass” means byproducts and waste generated by the practice of cutting
6 and harvesting timber and woody vegetation that has at least a one-inch diameter.

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0215P ldn
JK:jld:pg

September 18, 2006

Representative Friske:

Please review this draft carefully to ensure that it is consistent with your intent. This bill is based on instructions received from Bill Horvath. Please note that the language related to excluding items found in a "conventional energy system" is similar to the language contained in s. 70.111 (18) related to wind and solar energy systems.

Joseph T. Kreye
Legislative Attorney
Phone: (608) 266-2263
E-mail: joseph.kreye@legis.state.wi.us

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 71.22 (12) and 71.26 (1) (g) of the statutes; **relating to** an
2 income tax and franchise tax exemption for income derived from
3 manufacturing fuels and chemicals from wood or woody biomass.

Analysis by the Legislative Reference Bureau

This bill creates an income tax and franchise tax exemption for income derived from manufacturing fuels and chemicals from wood or woody biomass. Under the bill, "woody biomass" means byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has at least a one-inch diameter.

Because this bill relates to an exemption from state or local taxes, it may be referred to the Joint Survey Committee on Tax Exemptions for a report to be printed as an appendix to the bill.

For further information see the **state** fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

4 SECTION 1. 71.22 (12) of the statutes is created to read:

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 **AN ACT** *to amend* 71.05 (6) (a) 15., 71.08 (1) (intro.), 71.21 (4), 71.26 (2) (a), 71.34
2 (1) (g), 71.45 (2) (a) 10. and 77.92 (4); and *to create* 71.07 (5), 71.10 (4) (gaa),
3 71.28 (5), 71.30 (3) (dq), 71.47 (5) and 71.49 (1) (dq) of the statutes; **relating**
4 **to** an income and franchise tax credit for energy systems that use wood or
5 woody biomass.

Analysis by the Legislative Reference Bureau

Under this bill, a person may claim an income and franchise tax credit for the amount that the person paid in the taxable year on the purchase of equipment that converts wood or woody biomass into thermal or electrical energy for use in the person's business, if that business is located in this state. The bill defines "woody biomass" as by-products and waste generated by the practice of cutting and harvesting timber and woody vegetation that has at least a one-inch diameter. Under the bill, if the credit claimed by a person exceeds the person's tax liability, the state will not issue a refund check, but the person may carry forward any remaining credit to subsequent taxable years.

For further information see the **state** fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

1 **SECTION 1.** 71.05 (6) (a) 15. of the statutes is amended to read:

2 71.05(6) (a) 15. The amount of the credits computed under s. 71.07 (2dd), (2de),
3 (2di), (2dj), (2dL), (2dm), (2dr), (2ds), (2dx), (3g), (3n), (3s), (3t), (3w), (5b), (5d), and
4 (5e), (5f), and (5h), and (5i) and not passed through by a partnership, limited liability
5 company, or tax-option corporation that has added that amount to the partnership's,
6 company's, or tax-option corporation's income under s. 71.21 (4) or 71.34 (1) (g).

7 **SECTION 2.** 71.07 (5i) of the statutes is created to read:

8 71.07 (5i) WOODY BIOMASS ENERGY SYSTEMS CREDIT. (a) *Definitions.* In this
9 subsection:

10 1. "Claimant" means a person who files a claim under this subsection.

11 2. "Woody biomass" means by-products and waste generated by the practice
12 of cutting and harvesting timber and woody vegetation that has at least a one-inch
13 diameter.

14 (b) *Filing claims.* Subject to the limitations provided in this subsection, a
15 claimant may claim as a credit against the taxes imposed under s. 71.02 or 71.08 up
16 to the amount of the taxes, an amount that is equal to the amount that the claimant
17 paid in the taxable year on the purchase of equipment that converts wood or woody
18 biomass into thermal or electrical energy for use in the claimant's business, if that
19 business is located in this state.

20 (c) *Limitations.* Partnerships, limited liability companies, and tax-option
21 corporations may not claim the credit under this subsection, but the eligibility for,
22 and the amount of, the credit are based on their payment of amounts under par. (b).
23 A partnership, limited liability company, or tax-option corporation shall compute
24 the amount of credit that each of its partners, members, or shareholders may claim
25 and shall provide that information to each of them. Partners, members of limited

1 liability companies, and shareholders of tax-option corporations may claim the
2 credit in proportion to their ownership interests.

3 (d) *Administration.* Section 71.28 (4) (e) to (h), as it applies to the credit under
4 s. 71.28 (4), applies to the credit under this subsection.

5 **SECTION 3.** 71.08 (1) (intro.) of the statutes is amended to read:

6 71.08(1) IMPOSITION. (intro.) If the tax imposed on a natural person, married
7 couple filing jointly, trust, or estate under s. 71.02, not considering the credits under
8 ss. 71.07 (1), (2dd), (2de), (2di), (2dj), (2dL), (2dr), (2ds), (2dx), (2fd), ~~(3c), (3e), (3m),~~
9 ~~(3n), (3s), (3t), (3w), (5b), (5d), (5e), (5f), (5i),~~ (6), (6e), and (9e), 71.28 (1dd), (1de), (1di),
10 (1dj), (1dL), (1ds), (1dx), (1fd), (2m), (3), (3n), (3t), and (3w), and 71.47 (1dd), (1de),
11 (1di), (1dj), (1dL), (1ds), (1dx), (1fd), (2m), (3), (3n), (3t), and (3w), and subchs. VIII
12 and IX and payments to other states under s. 71.07 (7), is less than the tax under this
13 section, there is imposed on that natural person, married couple filing jointly, trust
14 or estate, instead of the tax under s. 71.02, an alternative minimum tax computed
15 as follows:

16 **SECTION 4.** 71.10 (4) (gaa) of the statutes is created to read:

17 71.10(4) (gaa) Woody biomass energy systems credit under s. 71.07 (5).

18 **SECTION 5.** 71.21 (4) of the statutes is amended to read:

19 71.21(4) Credits computed by a partnership under s. 71.07 (2dd), (2de), (2di),
20 (2dj), (2dL), (2dm), (2ds), (2dx), (3g), (3n), (3s), (3t), (3w), (5b), (5e), (5f), (5g), and (5h),
21 and (5i) and passed through to partners shall be added to the partnership's income.

22 **SECTION 6.** 71.26 (2) (a) of the statutes is amended to read:

23 71.26(2) (a) *Corporations in general.* The “net income” of a corporation means
24 the gross income as computed under the Internal Revenue Code as modified under
25 sub. (3) minus the amount of recapture under s. 71.28 (1di) plus the amount of credit

1 computed under s. 71.28 (1), (3), (4), and (5) minus, as provided under s. 71.28 (3) (c)
2 7., the amount of the credit under s. 71.28 (3) that the taxpayer added to income
3 under this paragraph at the time that the taxpayer first claimed the credit plus the
4 amount of the credit computed under s. 71.28 (1dd), (1de), (1di), (1dj), (1dL), (1dm),
5 (1ds), (1dx), (3g), (3n), (3t), (3w), (5b), (5e), (5f), (5g), and (5h), and (5i) and not passed
6 through by a partnership, limited liability company, or tax-option corporation that
7 has added that amount to the partnership's, limited liability company's, or
8 tax-option corporation's income under s. 71.21 (4) or 71.34 (1) (g) plus the amount
9 of losses from the sale or other disposition of assets the gain from which would be
10 wholly exempt income, as defined in sub. (3) (L), if the assets were sold or otherwise
11 disposed of at a gain and minus deductions, as computed under the Internal Revenue
12 Code as modified under sub. (3), plus or minus, as appropriate, an amount equal to
13 the difference between the federal basis and Wisconsin basis of any asset sold,
14 exchanged, abandoned, or otherwise disposed of in a taxable transaction during the
15 taxable year, except as provided in par. (b) and s. 71.45 (2) and (5).

16 **SECTION 7.** 71.28 (5i) of the statutes is created to read:

17 71.28 (5i) WOODY BIOMASS ENERGY SYSTEMS CREDIT. (a) *Definitions.* In this
18 subsection:

19 1. "Claimant" means a person who files a claim under this subsection.

20 2. "Woody biomass" means by-products and waste generated by the practice
21 of cutting and harvesting timber and woody vegetation that has at least a one-inch
22 diameter.

23 (b) *Filing claims.* Subject to the limitations provided in this subsection, a
24 claimant may claim as a credit against the taxes imposed under s. 71.23, up to the
25 amount of the taxes, an amount that is equal to the amount that the claimant paid

1 in the taxable year on the purchase of equipment that converts wood or woody
2 biomass into thermal or electrical energy for use in the claimant's business, if that
3 business is located in this state.

4 (c) *Limitations.* Partnerships, limited liability companies, and tax-option
5 corporations may not claim the credit under this subsection, but the eligibility for,
6 and the amount of, the credit are based on their payment of amounts under par. (b).
7 A partnership, limited liability company, or tax-option corporation shall compute
8 the amount of credit that each of its partners, members, or shareholders may claim
9 and shall provide that information to each of them. Partners, members of limited
10 liability companies, and shareholders of tax-option corporations may claim the
11 credit in proportion to their ownership interests.

12 (d) *Administration.* Subsection (4) (e) to (h), as it applies to the credit under
13 sub. (4), applies to the credit under this subsection.

14 **SECTION 8.** 71.30 (3) (dq) of the statutes is created to read:

15 71.30(3) (dq) Woody biomass energy systems credit under s. 71.28 (5).

16 **SECTION 9.** 71.34 (1) (g) of the statutes is amended to read:

17 71.34(1) (g) An addition shall be made for credits computed by a tax-option
18 corporation under s. 71.28 (1dd), (1de), (1di), (1dj), (1dL), (1dm), (1ds), (1dx), (3), (3g),
19 (3n), (3t), (3w), (5b), (5e), (5f), (5g), ~~and (5h), and (5i)~~ and passed through to
20 shareholders.

21 **SECTION 10.** 71.45 (2) (a) 10. of the statutes is amended to read:

22 71.45 (2) (a) 10. By adding to federal taxable income the amount of credit
23 computed under s. 71.47 (1dd) to (1dx), (3n), (3w), (5b), (5e), (5f), (5g), ~~and (5h), and~~
24 (5i) and not passed through by a partnership, limited liability company, or tax-option
25 corporation that has added that amount to the partnership's, limited liability

1 company's, or tax-option corporation's income under s. 71.21 (4) or 71.34 (1) (g) and
2 the amount of credit computed under s. 71.47 (1), (3), (3t), (4), and (5).

3 **SECTION 11.** 71.47 (5i) of the statutes is created to read:

4 71.47 (5i) WOODY BIOMASS ENERGY SYSTEMS CREDIT. (a) *Definitions.* In this
5 subsection:

6 1. "Claimant" means a person who files a claim under this subsection.

7 2. "Woody biomass" means by-products and waste generated by the practice
8 of cutting and harvesting timber and woody vegetation that has at least a one-inch
9 diameter.

10 (b) *Filing claims.* Subject to the limitations provided in this subsection, a
11 claimant may claim as a credit against the taxes imposed under s. 71.43, up to the
12 amount of the taxes, an amount that is equal to the amount that the claimant paid
13 in the taxable year on the purchase of equipment that converts wood or woody
14 biomass into thermal or electrical energy for use in the claimant's business, if that
15 business is located in this state.

16 (c) *Limitations.* Partnerships, limited liability companies, and tax-option
17 corporations may not claim the credit under this subsection, but the eligibility for,
18 and the amount of, the credit are based on their payment of amounts under par. (b).
19 A partnership, limited liability company, or tax-option corporation shall compute
20 the amount of credit that each of its partners, members, or shareholders may claim
21 and shall provide that information to each of them. Partners, members of limited
22 liability companies, and shareholders of tax-option corporations may claim the
23 credit in proportion to their ownership interests.

24 (d) *Administration.* Section 71.28 (4) (e) to (h), as it applies to the credit under
25 s. 71.28 (4), applies to the credit under this subsection.

1 **SECTION 12.** 71.49 (1) (dq) of the statutes is created to read:

2 71.49(1) (dq) Woody biomass energy systems credit under s. 71.47 (5).

3 **SECTION 13.** 77.92 (4) of the statutes is amended to read:

4 77.92(4) “Net business income,” with respect to a partnership, means taxable
5 income as calculated under section 703 of the Internal Revenue Code; plus the items
6 of income and gain under section 702 of the Internal Revenue Code, including taxable
7 state and municipal bond interest and excluding nontaxable interest income or
8 dividend income from federal government obligations; minus the items of loss and
9 deduction under section 702 of the Internal Revenue Code, except items that are not
10 deductible under s. 71.21; plus guaranteed payments to partners under section 707
11 (c) of the Internal Revenue Code; plus the credits claimed under s. 71.07 (2dd), (2de),
12 (2di), (2dj), (2dL), (2dm), (2dr), (2ds), (2dx), (3g), (3s), (3n), (3t), (3w), (5b), (5e), (5f),
13 (5g), and (5h), and (5i); and plus or minus, as appropriate, transitional adjustments,
14 depreciation differences, and basis differences under s. 71.05 (13), (15), (16), (17), and
15 (19); but excluding income, gain, loss, and deductions from farming. “Net business
16 income,” with respect to a natural person, estate, or trust, means profit from a trade
17 or business for federal income tax purposes and includes net income derived as an
18 employee as defined in section 3121 (d) (3) of the Internal Revenue Code.

19 **SECTION 14. Initial applicability.**

20 (1) This act first applies to taxable years beginning on January 1 of the year
21 in which this subsection takes effect, except that if this subsection takes effect after
22 July 31 this act first applies to taxable years beginning on January 1 of the year
23 following the year in which this subsection takes effect.

24

(END)

2007 BILL

1 AN ACT *to create* 71.07 (6f) and 71.10 (4) (cf) of the statutes; **relating to** creating
2 a nonrefundable individual income tax credit for converting a wood fireplace to
3 a wood stove.

Analysis by the Legislative Reference Bureau

This bill creates a nonrefundable individual income tax credit for an individual who converts a wood-burning fireplace in his or her principal residence to a wood-burning stove. The credit may be claimed in an amount of up to 10 percent of the cost of such a conversion, up to a maximum credit of \$500.

Because the credit is nonrefundable, it may be claimed only up to the amount of a claimant's income tax liability. For claimants who are nonresidents or part-year residents of Wisconsin, the credit that may be claimed is prorated based on the ratio of the claimant's Wisconsin adjusted gross income (AGI) to federal AGI.

For further information see the *state* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

4 SECTION 1. 71.07 (6f) of the statutes is created to read:
5 71.07 (6f) WOOD STOVE CONVERSION TAX CREDIT. (a) *Definitions.* In this
6 subsection:

BILL**SECTION 1**

1 1. “Claimant” means an individual who converts a wood-burning fireplace to
2 a wood-burning stove and files a claim under this subsection.

3 2. “Wood-burning fireplace” means a wood-burning fireplace that is located in
4 a claimant’s principal residence.

5 3. “Wood-burning stove” means a wood-burning stove that is installed in a
6 claimant’s principal residence.

7 (b) *Filing claims.* Subject to the limitations provided in this subsection, a
8 claimant may claim as a credit against the tax imposed under s. 71.02 or 71.08, up
9 to the amount of those taxes, not more than 10 percent of the cost involved in
10 converting a wood-burning fireplace to a wood-burning stove in the year to which
11 the claim relates.

12 (c) *Limitations.* 1. No credit may be allowed under this subsection unless it
13 is claimed within the time period under s. 71.75 (2).

14 2. The maximum credit that may be claimed under this subsection is \$500.

15 3. A claimant who is a nonresident or part-year resident of this state, and who
16 is a single person or a married person filing a separate return, shall multiply the
17 credit for which the claimant is eligible under par. (b) by a fraction the numerator of
18 which is the claimant’s Wisconsin adjusted gross income and the denominator of
19 which is the claimant’s federal adjusted gross income. If a claimant is married and
20 files a joint return, and if the claimant or the claimant’s spouse, or both, are
21 nonresidents or part-year residents of this state, the claimant shall multiply the
22 credit for which the claimant is eligible under par. (b) by a fraction the numerator of
23 which is the couple’s joint Wisconsin adjusted gross income and the denominator of
24 which is the couple’s joint federal adjusted gross income.

2007 BILL

1 AN ACT *to create* 71.07 (6g) and 71.10 (4) (cg) of the statutes; **relating to**
2 creating a nonrefundable individual income tax credit for installing heating
3 equipment that is fueled by woody biomass.

Analysis by the Legislative Reference Bureau

This bill creates a nonrefundable individual income tax credit for an individual who installs heating equipment in his or her principal residence. Under the bill, "heating equipment" is defined as equipment that is fueled by "woody biomass," which is defined as byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has a diameter of at least one inch. The credit may be claimed in an amount of up to 10 percent of the cost of installing such heating equipment, up to a maximum credit of \$500.

Because the credit is nonrefundable, it may be claimed only up to the amount of a claimant's income tax liability. For claimants who are nonresidents or part-year residents of Wisconsin, the credit that may be claimed is prorated based on the ratio of the claimant's Wisconsin adjusted gross income (AGI) to federal AGI.

For further information see the *state* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

BILL**SECTION 1**

1 **SECTION 1.** 71.07 (6g) of the statutes is created to read:

2 71.07(6g) HEATING EQUIPMENT TAX CREDIT. (a) *Definitions.* In this subsection:

3 1. “Claimant” means an individual who installs heating equipment and files
4 a claim under this subsection.

5 2. “Heating equipment” means heating equipment that is installed in a
6 claimant’s principal residence and that is fueled by woody biomass.

7 3. “Woody biomass” means byproducts and waste generated by the practice of
8 cutting and harvesting timber and woody vegetation that has a diameter of at least
9 one inch.

10 (b) *Filing claims.* Subject to the limitations provided in this subsection, a
11 claimant may claim as a credit against the tax imposed under s. 71.02 or 71.08, up
12 to the amount of those taxes, not more than 10 percent of the cost of installing heating
13 equipment in the year to which the claim relates.

14 (c) *Limitations.* 1. No credit may be allowed under this subsection unless it
15 is claimed within the time period under s. 71.75 (2).

16 2. The maximum credit that may be claimed under this subsection is \$500.

17 3. A claimant who is a nonresident or part-year resident of this state, and who
18 is a single person or a married person filing a separate return, shall multiply the
19 credit for which the claimant is eligible under par. (b) by a fraction the numerator of
20 which is the claimant’s Wisconsin adjusted gross income and the denominator of
21 which is the claimant’s federal adjusted gross income. If a claimant is married and
22 files a joint return, and if the claimant or the claimant’s spouse, or both, are
23 nonresidents or part-year residents of this state, the claimant shall multiply the
24 credit for which the claimant is eligible under par. (b) by a fraction the numerator of

BILL

1 which is the couple's joint Wisconsin adjusted gross income and the denominator of
2 which is the couple's joint federal adjusted gross income.

3 (d) *Administration.* Subsection (9e) (d), to the extent that it applies to the credit
4 under that subsection, applies to the credit under this subsection.

5 **SECTION 2.** 71.10 (4) (cg) of the statutes is created to read:

6 71.10(4) (cg) The heating equipment tax credit under s. 71.07 (6g).

7 **SECTION 3. Initial applicability.**

8 (1) This act first applies to taxable years beginning on January 1 of the year
9 in which this subsection takes effect, except that if this subsection takes effect after
10 July 31 this act first applies to taxable years beginning on January 1 of the year
11 following the year in which this subsection takes effect.

12 (END)

2007 BILL

1 AN ACT *to create* 13.48 (2) (L), 16.855 (10w) and (10x), 20.505 (1) (tw) and 66.0901
2 (10) of the statutes; **relating to** use of Wisconsin-grown wood products and
3 wood-burning energy systems in state buildings, structures, and facilities and
4 making an appropriation.

Analysis by the Legislative Reference Bureau

This bill directs the Department of Administration (DOA) to ensure that only Wisconsin-grown wood products are used in each state building, structure, or facility the construction or modification of which is supervised by DOA. To implement the requirement, the bill directs DOA, upon request, to certify growers of trees in this state as producers of Wisconsin-grown wood products. The bill authorizes DOA to prescribe and collect fees to finance the costs of the certification procedure.

The bill directs DOA to evaluate the cost and feasibility of using a wood-burning energy system as an energy source for each state building, structure, or facility the construction or modification of which is supervised by DOA. Under the bill, if DOA determines that use of a wood-burning energy system is an operationally and financially feasible means of producing energy for a building, structure, or facility, DOA must incorporate a wood-burning energy system into the design or recommend to the Building Commission that the commission approve incorporation of such a system into the design. If the Building Commission determines that using a wood-burning energy system as an energy source for a state building, structure, or facility is operationally and financially feasible, the bill directs the commission to approve incorporation of the system into the design.

BILL

Currently, there are no similar requirements.

The bill contains similar requirements for wood-burning energy systems for local governmental units (any city, village, town, county, or school district). Under the bill, the governing body of a local governmental unit must evaluate, and may be required to incorporate, a wood-burning energy system for a building, structure, or facility the construction or modification of which is subject to the approval of the governing body. The bill also requires a local governmental unit's governing body to ensure that only DOA-certified Wisconsin-grown wood products are used in each building, structure, or facility the construction of which is supervised by the governing body.

For further information see the *state and local* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

1 **SECTION 1.** 13.48 (2) (L) of the statutes is created to read:

2 13.48 (2) (L) If the building commission determines that a wood-burning
3 energy system is an operationally and financially feasible means of producing energy
4 for a building, structure, or facility the construction or modification of which is
5 subject to the approval of the commission, the commission shall approve
6 incorporation of the system into the design of the building, structure, or facility.

7 **SECTION 2.** 16.855 (10w) and (10x) of the statutes are created to read:

8 16.855(10w) The department shall evaluate the cost and feasibility of using
9 a wood-burning energy system as an energy source for each building, structure, or
10 facility the construction or modification of which is supervised by the department.
11 If the department determines that use of a wood-burning energy system is an
12 operationally and economically feasible means of producing energy for the building,
13 structure, or facility, the department shall incorporate a wood-burning energy
14 system into the design or recommend to the building commission that the
15 commission approve incorporation of such a system into the design.

BILL

1 **(10x)** The department shall ensure that only Wisconsin-grown wood products
2 are used in each building, structure, or facility the construction of which is
3 supervised by the department. The department shall, upon request, certify growers
4 of trees in this state as producers of Wisconsin-grown wood products for purposes of
5 this subsection. The department may prescribe and collect fees to finance the costs
6 of the certification procedure.

7 **SECTION 3.** 20.505 (1) (iw) of the statutes is created to read:

8 20.505 (1) (iw) *Wisconsin-grown wood product certification.* All moneys
9 received from growers of trees in this state for the purpose of financing the
10 certification of producers of Wisconsin-grown wood products under s. 16.855 (10x).

11 **SECTION 4.** 66.0901 (10) of the statutes is created to read:

12 66.0901 (10) **USE OF WOOD PRODUCTS, WOOD BURNING FOR ENERGY.** (a) In this
13 subsection, “local governmental unit” means any city, village, town, county, or school
14 district.

15 (b) If the governing body of a local governmental unit determines that a
16 wood-burning energy system is an operationally and financially feasible means of
17 producing energy for a building, structure, or facility the construction or
18 modification of which is subject to the approval of the governing body, the governing
19 body shall approve incorporation of the system into the design of the building,
20 structure, or facility.

21 (c) The governing body shall ensure that only Wisconsin-grown wood products,
22 as certified by the department of administration under s. 16.855 (10x), are used in
23 each building, structure or facility the construction of which is supervised by the
24 governing body.

25 **SECTION 9301. Initial applicability; Administration.**

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0275/ldn
JTK:wlj:pg

April 24, 2007

Senator Breske:

This draft implements item 13 of the instructions. Item 13B specifies "requirement to create district systems." If you still want the draft to incorporate something relating to this component, I will need to get an explanation of the intent before I can include the component in this draft.

Jeffery T. Kuesel
Managing Attorney
Phone: (608) 266-6778

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 78.005 (19), 78.01 (2) (g), 78.01 (2m) (h), 78.39 (8) and 78.40 (2)
2 (d) of the statutes; **relating to** motor vehicle fuel tax exemptions for gasoline
3 and diesel fuel used to harvest woody biomass and an alternate fuels tax
4 exemption for fuel produced from woody biomass and used in logging
5 operations.

Analysis by the Legislative Reference Bureau

This bill creates a motor vehicle fuel tax exemption for gasoline and diesel fuel that are sold to a master logger, as certified by the Wisconsin Professional Loggers Association, and used by the master logger in logging operations in this state that result in providing wood or woody biomass for fuel production. The bill also creates an alternate fuels tax exemption for alternate fuels that are produced from wood or woody biomass and used by a master logger in logging operations in this state that result in providing wood or woody biomass for fuel production. Under the bill, "woody biomass" means byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has at least a one-inch diameter.

Because this bill relates to an exemption from state or local taxes, it may be referred to the Joint Survey Committee on Tax Exemptions for a report to be printed as an appendix to the bill.

For further information see the *state* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

1 **SECTION 1.** 78.005 (19) of the statutes is created to read:

2 78.005 (19) “Woody biomass” means byproducts and waste generated by the
3 practice of cutting and harvesting timber and woody vegetation that has at least a
4 one-inch diameter.

5 **SECTION 2.** 78.01 (2) (g) of the statutes is created to read:

6 78.01 (2) (g) Gasoline sold to a master logger, as certified by the Wisconsin
7 Professional Loggers Association, and used by the master logger in logging
8 operations in this state that result in providing wood or woody biomass for fuel
9 production.

10 **SECTION 3.** 78.01 (2m) (h) of the statutes is created to read:

11 78.01 (2m) (h) It is sold to a master logger, as certified by the Wisconsin
12 Professional Loggers Association, and used by the master logger in logging
13 operations in this state that result in providing wood or woody biomass for fuel
14 production.

15 **SECTION 4.** 78.39 (8) of the statutes is created to read:

16 78.39 (8) “Woody biomass” means byproducts and waste generated by the
17 practice of cutting and harvesting timber and woody vegetation that has at least a
18 one-inch diameter.

19 **SECTION 5.** 78.40 (2) (d) of the statutes is created to read:

20 78.40 (2) (d) Alternate fuels produced from wood or woody biomass and used
21 by a master logger, as certified by the Wisconsin Professional Loggers Association,

1 in logging operations in this state that result in providing wood or woody biomass for
2 fuel production.

3 **SECTION 6. E ffective date.**

4 (1) This act takes effect on the first day of the 2nd month beginning after
5 publication.

6 (END)

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to amend* 25.50 (3) (b), 48.561 (3) (a) 3, 48.561 (3) (b), 79.015, 79.02 (2)
2 (b) and 79.02 (3) (a); and *to create* 20.835 (1) (fa), 79.005 (5), 79.01 (4m) and
3 79.059 of the statutes; **relating to** state aid payments for counties that
4 produce woody biomass, requiring the exercise of rule-making authority, and
5 making an appropriation.

Analysis by the Legislative Reference Bureau

Under this bill, beginning in 2008, each county will receive a state aid payment in an amount equal to 0.5 percent of the value of woody biomass produced in the county and used for commercial or industrial purposes in the previous year. Under the bill, "woody biomass" means byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has at least a one-inch diameter.

For further information see the *state and local* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

6 SECTION 1. 20.835 (1) (fa) of the statutes is created to read:

1 20.835(1) (fa) *Woody biomass production account*. A sum sufficient to make
2 the payments under s. 79.059.

3 **SECTION 2.** 25.50 (3) (b) of the statutes is amended to read:

4 25.50 (3) (b) On the dates specified and to the extent to which they are
5 available, subject to s. 16.53 (10), funds payable to local governments under ss. 79.03,
6 79.04, 79.05, 79.058, 79.059, 79.06, 79.08 and 79.10 shall be considered local funds
7 and, pursuant to the instructions of local officials, may be paid into the separate
8 accounts of all local governments established in the local government
9 pooled–investment fund and, pursuant to the instructions of local officials, to the
10 extent to which they are available, be disbursed or invested.

11 **SECTION 3.** 48.561 (3) (a) 3 of the statutes is amended to read:

12 48.561 (3) (a) 3 Through a deduction of \$20,101,300 from any state payment
13 due that county under s. 79.03, 79.04, 79.058, 79.059, 79.06, or 79.08 as provided in
14 par. (b).

15 **SECTION 4.** 48.561 (3) (b) of the statutes is amended to read:

16 48.561 (3) (b) The department of administration shall collect the amount
17 specified in par. (a) 3 from a county having a population of 500,000 or more by
18 deducting all or part of that amount from any state payment due that county under
19 s. 79.03, 79.04, 79.058, 79.059, 79.06, or 79.08. The department of administration
20 shall notify the department of revenue, by September 15 of each year, of the amount
21 to be deducted from the state payments due under s. 79.03, 79.04, 79.058, 79.059,
22 79.06, or 79.08. The department of administration shall credit all amounts collected
23 under this paragraph to the appropriation account under s. 20.435 (3) (kw) and shall
24 notify the county from which those amounts are collected of that collection. The
25 department may not expend any moneys from the appropriation account under s.

1 20.435 (3) (cx) for providing services to children and families under s. 48.48 (17) until
2 the amounts in the appropriation account under s. 20.435 (3) (kw) are exhausted.

3 **SECTION 5.** 79.005 (5) of the statutes is created to read:

4 79.005 (5) “Woody biomass” means byproducts and waste generated by the
5 practice of cutting and harvesting timber and woody vegetation that has at least a
6 one-inch diameter.

7 **SECTION 6.** 79.01 (4m) of the statutes is created to read:

8 79.01 (4m) There is established an account in the general fund entitled the
9 “Woody Biomass Production Account.” There shall be appropriated to that account
10 the amount specified in s. 79.059.

11 **SECTION 7.** 79.015 of the statutes is amended to read:

12 **79.015 Statement of estimated payments.** The department of revenue, on
13 or before September 15 of each year, shall provide to each municipality and county
14 a statement of estimated payments to be made in the next calendar year to the
15 municipality or county under ss. 79.03, 79.035, 79.04, 79.05, 79.058, 79.059, and
16 79.06

17 **SECTION 8.** 79.02 (2) (b) of the statutes is amended to read:

18 79.02(2) (b) Subject to ss. 59.605 (4) and 70.995 (14) (b), payments in July shall
19 equal 15% of the municipality’s or county’s estimated payments under ss. 79.03,
20 79.035, 79.04, 79.058, 79.059, and 79.06 and 100% of the municipality’s estimated
21 payments under s. 79.05.

22 **SECTION 9.** 79.02 (3) (a) of the statutes is amended to read:

23 79.02(3) (a) Subject to s. 59.605 (4), payments to each municipality and county
24 in November shall equal that municipality’s or county’s entitlement under ss. 79.03,

1 79.035, 79.04, 79.05, 79.058, 79.059, and 79.06 for the current year, minus the
2 amount distributed to the municipality or county in July.

3 **SECTION 10.** 79.059 of the statutes is created to read:

4 **79.059 C ounty woody biomass aid.** Beginning with the distributions in
5 2008, each county shall receive a payment from the woody biomass account equal to
6 0.5 percent of the value of woody biomass produced in the county and used for
7 commercial or industrial purposes for the year in which the statement under s.
8 79.015 is provided. The department of revenue shall promulgate rules to administer
9 this section.

10 (END)

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0309P ldn
JK:jld:rs

October 11, 2006

Representative Friske:

Please review this draft carefully to ensure that it is consistent with your intent. This bill is based on instructions from Bill Horvath. Please note that the state does not make any aid payments, as provided in the bill, until 2008 because the counties have already received their statements of estimated shared revenue payments for 2007.

Joseph T. Kreye
Legislative Attorney
Phone: (608) 266-2263
E-mail: joseph.kreye@legis.wisconsin.gov

2007 BILL

1 AN ACT *to create* 36.25 (47) of the statutes; **relating to** creating a sustainable
2 forestry and technology center in the University of Wisconsin System.

Analysis by the Legislative Reference Bureau

This bill requires the Board of Regents of the University of Wisconsin System (board) to establish in the extension a sustainable forestry and technology center. The bill defines “sustainable forestry” as the growing of trees for wood, fiber, and other purposes to supply the needs of society on a continuing basis for future generations. The center must conduct research on technology for the uses of wood and fiber, including woody biomass, in thermal energy production for homes and industry. “Woody biomass” is defined as byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has a diameter of at least one inch. In addition, the center must conduct research on all of the following: 1) the production of biofuels and biochemicals related to woody biomass; 2) short rotation woody vegetation, including poplar, willow, and other fast growing species, for the production of energy; and 3) thermal heating systems for homes and businesses that help to lead the state into energy independence. Also, in cooperation with the Department of Natural Resources, the center must conduct an outreach and education program.

For further information see the *state* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0383/2dn
MDK:kjf:wn

August 3, 2007

Sen. Breske:

This bill makes the changes requested by Bill Horvath in his email dated June 4, 2007.

Also, although not specified in the email, I assume the center should be established in the UW-Extension. Is that okay, or should it be established in a different part of the UWSystem (e.g., the UW-Madison)?

Mark D. Kunkel
Senior Legislative Attorney
Phone: (608) 266-0131
E-mail: mark.kunkel@legis.wisconsin.gov

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 16.28, 20.505 (1) (qr) and 20.505 (1) (qt) of the statutes;
2 relating to creating a wood-burning furnace loan program, granting
3 rule-making authority, and making appropriations.

Analysis by the Legislative Reference Bureau

This bill requires the Department of Administration (DOA) to promulgate rules establishing a program for making loans of no more than \$10,000 to owners of owner-occupied dwellings for purchasing and installing wood-burning furnaces at the dwellings. The loans may also be used for retrofitting existing wood-burning furnaces. "Wood-burning furnace" is defined under the bill as a furnace that burns wood, wood pellets, or woody biomass. "Woody biomass" is defined as byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has a diameter of at least one inch.

The bill prohibits DOA from making a loan unless the energy savings resulting during the ten-year period after installing or retrofitting a wood-burning furnace will be equal to or greater than the amount of the loan. The bill authorizes the issuance of bonds, the proceeds of which are used to fund the loans. The bill requires DOA to charge an interest rate on the loans that is sufficient to pay off the bonds and administer the loan program. The bill limits the total amount of bonds issued to [insert dollar amount].

For further information see the *state* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

1 **SECTION 1.** 16.28 of the statutes is created to read:

2 **16.28 Wood-burning furnace loans. (1) DEFINITIONS.** In this section:

3 (a) “Owner-occupied dwelling” means a dwelling in which the owner occupies
4 or will occupy any unit.

5 (b) “Wood-burning furnace” means a furnace that burns wood, wood pellets, or
6 woody biomass.

7 (c) “Woody biomass” means byproducts and waste generated by the practice of
8 cutting and harvesting timber and woody vegetation that has a diameter of at least
9 one inch.

10 **(2) LOANS.** The department shall promulgate rules establishing a program for
11 making loans from the appropriation under s. 20.505 (1) (qt) to owners of
12 owner-occupied dwellings to purchase and install wood-burning furnaces, or
13 retrofit existing furnaces as wood-burning furnaces, at the dwellings. The
14 department shall charge an interest rate for the loans that allows the department
15 to recover the amount necessary to make the loans, administer the program, and pay
16 interest and principal on the revenue obligations issued under sub. (3). The
17 department may not make a loan to an applicant under this subsection unless the
18 department determines that the energy savings resulting from the installed or
19 retrofitted furnace during the 10-year period beginning after the furnace is installed
20 or retrofitted will be equal to or greater than the amount of the loan. No loan made
21 under the program may exceed \$10,000.

1 **(3) REVENUE OBLIGATIONS.** (a) For purposes of subch. II of ch. 18, the loan
2 program established under sub. (2) is a revenue-producing enterprise or program
3 and using the net proceeds of revenue obligations issued under this subsection to
4 make loans is appropriate and will serve a public purpose.

5 (b) The net proceeds of revenue obligations issued under subch. II of ch. 18, as
6 authorized under this subsection, shall be deposited in a fund in the state treasury,
7 or an account maintained by a trustee, created under s. 18.57 (1). The moneys shall
8 be used to make loans under sub. (2) and any remainder shall be paid into a loan
9 program redemption fund created under s. 18.561 (5).

10 (c) The department shall have all powers necessary and convenient to
11 distribute the proceeds of the revenue obligations issued under this subsection in
12 accordance with subch. II of ch. 18.

13 (d) The department may enter into agreements with the federal government
14 or its agencies, political subdivisions of this state, individuals, or private entities to
15 insure, or in any other manner provide, additional security for the revenue
16 obligations issued under this subsection.

17 (e) The amount of revenue obligations issued under this subsection shall not
18 exceed [insert dollar amount].

19 (f) Unless otherwise expressly provided in resolutions authorizing the issuance
20 of revenue obligations under this subsection or in other agreements with the owners
21 of revenue obligations, each issue of revenue obligations under this subsection shall
22 be on a parity with every other revenue obligation issued under this subsection and
23 in accordance with subch. II of ch. 18.

24 (g) Recognizing its moral obligation to do so, the legislature expresses its
25 expectation and aspiration that, if moneys are insufficient to pay the principal of and

1 interest on the revenue obligations issued under subch. II of ch. 18 pursuant to this
2 subsection, the legislature shall make an appropriation from the general fund
3 sufficient to pay the principal and interest on the obligations or to replenish a reserve
4 fund, if applicable.

5 **SECTION 2.** 20.505 (1) (qr) of the statutes is created to read:

6 **20.505(1) (qr)** *Wood-burning furnace program; revenue obligation repayment.*
7 From a loan program redemption fund created under s. 18.561 (5), all moneys
8 received by the fund for the payment of principal and premium, if any, and interest
9 on revenue obligations issued under subch. II of ch. 18 as authorized under s. 16.28
10 (3). All moneys received by the fund are irrevocably appropriated in accordance with
11 subch. II of ch. 18 and further established in resolutions authorizing the issuance of
12 the revenue obligations under s. 16.28 (3) and setting forth the distribution of funds
13 to be received thereafter.

14 **SECTION 3.** 20.505 (1) (qt) of the statutes is created to read:

15 **20.505 (1) (qt)** *Wood-burning furnace program; loans.* As a continuing
16 appropriation, all proceeds from revenue obligations issued under s. 16.28 (3) and
17 deposited in the fund created under s. 18.57 (1), for the costs of issuing and managing
18 the obligations, providing related reserve funds, and making loans and
19 administering the loan program under s. 16.28 (2).

20

(END)

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0399P2dn
MDK:jld:rs

August 13, 2007

Sen. Breske:

As requested by Bill Horvath, this version of the bill is revised to refer to a 10-year "pay-off" period for loans, rather than a 20-year period.

Also note that this version is a preliminary draft because a maximum amount for the bond issuance must be inserted. After you provide me with the maximum, I will prepare a version that may be introduced.

Mark D. Kunkel
Senior Legislative Attorney
Phone: (608) 266-0131
E-mail: mark.kunkel@legis.wisconsin.gov

2007 BILL

1 AN ACT *to amend* 185.02 of the statutes; **relating to** organization of wood
2 cooperatives.

Analysis by the Legislative Reference Bureau

Under current law, a cooperative may be organized for any lawful purpose, except for banking or insurance. In general, a cooperative is a business owned by members who use services provided by the business. This bill specifies that any lawful purpose includes forest management or wood processing or marketing.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 185.02 of the statutes is amended to read:

4 **185.02 Purposes.** Cooperatives may be organized under this chapter for any
5 lawful purpose, including forest management or wood processing or marketing,
6 except banking and insurance, but subject to statutes relating to the organization of
7 specified kinds of corporations.

8 (END)

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0405/ldn
MDK:jld:rs

September 29, 2006

Sen. Breske:

This bill corresponds to item 20 of your woody biomass proposal.

Note that current law allows cooperatives to be organized for "any lawful purpose" (except banking or insurance). I understand that wood cooperatives have been formed under current law. Therefore, I don't think that it is necessary to specify that "any lawful purpose" includes forestry management or wood processing or marketing and you may want to consider whether this bill is necessary.

On the other hand, it is possible that I don't fully understand your intent on this issue. Please contact me if you want to discuss this issue further.

In addition, is my reference to forestry management or wood processing or marketing okay, or is there another way that you would prefer to refer to wood cooperatives?

Mark D. Kunkel
Senior Legislative Attorney
Phone: (608) 266-0131
E-mail: mark.kunkel@legis.wisconsin.gov

2007 BILL

1 AN ACT *to create* 36.25 (47) of the statutes; **relating to** establishing an
2 agriforestry education program at the University of Wisconsin-Madison.

Analysis by the Legislative Reference Bureau

This bill requires the Board of Regents of the University of Wisconsin System to establish in the College of Agricultural and Life Sciences at the University of Wisconsin-Madison an agriforestry education program that promotes the integration of agriculture and forestry.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 36.25 (47) of the statutes is created to read:

4 36.25(47) AGRIFORESTRY EDUCATION PROGRAM. The board shall establish in the
5 College of Agricultural and Life Sciences at the University of Wisconsin-Madison an
6 agriforestry education program that promotes the integration of agriculture and
7 forestry.

8 (END)

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0411/ldn
MDK:jld:rs

September 29, 2006

Sen. Breske:

This bill corresponds to item 24 of the woody biomass proposal. Please note the following:

1. The instructions refer to the UW College of Agriculture, which I assume is the College of Agricultural and Life Sciences at UW-Madison. Is that correct?
2. Do you want to increase the UWs appropriations to fund the education program?

Mark D. Kunkel
Senior Legislative Attorney
Phone: (608) 266-0131
E-mail: mark.kunkel@legis.wisconsin.gov

2007 BILL

1 AN ACT *to create* 36.25 (47) of the statutes; **relating to** establishing a forest
2 landowner education program in the University of Wisconsin-Extension.

Analysis by the Legislative Reference Bureau

This bill requires the Board of Regents of the University of Wisconsin System (board) to establish in the extension a program for educating forest landowners about forest management and the production of woody biomass. The bill defines “woody biomass” as byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has a diameter of at least one inch. The bill also requires the board to identify barriers to removing timber and other wood products from private lands and requires the educational program to educate forest landowners about the barriers.

For further information see the *state* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 36.25 (47) of the statutes is created to read:

4 36.25 (47) FOREST LANDOWNER EDUCATION. (a) In this subsection, “woody
5 biomass” means byproducts and waste generated by the practice of cutting and
6 harvesting timber and woody vegetation that has a diameter of at least one inch.

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-0420/ldn
MDK:kjf:rs

October 5, 2006

Sen. Breske:

This bill corresponds to item 30 of the woody biomass proposal. I assume that you want the Board of Regents to establish the educational program in the UW-Extension. Is that correct?

Mark D. Kunkel
Senior Legislative Attorney
Phone: (608) 266-0131
E-mail: mark.kunkel@legis.wisconsin.gov

2007 BILL

1 AN ACT *to create* 59.56 (17) of the statutes; ~~relating to~~ authorizing a county
2 to provide technical assistance and grant assistance to forest landowners.

Analysis by the Legislative Reference Bureau

This bill authorizes a county to provide a forest landowner with technical assistance and grant assistance to help the landowner in the production of woody biomass.

For further information see the *local* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 59.56 (17) of the statutes is created to read:

4 59.56(17) ASSISTANCE TO FOREST LANDOWNERS. The board may provide technical
5 assistance, and grant assistance, to forest landowners to help such landowners in the
6 production of woody biomass.

7 (END)

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 **AN ACT** *to renumber and amend* 83.001; *to amend* 83.015 (2) (b), 83.025 (2)
2 and 84.07 (1); and *to create* 83.001 (2), 83.045, 84.001 (3) and 84.067 of the
3 statutes; **relating to** the use of timber and woody biomass in connection with
4 activities related to state trunk highways and county trunk highways,
5 extending the time limit for emergency rule procedures, providing an
6 exemption from emergency rule procedures and from rule-making procedures,
7 and requiring the exercise of rule-making authority.

Analysis by the Legislative Reference Bureau

Under current law, the county board, acting through the county highway committee or highway commissioner, may construct, improve, or repair any highway or bridge in the county. Each county is also generally responsible for maintaining, including marking and signing, its county trunk highway system. However, marking and signing of county trunk highways must be uniform throughout the state, in a manner prescribed by the Department of Transportation (DOT) and in conformity with the Manual of Uniform Traffic Control Devices (MUTCD) adopted by DOT.

Under this bill, the county highway committee or highway commissioner must, in all highway improvements and maintenance activities requiring clearing timber and vegetation from the highway right-of-way, harvest or require the harvesting of

timber and woody biomass from the highway right-of-way, whenever feasible. The county highway committee or highway commissioner must establish procedures for determining when such harvesting is feasible. Any timber or woody biomass so harvested must be used, if reasonably practicable, for purposes related to the highway improvement or other highway improvements or county maintenance activities or must be disposed of in a manner allowing the beneficial use of the timber or woody biomass. The bill also requires each county to use, to the extent permitted under the MUTCD and any rule adopted by DOT related to uniformity of local highway signage and to the extent reasonably practicable, woody biomass for all guard rail posts, sign posts, and highway signage on the county trunk highway system. “Woody biomass” means byproducts and waste generated by the practice of cutting and harvesting timber and woody vegetation that has a diameter of at least one inch.

Under current law, DOT is generally responsible for improving and maintaining the state trunk highway system. Maintenance includes activities related to highway signage, which must be in conformity with the MUTCD.

Under this bill, DOT must, in all highway improvements and maintenance activities on the state trunk highway system that require clearing timber and vegetation from the highway right-of-way, harvest or require the harvesting of timber and woody biomass from the highway right-of-way, whenever feasible. DOT must promulgate rules for determining when such harvesting is feasible. Any timber or woody biomass so harvested must be used, if reasonably practicable, for purposes related to the highway improvement or other highway improvements or maintenance activities or must be disposed of in a manner allowing the beneficial use of the timber or woody biomass. This bill also requires DOT to ensure that, to the extent permitted under the MUTCD and to the extent reasonably practicable, woody biomass is used for all guard rail posts, sign posts, and highway signage on the state trunk highway system.

For further information see the *state and local* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

1 **SECTION 1.** 83001 of the statutes is renumbered 83001 (intro.) and amended
2 to read:

3 **83.001 Definition Definitions.** (intro.) In this chapter, “department”;

4 (1) “Department” means the department of transportation.

5 **SECTION 2.** 83001 (2) of the statutes is created to read:

1 83.001 (2) “Woody biomass” means byproducts and waste generated by the
2 practice of cutting and harvesting timber and woody vegetation that has a diameter
3 of at least one inch.

4 **SECTION 3.** 83.015 (2) (b) of the statutes is amended to read:

5 83.015(2) (b) In any county with a highway commissioner appointed under s.
6 83.01 (1) (b) or (c), the county highway committee shall be only a policy-making body
7 determining the broad outlines and principles governing administration and the
8 county highway commissioner shall have the administrative powers and duties
9 prescribed for the county highway committee under par. (a), sub. (3) (a) and ss.
10 27.065 (4) (b) and (13), 32.05 (1) (a), ~~82.08~~, 83.01 (6), 83.013, 83.018, 83.025 (1) and
11 (3), 83.026, 83.035, 83.04, 83.045, 83.05 (1), 83.07 to 83.09, 83.12, 83.14 (6), 83.17,
12 83.18, 83.42 (3) and (4), 84.01 (5), 84.06 (3), 84.07 (1) and (2), 84.09 (1), (3) (a) to (c)
13 and (4), 84.10 (1), 86.04 (1) and (2), 86.07 (2), 86.19 (3), 86.34 (1), 114.33 (5), 349.07
14 (2), 349.11 (4) and (10) and 349.15 (2). No statutory power, duty or function specified
15 elsewhere for the county highway commissioner may be deemed impliedly repealed
16 for the sole reason that reference to it has been omitted in this paragraph.

17 **SECTION 4.** 83.025 (2) of the statutes is amended to read:

18 83.025(2) The county trunk system shall be marked and maintained by the
19 county. No county shall be responsible for the construction and maintenance of a city
20 or village street on the county trunk highway system to a greater width than are
21 those portions of such system outside the village or city and connecting with such
22 street. When a portion of a county trunk highway extending from one county to
23 another has less mileage than is practical for a patrol section, such portion shall be
24 patrolled by the county in which the major portion of the highway lies, and each
25 county shall bear its proportionate share of the expense of maintenance, payable

1 monthly. The marking and signing of the county trunk highway systems shall be
2 uniform throughout the state, as prescribed by the department. Each county shall
3 use, to the extent permitted under ss. 84.02 (4) (e) and 349.065 and under any rule
4 of the department adopted under authority of this subsection and to the extent
5 reasonably practicable, woody biomass for all guard rail posts, sign posts, and
6 highway signage on the county trunk highway system.

7 SECTION 5. 83.045 of the statutes is created to read:

8 **83.045 Highway construction and maintenance by county; timber and**
9 **woody biomass. (1)** The county highway committee shall, in all highway
10 improvements and maintenance activities requiring clearing timber and vegetation
11 from the highway right-of-way, harvest or require the harvesting of timber and
12 woody biomass from the highway right-of-way, whenever feasible. The county
13 highway committee shall establish procedures for determining when harvesting
14 timber and woody biomass from the highway right-of-way is feasible, which shall
15 take into account market factors and conditions for timber and woody biomass in the
16 county at the time the highway right-of-way is cleared.

17 (2) Any timber or woody biomass harvested from the highway right-of-way as
18 provided under sub. (1) shall be used, if reasonably practicable, for purposes related
19 to the highway improvement or other highway improvements or county maintenance
20 activities, such as for guard rail posts or signage, or shall be disposed of in a manner
21 allowing the beneficial use of the timber or woody biomass for purposes unrelated to
22 highway improvements or maintenance activities.

23 SECTION 6. 84.001 (3) of the statutes is created to read:

1 84.001 (3) “Woody biomass” means byproducts and waste generated by the
2 practice of cutting and harvesting timber and woody vegetation that has a diameter
3 of at least one inch.

4 **SECTION 7.** 84.067 of the statutes is created to read:

5 **84.067 Highway construction and maintenance; timber and woody**
6 **biomass. (1)** In this section, “improvement” or “highway improvement” has the
7 meaning given in s. 84.06 (1).

8 (2) The department shall, in all highway improvements under s. 84.06 and
9 maintenance activities under s. 84.07 that require clearing timber and vegetation
10 from the highway right-of-way, harvest or require the harvesting of timber and
11 woody biomass from the highway right-of-way, whenever feasible.

12 (3) Any timber or woody biomass harvested from the highway right-of-way as
13 provided under sub. (2) shall be used, if reasonably practicable, for purposes related
14 to the highway improvement or other highway improvements or maintenance
15 activities, such as for guard rail posts or signage, or shall be disposed of in a manner
16 allowing the beneficial use of the timber or woody biomass for purposes unrelated to
17 highway improvements or maintenance activities.

18 (4) The department shall promulgate rules for determining when harvesting
19 timber and woody biomass from the highway right-of-way is feasible under sub. (2).
20 These rules shall take into account market factors and conditions for timber and
21 woody biomass in the area of the highway improvement or maintenance activity at
22 the time the highway right-of-way is cleared.

23 **SECTION 8.** 84.07 (1) of the statutes is amended to read:

24 **84.07(1)** STATE EXPENSE; WHEN DONE BY COUNTY OR MUNICIPALITY. The state trunk
25 highway system shall be maintained by the state at state expense. The department

1 shall prescribe by rule specifications for such maintenance and may contract with
2 any county highway committee or municipality to have all or certain parts of the
3 work of maintaining the state trunk highways within or beyond the limits of the
4 county or municipality, including interstate bridges, performed by the county or
5 municipality, and any county or municipality may enter into such contract. General
6 maintenance activities include the application of protective coatings, the removal
7 and control of snow, the removal, treatment and sanding of ice, interim repair of
8 highway surfaces and adjacent structures, and all other operations, activities and
9 processes required on a continuing basis for the preservation of the highways on the
10 state trunk system, and including the care and protection of trees and other roadside
11 vegetation and suitable planting to prevent soil erosion or to beautify highways
12 pursuant to s. 66.1037, and all measures deemed necessary to provide adequate
13 traffic service. Special maintenance activities include the restoration,
14 reinforcement, complete repair or other activities which the department deems are
15 necessary on an individual basis for specified portions of the state trunk system.
16 Maintenance activities also include the installation, replacement, rehabilitation, or
17 maintenance of highway signs, traffic control signals, highway lighting, pavement
18 markings, and intelligent transportation systems. The department may contract
19 with a private entity for services or materials or both associated with the installation,
20 replacement, rehabilitation, or maintenance of highway signs, traffic control signals,
21 highway lighting, pavement markings, and intelligent transportation systems. The
22 department shall ensure that, to the extent permitted under s. 84.02 (4) (e) and to
23 the extent reasonably practicable, woody biomass is used for all guard rail posts, sign
24 posts, and highway signage on the state trunk highway system.

25 **SECTION 91.48. Nonstatutory provisions; Transportation.**

1 (1) The department of transportation shall submit in proposed form the rules
2 required under section 84.067 (4) of the statutes, as created by this act, to the
3 legislative council staff under section 227.15 (1) of the statutes no later than the first
4 day of the 4th month beginning after the effective date of this subsection.

5 (2) Using the emergency rules procedure under section 227.24 of the statutes,
6 the department of transportation shall promulgate the rules required under section
7 84.067 (4) of the statutes, as created by this act, for the period before the effective date
8 of the rules submitted under subsection (1). The department shall promulgate these
9 emergency rules no later than the first day of the 4th month beginning after the
10 effective date of this subsection. Notwithstanding section 227.24 (1) (c) and (2) of the
11 statutes, these emergency rules may remain in effect until July 1, 2009, or the date
12 on which permanent rules take effect, whichever is sooner. Notwithstanding section
13 227.24 (1) (a) and (3) of the statutes, the department is not required to provide
14 evidence that promulgating a rule under this subsection as an emergency rule is
15 necessary for the preservation of the public peace, health, safety, or welfare and is
16 not required to provide a finding of emergency for a rule promulgated under this
17 subsection.

18 **SECTION 9348. Initial applicability; Transportation.**

19 (1) The treatment of sections 83.045 and 84.067 of the statutes first applies to
20 highway improvements commenced on, and highway maintenance activities
21 occurring on, the effective date of this subsection.

22 (2) The treatment of sections 83.025 (2) and 84.07 (1) of the statutes first applies
23 to highway signs erected on, and other highway maintenance activities occurring on,
24 the effective date of this subsection.

25 **SECTION 9448. Effective dates; Transportation.**

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 **AN ACT** *to renumber and amend* 84.11 (5m); *to amend* 84.11 (1r) and 84.11
2 (7m); and *to create* 20.395 (2) (ar), 84.11 (1) (c), 84.11 (5m) (a) 2 and 84.11 (10)
3 of the statutes; **relating to** the local bridge construction program
4 administered by the Department of Transportation and creating a local wood
5 bridge grant program, granting rule-making authority, requiring the exercise
6 of rule-making authority, and making an appropriation.

Analysis by the Legislative Reference Bureau

Under current law, the Department of Transportation (DOT) administers a program to fund local bridge construction and reconstruction projects. The state share of the cost of such projects is generally one-third, with the remainder being the local share of project costs. DOT must promulgate rules to implement the program and the rules must include criteria for selecting and evaluating projects that are eligible under the program. Construction and reconstruction of local bridges under the program is wholly under the supervision and control of DOT.

This bill requires DOT to use, to the maximum extent practicable, wood in the construction and reconstruction of local bridges under the program. The bill also requires DOT to modify its rules to encourage, to the maximum extent practicable, the use of wood in the construction and reconstruction of local bridges under the program. "Wood" means products generated by the practice of cutting and harvesting timber and other woody vegetation.

1 84.11(1r) RULES. The department shall promulgate rules to implement this
2 section. The rules shall include criteria for selecting and evaluating projects which
3 are eligible for construction under this section. These rules shall encourage, to the
4 maximum extent practicable, the use of wood in the construction of local bridges.

5 **SECTION 5.** 84.11 (5m) of the statutes is renumbered 84.11 (5m) (a) and
6 amended to read:

7 84.11(5m) (a) The state shall pay one-third of the cost of projects constructed
8 under sub. (1m), the county or counties in which the bridge project is located shall
9 pay one-third, and the one or more cities, villages, and towns in which any part of
10 the bridge project is located shall pay one-third, except that to if any of the following
11 apply:

12 1. To the extent discretionary federal aid for highways allocated to Wisconsin
13 is used to finance any portion of the cost of the project, the portion of the cost to be
14 borne by the state and any county, city, village, or town, respectively, shall be
15 proportionately reduced.

16 (b) The portion of the cost of the project constructed under sub. (1m) to be paid
17 by the counties shall be borne equally by the counties in which the bridge project is
18 located, except that no bridge project shall be considered as located within a county
19 unless an entrance to the bridge proper is wholly or partly within the limits of that
20 county. If a bridge project wholly within one county is located in more than one city,
21 village, or town, their respective portions of the cost shall be in proportion to their
22 respective assessed valuations as last equalized by the county board prior to the date
23 of the department's finding, determination, and order. If such cities, villages, or
24 towns are located in more than one county, the portion of the cost paid by all cities,
25 villages, and towns shall first be apportioned equally according to the number of

1 counties, and then to the cities, villages, and towns in each county in proportion to
2 their respective assessed valuations as provided in this subsection.

3 **SECTION 6.** ~~84.11 (5m)~~ (a) 2 of the statutes is created to read:

4 **84.11(5m)** (a) 2 For any project in which the bridge is constructed primarily
5 of wood, the state shall pay 80percent of the cost of the project, the county or counties
6 in which the bridge project is located shall pay 10percent, and the one or more cities,
7 villages, and towns in which any part of the bridge project is located shall pay 10
8 percent, except to the extent subd. 1. applies.

9 **SECTION 7.** ~~84.11 (7m)~~ of the statutes is amended to read:

10 **84.11 (7m)** EXECUTION AND CONTROL OF WORK. Subject to the control and
11 supervision over the navigable waters of the state conferred by law upon the
12 department of natural resources, and the control exercised by the United States, the
13 construction under this section of any bridge project shall be wholly under the
14 supervision and control of the department. The department shall use, to the
15 maximum extent practicable, wood in the construction under this section of bridge
16 projects. The secretary shall make and execute all contracts and have complete
17 supervision over all matters pertaining to such construction and shall have the
18 power to suspend or discontinue proceedings or construction relative to any bridge
19 project at any time in the event any county, city, village, or town fails to pay the
20 amount required of it as to any project under sub. (1m), or in the event the secretary
21 determines that sufficient funds to pay the state's part of the cost of the bridge project
22 are not available. All moneys provided by counties, cities, villages and towns shall
23 be deposited in the state treasury, when required by the secretary, and paid out on
24 order of the secretary. Any of such moneys deposited for a project eligible for
25 construction under sub. (1m) which remain in the state treasury after the completion

1 of the project shall be repaid to the respective counties, cities, villages, and towns in
2 such amounts as to result in the distribution provided in sub. (5m).

3 **SECTION 8.** 84 11 (10) of the statutes is created to read:

4 **84 11(10) LOCAL WOOD BRIDGE GRANT PROGRAM.** (a) In this subsection, “political
5 subdivision” means a county, city, village, or town.

6 (b) The department shall establish and administer a local wood bridge grant
7 program to award grants of assistance to political subdivisions to be used to pay the
8 political subdivision’s share of costs under sub. (5m) for projects under sub. (1m) in
9 which the bridge is constructed primarily of wood. The department shall award from
10 the appropriation under s. 20.395 (2) (ar) grants to political subdivisions under this
11 section. The department shall adopt rules to implement and administer this
12 program, including standards and criteria for awarding grants.

13 **SECTION 9. Initial applicability.**

14 (1) This renumbering and amendment of section 84 11 (5m) of the statutes, the
15 amendment of section 84 11 (7m) of the statutes, and the creation of section 84 11
16 (5m) (a) 2 of the statutes first apply to projects for which petitions are filed with the
17 department of transportation on the effective date of this subsection.

18 **SECTION 10. Effective date.**

19 (1) This act takes effect on the first day of the 4th month beginning after
20 publication.

21 (END)

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 **AN ACT** *to renumber and amend* 84.11 (5m); *to amend* 84.11 (1r) and 84.11
2 (7m); and *to create* 20.395 (2) (ar), 84.11 (1) (c), 84.11 (5m) (a) 2 and 84.11 (10)
3 of the statutes; **relating to** the local bridge construction program
4 administered by the Department of Transportation and creating a local wood
5 bridge grant program, granting rule-making authority, requiring the exercise
6 of rule-making authority, and making an appropriation.

Analysis by the Legislative Reference Bureau

Under current law, the Department of Transportation (DOT) administers a program to fund local bridge construction and reconstruction projects. The state share of the cost of such projects is generally one-third, with the remainder being the local share of project costs. DOT must promulgate rules to implement the program and the rules must include criteria for selecting and evaluating projects that are eligible under the program. Construction and reconstruction of local bridges under the program is wholly under the supervision and control of DOT.

This bill requires DOT to use, to the maximum extent practicable, wood in the construction and reconstruction of local bridges under the program. The bill also requires DOT to modify its rules to encourage, to the maximum extent practicable, the use of wood in the construction and reconstruction of local bridges under the program. "Wood" means products generated by the practice of cutting and harvesting timber and other woody vegetation.

1 84.11(1r) RULES. The department shall promulgate rules to implement this
2 section. The rules shall include criteria for selecting and evaluating projects which
3 are eligible for construction under this section. These rules shall encourage, to the
4 maximum extent practicable, the use of wood in the construction of local bridges.

5 **SECTION 5.** 84.11 (5m) of the statutes is renumbered 84.11 (5m) (a) and
6 amended to read:

7 84.11(5m) (a) The state shall pay one-third of the cost of projects constructed
8 under sub. (1m), the county or counties in which the bridge project is located shall
9 pay one-third, and the one or more cities, villages, and towns in which any part of
10 the bridge project is located shall pay one-third, except that to if any of the following
11 apply:

12 1. To the extent discretionary federal aid for highways allocated to Wisconsin
13 is used to finance any portion of the cost of the project, the portion of the cost to be
14 borne by the state and any county, city, village, or town, respectively, shall be
15 proportionately reduced.

16 (b) The portion of the cost of the project constructed under sub. (1m) to be paid
17 by the counties shall be borne equally by the counties in which the bridge project is
18 located, except that no bridge project shall be considered as located within a county
19 unless an entrance to the bridge proper is wholly or partly within the limits of that
20 county. If a bridge project wholly within one county is located in more than one city,
21 village, or town, their respective portions of the cost shall be in proportion to their
22 respective assessed valuations as last equalized by the county board prior to the date
23 of the department's finding, determination, and order. If such cities, villages, or
24 towns are located in more than one county, the portion of the cost paid by all cities,
25 villages, and towns shall first be apportioned equally according to the number of

1 counties, and then to the cities, villages, and towns in each county in proportion to
2 their respective assessed valuations as provided in this subsection.

3 **SECTION 6.** ~~84 11 (5m)~~ (a) 2 of the statutes is created to read:

4 **84 11(5m)** (a) 2 For any project in which the bridge is constructed primarily
5 of wood, the state shall pay ~~80~~percent of the cost of the project, the county or counties
6 in which the bridge project is located shall pay 10percent, and the one or more cities,
7 villages, and towns in which any part of the bridge project is located shall pay 10
8 percent, except to the extent subd. 1. applies.

9 **SECTION 7.** ~~84 11 (7m)~~ of the statutes is amended to read:

10 **84 11 (7m)** EXECUTION AND CONTROL OF WORK. Subject to the control and
11 supervision over the navigable waters of the state conferred by law upon the
12 department of natural resources, and the control exercised by the United States, the
13 construction under this section of any bridge project shall be wholly under the
14 supervision and control of the department. The department shall use, to the
15 maximum extent practicable, wood in the construction under this section of bridge
16 projects. The secretary shall make and execute all contracts and have complete
17 supervision over all matters pertaining to such construction and shall have the
18 power to suspend or discontinue proceedings or construction relative to any bridge
19 project at any time in the event any county, city, village, or town fails to pay the
20 amount required of it as to any project under sub. (1m), or in the event the secretary
21 determines that sufficient funds to pay the state's part of the cost of the bridge project
22 are not available. All moneys provided by counties, cities, villages and towns shall
23 be deposited in the state treasury, when required by the secretary, and paid out on
24 order of the secretary. Any of such moneys deposited for a project eligible for
25 construction under sub. (1m) which remain in the state treasury after the completion

1 of the project shall be repaid to the respective counties, cities, villages, and towns in
2 such amounts as to result in the distribution provided in sub. (5m).

3 **SECTION 8.** 84 11 (10) of the statutes is created to read:

4 **84 11(10) LOCAL WOOD BRIDGE GRANT PROGRAM.** (a) In this subsection, “political
5 subdivision” means a county, city, village, or town.

6 (b) The department shall establish and administer a local wood bridge grant
7 program to award grants of assistance to political subdivisions to be used to pay the
8 political subdivision’s share of costs under sub. (5m) for projects under sub. (1m) in
9 which the bridge is constructed primarily of wood. The department shall award from
10 the appropriation under s. 20.395 (2) (ar) grants to political subdivisions under this
11 section. The department shall adopt rules to implement and administer this
12 program, including standards and criteria for awarding grants.

13 **SECTION 9. Initial applicability.**

14 (1) This renumbering and amendment of section 84 11 (5m) of the statutes, the
15 amendment of section 84 11 (7m) of the statutes, and the creation of section 84 11
16 (5m) (a) 2 of the statutes first apply to projects for which petitions are filed with the
17 department of transportation on the effective date of this subsection.

18 **SECTION 10. Effective date.**

19 (1) This act takes effect on the first day of the 4th month beginning after
20 publication.

21 (END)

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to amend* 71.05 (6) (a) 15, 71.21 (4), 71.26 (2) (a), 71.34 (1) (g), 71.45 (2)
2 (a) 10. and 77.92 (4); and *to create* 71.07 (3x), 71.10 (4) (cn), 71.28 (3x), 71.30
3 (3) (db), 71.47 (3x) and 71.49 (1) (db) of the statutes; **relating to** an income and
4 franchise tax credit for woody biomass used to produce energy for consumers
5 in this state.

Analysis by the Legislative Reference Bureau

This bill creates an income and franchise tax credit for the amount a taxpayer pays on the purchase of woody biomass produced in this state that the taxpayer uses to produce thermal or electrical energy for sale to customers in this state. The bill defines "woody biomass" as by-products and waste generated by the practice of cutting and harvesting timber and woody vegetation that has at least a one-inch diameter.

For further information see the *state* fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

6 SECTION 1. 71.05 (6) (a) 15. of the statutes is amended to read:

1 71.05(6) (a) 15. The amount of the credits computed under s. 71.07 (2dd), (2de),
2 (2di), (2dj), (2dL), (2dm), (2dr), (2ds), (2dx), (3g), (3h), (3i), (3j), (3w), ~~(3x)~~, (5b), (5d),
3 and (5e), (5f), and (5h) and not passed through by a partnership, limited liability
4 company, or tax–option corporation that has added that amount to the partnership’s,
5 company’s, or tax–option corporation’s income under s. 71.21 (4) or 71.34 (1) (g).

6 **SECTION 2.** 71.07 (3x) of the statutes is created to read:

7 71.07(3x) WOODY BIOMASS ENERGY PRODUCTION CREDIT. (a) *Definitions.* In this
8 subsection:

9 1. “Claimant” means a person who files a claim under this subsection.

10 2. “Woody biomass” means by–products and waste generated by the practice
11 of cutting and harvesting timber and woody vegetation that has at least a one–inch
12 diameter.

13 (b) *Filing claims.* Subject to the limitations provided in this subsection, for
14 taxable years beginning after December 31, 2007, and before January 1, 2033, a
15 claimant may claim as a credit against the tax imposed under s. 71.02, up to the
16 amount of the tax, the amount that the claimant paid in the taxable year on the
17 purchase of woody biomass produced in this state that the claimant uses to produce
18 thermal or electrical energy for sale to customers in this state.

19 (c) *Limitations.* Partnerships, limited liability companies, and tax–option
20 corporations may not claim the credit under this subsection, but the eligibility for,
21 and the amount of, the credit are based on their payment of amounts under par. (b).
22 A partnership, limited liability company, or tax–option corporation shall compute
23 the amount of credit that each of its partners, members, or shareholders may claim
24 and shall provide that information to each of them. Partners, members of limited

1 liability companies, and shareholders of tax–option corporations may claim the
2 credit in proportion to their ownership interests.

3 (d) *Administration*. Section 71.28 (4) (e) to (h), as it applies to the credit under
4 s. 71.28 (4), applies to the credit under this subsection.

5 **SECTION 3.** 71.10 (4) (cn) of the statutes is created to read:

6 71.10(4) (cn) Woody biomass energy production credit under s. 71.07 (3x).

7 **SECTION 4.** 71.21 (4) of the statutes is amended to read:

8 71.21(4) Credits computed by a partnership under s. 71.07 (2dd), (2de), (2di),
9 (2dj), (2dL), (2dm), (2ds), (2dx), (3g), (3n), (3s), (3t), (3w), ~~(3x)~~, (5b), (5e), (5f), (5g), and
10 (5h) and passed through to partners shall be added to the partnership’s income.

11 **SECTION 5.** 71.26 (2) (a) of the statutes is amended to read:

12 71.26(2) (a) *Corporations in general*. The “net income” of a corporation means
13 the gross income as computed under the Internal Revenue Code as modified under
14 sub. (3) minus the amount of recapture under s. 71.28 (1di) plus the amount of credit
15 computed under s. 71.28 (1), (3), (4), and (5) minus, as provided under s. 71.28 (3) (c)
16 7., the amount of the credit under s. 71.28 (3) that the taxpayer added to income
17 under this paragraph at the time that the taxpayer first claimed the credit plus the
18 amount of the credit computed under s. 71.28 (1dd), (1de), (1di), (1dj), (1dL), (1dm),
19 (1ds), (1dx), (3g), (3n), (3t), (3w), ~~(3x)~~, (5b), (5e), (5f), (5g), and (5h) and not passed
20 through by a partnership, limited liability company, or tax–option corporation that
21 has added that amount to the partnership’s, limited liability company’s, or
22 tax–option corporation’s income under s. 71.21 (4) or 71.34 (1) (g) plus the amount
23 of losses from the sale or other disposition of assets the gain from which would be
24 wholly exempt income, as defined in sub. (3) (L), if the assets were sold or otherwise
25 disposed of at a gain and minus deductions, as computed under the Internal Revenue

1 Code as modified under sub. (3), plus or minus, as appropriate, an amount equal to
2 the difference between the federal basis and Wisconsin basis of any asset sold,
3 exchanged, abandoned, or otherwise disposed of in a taxable transaction during the
4 taxable year, except as provided in par. (b) and s. 71.45 (2) and (5).

5 SECTION 6. 71.28 (3x) of the statutes is created to read:

6 71.28(3x) WOODY BIOMASS ENERGY PRODUCTION CREDIT. (a) *Definitions*. In this
7 subsection:

8 1. “Claimant” means a person who files a claim under this subsection.

9 2. “Woody biomass” means by-products and waste generated by the practice
10 of cutting and harvesting timber and woody vegetation that has at least a one-inch
11 diameter.

12 (b) *Filing claims*. Subject to the limitations provided in this subsection, for
13 taxable years beginning after December 31, 2007, and before January 1, 2033, a
14 claimant may claim as a credit against the tax imposed under s. 71.23, up to the
15 amount of the tax, the amount that the claimant paid in the taxable year on the
16 purchase of woody biomass produced in this state that the claimant uses to produce
17 thermal or electrical energy for sale to customers in this state.

18 (c) *Limitations*. Partnerships, limited liability companies, and tax-option
19 corporations may not claim the credit under this subsection, but the eligibility for,
20 and the amount of, the credit are based on their payment of amounts under par. (b).
21 A partnership, limited liability company, or tax-option corporation shall compute
22 the amount of credit that each of its partners, members, or shareholders may claim
23 and shall provide that information to each of them. Partners, members of limited
24 liability companies, and shareholders of tax-option corporations may claim the
25 credit in proportion to their ownership interests.

1 (d) *Administration*. Subsection (4) (e) to (h), as it applies to the credit under
2 sub. (4), applies to the credit under this subsection.

3 **SECTION 7.** 71.30 (3) (db) of the statutes is created to read:

4 71.30(3) (db) Woody biomass energy production credit under s. 71.28 (3x).

5 **SECTION 8.** 71.34 (1) (g) of the statutes is amended to read:

6 71.34(1) (g) An addition shall be made for credits computed by a tax–option
7 corporation under s. 71.28 (1dd), (1de), (1di), (1dj), (1dL), (1dm), (1ds), (1dx), (3), (3g),
8 (3n), (3t), (3w), ~~(3x)~~, (5b), (5e), (5f), (5g), and (5h) and passed through to shareholders.

9 **SECTION 9.** 71.45 (2) (a) 10. of the statutes is amended to read:

10 71.45 (2) (a) 10. By adding to federal taxable income the amount of credit
11 computed under s. 71.47 (1dd) to (1dx), (3n), (3w), ~~(3x)~~, (5b), (5e), (5f), (5g), and (5h)
12 and not passed through by a partnership, limited liability company, or tax–option
13 corporation that has added that amount to the partnership’s, limited liability
14 company’s, or tax–option corporation’s income under s. 71.21 (4) or 71.34 (1) (g) and
15 the amount of credit computed under s. 71.47 (1), (3), (3t), (4), and (5).

16 **SECTION 10.** 71.47 (3x) of the statutes is created to read:

17 71.47(3x) WOODY BIOMASS ENERGY PRODUCTION CREDIT. (a) *Definitions*. In this
18 subsection:

19 1. “Claimant” means a person who files a claim under this subsection.

20 2. “Woody biomass” means by–products and waste generated by the practice
21 of cutting and harvesting timber and woody vegetation that has at least a one–inch
22 diameter.

23 (b) *Filing claims*. Subject to the limitations provided in this subsection, for
24 taxable years beginning after December 31, 2007, and before January 1, 2033, a
25 claimant may claim as a credit against the tax imposed under s. 71.43, up to the

1 amount of the tax, the amount that the claimant paid in the taxable year on the
2 purchase of woody biomass produced in this state that the claimant uses to produce
3 thermal or electrical energy for sale to customers in this state.

4 (c) *Limitations.* Partnerships, limited liability companies, and tax–option
5 corporations may not claim the credit under this subsection, but the eligibility for,
6 and the amount of, the credit are based on their payment of amounts under par. (b).
7 A partnership, limited liability company, or tax–option corporation shall compute
8 the amount of credit that each of its partners, members, or shareholders may claim
9 and shall provide that information to each of them. Partners, members of limited
10 liability companies, and shareholders of tax–option corporations may claim the
11 credit in proportion to their ownership interests.

12 (d) *Administration.* Section 71.28 (4) (e) to (h), as it applies to the credit under
13 s. 71.28 (4), applies to the credit under this subsection.

14 **SECTION 11.** 71.49 (1) (db) of the statutes is created to read:

15 71.49(1) (db) Woody biomass energy production credit under s. 71.47 (3x).

16 **SECTION 12.** 77.92 (4) of the statutes is amended to read:

17 77.92(4) “Net business income,” with respect to a partnership, means taxable
18 income as calculated under section 703 of the Internal Revenue Code; plus the items
19 of income and gain under section 702 of the Internal Revenue Code, including taxable
20 state and municipal bond interest and excluding nontaxable interest income or
21 dividend income from federal government obligations; minus the items of loss and
22 deduction under section 702 of the Internal Revenue Code, except items that are not
23 deductible under s. 71.21; plus guaranteed payments to partners under section 707
24 (c) of the Internal Revenue Code; plus the credits claimed under s. 71.07 (2d), (2de),
25 (2di), (2dj), (2dL), (2dm), (2dr), (2ds), (2dx), (3g), (3s), (3n), (3t), (3w), ~~(3x)~~, (5b), (5e),

1 (5f), (5g), and (5h); and plus or minus, as appropriate, transitional adjustments,
2 depreciation differences, and basis differences under s. 71.05 (13), (15), (16), (17), and
3 (19); but excluding income, gain, loss, and deductions from farming. “Net business
4 income,” with respect to a natural person, estate, or trust, means profit from a trade
5 or business for federal income tax purposes and includes net income derived as an
6 employee as defined in section 3121 (d) (3) of the Internal Revenue Code.

7 (END)

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 26.42 of the statutes; **relating to** certification of loggers and
2 requiring the exercise of rule-making authority.

Analysis by the Legislative Reference Bureau

This is a preliminary draft. An analysis will be provided in a later version.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 26.42 of the statutes is created to read:

4 **26.42 Certified loggers. (1)** No individual may be engaged in logging in a
5 county forest or on state-owned land without holding a certification issued under the
6 program established by the department under sub. (2).

7 **(2)** The department shall promulgate rules for a program under which an
8 individual may obtain certification as a logger by passing an examination or
9 successfully completing training that is developed or selected by the department.

10 SECTION 91.35. **Nonstatutory provisions; Natural Resources.**

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-1978P ldn
MGG:wlj:jf

April 19, 2007

It is necessary to have a delayed effective date for the prohibition under s. 26.42 (1) in order to give DNR adequate time to promulgate the rules to put the logger certification program in place. Please let me know if you want a different effective date or a different date in the nonstatutory provisions, but I assume it would take DNR about a year to implement the program.

Mary Gibson-Glass
Senior Legislative Attorney
Phone: (608) 267-3215

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 287.07 (1e) and 287.07 (7) (i) of the statutes; **relating to** the
2 disposal of wood and granting rule-making authority.

Analysis by the Legislative Reference Bureau

This is a preliminary draft. An analysis will be provided in a later version.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 287.07 (1e) of the statutes is created to read:
4 287.07(1 e) WOOD. Except as provided under sub. (7) (i), no person may dispose
5 of any of the following in a solid waste disposal facility:
6 (a) Uncontaminated wood resulting from the demolition of a structure.
7 (b) Wood resulting from storm damage to trees.
8 (c) Wood resulting from insect or disease damage to trees.
9 (d) Wood resulting from the removal by a municipality or county of woody
10 vegetation that has a diameter of at least one inch.

**DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU**

LRB-1979P ldn
RCT:kjf:rs

March 28, 2007

This is a preliminary draft of item number 17 of the woody biomass package, relating to the disposal of wood.

Note that current law (s. 287.07 (2), stats.) generally prohibits the landfilling of yard waste. Yard waste is defined in s. 287.01 (17), stats.

Please review the draft carefully. Let me know if any changes are wanted or if there are any questions about the draft. If no changes are wanted, I will add an analysis and produce an introducible version.

Rebecca C. Tradewell
Managing Attorney
Phone: (608) 266-7290
E-mail: becky.tradewell@legis.wisconsin.gov

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 20.144 (1) (c) of the statutes; **relating to** requiring the
2 Department of Financial Institutions to conduct a study and prepare a report
3 relating to establishing a timber products commodity exchange in this state and
4 making an appropriation.

Analysis by the Legislative Reference Bureau

This bill requires the Department of Financial Institutions, after consultation with the Department of Natural Resources and the Department of Agriculture, Trade and Consumer Protection, to conduct a feasibility study and prepare a report relating to establishing a timber products commodity exchange in this state. The report must be submitted to the governor and the legislature by June 30, 2009.

For further information see the **state** fiscal estimate, which will be printed as an appendix to this bill.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

5 SECTION 1. 20.005 (3) (schedule) of the statutes: at the appropriate place, insert
6 the following amounts for the purposes indicated:

1 (a) The anticipated participants in the exchange, including suppliers,
2 purchasers, brokers, exchange members, clearing and settlement agencies, and
3 regulatory authorities.

4 (b) The primary functions of the exchange.

5 (c) The structure and organization of the exchange, including whether the
6 exchange should be a public or private entity; whether the exchange should be a
7 for–profit venture or a not–for–profit venture if a private entity; and what form the
8 exchange should take if it is a public entity or quasi–public entity.

9 (d) The structural mechanisms of the exchange, including whether the
10 exchange would be an entirely automated electronic system or should have a trading
11 floor and, if automated, whether it should be an automated matching system or allow
12 a series of bid and ask interactions; what types of trading transactions should be
13 available through the exchange, including whether immediate commodity sales,
14 futures contracts, and options on futures contracts should be available; transaction
15 clearing and settlement procedures and accounting standards; the fee structure for
16 exchange transactions or exchange membership or both, the effect of this fee
17 structure on commodity pricing, and the projected revenues from these fees; whether
18 the exchange should establish commodity standards; and whether buyers and sellers
19 in exchange transactions should be required to be prequalified or certified.

20 (e) The regulatory systems for the exchange, including federal, state, and
21 self–regulatory organization governance and enforcement; which state agencies
22 should have regulatory duties and their respective roles; and whether there should
23 be state registration and supervision requirements, competency requirements, and
24 conflict of interest standards for brokers.

1 (f) Financing options and sources for the exchange, including public and
2 private financing options and funding sources.

3 (g) The availability of any financial institution to act as a clearing agency for
4 the exchange; the potential role of the state in securing any financial commitment
5 of a private clearing agency, including potential options such as governmental loan
6 guarantees and issuance of revenue bonds; and the potential for the creation of a
7 governmental or quasi–governmental clearing agency.

8 (h) The projected trading volume and liquidity on the exchange and the
9 projected effect these factors will have on commodity pricing on the exchange.

10 (i) The projected start up costs for the exchange, ongoing operational expenses
11 of the exchange, ongoing revenues of the exchange, and long–term feasibility of the
12 exchange.

13 (j) The risks and projected costs, if any, associated with any state role in
14 securing any financial commitment of a private clearing agency.

15 (k) The anticipated benefits of the exchange to the state’s economy, quantified
16 to the extent possible.

17 (L) Whether the exchange may be, or is required to be, established under 7USC
18 1.

19 (m) The potential for, and feasibility of, utilizing the Chicago mercantile
20 exchange, Chicago board of trade, or another existing commodities trading venue in
21 lieu of establishing an exchange in this state.

22 (3) The department of financial institutions shall submit the report required
23 under subsection (2) to the governor and to the legislature in the manner provided
24 under section 13.172 (2) of the statutes no later than June 30, 2009.

25 (END)

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to create* 20.143 (1) (bs) and 560.134 of the statutes; **relating to** grants
 2 and loans to encourage woody biomass production and use and making an
 3 appropriation.

Analysis by the Legislative Reference Bureau

This is a preliminary draft. An analysis will be provided in a later version.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

4 SECTION 1. 20.005 (3) (schedule) of the statutes: at the appropriate place, insert
 5 the following amounts for the purposes indicated:

	2007-08	2008-09
7 20.143 Commerce, department of		
8 (1) ECONOMIC AND COMMUNITY DEVELOPMENT		
9 (bs) Woody biomass grants and loans GPR B	-0-	-0-

10 SECTION 2. 20.143 (1) (bs) of the statutes is created to read:

DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU

LRB-2065P ldn
CTS:wlj:sh

March 13, 2007

Senator Breske:

This is a preliminary draft. Please review it carefully to ensure it is consistent with your intent and note the following:

1. This draft corresponds to items 15A, 15J, and the business loan program referenced in item 22 in the drafting instructions.

2. For this draft, I have included an appropriation but have specified "\$-0-" for expenditure in fiscal years 2007-08 and 2008-09. Please contact me when you know the dollar amounts for the appropriations. Also note that under s. 16.47 (2), neither house may pass a bill increasing the cost of state government by more than \$10,000 until both houses pass the budget bill, except for certain emergency appropriation bills. Also, if the bill is passed prior to the budget, the appropriation in the bill will be repealed by the budget, which repeals and recreates the appropriations schedule. Therefore, you may also want to consider having this bill drafted as a budget amendment.

Christopher T. Sundberg
Legislative Attorney
Phone: (608) 266-9739
E-mail:
christopher.sundberg@legis.wisconsin.gov

PRELIMINARY DRAFT - NOT READY FOR INTRODUCTION

1 AN ACT *to amend* 285.78 (2) (a), 285.78 (2) (c) and 285.78 (2) (d) of the statutes;
2 relating to registration of carbon sequestration.

Analysis by the Legislative Reference Bureau

This is a preliminary draft. An analysis will be provided in a later version.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

3 SECTION 1. 285.78 (2) (a) of the statutes is amended to read:
4 285.78 (2) (a) The department shall establish and operate a system under
5 which the department registers reductions in emissions of greenhouse gases if the
6 reductions are made before the reductions are required by law. Under the system,
7 the department ~~may~~ shall register carbon sequestration from the creation or
8 preservation of carbon reserves, including from planting trees, and may register
9 avoided emissions resulting from energy efficiency measures and from the use of
10 renewable energy sources. Under the system, the department may not register a

1 reduction in emissions of greenhouse gases if the reduction was made before
2 January 1, 1991.

3 **SECTION 2.** 285.78 (2) (c) of the statutes is amended to read:

4 285.78 (2) (c) The department may verify and quantify, or require the
5 verification and quantification of, emission reductions or carbon sequestration that
6 a person seeks to register under par. (a) or (b).

7 **SECTION 3.** 285.78 (2) (d) of the statutes is amended to read:

8 285.78 (2) (d) Registration of emission reductions and carbon sequestration
9 under this section is voluntary.

10 (END)

DRAFTER'S NOTE
FROM THE
LEGISLATIVE REFERENCE BUREAU

LRB-2102P ldn
RCT:jld:rs

April 10, 2007

This draft is part of the woody biomass package. It relates to carbon sequestration.

So far, no statutes or rules have been enacted that directly impose on utilities, or any other sources in Wisconsin, requirements to reduce greenhouse gas emissions, so it is not possible to allow utilities to purchase credits from carbon sequestration in order to satisfy that kind of requirement. However, there is a statute requiring the Department of Natural Resources (DNR) to maintain a registry of voluntary reductions of greenhouse gas emissions, in anticipation of future requirements. The statute allows, but does not require, DNR to also register carbon sequestration.

DNR's current rules for the registry do include carbon sequestration. See chapter NR 437 of the Wisconsin Administrative Code. The rules specify that a person cannot register unless the amount of carbon sequestered is greater than the equivalent of 25 tons of carbon dioxide in any given year. I do not know how large a project would have to be to sequester that much carbon. There is information about DNR's registry on the DNR Web site:

<http://dnr.wi.gov/org/aw/air/registry/index.html>

This draft modifies the current statute to require DNR to register carbon sequestration, including from planting trees, but you may decide that it is unnecessary to make the statutory changes in this draft because of the current DNR rules.

Please contact me with any questions or requests for changes in the draft.

Rebecca C. Tradewell
Managing Attorney
Phone: (608) 266-7290
E-mail: becky.tradewell@legis.wisconsin.gov

Appendix E

A State Wood Bridge Program; Guard Rail and Highway Signage

The Task Force in its discussions added a wood bridge program to its list of components. Discussion with the private sector contracting with the State DOT and or county and townships discovered nearly 1000 wood bridges constructed in agreement between the state and county/township. These are generally rural bridges with spans of 25 feet or less and are timber bridges constructed from wood grown out of state. County and town government like a wood bridge program because of the cost saving. Since it takes imported energy in the form of concrete and steel to produce a bridge this provides an opportunity to use a Wisconsin resource and reduce this importation of energy.

The Forest Service for several years had a demonstration program with states to design and develop a wood bridge program. Both Massachusetts and Pennsylvania ran wood bridge programs for several years but were generally unsuccessful due to the lack of state DOT support.

Wood bridges particularly in short spans (25-35 feet), are generally cheaper than concrete and steel. They are aesthetically pleasing and easy to construct averaging about \$25,000 each. Industry reps stated that the engineering costs for concrete and steel often exceed the total cost of constructing a wood bridge. They also can last at least as long as concrete and steel since they are not subject to corrosion from salt.

Generally these have been constructed with beams taken from wood grown in western states although more expensive and longer bridges have been built out of laminated wood.

The Task Force in its discussion found most wood grown in Wisconsin does not have the necessary engineering quality for a bridge program utilizing timbers. However, the USDA Forest Service Forest Products Laboratory and USDA Forest Service Wood In Transportation Demonstration Program used FPL technology for wood lamination to overcome this limitation and increase the span length suitable for wood bridges. The private sector says oak has the greatest potential for usage.

The Task Force also included in its original list of components a requirement that to the extent possible wood be used in highway signposts, guardrail posts and highway signage. This would impact both DOT and county government. This was discussed in context in creating another use (demand) for Wisconsin grown wood. Some steel and concrete bridges have rails constructed from wood.

There are many federal requirements for safety and uniformity that would be required. However, in guard rail construction and sign posts a mix of steel and wood is already utilized.

LRB Drafts 1973 and 1974 were drafted at the request of the Task Force to cover this requirement. It was deleted from the final list of components since it was not specifically woody biomass related except in signage. The USDA Forest Service Forest Products Laboratory has

developed wood composite technology for wood signs and wood lamination that may be applicable in more rural settings that needs to be explored further.

It is recommended that this potential be further explored with DOT, USDA Forest Service Forest Products Laboratory, county government and township government officials.

Appendix F

Technical College Education in Logging, Maintenance of Wood – Fuel Heating Systems and Monitoring Emissions of Air Contaminants.

The Task Force spent time with DNR experts on emissions resulting from burning wood and discussion on the subject of utilizing our technical colleges to achieve certain goals such as maintaining wood-fuel heating systems and on logger education.

A considerable start has been made on logger training through legislation passed in the 2005-07 budget cycle.

The Task Force reviewed how curriculum and subject matter surfaces in our technical colleges. It usually surfaces by identified needs and not through mandated legislation. As a result the Task Force dropped the component directing state technical colleges to offer training in the above subject.

The Task Force, however, did not dismiss the need for training and LRB Draft 0160 addresses that issue. More open dialog is needed on the role of technical colleges in woody biomass production and utilization.

Appendix G

Public Utility Thermal Energy Capture

The Task Force in the deliberation discussed the capture of thermal energy as a result of energy production. Presently much of this is exhausted as steam. It was felt that this ought to be captured as part of our energy plan and may have more significance as we move into biofuels production.

Construction for this purpose is expensive for any supplier and for capitalization purposes must have a defined long-term user as may be possible in a district system in a community.

The concept of what is needed from the utility perspective is attached:

Proposed Cogeneration Legislation

Eligibility:

1. New electrical generation facilities that have a biomass fuel component to the project. A “yet-to-be-determined” minimum utility biomass fuel usage measured as a percentage of total heat input to the utility’s boiler may apply. In the case where a steam host’s biomass residues are used as a primary energy source in the utilities electrical generation assets at the project, the utility and host must agree to contractual terms guaranteeing biomass residue availability and price over the 10-year contractual period.

or

2. Any utility cogeneration facility producing steam for a host acting as a biorefiner or biofuel producer. A minimum steam usage for biofuel or biochemical production measured as a percentage of the utility boiler heat release may apply¹.

and

3. Projects, such that the capital and variable present-value costs “at risk” do not exceed a “yet-to-be-determined” percentage of the total capital cost of the utility least cost, non-cogeneration project.

Concept & Methodology:

1. State of Wisconsin would bear contractual risk of long-term steam contracts during years 11 through 20 as an economic development / bioeconomy development vehicle.

¹ In this case, the biomass component may be primarily a feedstock for producing liquid fuels or specialty chemicals by the steam host. It may then be inappropriate to apply a minimum biomass usage standard to the utility cogeneration system. In biorefining, it is possible that residues may be utilized exclusively to produce synthesis gas by the steam host; therefore, no residual biomass may be available to the utility since it is utilized for higher margin specialty fuels & chemical product by the steam host. However, the intent of utilizing biomass for energy is still achieved – it is simply accomplished by the steam host rather than the utility. What is more, it is accomplished with greater economic efficiency given the biomass source was used for higher margin liquid fuels and chemicals, which should be the ultimate goal in biorefining.

2. The concept can apply to both a single steam host to a utility generation project (traditional cogeneration) or multiple steam hosts (centralized heat & power station). Both of which are henceforth referred to generically as “cogeneration”.
3. Cogeneration project must prove to be a reasonable, cost-alternative to utility ratepayers in consideration of all facets of the agreement, e.g. in consideration of steam revenues, net of any efficiency affects and resultant fuel costs, etc.
4. Risks to the state of Wisconsin would be determined – in advance – as follows:
 - a. The steam host would be required to enter into a 10-year steam purchase contract, giving the utility an exclusivity agreement for 20 years, in effect, obligating the host to purchase steam from the utility’s cogeneration facility for that 20-year period *if the host is a viable business entity utilizing steam in its operations*. The utility and steam host will work out terms and conditions including all performance and warranty guarantees for the first 10-year period – fully transferable to a second 10-year rollover. This implies that the first 10-year contract must stand on its own merits as an agreement of financial benefit to both parties, both of which must prove to be creditworthy entities capable of securing their guarantees for that first 10-year period.
 - b. A disclosed, fixed portion of the steam cost would reflect that portion of revenue recovery attributable to cogeneration-driven capital “at risk” if the steam host (or hosts) become a nonviable business entity (or entities) during years 11 through 20. This “at risk” revenue will relate *only* to that amount of capital that causes a cogeneration project to exceed the utility least cost, non-cogeneration alternative.
 - c. A disclosed variable portion not part of the steam cost chargeable to the host shall also be disclosed. This portion shall reflect the increased variable costs borne by the utility and its ratepayers if the steam host becomes a nonviable business entity during years 11 through 20. Such an example would be increased costs to condense steam previously utilized by the steam host and any decreased steam turbine efficiency (resulting in higher fuel usage) directly attributable to de-rating of a system originally optimized for the steam hosts’ processes.
 - d. The combination of (b) and (c) above is the total risk borne by the state of Wisconsin in the years 11 through 20.

WORKING EXAMPLE
COGENERATION LEGISLATION
(Numbers are for illustrative purposes only)

- A utility determines it has a 250 MW (250,000 KW) need in 2010. The least cost project as determined by the utility, and in accordance with PSCW regulation, is a ½ share of a 500 MW supercritical, pulverized coal unit, available in 2010 (i.e. 250 MW). The installed cost of the unit is \$1800/KW, and the levelized busbar cost of the electricity from the unit in consideration of all capital, fixed and variable costs at the utility allowable return is determined to be \$52/MWh (expressed in 2010 dollars) over a 40-year period. The unit has an expected 95% capacity factor resulting in an annual generation of 2,080,500 Mhs per year for the utility ½ share. This results in a \$108.2 million annual revenue requirement.
- The utility also has a cogeneration option available with a timber product industry facing decommissioning of their existing stoker boilers. The utility determines that a cogeneration project utilizing a 250 MW circulating fluidized bed (CFB) boiler capable of co-firing up to 20% of the facilities biomass residues (made available through stoker boiler decommissioning) is the best cogeneration configuration. The timber using industry in question faces significant capital outlays for a new boiler and associated air pollution control technologies to comply with industrial MACT standards and has some natural gas capacity cycling on the margin. As a result, a steam off-take contract is an option that may be attractive to the timber-using industry.

The utility determines that CFB Boiler and associated infrastructure to supply steam to the industrial steam host in question results in a \$2300/KW of installed capacity – i.e. \$500/KW greater than its non-cogeneration least cost option. This results in an additional \$128 million dollar, present value capital revenue requirement (recovered over 20-years) above its non-cogeneration least cost option.

Recovering that amount of capital over a 20-year period, the utility would be required to recover \$14.0 million dollars per year as a fixed component of the steam sales to create “rate payer neutrality” with respect to its non-cogeneration least cost alternative.

The utility also determines that cycle efficiency degradation from *potential* loss of the steam host translates into an approximate \$3/MWh or \$6.2 million dollars per year.

- Assume the steam hosts thermal needs are 790 KPH or approximately 8,507,940 MMBtu/yr.
 - The steam host must be charged a fixed, \$14.0 million per year or \$1.65/MMBtu – either imbedded into their steam purchase or as a separate charge. This represents the “at risk” revenue for which the state will guarantee in years 11 through 20.

- If the steam host becomes a non-financially viable entity in the years 11 through 20, the state will also be responsible for an additional \$6.2 million dollars per year until year 20, representing the “at risk” variable cost increases resulting from loss of the steam host.
- Using a 9% discount rate, the maximum, present value risk to the state is \$54.8 million dollars, which is the present value of the \$14.0 and \$6.2 million charges incurred annually from year 11 to 20 (assuming the steam host discontinues operation sometime before year 11, and another host is not found). This represents a total ‘at risk’ number equaling 12.2% of the total capital cost of utility least cost, non-cogeneration option.
- This equates to an approximate \$9/MWh additional charge that would fall directly on the utility ratepayer (17% increase in busbar cost from project) in years 11 to 20, *if the steam host ceased to be a viable entity*.

Summary

The concept of the legislation is to help promote cogeneration/bioenergy/bioeconomy projects as an economic development vehicle for the state as a whole. As such, the proposed legislation would act to spread the risk of cogeneration projects across those benefiting directly, namely state taxpayers.

Appendix H

The Establishment of a Wisconsin Timber Products Commodity Exchange

Mechanisms to Increase the Market Efficiency of the
Timber and Woody Biomass Commodity Supply-Chain in
Wisconsin

Prepared by:

Rob Benninghoff
Director, Renewable & Special Projects
Wisconsin Public Service Corporation

Presented to:

Woody Biomass Task Force

Supporting the

Wisconsin Governor's Council on Forestry

February 22, 2005

Executive Summary

This paper explores the concept of establishing a Wisconsin Timber Products Commodity Exchange (TPCE) as a means to increase the efficiency of the supply chain within the Wisconsin's timber product industry. The establishment of such an institution would serve to increase supplies of wood and wood-related products to industry. The concept of a TPCE presented herein should be explored as a partial alternative to pure taxpayer subsidization solutions to support industry, especially if those industries are operating inefficiently due to trade-related barriers.

Potential benefits of a Wisconsin TPCE transcend the timber products industry. An exchange can also be leveraged for the potential future trade of closed-loop energy crops. As an approach to offset CO₂ emissions, such crops could emerge both in the forested regions of the state utilizing fast-growing willow and poplar species as well as in the agriculture regions of Wisconsin utilizing perennial grasses such as switchgrass.

Securing the future of the agricultural and timber products industries should be a preeminent concern of Wisconsin. The loss of the agricultural and timber products industries in Wisconsin has far reaching implications beyond the obvious economic and social impacts of losing the two industries that arguably define the state's very identity. One step towards ensuring their future vitality is to ensure the most efficient, effective market possible in which to conduct business and trade. Loss of a market-based, product-driven industry to compel large scale, professionally managed silviculture results in two equally unattractive futures for Wisconsin: the complete cessation or significant scaling down of professional and sustained forest management or at a minimum the need for massive state and federal taxpayer subsidization to sustain the current level of management.

Timber is a commodity and most commodities are bought and sold in exchanges thereby taking advantage of market mechanisms to help increase liquidity and hedge pricing risks. The lack of an exchange for timber and timber byproducts is a primary cause of the illiquidity of the timber supply products markets in Wisconsin and contributes to long-term uncertainty, leaving no effective way to manage price risks associated with these products. A commodity exchange can increase procurement efficiency through aggregation, aid in price discovery, provide contractual instruments under which supply-side capital investments can be justified and provide vehicles through which long-term price risk may be hedged.

The lack of the most basic elements on which all formal commodity exchange systems are based acts to deter new market entrants. New business ventures requiring timber products are unable to assess capital investment and operational risks at any reasonable level of certainty. As a result, potential new market players who bring with them innovation and capital investments look to other markets and industries in which to invest.

A lack of contractual agreements between timber-product commodity buyers and sellers is another cause of inefficiency in the Wisconsin markets. The employment of a financial clearinghouse that guarantees performance of both parties can help to dissolve barriers to making Wisconsin timber product trade more efficient. The use of clearing house is critical and one area where state government intervention may be necessary.

Anecdotal data indicates that sufficient volume of timber and timber-related commodities are handled each year within Wisconsin to suggest a TPCE can become financially self-sustaining. The question of volume is critical as is the question of industry stakeholder interest and ultimate participation. Within the Forestry Council and its participants representing all facets of industry in Wisconsin rests the best opportunity to align the necessary pieces for the successful establishment of a TPCE.

The next step in evaluating the concept of the institution of a TPCE is to open dialogue within the Woody Biomass Task Force of the Governor's Council on Forestry. If the Task Force finds that the TPCE concept warrants further consideration and study, two possible courses of action might be followed:

1. Pursue further study under the direction of the Woody Biomass Task Force utilizing academia and private resources

Or

2. Recommend to the Governor's Council on Forestry that further study should be pursued under the direction of some other authority

If a more protracted study proves that a Wisconsin TPCE is a potentially fertile business venture and value-added intermediary in the market, sources of funding, both public and private, should be sought. At this same time Wisconsin state government agency involvement in institutional regulation would begin to take form.

Purpose

This paper focuses on detailing potential benefits and value propositions resulting from the institution of a Timber Product Commodity Exchange (TPCE) within the state of Wisconsin. The underlying premise of this paper is that significant potential exists to increase the efficiency of the supply chain within the forest products and future biomass-to-energy agricultural markets in Wisconsin.

This paper explores the concept of a TPCE, its primary functions and how such an institution can bring value to Wisconsin's timber and timber products industry as an alternative to pure taxpayer subsidization models. This paper explores one way in which state government and private industry collaboration could progress towards reaching the goal of increasing the efficiency of supplying existing and future timber products industries in the Wisconsin market.

Background

The Woody Biomass Task Force of the Governor's Forestry Council chaired by Bill Horvath has developed an action plan consisting of eight tasks to address a full range of issues related to the study and use of woody biomass. The recommended outcome of the Task Force is to provide public policy and a legislative framework to more effectively use woody biomass to meet Wisconsin's fuel and energy demands¹.

Wisconsin Public Service Corporation (WPSC) was invited to take part in the Woody Biomass Task Force and provide support in the area of energy-related issues. Rob Benninghoff, WPSC Director of Renewable & Special Projects, was assigned to work with the Task Force to provide the necessary support as requested by the Task Force Chair, Mr. Horvath.

Of the eight tasks outlined by the Task Force, two relate specifically to the use of woody biomass for energy production:

- "Review wood biomass use for fuel and energy in the state by public and private sectors to ascertain obstacles in its use."
- "Explore feasibility for development of small power plants in Northern Wisconsin."

¹ Horvath, Bill. *Wisconsin Council on Forestry, Task Group Summary Report*, March 3, 2004.

In pursuit of addressing these two tasks, WPSC made a presentation to the Task Force that addressed what are considered to be the primary challenges a public utility faces in increasing the use of biomass as a source of primary energy. The presentation also offered reasons and supporting information as to why the Wisconsin timber product industry and residential sectors might possess the most cost-effective opportunity for an increase in the use of biomass fuels. Although various topics were addressed, several conclusions were drawn which impact all sectors that rely on forest products:

- The majority of biomass uses for fuel is consumed by industry and the residential sectors.
- The loss of the Wisconsin pulp & paper and other timber product industries could have a devastating effect on the ability of Wisconsin to manage its forest resources.
- Seeking to broadly increase biomass consumption through demand side subsidies without a like increase in supply would likely result in biomass price increases and place further economic pressure on the pulp and papermaking industries.
- Uncertainty in supply and cost of biomass fuels create substantive risks to current and potential future users.
- The source of the biomass supply chain is a myriad of disaggregated and dispersed resources including public and private woodland owners, wood residue generators and supply-side service providers such as loggers and fuels chippers.
- Some significant users of biomass could increase their consumption, if additional cost-effective supplies were made available to the market².

Introduction – Forest Products Industry and Agriculture

Wisconsin is known today as "America's Dairyland", but this was not always the case. "Commercial dominance of the timber industry started in the late 1840s and multiplied through the end of 1880. Wisconsin's earliest sawmills were built in the first decades of the 19th century, and the 1840 census showed 124 sawmills in the territory. By 1865, that number increased fivefold, and Wisconsin was producing lumber valued at over \$4.3 million dollars. After the Civil War, improvements in machinery and

² Reflecting comments made before the Task Force regarding pricing pressure resulting from increased competition from landscape material buyers.

methods increased the value of lumber produced in the state to \$15 million in 1870, \$17 million in 1880 and over \$60 million by 1890”³.

The legacy of Wisconsin logging today is instantiated in the \$18.7 billion dollar Wisconsin forest products industry cluster as well as a myriad of medium and small business establishments that rely on cost effective supplies of wood as a raw material for their saleable goods. It is a common misconception that a clear and marked delineation exists between the era of logging and the era of farming in Wisconsin history. Even in the mid 19th century Wisconsin wheat farms were producing one-sixth of the total national output. It wasn’t until the late 1800’s when a combination of reduced crop yields due to soil nitrogen depletion, a chinch bug epidemic and interstate competition culminated in the rise of prolific dairy farming in Wisconsin⁴.

“That the commercial dominance of the logging industry in this timeframe overlapped with great changes in agriculture is no coincidence. The expansion of the lumber industry meant a constant demand for feed crops for the oxen and horses used, and diversified food crops and grains for many sawmill workers and lumberman”⁵. The ascendancy of Wisconsin as “America’s Dairyland” occurred as a result of many factors. “Chief among them were the development of professional associations, the science and organization of the College of Agriculture and the character and cooperation of farmers in the practical execution of dairy plans and policies. The effort quickly proved to be successful. In 1867, Wisconsin could boast 245,000 dairy cows, a number that would rise to 1,460,000 by 1912. In 1869, the state produced over 3 million pounds of cheese, and that number would more than quadruple within 10 years”⁶.

The ebb and flow of historic economic ascendancy notwithstanding, Wisconsin retains strong elements of both its timber and dairy farming heritages today. Both contribute significantly to the economy of the state and both face similar, contemporary challenges threatening their future economic viability. Although dissimilar in the markets in which they compete, both the agricultural and timber products industry are exposed to similar competitive threats including foreign competition, rising labor and energy costs as well as increasingly stringent

³ “A Brief History of Economics in Wisconsin”, Rutgers University, <http://www.scils.rutgers.edu/~dalbello/FLVA/background/economics.htm>, February 16, 2005.

⁴ “The Rise of Dairy Farming”, http://www.wisconsinhistory.org/turningpoints/tp-028/?action=more_essay, February 16, 2005

⁵ “A Brief History of Economics in Wisconsin”, et al.

⁶ Ibid.

environmental regulations. Another commonality is the reliance on Wisconsin’s land as the underlying resource for generating raw materials used in production.

In farming, the land is utilized as a resource to grow crops and raise cattle, and in the timber products industry, land is utilized to produce timber for use in the manufacture of salable products. Both industries depend upon a reliable, low cost supply of “bioproducts” as raw material – be it hay in dairy farming or pulpwood in papermaking. Both industries have had – and will continue to have – inextricable ties to the underlying resource that supplies their raw materials. That underlying resource is Wisconsin’s land.

Responsible and efficient use of land resources is a key component to the survival of both industries. As evidenced by the history of Wisconsin’s timber and

Figure 1
Wisconsin Wood Products Jobs⁷



agricultural industries, the ability to reform an industry is critical – whether it is the movement from wheat farming to dairy farming, or the movement from large scale commercial logging to more specialized practices for the local manufacture of pulp and paper.

Protecting these two vital industries should be a preeminent concern of Wisconsin. The loss of the agricultural and forest products industries in Wisconsin has far reaching implications beyond the obvious economic and social impacts of losing the two industries that arguably define the state’s very identity. The forestry products industry is the principal vehicle by which the healthy management of the state’s vast forestlands is sustained; it employs 93,177 individuals and produces

⁷ “Wisconsin Forest Products Industry Report Business Climate Status Report 2004”, Center for Technology Transfer, p. 4.

\$18.7 billion dollars in goods⁸. “Wisconsin's farms and agricultural businesses generate more than \$51.5 billion in economic activity and provide jobs for 420,000 people. The direct economic effect of agriculture is \$28.6 billion, a figure that represents the sales of all agricultural products.”⁹

The Forest Products Industry and Wisconsin Forest Management

Loss of a market-based, product-driven industry to compel large scale, professionally managed silviculture results in two equally unattractive futures for Wisconsin: the complete cessation or significant scaling down of professional and sustained forest management or at a minimum the need for massive state and federal tax payer subsidization to sustain the current level of management. To understand the detrimental consequences of unmanaged forest resources one needs to look no further than the western U.S. forests where overstocked forests have succumbed to insect infestation and uncontrolled wild fires.

Unlike the western U.S., Wisconsin has the infrastructure and industries in place today to sustain its healthy forest eco-system. However, Wisconsin's forest products industry finds itself at a critical juncture facing many systemic uncertainties. Critical to achieving long-term economic prosperity of the industry, and subsequently maintaining a healthy forest eco-system, is governmental and private sector cooperation and the ability to leverage technology and proven market mechanisms in new and innovative ways.

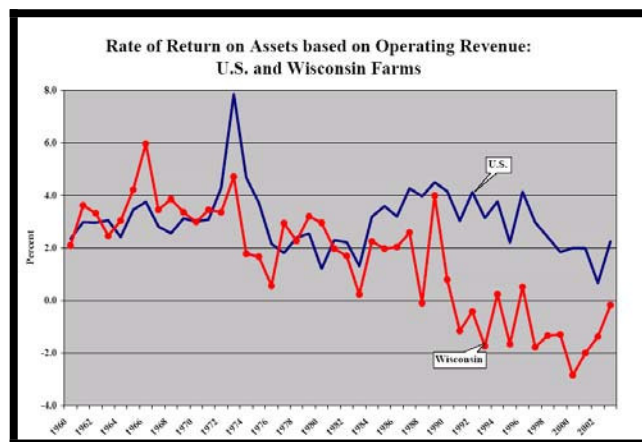
Increasing Biomass Resource Supply Efficiency

Increasing the efficiency, reliability and scale of the existing supply chain of timber and timber byproducts is a critical element to ensuring that the pulp producing and wood products industries remain competitive in the global markets of the 21st century. In recent years, competing uses for timber products such as for landscape material has intensified pricing pressure by increasing demand for timber products utilized both as a raw material for pulp and paper and as a source of renewable energy in the pulp mills themselves. If this trend continues without a proportional increase in supply, prices will continue to rise and result in additional operational cost pressures in an

already low-margin industry struggling to control its cost of goods sold.

Pulp mills, in essence, utilize 100% of the biomass raw material received. Wisconsin Pulp mills are a significant and efficient consumer of timber products. One cord of dried wood (15 to 20% water) will yield approximately 1,000 to 2,000 lbs of paper, depending upon the process and paper type¹⁰, and of the 51.5 trillion BTUs of energy produced from wood in Wisconsin, 21 trillion BTUs are produced in industry. The paper and allied industries account for 13.57 trillion BTUs of industrial use, or 26% of all the energy produced from wood within the state of Wisconsin.¹¹

Figure 2
Rate of Return on Assets on Operating Revenue:
U.S. and Wisconsin Farms¹²



All manufacturing industries wage a continuous struggle to improve production efficiencies. The pulp industry is no exception. However, the pulp industry also stands to benefit from an increase in supply chain efficiency resulting in increased availability of raw material and, with it, a decrease in commodity costs. As the pulp industry looks to specialization to remain competitive, this paper proposes a supply chain improvement that may offer the opportunity to capitalize on a competitive advantage unique to Wisconsin if such an improvement can be realized as outlined.

Some Wisconsin mills have chosen to abandoned “vertical business models” choosing rather to purchase pulp from

⁸ “Wisconsin's Forest Products Industry Report Business Climate Status Report 2004”, Center for Technology Transfer, p. 5.

⁹ Wisconsin Farm Bureau Federation, <http://www.wfbf.com/Newsreleases/agimpact.htm>

¹⁰ <http://www.tappi.org>, January 24, 2005.

¹¹ “Wisconsin Energy Statistics 2004”, State of Wisconsin Department of Administration, January 5, 2005.

¹² “Status of Wisconsin Agriculture, 2001”, Department of Agricultural and Applied Economics, College of Agricultural and Life Sciences, University of Wisconsin-Madison. p. 6.

overseas or domestic sources and to focus solely on manufacturing paper. Even those mills that remain partially integrated (making both pulp and paper) have abandoned fully integrated models in which the facilities own their own land resources for timber production. Bradley Rosencrans of Anderson Consulting, LLC noted the reason for these divestitures in his article on the New Economy written for *Pulp & Paper Magazine* stating “Vertical integration has been at the core of many paper company strategies for years. This strategy provided assurances that paper companies could leverage the huge capital outlays necessary to build and operate world-class mills. We wanted to be certain that we never ran out of fiber, that we kept the mills running at or above their originally designed capacity, and that we always had a place to push our product into the channel. It’s clear that this mill-centric model has not served paper companies well over the past decade as evidenced by consistently poor returns to shareholders.”¹³

This departure from full integration necessary to remain competitive simultaneously exposed pulp manufacturers to supply-side risks, such as those presented by competing users of timber products (such as landscapers) willing to pay higher prices for the same raw material. It is in Wisconsin’s best interest to understand the difficult choices facing pulp manufacturing facilities and work collaboratively to ensure that the abandonment of fully integrated business models in the papermaking industry are not merely a prelude to industry-wide abandonment of all pulp-making operations within Wisconsin borders.

There are three major threats facing the pulp and papermaking industry: international competition, increasingly strict federal and state environmental regulation and escalating manufacturing costs. Little can be done to remove international competitive pressures. However, efficiency gains in the raw material supply chain acting to guarantee raw material supply well into the future reduces price risk. Furthermore, any ability to hedge long-term price risk also becomes a critical factor in evaluating and mitigating risk of return on long-term capital investments which may be needed in the near-term to meet new environmental standards.

Wisconsin Raw Timber and Timber By-Products as Commodities

Timber is a commodity and most commodities are bought and sold in exchanges thereby taking advantage of market mechanisms to help increase liquidity and hedge pricing

¹³ Rosencrans, Bradley. “The New Economy”, http://www.pponline.com/db_area/archive/p_p_mag/2000/0002/comment.htm.

risks. For example, finished lumber is traded as a commodity in broader U.S. markets on the Chicago Mercantile Exchange (CME) where it has been traded for more than 30 years and where, “futures and options on futures have given mills, wholesalers, home builders and retail dealers a vehicle to manage price risk and to take advantage of price opportunities.”¹⁴ For the purposes of illustration and discussion in this paper, Wisconsin timber and timber by-products will be defined as follows:

- Pulp Logs
- Saw Timber Logs
- Fuel Logs & Chips
- Woody Biomass Energy Crops (future)

Unfortunately, random length lumber futures traded on the CME might be effectively employed by large U.S. business entities handling millions of finished board feet per year to manage risk, but they are of little value to a small family-owned sawmill, 3 person logging operation, or private woodland owner in Wisconsin looking to manage his or her property. Even the cost of pulping timber is not closely linked, if at all, to the cost of finished lumber traded on the CME.

The lack of an exchange for timber and timber byproducts is a primary cause of the illiquidity of the timber supply products markets in Wisconsin and contributes to long-term uncertainty, leaving no effective way to manage price risks associated with these products. For the most part, users such as a paper mills or sawmills connect with suppliers (e.g. loggers) on a one-to-one basis where supply and price are negotiated in an informal forward contract.

“In a typical forward contract, calling for the delivery of a commodity at a future time for a payment to be made upon delivery, two parties come together and agree to terms that they believe to be mutually beneficial. Though very desirable for both parties, this kind of contract has a number of characteristics which may be drawbacks.”¹⁵

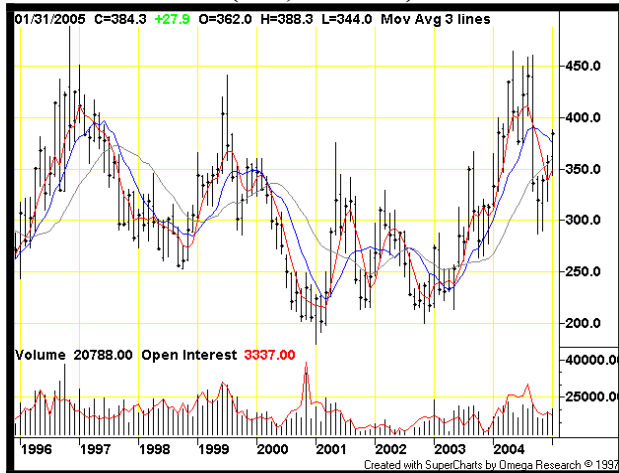
These drawbacks, common to all commodity future contracts, are especially evident in the timber product markets in Wisconsin. The first drawback is the fact that the price (and value) of the commodity is likely to be different at the time of delivery, months or years from the time of the negotiated price. “The strong incentives to default on the contract are known in advance to both parties. Consequently, this kind of forward contract can reasonably take place only between two parties that know and trust each other to honor their commitments. If we

¹⁴ Chicago Mercantile Exchange, <http://www.cme.com>, January 24, 2005.

¹⁵ Kolb, Robert, W. “Financial Derivatives”, 1993, pp 2-3.

restrict ourselves to doing business with only with people we trust, there is likely to be very little commerce at all.”¹⁶

Figure 3
Lumber (LB, CME)
Monthly Price Chart
(\$ / 1,000 bd. ft.)



“The second problem with this type of forward contract is finding a trading partner. Not only must the timing be the same for both parties, but both parties must want to exchange the same amount of good. These conditions can be quite restrictive and leave many potential buyers and sellers unable to consummate their desired trades. Thus, without an organized exchange, there can be a lack of liquidity in the market.”¹⁷

“The third and related problem with this type of forward contract is the difficulty in fulfilling an obligation without actually completing the delivery”¹⁸. In a specific example relevant to the current Wisconsin timber product market, consider the following scenario. A logger enters into a forward contract with a pulp timber buyer (e.g. a pulp mill) but realizes near the time of agreed delivery, he can only fulfill 80% of the agreed upon volume. The logger must either default on his obligation to the buyer or scramble to find an alternative source (or worse yet, multiple sources), paying whatever price the market demanded to fulfill the 20% shortfall. In a market with an active TPCE with sufficient liquidity, a logger would utilize his broker to fulfill the remaining 20% of the forward contract¹⁹ by

¹⁶ Ibid, pp 3-4.

¹⁷ Ibid, p 4.

¹⁸ Ibid, p 4.

¹⁹ The difference between a forward and future contract in this example is simply that the future contract is executed through an exchange and subject to the rules and regulation of trade, whereas the forward contract is executed between two parties directly outside an exchange.

securing additional commodity through the exchange in a single transaction made at spot price.

Moving one step deeper, if the logger had concerns about his ability to fulfill the contract at the agreed upon time and price, an active exchange would provide mechanisms to hedge this risk to the logger. The logger’s broker could have consulted the logger to purchase an option (call option) through the TPCE giving the logger the right, but not the obligation, to acquire that amount of timber he estimated he may fall short. Then, when the logger realized that three months prior to the forward contract delivery date that he would indeed fall short, he has two possible courses of action he might pursue.

The first option available to the logger is to have his broker purchase the timber needed to supply the shortfall from the exchange at spot market price if the current market price is favorable. However this price could be much higher than the price negotiated in the forward contract resulting in a significant loss to the logger. The second possibility is that the logger’s broker can execute the call option purchased to secure the shortfall amount to fulfill the forward contract at a price well below the current spot price for pulp timber.

The ability of the logger to take such actions provides two benefits. First, by employing this financial hedge, the logger is able to reduce losses resulting from the inability to fulfill the futures contract. Secondly, the logger has the means available to fulfill the total contract through the exchange utilizing other commodity suppliers. The logger’s ability to confidently bid on jobs and avoiding contractual breach are both enhanced. The result is an efficient, effective market where the pulp facility avoids raw material shortfalls and the logger circumvents the possibility of financial or other penalties levied by the pulp facility, up to and including legal action.

The Need for Aggregation and Creation of Liquidity

Much has been written about the loss of large contiguous tracts of southern and central Wisconsin farmland for rural subdivision. A similar trend is occurring in northern Wisconsin as large tracts of forested acres are parceled for subdivided sale, partly as a result of the pulp industry abandoning their fully verticalized business models. One downside of this real estate divestiture is increased future timber procurement costs and uncertainty in the pulp and paper industry and other large-scale timber product operations as they seek to secure timber from multiple, individual suppliers.

A commodity exchange can increase procurement efficiency through aggregation, aid in price discovery, provide contractual instruments under which supply-side capital investments can be justified and provide vehicles through which long-term price risk may be hedged. It is difficult to imagine large food-product producers such as Kelloggs or Quaker Oats negotiating with hundreds of individual farmers for their agricultural commodities or a 40 million gallon per year ethanol production facility seeking to secure corn from local growers through two-hundred phone solicitations; yet, this is how a timber product consumer is forced to evaluate Wisconsin's timber markets today in their current state.

What information is available for timber commodity pricing from the Wisconsin Department of Natural Resources (DNR) for calculating severance and yield taxes for the purposes of the Forest Crop Land and Managed Forest Law is indicative only. Furthermore, the information is not reflective of current, liquid markets. In fact, the DNR indicates that it does not guarantee that the prices reflect actual market prices at any level, current or historic by stating that, "actual prices can fluctuate both up and down, and are the product of macro and micro-economic conditions reflecting specific factors of each individual sale."

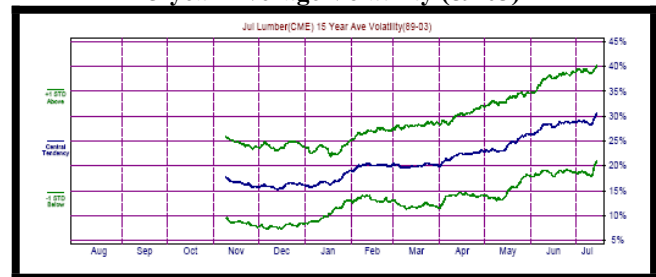
The DNR's qualifier is not only appropriate but accurate as well. The DNR's saw timber values – whether indicative of actual prices or not - show significant disparity in pricing between the 13 regions. This includes price differences between regions of 94% for Jack Pine, 156% for Red Oak and 84% for Cedar. The margins are similarly wide for the 19 other species of wood listed²⁰. Even if the DNR prices were "relatively" accurate in capturing geographical price disparity for the same commodity, currently no means exist to manage price risk for these commodities.

Regardless of the level of the true volatility of timber product prices in Wisconsin, some level of volatility exists in all commodity markets. For example, the 15-year average CME commodity pricing volatility for lumber indicates 25% pricing volatility can be expected one month prior to contract expiration on a typical July contract. The triple digit fluctuations in the DNR pricing aside, even a 25% fluctuation in timber commodity price is a significant risk to a Wisconsin timber product supplier and consumer. The ability to manage this risk translates into value for both industry and taxpayers in a state where subsidies are often used to bolster key industry sectors during economic downturns.

²⁰http://www.dnr.state.wi.us/org/land/forestry/Private/Harvest/Curr_stump.htm

For existing large-scale consumers such as pulping facilities with long-standing relationships with supply-side stakeholders such as loggers and chipped fuel suppliers, forward contracting is functional, but often ineffective in protecting parties involved. This type of system has other less obvious drawbacks. For potential new end-users of timber products looking to establish themselves in Wisconsin, this informal network creates formidable barriers that often cannot be reasonably overcome²¹.

Figure 4
July Lumber (CME)
15-year Average Volatility (89-03)



In the absence of a commodity exchange and a robust supporting supply chain infrastructure, price discovery and long-term contracting make risk quantification nearly impossible. The lack of the most basic elements on which all formal commodity exchange systems are based acts to deter new market entrants. New business ventures requiring timber products are unable to assess capital investment and operational risks at any reasonable level of certainty. As a result, potential new market players who bring with them innovation and capital investments look to other markets and industries in which to invest.

At best, this lack of market efficiency fosters a stagnating market composed predominantly of staid industries operating under the protection of fully depreciated capital investments. At worst, it sets the stage for an ever-increasing crescendo of taxpayer-financed subsidies to support private industries participating in the market if they are critical to local economies. This creates a perpetual circle of dependence and exclusionary market practices.

On the surface, market inefficiencies that result in barriers that act to keep new ventures from entering the Wisconsin market might appear to benefit existing timber product industries by stifling potential upstart competition. However, the broader result is a supply chain system locked in permanent stasis, consisting predominantly of

²¹ An example would be an electric provider attempting to develop a comprehensive financial proforma for the generation of thermal and/or electrical energy utilizing wood residues.

long-standing buyers and suppliers interacting in a fully matured market. When market demand does appear on any measurable level - such as the emergence of landscapers - a convergence in supply and demand can quickly result in sharp price increases in timber products. A few suppliers may benefit, but industry at large generally suffers.

This convergence of supply and demand can also act quickly against suppliers as well. The outage of significant industry capacity can quickly result in market oversupply. Suppliers find themselves with excess inventories in absence of an active market in which to participate and without revenues to pay back ongoing operational expenses and working capital. Even if stakeholders acting in such a market did possess the means to hedge such risks, no indicators exist to send the appropriate signals that forewarn of gathering market peril. It is at these times that a constrained, insulated market's inefficiencies are most conspicuous, when prices move quickly and without warning, reflecting an underlying fundamental shift in supply and demand. Worse yet, this effect is amplified in an illiquid market.

With the convergence of supply and demand, one would expect to see additional supply-side resources entering the market to meet demand shortfalls. This would be expected in an efficient market. As demand rises to equal supply, commodity prices should rise, and more investments should be made into supply-side services to bring more products to market. Wisconsin forests are just meeting the wood needs of Wisconsin; therefore, supply and demand appears to be convergent.

It is estimated that Wisconsin residents consume 327 million cubic feet of wood annually, whereas Wisconsin only harvests 332 million cubic feet. Still, Wisconsin continues to grow more than it harvests. Anecdotal data seems to suggest new suppliers are not entering the market and the supply chain may not be reacting in the Wisconsin market belying the existence of a healthy, efficient supply chain. The average age of a logger in Wisconsin is 52 according to the Wisconsin Professional Logger's Association. This may be one indicator that the logging industry has reached a full level of maturity, and without an influx of young logging entrepreneurs, Wisconsin timber product industries should be concerned about potential future shortfalls and price increases²².

²² This is not meant to be a complete explanation of market dynamics and should not be interpreted as such. One explanation might be the markets are in healthy equilibrium or that the next incremental amount of timber is too costly to supply given price signals in the market. However, this information cannot be considered to exist in a vacuum and must be considered in totality with other indicators.

Contracting Without Commitment and Function of a Clearinghouse

Another drawback of the Wisconsin timber products industry is the lack of contractual commitment between suppliers and consumers. This is not as much a reflection of market inefficiency as it is of commodity market realities in the absence of a financial intermediary and a clearinghouse. In today's Wisconsin market the seller is obligated to deliver goods to the buyer, who is obligated to deliver funds to the seller. This arrangement raises familiar problems between trust between the two parties of the trade.²³

A contract may help increase this level of trust between the parties, but in the case of many Wisconsin timber suppliers, they are unable to secure the representations or warranties of a contract financially. Take, for example, an independent logger or small fuel chipping operation supplying product to a well-capitalized pulp and papermaking facility. If the supplier cannot financially secure representations and warranties of mid-to-long-term supply contract, i.e. prove ability to pay liquidated damages for non-performance, a contractual relationship is not mutually beneficial to both buyer and seller.

A contract would certainly benefit the logger. With the benefit of a contract signed by a well-capitalized entity such as a pulp & papermaking facility able to honor its representations and warranties, the logger can seek loans and other required sources of capital. The ability to capitalize provides not only the means to produce immediate goods for sale but also the means to expand its business operations secured by a legally enforceable commitment.

However, in this example long-term contractual relationships do not provide like benefits to the pulp and papermaking commodity end user. If a logging operation cannot financially secure its representations and warranties with a letter of credit or similar instrument, a contractual agreement is of no value to the counterparty, in this case the pulp & paper making facility. By signing a long-term contract with an entity that cannot secure its commitment financially, the pulp & papermaking facility has done nothing but reduce its own optionality while gaining no protection of its own interests.

A clearinghouse is a well-capitalized financial institution that guarantees contract performance of both parties and could help to dissolve such barriers to making Wisconsin markets more efficient. With the establishment of a

²³ Kolb, p 25.

clearinghouse, the commodity supplier and commodity consumer only need to trust the clearinghouse, instead of each other.

Wisconsin Timber Product Commodity Exchange

Wisconsin's timber products industry stands to benefit greatly from the creation of an "electronic" exchange system for raw timber product grown, harvested and purchased within the state. Such a brokerage exchange is not required to possess the sophistication of a CME to be successful. The same contractual and transactional mechanisms such as futures and option contracts successfully employed at larger, institutional exchanges can be employed effectively on a smaller scale within Wisconsin. Such an exchange would be initially tailored for "raw" timber products such as saw logs, pulping logs, fuel chips, and bark. The system might also be expanded to include the brokering of closed-loop woody biomass crops including switchgrass and fast growing poplar and willow species in the future if market forces result in significant, sustained demand for these commodities

The move to a more efficient system is overdue, if not inevitable. Rosencrans observes, "Some [pulp and papermaking companies] may focus on paper manufacturing, others on converting, and still others on distribution. Some may focus on forestry and wood products. Dot-com companies will try to step in and broker the customer-supplier relationship. Some of these companies will have fulfillment capabilities; others will just provide an electronic marketplace. Efficient markets for selling of wood, pulp, and paper products will emerge based on more perfect information available on the Web. The historical advantages of complete vertical integration will fall by the wayside. In the broadest sense, everyone will become a network intermediary in this radically disaggregated value chain"²⁴.

Technology will certainly be a key element in the successful implementation of a commodity exchange of any scale. A commodity exchange where price discovery is a primary goal must offer "real time" access to market participants. Such access lends itself perfectly to an internet-enabled exchange where stakeholders can access information as well as execute transactions.

However, technology is only one small piece of the puzzle and simply provides the medium on which the information is shared and by which business is transacted. It is the structural underpinnings of the use of contractual and

derivative instruments needed to increase market liquidity and efficiency that would form the basis of a functional Wisconsin TPCE. This functional exchange is the realization of the "efficient markets" based on "more perfect" information that Rosencrans describes.

If technology alone were needed to institute an active TPCE, such an entity would presumably already exist in Wisconsin today because cost effective e-business applications have been commonplace for a decade. In reality, successful implementation requires the alignment of multiple pieces. Three distinct elements within Wisconsin market must come together to ensure a successful and sustainable TPCE:

1. Agreement among major stakeholders in the market that a need for such an institution exists and the shared belief that its implementation will be value-added.
2. The ability of the institution formed to supply the basic services of a commodity exchange including the use of a clearinghouse and the ability to execute financial and contractual instruments
3. Ability of the TPCE to obtain the necessary initial capital to secure both the initial development and meet its working capital needs during venture creation and start-up.

In light of the above, within the Forestry Council and its participants representing all facets of the timber products industry in Wisconsin rests the best opportunity to align the necessary pieces for the successful implementation of a TPCE.

The Roles of Market Participants and the Timber Products Commodities Exchange

A Wisconsin TPCE would be the central transactional focal point of various private and governmental stakeholders who can be defined in the following broad categories:

- Commodity Suppliers (Private & Governmental Landowners)
- Commodity Consumers
- Commodity Brokers
- Commodity Traders
 - Speculators & Arbitrageurs
- Supply-Side Service Providers
 - Private, State and Federal Foresters
 - Loggers/(Harvesters in case of Woody Biomass)
 - Aggregators/Fuels
 - Processors/Cooperatives/Sawmills

²⁴ Rosencrans.

- Transport Provider (Trucking & Railway)
- State Agency Stakeholders
 - DNR/DNR Foresters
 - Department of Revenue (Taxing Authority)
 - Investment Board
 - Wisconsin State Treasurer
 - Appropriate State Regulating Authorities
- TPCE (Physical Institution)
- TPCE Members
- TPCE Board of Directors
- Private Debt & Equity Investors

Timber Product Commodity Suppliers

Timber product commodity suppliers will consist predominantly of forest landowners to include private woodland owners as well as state and federal forestland resources within Wisconsin borders. In the future, suppliers may also be broadened to include agricultural and other landowners growing woody biomass energy crops.

Primary Market Function:

1. Supply “raw” timber product commodities to Wisconsin markets
2. Supply closed-loop biomass fuels to Wisconsin markets

Function in Commodity Exchange Operations:

1. Supply timber products to the market for immediate sale through brokers enabling market price discovery through published spot prices on the TPCE.
2. Supply timber products to the market through brokers for sale in futures market enabling the use of derivatives instruments to increase market efficiencies and allow interested parties to manage commodity price risk.

Mechanisms for Exchange Interaction:

1. Supplier will work through registered brokers of the exchange. The brokers may be direct employees of a supplier (such as a sales representative) or be an independent registered broker acting on behalf of the supplier or supplier organization group such as private woodland owners.

Financial Instruments typically utilized by Commodity Supplier:

1. Seller of futures contracts (obligation to sell)
2. Seller/writer of call options on futures (hedge against market price decrease)

Timber Product Commodity Consumers

Timber product commodity consumers will consist of all market stakeholders that utilize timber or timber byproducts. The list of such consumers would include groups such as the pulp & papermaking industry, sawmills, cabinetmaking facilities, wooden pallet manufacturers, landscapers, individuals using wood for home heating, state-run fuels for schools programs as well as regulated and independent wood-to-energy facilities.

Primary Market Function:

1. Provide necessary market demand engine for the motive force under which the timber products industry in Wisconsin is, and will be, sustained.

Mechanisms for Exchange Interaction:

1. Timber product consumers work through registered brokers of the exchange. The brokers may be direct employees of the consumer (such as a procurement specialist) or be an independent registered broker acting on behalf of the consumer or consumer Group²⁵.

Financial Instruments typically utilized by Commodity Consumer:

1. Purchaser of futures contract (obligation to buy)
2. Seller/writer of put options (hedge against market price increase)

Registered Commodity Broker

The TPCE will certify brokers as a prerequisite to becoming registered brokers allowed to conduct business on the TPCE. Registered brokers will be bound to conduct business in accordance with the regulations established by the TPCE. Registered brokers may be “independents”, i.e. providing services for individuals and organizations for which they are not directly employed or may be supplier or consumer brokers conducting business on behalf of the entity or entities for which they are directly employed.

²⁵ Consumer group may be an industry group or organization.

Primary Market Function:

1. Aggregate commodities from suppliers (and supplier groups) and consumers (and consumer groups) to create contracts of sufficient size for sale and trade on the exchange.
2. Connect commodity suppliers and commodity supply-side resources such as woodland owners, and state and federal forestry agencies with such entities as loggers, foresters, and sawmills to develop salable/tradable timber product commodities for trade
3. Execute contract transactions with counter parties using the TPCE as an intermediary.
4. Ensure the quality and quantity of the commodity meets regulatory standards as set by the TPCE and its board of directors.
5. Arrange for transport and delivery from the point of origin to the agreed upon delivery point on the contract delivery dates.

Mechanisms for Exchange Interaction:

1. Conduct business through a TPCE member.
2. Brokers representing commodity sellers will look to TPCE for bid prices provided by brokers representing commodity purchasers.
3. Brokers representing commodity buyers will look to TPCE for ask prices provided by brokers representing commodity sellers.
4. Registered Brokers will utilize derivative contracts to manage risk on behalf of commodity suppliers and consumers.

Financial Instruments typically utilized by Registered Broker:

1. All available derivative instruments of commodity trade and sale, i.e. futures and options on futures.

Commodity Traders, Speculators and Arbitrageurs

The term “trader” in the context of this paper refers to an entity doing business on the TPCE through a registered

broker. Although a registered broker of the TPCE performs an actual trade, this transaction is generally performed on behalf of a commodity seller or commodity buyer. Any individual taking a position is broadly defined as a trader although they may not execute the transaction personally.

For example, in the case of the Wisconsin DNR active in selling saw timber futures contracts, the Wisconsin DNR is the trader (commodity seller). Due to their size as a commodity supplier, the DNR would most likely also have in their employment a registered broker responsible for working through a TPCE member to post asking prices on futures contracts and possibly manage pricing risks to the state utilizing other instruments.

There is another type of trader that is an important potential actor in the Wisconsin TPCE. This trader would act as a speculator or arbitrageur and in accordance with his own interests to make a profit in the market. This type of Trader would not generally be associated with a commodity supplier or commodity consumer. This trader’s intent is not take delivery of a commodity but rather profit on price movement through the use of arbitrage or financial engineering. This type of trader is also required to work through a registered broker and under TPCE regulations. However, their function in the market is quite different from a trader acting on behalf of a supplier or consumer of commodities.

Primary Market Function (Speculators & Arbitrageurs):

1. Provide market liquidity

Mechanisms for Exchange Interaction:

Financial Instruments typically utilized by Commodity Traders:

1. All available derivative instruments of commodity trade and sale, i.e. futures and options on futures.

Supply-Side Commodity Service Providers

Critical to the function of the market is supply-side commodity service providers including, but not limited to, such entities as public & private foresters, independent loggers, wood chippers as well as rail and trucking transport providers.

The integration of suppliers and supply-side service providers is a crucial link in the timber product supply chain. Although as a general rule, these entities do not

interact directly with the TPCE, they stand to reap substantial benefits from the existence of the exchange.

Primary Market Function:

1. Provide services to support a robust supply chain

Mechanisms for Exchange Interaction:

Not Applicable²⁶

Financial Instruments typically utilized by Commodity Traders:

Not Applicable

Governmental Agency Stakeholders

There are various governmental stakeholders in the institution of a TPCE. The following is provided only as a partial list of potential stakeholders and may not provide a full and accurate assignment of potential roles.

Entity: *Federal Government*

Potential Role:

Acts as custodian of federal forest resources within Wisconsin and a potential source of significant raw timber to the TPCE.

Entity: *Wisconsin State DNR*

Potential Role:

Wisconsin State DNR acts as custodian of state forest resources making the DNR a significant potential commodity supplier to the TPCE. Foresters from the DNR will continue to act in a number of important roles including the way in which the standing timber estimates (e.g. estimated board feed for saw timber) will be generated on behalf of the state for harvest plans.

Entity: *Wisconsin Department of Administration*

Role: Commodity consumer as the agency responsible for purchasing biomass-derived fuel for both large and limited scale state facilities for generation of electrical and thermal energy.

Entity: *Wisconsin Department of Agriculture, Trade & Consumer Protection*

Potential Role:

Regulate the methods and procedures by which commodity contracts shall be weighed and measured.

Entity: *Wisconsin Department of Financial Institutions and Wisconsin Department of Commerce*

Potential Role:

Regulate the operation of the TPCE including the processes for marking derivative contracts to market as well as ensuring value-at-risk analysis (VAR) is performed to protect the interests of the TPCE Clearinghouse.

Entity: *Office of the Wisconsin State Treasurer*

Potential Role: Issuance of state bonds to either partially or fully secure the obligation of the financial institution acting as the TPCE clearinghouse.

Timber Product Commodity Exchange

Entity: *Timber Product Commodity Exchange Board of Directors*

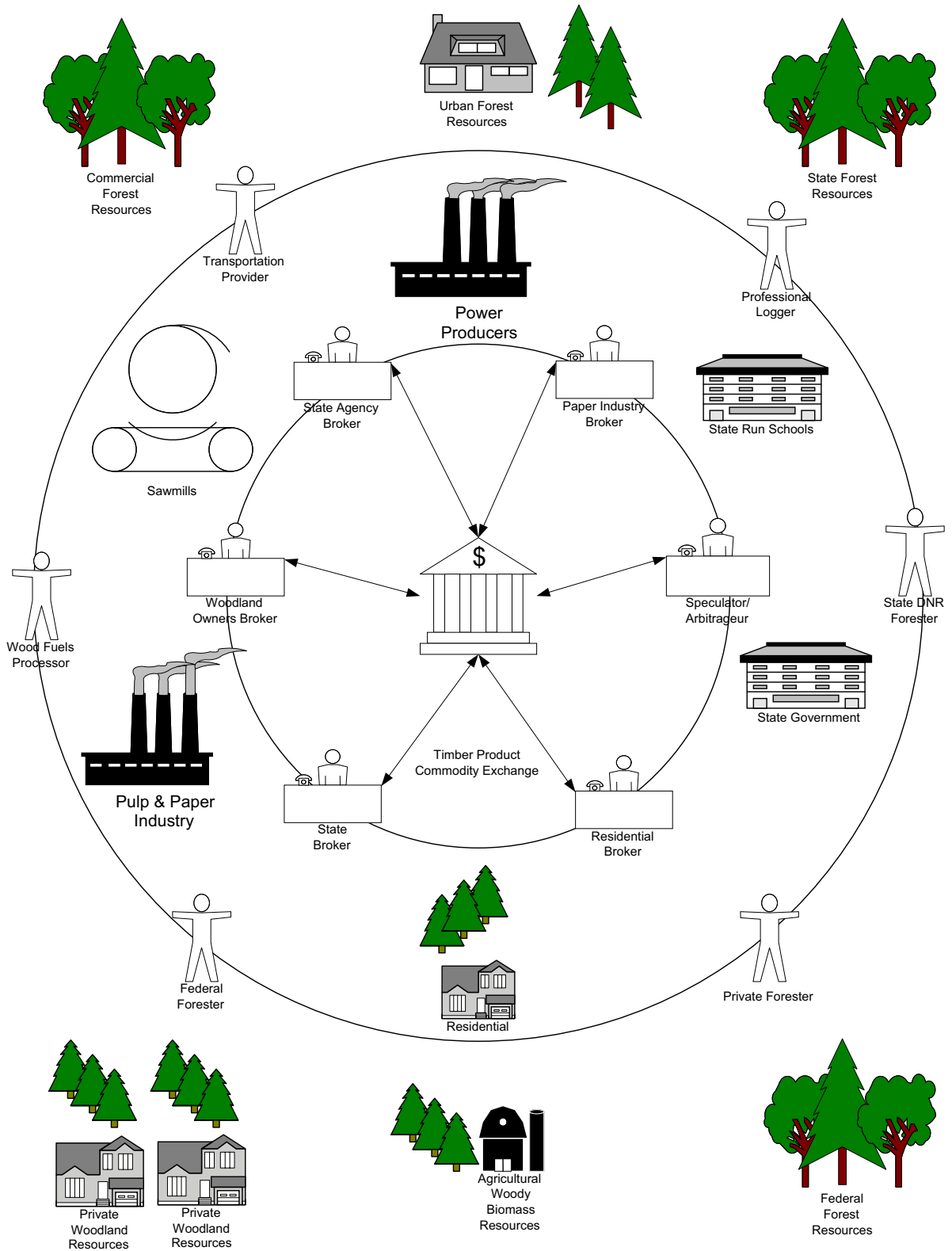
Potential Role:

The TPCE board of directors will elect the president of the exchange as well as approve the exchange members. The board of directors will provide oversight of all exchange functions and approve all operating rules and regulations of the exchange under which business is conducted. Individual members of the board of directors will be responsible for chairing specific committees with responsibility for auditing such practices as trading and accounting.

As is customary in many successful venture startups, the board of directors should include not only members that have significant financial interest in the TPCE, but also members (or former members) of the industry in which the venture is conducting business. In the case of the TPCE this might include pulp & papermaking executives, Wisconsin DNR, Wisconsin woodland owner groups, timber products industry representatives and a strong presence of the state treasurers office if government debt is utilized to secure the clearinghouse.

²⁶ There may be cases where a supply-side service provider acts in multiple roles. For example, a wood chipping operation may buy timber, process and sell directly acting as a commodity supplier in some cases, and act simply as a supply-side service provider in other cases.

**Figure 5
Timber Product Exchange Stakeholder & Market Diagram**



A clear benefit is the immediate access to “in-house” expertise. Often, equity investors will require such individuals be placed on the board of directors of newly formed ventures to provide senior leadership. This simultaneously increases the chance for successful startup and operation while protecting the investor’s financial interests in the venture by possessing A-list oversight.

Entity: *Exchange Members*

Exchange members are direct employees of the TPCE and are responsible for overseeing transactions on behalf of registered brokers. Exchange members will conduct all normal operating activities of the TPCE including such functions as administration, accounting, reporting and computer programming and maintenance.

Private Equity Investors

Private equity investors will be required to provide venture capital needed for the assets and operational expenses of the TPCE until it can generate sufficient operational cash flow to become self-sustaining. By the very nature of a commodities exchange, the entity should have a relatively low capital intensity in relation to its cash flow once it reaches the early stages of maturity as compared to other startup ventures. The majority of capital will be utilized for computer systems and customized “e-business” applications required for commodity trading.

A key element to be determined is the TPCE’s role in physical transactions, most notably delivery. If trading volume rises to a level in which it becomes warranted, the TPCE may choose to invest in real estate and associated infrastructure to establish formal delivery points. These delivery points would be located throughout the state to allow for more standard contracts between buyers and sellers, providing physical connection points where commodity weights and measures could be formally verified. If physical delivery points were established, there would be no need to settle transport arrangements between buyer and seller brokers. Furthermore, buyers and sellers would be completely transparent to one another because there would be no way to identify traders by the origin and destination points associated with their contracts.

The Potential Role of State Government in Exchange Incubation

Without a clearinghouse, there is no foundation on which to build a commodities exchange. An exchange must have a financial institution acting as a clearinghouse to

be able to guarantee the obligation of both parties trading within the exchange. This is especially critical during the establishment period when commodity suppliers and consumers with limited capital begin to take an interest in leveraging the exchange and its benefits.

It is not only small commodity suppliers and consumers that stand to benefit from a TPCE. If through its use, these small business entities can better grow their businesses into larger entities, the state’s economy ultimately benefits. However, some small entities may require their obligations to be secured to utilize the TPCE. If these risks rise to a level in which private financial institutions will not act as a clearinghouse for the TPCE, governmental intervention may be required.

This type and manner of governmental security to stimulate economic growth is not unusual. This is the model under which guaranteed small business loans are administered. In the context of a TPCE, it will most likely be necessary for state government to act in a similar manner on some scale. On what scale this security may need to be provided is unknown at this time, but such financial backing might be secured by the issuance of state bonds or other such means. A portion of the TPCE’s cash flow could be utilized to pay the interest on the bonds issues to guarantee TPCE transactions by the clearinghouse. The construct of such a private financial institution acting as a clearinghouse to the TPCE and state government financial backing required to support the entity requires further study.

Financial Commitments of Buyers and Sellers (Commodity Traders) in a Large Institutional Exchange

It is customary for traders and brokers to pay an annual fee to utilize the services of an exchange. Both counterparties to a transaction are required to make a good faith margin payment to the clearinghouse. This is a form of deposit and usually makes up only a small percentage of the total contract value. Active traders will keep a margin account with the clearinghouse at all times.

“Once a contract has been purchased, it can be sold and closed at any time prior to the settlement date. With this in mind, a futures contract is marked-to-market on a daily basis. This means the contract is calculated at the close of the exchange every day it is open. All profits and losses are credited to or debited from the counterparties’ clearinghouse accounts daily. Any profits can be withdrawn. If a loss occurs, then extra margin called variation margin is paid to cover this loss. Payment of a variation margin ensures that the initial

margin remains at a constant level. Minimum initial margins are set by the exchange. Brokers are free to add a markup to the minimum prescribed on their clients.”²⁷

Considerations of a Small-Scale Commodities Exchange in Wisconsin

Marking-to-Market, Margin Requirements and Options

The margin requirement common to large institutional commodities exchanges will be problematic for small suppliers in Wisconsin that may not be able to provide even the 5 to 10% of the total contract value at market. This is one area where state financial backing may be required to secure the margin on behalf of small suppliers and possibly even consumers²⁸. By virtue of their size, small suppliers could presumably transact a limited amount of business (and volume), which would inherently limit clearinghouse risk. Restrictions could also be placed on the type and size of contracts such smaller, undercapitalized supply-side traders could engage in until such time as they could secure their own margins.

Unlike larger institutional commodity exchanges where profits resulting from mark-to-market activities can be withdrawn from trader accounts and losses withdrawn from the margin account after each day’s settlement, it is unlikely that a Wisconsin TPCE would operate exactly in this manner. A more likely scenario is that the TPCE would mark the value of the commodity contracts to market at a lesser frequency such as weekly but only to ensure that account margins were covered. Profits from pre-delivery sale of futures contracts or options would most likely be distributed at the time of sale not on a daily basis based on current market value. Limited liquidity and administration resource limitations will likely necessitate such policies.

It is important to remember that the margin is merely a deposit assuring the integrity of the contract. For instance, if a logger agreed to supply timber at a future date at a given price, but the spot price at the time of contract expiration is less than the contract price, the logger should still be able to provide timber at the initial contract price. The logger merely could have made more money by selling his product at the spot price; however, this does not mean the logger will necessarily default on the contract.

²⁷ Kolb, p 43.

²⁸ The founding principle of the TPCE would be increase supply-side activity in the market; therefore, the possibility of securing small supplier contractual guarantees is somewhat beyond the scope of this document and warrants further consideration.

As small commodity suppliers grow and become more financially secure, the risk to the clearinghouse (and state government backing the clearinghouse) should diminish over time when a sufficient number of TPCE traders are able to secure margins with their own assets. State and federal tax returns might be used to determine those suppliers legitimately requiring the clearinghouse to secure their margins as well as identify and exclude those who pose an unreasonable risk of default.

The use of options to hedge price risks is a fundamental tool of commodity price risk management and a primary function of a commodities exchange. However there are several challenges in attempting to employ options in a thinly traded market. For example, if a fuel chip call option were written at a strike price of \$100 for expiration in July and when July arrived there were no market prices for fuel chip contracts, it would be impossible to determine if the strike price was reached to execute the option by the holder. Even if futures contract trading activity were sufficient to determine a strike price, marking the value of options contracts to market may be impossible, making accounting required to quantify value at risk difficult to perform exposing both traders and the clearinghouse to indeterminate risks.

The value of an option is predicated on several factors, including the time to expiration, the strike price of the option and a measure of volatility at the time of valuation. In a commodity exchange of limited size such as in a Wisconsin TPCE, limited liquidity in the market may make valuing options difficult or even impossible. Some ability to determine an actual or implied volatility is required to value an option. In a TPCE market, options will almost certainly be thinly traded making the determination of an implied volatility challenging, if not impossible. If a limited number of futures contracts were traded overall, actual price volatility at expiry would be equally difficult to determine.

This hurdle is not impossible to overcome and simply requires clearly defined rules and conditions under which options may or may not be written. Volume and liquidity are required to operate at the highest level of efficiency and value. It may be the case that an exchange of limited scale such as the Wisconsin TPCE would initially offer a marketplace for spot and futures contract trading only. At such time when the necessary level of liquidity and price discovery were reached, options trading would be introduced in accordance with good operational practice. If the TPCE is strongly embraced by the marketplace, option trading may become a routine activity and a normal outgrowth of the need to hedge price risk on substantive commodity trades. However, this may need to develop over time.

The Use of Derivatives and Marking-to-Market in a Wisconsin Exchange

To this point, this document has outlined the premise and mechanisms of highly active commodities exchanges such as the CME. It is expected that a TPCE in Wisconsin will be limited in size and scope and as such, will require specialized considerations in developing rules and regulations for operation. Most of these specialized considerations will result from limited volume and liquidity that are not concerns on larger exchanges.

It cannot be fully known before actual trades begin and some operational history is realized how market size limitations will impact the overall ability of the TPCE to offer a full range of contractual instruments and market intelligence without “gaps or holes”. Utilizing the New York Stock Exchange for price discovery of natural gas futures clearing at the Henry Hub often reveals some gaps in futures contracts indicating that the market is frequently not highly liquid beyond 18 to 24 months. On a high level, it can be anticipated that limited liquidity and volume will create challenges to realizing the full benefits of an exchange of the size of CME. However, limited liquidity and volume is certainly better than a complete lack of price discovery, liquidity and volume, which one might argue is the state of the current Wisconsin timber product market.

Marking-to-market the value of a futures contract may not be necessary (or relevant) if there is limited activity in a given time period. For example, if a landscaper purchased a futures contract expiring in two months for 10 yards of landscaping chips and no other contracts existed in the market during the period until expiration, there would be no market to “mark to”. The result is that the contract’s counterparty margin accounts would never be debited or credited. In essence, the market consists of only this single contract, i.e. it *is* the market.

One might ask, why would a market be illiquid? In the example above, it may be that most landscapers do not possess storage capability for large volumes of landscaping material. Therefore landscapers may purchase almost completely on the spot market during summer months or in a three to five month futures market during months in which they perform their services. However, a few landscapers with storage capability may take advantage of the slow winter months to secure landscape materials at a low cost and store the material indoors until spring. A lack of winter traders may result in low market liquidity in winter months.

For the most part, limited market activity and resulting circumstances and concerns arising from a small exchange can be anticipated. On the surface, one may raise concerns of a speculator or arbitrageur’s ability to manipulate such a small market. However such a trader has no intention of taking delivery of a commodity; therefore, in an illiquid market, the trader could not successfully engage in such activity during inactive months because there are no participants with which to buy or sell.

Well-considered and actively enforced regulation is the key to avoiding manipulation. For example, traders transacting through a registered broker who are clearly speculators or arbitrageurs might be required to carry one hundred percent of a contract value as margin. This is reasonable since it is unlikely that state taxpayers have any interest in subsidizing speculators, who differ greatly from businesses looking to hedge price risk on commodities they legitimately plan to produce or consume that contribute to a robust economy.

The exchange would also employ strict rules on the market liquidity necessary to mark a contract to market for each commodity traded. In the landscaper example, it might be required to have at least 300 yards (or 30 contracts) in a given month before there is deemed sufficient liquidity in the market to modify the market value of contracts on the TPCE for a given month²⁹. Similarly, the value of options on futures contracts would be handled much in the same manner.

Volume of the Wisconsin Timber Products Market

One can scarcely question the value a commodity exchange can bring in increasing the efficiency of markets, since exchanges are currently utilized with great success throughout the world for a broad range of goods. A more practical question is if the Wisconsin timber products market alone can justify the incorporation of a formal exchange and with it the required investment and committed support of a vast number of stakeholders.

That question must be fully vetted, and part of the process is to engage all market stakeholders in discussing the benefits of the formation of TPCE in Wisconsin. A primary piece of this vetting process is determining if current and future commodity volume can justify the investment of both time and financial resources to develop a functioning exchange. Some baseline

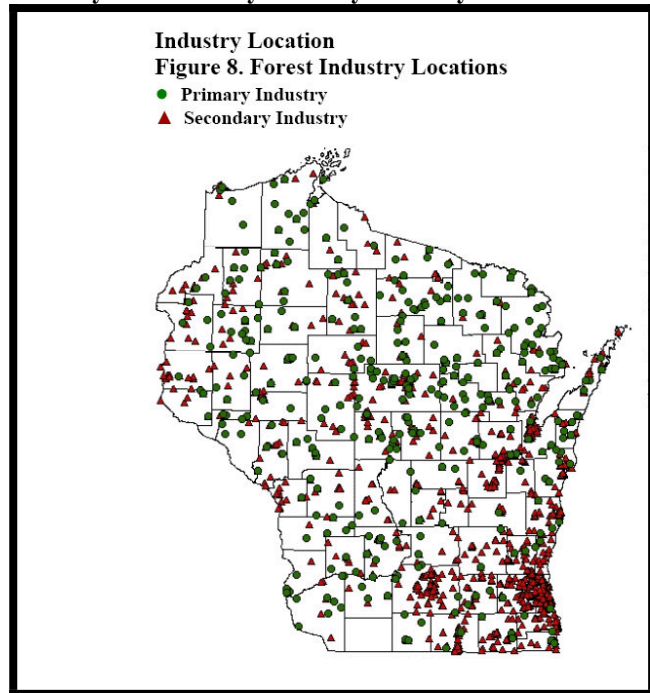
²⁹ The contract size of 10 tons is arbitrary.

information does exist to allow a view into the estimated volume in the Wisconsin market today.

According to the Wisconsin DNR's primary wood residue database, the data indicates that, even at conservative estimates, sufficient volumes of timber product commodities are handled each year to allow for a substantial number of transactions. "This cluster of the forest products industries is made up of sawmills, veneer plants, log home manufacturers and loggers. The majority of the firms are sawmills. The majority of the production capacity is concentrated in the northern half of the state where the bulk of the timber is grown. The actual plant locations are fairly evenly distributed throughout rural Wisconsin with the smaller plants located in southern and southwestern Wisconsin. Southeastern Wisconsin has very few primary wood processing plants but has the majority of the secondary wood products plants"³⁰

In 1999, Wisconsin's primary wood using industry processed more than 371 million cubic feet of roundwood in a year that yielded 369.7 million cubic feet of roundwood harvested from the state's forestland. Saw log production totaled 574.5 million board feet that same year, with pulpwood receipts reaching 3.0 million cords.

Figure 6
Primary & Secondary Forestry Industry Locations³¹



³⁰ "Wisconsin's Forest Products Industry Business Climate Status Report" Center for Technology Transfer, p. 8

³¹ Ibid. p. 8.

Pulpwood and saw timber are only 2 of the 72 commodities associated with primary wood residue industries identified by the state DNR. Assuming a 110,000 board feet futures contract, mimicking that of the CME random length lumber contract, Wisconsin's saw mills operating in the primary forest industry cluster alone could process 5,222 contracts through a local TPCE annually (or 435 per month). A pulpwood futures contract of 100 cords (approximately 7,900 ft³ of wood) would result in a trading volume of 30,000 contracts annually (or 2,500 contracts per month). At a modest \$15 per contract transaction fee (levied on both buyer and seller), the TPCE could generate as much as \$88,000 per month from the exclusive trade of these two commodities alone³².

Certainly not all (or even most) of Wisconsin's timber product commodities must be brokered through an exchange, but a considerable volume is required to sustain the institution financially. All commodity exchanges rely on volume to reduce the level of fees on a per transaction basis and provide the necessary liquidity and market price discovery critical to institution's primary function as an intermediary in the market.

A local Wisconsin TPCE transacting business at the 10% commodity market penetration for pulpwood and saw timber alone would represent an impressive movement of approximately 125.5 million pounds of saw timber and 621.4 million pounds of pulpwood through the exchange³³. However, at this 10% penetration level, exchange revenues from transaction fees (at the afore estimated \$15 transaction fee) would dip to \$8,800 per month.

It is counterproductive to increase fees to levels in which friction costs begin to drive up the cost of the commodities and eclipse the net benefits gained via increased market efficiencies; therefore, the question of expected volume is critical and one that warrants closer study. It is not in the scope of this paper to evaluate the detailed proforma economics but rather to simply provide a view into a broad range of market benefits. However, a detailed proforma is not necessary to realize the substantive benefit an exchange would provide to the

³² Contract size is arbitrary, but in this example results in a friction cost of €0.028 per board foot and €28.96 per U.S ton (dry basis) for saw timber and pulpwood respectively. This assumes \$30 per settled contract, with half the fee borne by the seller and half borne by the buyer. If registered brokers charged a similar amount as an administration fee, the total transaction fees per contract unit are still well below the fees currently imputed by brokers in today's Wisconsin market acting independently without the aid of an exchange.

³³ All calculations assume a density of wood equal to 26.22 lbs per ft³ (dry).

timber products industry in offering a way to manage risks systemic to the industry.

Risks to the Clearinghouse in a Wisconsin Timber Products Exchange

Possibly the most onerous commitment in the development of a commodities exchange is on behalf of the clearinghouse. There are two primary risks the clearinghouse bears: the risk of contractual default and the risk of commodity value as a function of price volatility.

In an exchange, the underlying value of commodity is influenced by volatility necessitating that a contract's value is "marked-to-market" on a regular basis. This underlying volatility results in a "value at risk". This is the commodity value risk that the clearinghouse is exposed to through the traders they are financially securing in an exchange such as CME.

produce or consume the commodities that they are trading.

These types of traders will likely honor their commitments regardless of pricing movements because they will hold the futures contract until delivery. This somewhat inoculates the clearinghouse from commodity price risks. Traders looking to produce or consume will most likely not act in a speculative manner. Their place in the market is to hedge pricing risks, not to place risky bets on price movements.

In a Wisconsin TPCE, the risk of contractual default is most likely a greater concern given the anticipated nature of the market and the potential magnitude of individual defaults. Regardless of a commodity value's variation over the time prior to delivery, it is possible that a supplier or consumer simply will not honor a contract for various business-related disruptions, e.g. equipment breakdowns, labor shortages, etc. Such a default would obligate the clearinghouse to fulfill the trader's commitment.

Figure 7 – Margin Account Example

	January	February	March	April	May
Purchase	(2,000)				
Market	2,000	1,700	2,100	2,300	2,000
Liquidation Position above (below) Market	-	(300)	100	300	-
Margin Requirement	(200)	(230)	(190)	(170)	(200)
Current Margin Account	200	200	200	200	200
Above/(Below) Margin Requirement	-	(30)	10	30	-
Liquidation Coverage Ratio	0.00	0.67	2.00	0.67	0.00
Default Coverage Ratio	0.10	0.10	0.10		10
Margin (%)	10%				

Margin Call

The clearinghouse is only obligated to pay if the traders cannot secure their positions at the time of liquidation. If the value of the trader's position in the market falls to a level such that the trader's margin account is insufficient to cover losses, the exchange will make a margin call. The trader is required to add funds to his margin account to cover the position at its current market value. If the trader is unable to cover the margin, only then will the exchange require that the trader liquidate his position. If the trader cannot cover the loss, the clearinghouse would then be obligated to cover the loss.

If a Wisconsin TPCE clearinghouse is successful in screening speculators and arbitrageurs and does not financially secure these types of transactions, commodity value risk is nearly eliminated. It is anticipated that most traders in a Wisconsin TPCE will be actual commodity suppliers and consumers that physically

In the case of a supplier (seller) default, the clearinghouse must purchase the commodity at the spot price in the market to meet the supplier's obligation to the buyer. Regardless of the market price of the commodity at the time, the clearinghouse is required to pay the price less any margin in the defaulting suppliers account. If the market is illiquid at the time, there may be no commodity to purchase on the market. This, in turn, exposes the buyer (the party who was to purchase supplier's goods) to operational and financial risks via their inability to secure the commodity they require to conduct business.

In the case of a consumer (buyer) default, the clearinghouse must purchase the commodity at the spot price in the market and resell. If the market is liquid at the time and the clearinghouse can sell the contract at the spot price, the exchange must cover the difference of the

market price plus any margin in the defaulting consumer's account less the purchase price. If this difference is negative, there is a loss incurred by the Clearinghouse. If the market is illiquid and exchange cannot sell the contract, the clearinghouse must take delivery, pay for storage and sell at a later time. For example (reference figure 7), if a purchaser defaulted in February in a liquid market, the clearinghouse would lose \$100. The clearinghouse would be required to purchase the contract for \$2,000, sell that same contract for \$1,700 dollars and liquidate the trader's margin account of \$200, thus: $-\$2,000 + \$1,700 + \$200 = \-100 .

To minimize the risk to the clearinghouse, suppliers and consumers trading on the TPCE must be fully vetted, and assurances developed to minimize risk of default. It is anticipated that this qualification process may result in various levels of certification that would dictate what activity levels a trader (buyer/seller) may engage. For instance, in some cases a supplier may have the commodity "in hand", such as pulpwood in storage; therefore, the risk of default is extremely low, since brokers and exchange members can physically verify the existence of the commodity. As such, a supplier would represent a minimal risk of default.

In cases where the commodity does not yet exist to settle a futures contract, such as in the case of standing timber yet to be harvested, a private sector supplier may be required to possess a substantial margin due to the significant risk of default. However there may be legitimate exceptions in cases where commodities are provided from state and federal forested lands where the percentage of margin required might be much lower given the financial security of the institutions they represent.

In the case of speculators and arbitrageurs, it is anticipated that the clearinghouse would not agree to secure such traders at any level. Margins required to trade may be set as high as 100%. Margin calls would also be strictly enforced to ensure that any risk to the clearinghouse was mitigated to the highest extent possible.

These issues, although seemingly daunting, are dealt with every day in institutional finance organizations and such policy and regulation is commonplace. It must be understood, however, that speculators and arbitrageurs play an important role in financial markets. Such actors provide liquidity to the market; therefore, their participation should be closely monitored and regulated rather than roundly discouraged.

Wisconsin Timber Products Commodity Exchange and State Governmental Integration – The Managed Forest Law Example

A considerable amount of discussion in this paper has centered on potential benefits to the timber products industry and private woodland owners that would result from the institution of a Wisconsin TPCE. Price discovery is a critical component of creating efficient markets and establishing equitable payments in consideration of true market values. One way in which a Wisconsin TPCE can aid state governmental agencies is through the ability to monitor and regulate fair trade in those circumstances where taxpayer interests are at stake. One such program where taxpayer interests might be considered is the Managed Forest Law Property Tax Program. "The Managed Forest Law (MFL) is intended to foster timber production on private forests, while recognizing other values. MFL participants pay property taxes at a reduced rate. A portion of the foregone taxes is recouped by the state at the time the timber is harvested. The Wisconsin Department of Revenue estimates MFL program participants can reduce their property tax an average of 80% after paying harvest [yield] taxes."³⁴

It is interesting to note that the yield tax is based on the volume harvested and the average stumpage prices for similar logs or wood in the area as calculated by the DNR, not the actual dollar amount received for sale of the timber.³⁵ Why estimated market value is utilized to calculate a yield tax in lieu of the actual sales price is not known, but the question might be raised if it is attributable, in part, to the fact that actual sales prices in a single location for the same commodity type are so inconsistent and volatile that a standard measure was required to solidify taxation calculations. If this is true, what does this say about the equity to private woodland landowners in such a market looking to sell their commodities from harvest? Is it fair to a landowner to pay taxes indexed to a value that might be 100% higher than they actually received? Conversely, is it fair to Wisconsin taxpayers if a landowner receiving an 80% reduction in their property taxes received twice the value for the harvest of timber than the index value that was used to calculate these landowner's harvest taxes? The answer to these questions is inarguably no; it is not fair nor equitable. In inefficient markets; however, the

³⁴ Bergmann, Sefan A., Nielsen, Carol, "The Managed Forest Law Property Tax Program", Department of Forest Ecology and Management, School of Natural Resources, University of Wisconsin - Madison. June 2001.

³⁵ Ibid.

reality is that such compromises – in this case the use of a geographical index - are required to bridge the divides from a lack of liquidity and price discovery which results in obscured markets.

One answer to the challenge at hand is to create the opportunity for an efficient, open market exchange of the commodities in question. Consider the value to both the state and individual MFL participants if the sale of timber from MFL lands were obligated by law to transpire on an open TPCE exchange. This would provide several benefits. First, landowners are assured of obtaining equitable prices, fully discoverable in the market. Contracts posted in any DNR region resulting from MFL harvests would be visible to all potential Wisconsin consumers in real time market offerings. If arbitrage values were recognized between regions in consideration of transport costs, prices should quickly stabilize. This benefits all MFL participants as the markets are open and prices are fully discoverable. Consumers also reap all the benefits detailed in this paper, and issues of equitability to both MFL participants and state taxpayers are fully addressed through the leveraging of a TPCE.

The benefits to state agencies are equally attractive. DNR stumpage values can be determined from open markets clearing continuously providing the DNR with valuable information. Data from the TPCE can be easily linked to the DNR databases and updated at the end of day's trading. The Wisconsin Department of Revenue also has access to valuable information through the TPCE allowing it to forecast tax revenues from future harvests. For example, if a Wisconsin TCPE was utilized as the state-recognized market intermediary, forest management plans that include estimated future harvest volumes could be transmuted by DNR brokers into futures contracts (or options on futures contracts) posted on the TPCE with the contract expiration dates tied to the anticipated harvest times. This would serve two purposes; first this would help transform the market from short-term to long-term views into commodity pricing and availability. Secondly, these MFL-derived contracts, which might be uniquely identified by the TPCE for state agencies access, would provide the Department of Revenue the ability to better-forecast incoming tax revenues from contract sales. The MFL program is only used here for illustrative purposes to demonstrate how a TPCE can become an invaluable tool in integrating both public and private interests as they relate to timber products. Hopefully other such public-private synergies exist and that the concepts in this paper are presented in such a manner as to stimulate ideas and thoughts on a number of possible public and private sector integration opportunities.

The Prospect of Federal Regulation

Although beyond the scope of this paper to outline all the specific agencies and relevant regulations to which the TPCE might be subject, it should be reasonably assumed that the U.S. Commodity Futures Trading Commission (CFTC) would possess regulatory authority over the TPCE. Both the use of derivative instruments and the potential for interstate trade point to the necessity of federal regulation. This regulatory oversight should not be seen as an encumbrance to establishing a Wisconsin-based TPCE. Rather, regulation under an established federal authority should be viewed as a benefit for creating the architecture and underpinnings of accounting the TPCE would utilize. Such authority and oversight provides the required confidence and umbrella of protection under which market participants feel secure in transacting business.

Many of the issues discussed in this paper regarding such questions as the appropriate way to value derivative contracts and under what circumstances options may or may not be written on contracts in a thinly traded market are most likely outlined under federal regulation. Even the issue of broker certification and licensing would be addressed, although brokers might have additional requirements established by the state specific to the TPCE. In a general sense, the concept of privately owned banks operating in Wisconsin, which are subject to federal regulation establishes the appropriate model and prospect for success under which the TPCE might be owned, operated and regulated.

Wisconsin Commodity Exchange Transaction Architecture

It is envisioned that the exchange would utilize clearing price hubs established at several locations across the state. Initially, these hubs would act only as non-physical commodity price clearing points. For illustrative purposes, a hub might be established per each of the five DNR unit regions: Northwest, Northeast, Central, Southeast and Southwest. At some point in the future these or other alternate locations could become physical delivery points. The exchange would keep current, discoverable prices for transportation costs between the five clearing hubs, called basis price.³⁶ In this way a clearing price can be immediately determined and revealed on the exchange's trading board for every hub in the state for any posted futures contract regardless

³⁶ It is likely that these costs would be indicative only and updated frequently be an exchange member working through local transporters who would provide delivery quotes in exchange for preferred service provider status.

of the “posting” hub, i.e. hub nearest to the commodities origin (for a ask price) or destination (for a bid price).

A registered broker for a commodity supplier (futures contract seller) would determine the tailgate price of the commodity and add to it the local transportation cost to reach the nearest clearing hub to determine the total asking price. A registered broker for a commodity consumer (futures contract purchaser) would post bid prices at the nearest hub but must be cognizant that local transport costs from that hub to his customer’s location will be the total cost to his customer if his bid is matched at the posted bid price.

If a buyer and seller are connected through the exchange (either by an automated matching system or by a series of bid and ask interactions) the buyer and seller’s brokers will negotiate final shipment terms directly. During this negotiation period of some limited duration, the contracts in question on the exchange’s trading board will be tagged as being negotiated - in essence -put in a hold status. When the final terms and arrangements for delivery are successfully negotiated by the brokers, the exchange will be notified and the contracts will be listed as “settled” at a given price. The identity of the buyers and sellers is never disclosed owing to the fact that brokers work under confidentiality agreements signed with the TPCE.

The final total cost of the delivered commodity to the commodity consumer should closely approximate the settlement cost at the clearing hub, plus the basis (if applicable), plus the local transportation cost from the nearest hub. The revenue to the commodity supplier should closely approximate the settlement price less local transport to the nearest hub.³⁷ The prices will not exactly match, due the fact that the hubs are clearing point locations for the purposes of establishing price only.

Putting the elements together and utilizing the information in Figure 8 as a resource for fictitious transport costs and distance between clearing hubs, an example will clarify the concept. In this example, wood fuel chips will be used as the commodity. Assume that a broker representing a wood fuel supplier was instructed to develop and post asking prices for four (4) futures contracts, assuming 100-ton contracts. The supplier informs the broker that the chips will be ready for July delivery (four months from the current date) and that he must clear \$20 per ton for each contract, F.O.B. the supplier’s site in Crivitz Wisconsin. The supplier’s site

³⁷ A commodity seller’s local transport price should be engendered into a contract asking price. Similarly, a commodity purchasers local transport price should be engendered into a bid price.

is 15 miles from the northeast hub, the nearest exchange hub used for clearing price.

The broker contacts a local trucking company and receives an estimated local shipping fee of 7¢ per ton-mile. The broker’s standard fee for placing a straightforward trade is \$15 per contract. The exchange fee is also \$15 per contract. The broker estimates the asking price as follows:

Suppliers Revenue Requirement

\$20/ton * 100 ton/contract * 4 contracts = \$8,000

Plus Friction Costs: Local Transport and Fees

[add]

Local Transport

100 tons * 4 contracts * 15 miles * 7¢ / ton-mile = \$420

[add]

Broker Fee

4 contracts * \$15/contract = \$60

[add]

Exchange Fee

4 contracts * \$15/contract = \$60

Total Friction Costs = \$540

Friction Cost per Ton = \$1.35

Friction Cost per Contract = \$135

Ask Price per Contract:

(\$8,000 / 4) + \$135 = **\$2,135 per contract**

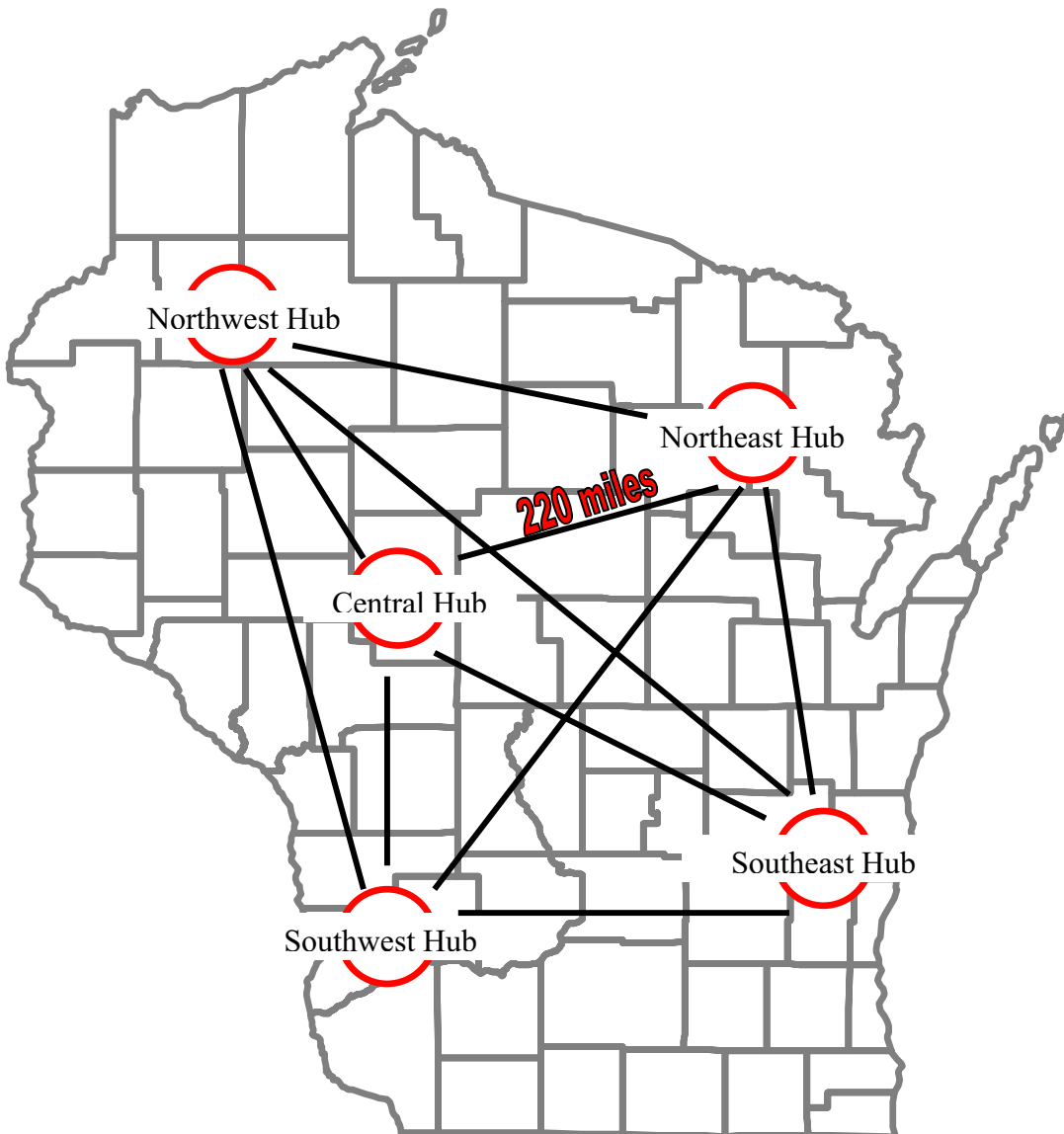
Or

\$21.35 per ton

At nearly this same time, a fuels procurement agent at a large papermaking facility in Wausau who acts as the company’s registered broker discovers that natural gas futures prices in July indicate sharp spike in the cost of natural gas. The procurement agent determines that the market is indicating the facility’s delivered cost of natural gas may be as high as \$10/MMBTU in July, four months from the current time.

Figure 8
Basis Cost Estimates Between Exchange Hubs
(Example –Costs not Indicative of Actual Transport Costs)

Basis Cost – Biomass Fuel Chips					
Transportation Cost between Clearing Price Hubs					
(Cents/ton-mile)					
	Northwest	Northeast	Central	Southwest	Southeast
Northwest	n.a.	5.2¢	6.7¢	5.8¢	4.7¢
Northeast	6.0¢	n.a.	5.7¢	6.0¢	4.5¢
Central	4.3¢	3.7¢	n.a.	4.7¢	5.6¢
Southwest	6.0¢	5.6¢	5.2¢	n.a.	6.2¢
Southeast	6.1¢	7.2¢	6.8¢	5.2¢	n.a.



The procurement agent engages the facility's operations group and determines that in July the facility will be running at peak capacity to meet production requirements requiring some use of natural gas for steam production to operate papermaking equipment. The operations group also informs him that the solid fuel boilers would be able to increase throughput slightly and offset some natural gas usage during that period. They estimate that from an operations standpoint, an additional 1/4-ton per hour of coal could be utilized during July to offset some natural gas usage and hedge the coming price increase. However, due to SO₂ emission limits, the facility's environmental manager notifies the operations group that they cannot increase coal throughput by any amount in July.

Hearing of the coal throughput cap, the procurement agent, now acting as the facility's registered broker, accesses the TPCE. Although the facility cannot increase coal usage in July due to SO₂ restrictions, they would be able to increase wood fuel usage if sufficient supply could be secured at a cost less than the expected price of natural gas.

The facility's broker sees the posting of 4 contracts of wood fuel chips at a northeast hub clearing price of \$2,135 per contract. He contacts a local trucking firm to receive a quote from the central hub (the hub nearest his facility) to his facility, a total distance of 13 miles. The carrier quotes the broker 4¢ per ton-mile.

On the exchange's website, the broker selects the central hub and selects the contracts to calculate the basis cost. Automatically, the basis is calculated as follows:

220 miles * 1 contract * 100 tons / contract * 3.7¢ / ton-mile (basis between the northeast hub and the central hub)

= \$814 basis price per contract between northeast and central hub.

[add]

Local Transport

100 tons * 1 contracts * 13 miles * 4¢ / ton-mile = \$52

[add]

Exchange Fee

1 contract * \$15/contract = \$15

Total Friction Cost = \$67 per contract
 Minimum Price to secure a Contract at Ask Price:

[Ask + Basis + Local Transport + Fees]

2,135 + \$814 + \$52 + \$15 = **\$3,016 per contract**

Or

\$30.16 per ton delivered.

TPCE specifications require wood fuels chips to have a minimum higher heating value of 5,000 Btu/lbm as delivered. Therefore, the broker calculates the value of the wood fuel in dollars per million BTU in order to compare it to the expected price of natural gas in July.

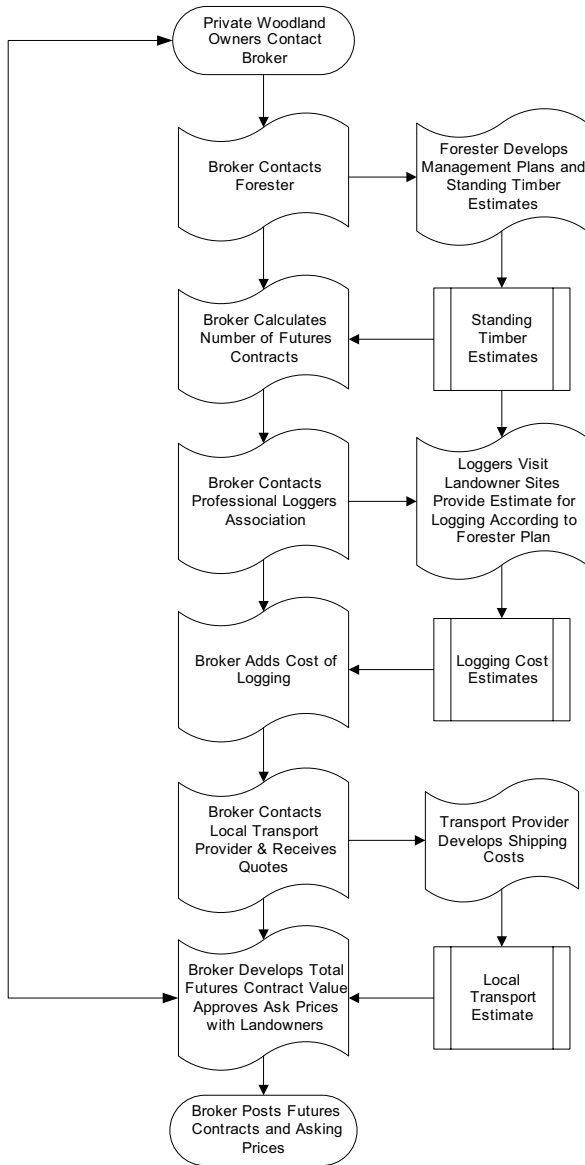
\$30.16/ton * 1 ton/2000lbm * 1 lbm/5000 BTU * 1x10⁶ = \$3.02 per MMBTU. This is a \$6.98 per MMBTU savings

The broker knows that he could process an additional 1/4 ton per hour of coal with an estimated higher heating value of 8,500 BTU/lbm during the month of July. Therefore, he estimates he would need 8,500 / 5,000 or 1.7 times the amount of wood. He performs the calculation as 1.7 * 1/4 ton / hr * 2000 lbm / ton * 720 hours per month to determine he needs approximately 612,000 lbs of wood for the month of July (or approximately 306 tons).

The facility's broker selects 3 contracts on the TPCE, and the contracts are placed on hold until he negotiates shipment with the broker representing the supplier in Crivitz. The contract is settled and the TPCE is updated to note the settlement price without revealing the names of the supplier, consumer or the brokers that represented them. The broker effectively offsets \$20,502 of increased operational cost through the use of market, and the supplier is able to transact business with a consumer in which he had no prior relationship.

In the preceding example, the supplier's broker simply arranged a trade according to the suppliers wishes. However, it is envisioned that a supplier's broker will act to arrange supply-side services in those instances where additional services are required to process the commodity for trade. For example, in the case of group harvest plans for private woodland owners, the group's broker may orchestrate all services required to bring the final products to market.

**Figure 9
Supply-Side - Private Woodland Owner
Organization
Harvest Example**



In this instance, the broker may engage a forester to develop standing timber estimates as well as determine the volume of saw timber, pulpwood and fuel timber. The broker would then work with a logger to arrange for harvest of the property and for local supply-side service providers such as fuels chippers to process fuel wood from the yield. The broker would then determine the number, type and volume of contracts that might be generated from the group harvest, which might be a mix of saw timber, fuel wood and pulpwood (see figure 9).

Closed-Loop Biomass Energy Crops

Commodity exchanges, although used from everything from energy to precious metals, are often most closely associated with agricultural crops such as corn, soy beans, wheat, etc. The ability to trade futures and options is of extreme importance to both farmers and consumers of agricultural products. It is difficult to imagine a significant grower or consumer of food crops who would argue against the wide range of benefits a commodity exchange brings to agriculture markets.

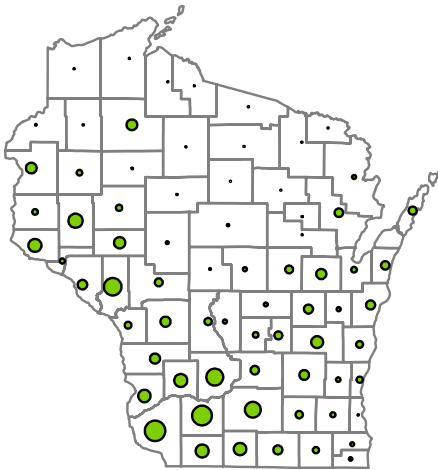
In the last ten years both research and interest in the use of closed-loop, woody biomass crops has increased significantly. The term “closed-loop” refers to the “perpetual” harvesting and re-growth of such crops as a renewable source for producing energy as well as a myriad of bio-derivative chemicals and products. Closed-loop fuels include fast-growing willow and poplar hybrids as well as native perennial prairie grasses such as switchgrass.

As an energy crop, the ability to absorb CO₂ in the photosynthesis process during the re-growth cycle provides the opportunity to offset some amount of CO₂ liberated in the process of producing energy. For this reason, funding and research into the production and use of energy crops continues to increase with the expanding dialogue over the greenhouse gas emission issue in the United States.

Although it is not known at this time what, if any CO₂, regulations may be promulgated in the United States, what is clear is that closed-loop fuel production and supply presents some of the same challenges as timber in bringing the commodity to market, as well as some unique ones. Switchgrass has an extremely low energy-to-volume ratio at harvest; therefore, transport costs are a primary concern. Poplar and willow have longer growth cycles than switchgrass, so views into future market values can aid in harvest and planting commitments that are important factors with these crops. Like any crop, weather plays an important role in determining yield and regional market supply and will presumably be a critical component in influencing market price.

The establishment of a Wisconsin TPCE can establish a foundation for the possible emergence of a closed-loop energy crop market in Wisconsin. Wisconsin is traditionally viewed as being divided by state route 29 with woodland properties to the north and agricultural properties to the south. Although a generalization, the location and quantity of Conservation Reserve Program (CRP) acreage in the state does support this concept (see figure 10).

Figure 10
Location and Relative Number of
CRP Acres by Wisconsin County



The TPCE can be utilized for the efficient trading of closed-loop biomass fuel commodities just as easily as it can be utilized for timber products. A commodity exchange is arguably best suited for agricultural crops and those suppliers likely to grow them are intimately familiar with the use and value a commodity exchange brings in selling crops into the marketplace and managing risk. With the multiple clearing hub concept, the exchange would be prepared to clear markets for closed-loop fuels across the state regardless of the choice, mix and density of crop plantings.

Registered brokers would act in much the same capacity as they would in relation to timber products but would most likely take on responsibilities more closely aligned with traditional agricultural commodity brokers. A formal exchange also presents not only the opportunity to offer price discovery but also possess the ability to interact with other exchanges handling commodities which will be closely related to and likely have direct impacts on fuel crop prices. Exchanges handling natural gas, weather derivatives, and greenhouse gas emissions trading instruments would presumably all have a direct influence on the underlying value of energy crops. A commodity exchange provides the ability to consider and associate these factors to futures markets and allows the management of such risks in an efficient and proven manner.

Beyond the value of closed-loop crops as a source of primary energy lies the potential for more immediate value in mitigating the direct environmental impacts associated with dairy and crop farming. Agricultural runoff from animal waste and pesticides and their impact on water quality is a primary concern in Wisconsin.

“Besides helping slow runoff and anchor soil, switchgrass can also filter runoff from fields planted with traditional row crops. Buffer strips of switchgrass, planted along stream banks and around wetlands, could remove soil particles, pesticides, and fertilizer residues from surface water before it reaches groundwater or streams.”³⁸ By taking a lead role in the United States through establishment of a state-wide exchange, Wisconsin will encourage its farmers to consider the early establishment and pervasive use of bio-energy crops and with it the state should realize the environmental benefits.

Proposed Next Steps in Evaluation

The next step in evaluating the concept of the institution of Wisconsin TPCE is to open a dialogue within the Woody Biomass Task Force. Without broad-based support from the Task Force, it is unlikely that the concept could be successful in practice. If timber product market stakeholders express reservation or outright opposition to a TPCE, this should be viewed as an important indicator of an impending lack of participation and likely shortfall to achieving desired transaction volumes. Possibly more telling would be any opposition to the concept that appears to coalesce around any specific stakeholder group, i.e. producers, consumers, supply-side service providers etc.

If the Task Force agrees that the Wisconsin TPCE concept warrants further study, two possible courses of action might be followed:

1. Pursue further study under direction of the Woody Biomass Task Force

Or

2. Recommend to the Governor’s Council on Forestry that further study of a Wisconsin TPCE should be pursued under the direction of some other authority.

Most likely the appropriate course of action will be driven by time available to complete an in-depth study. The appropriate entity to perform the next phase of analysis might be a collaborative effort among university of Wisconsin academia, state government (or state government representatives) and interested groups from the private sector.

³⁸ “Biofuels from Switchgrass: Greener Energy Pastures”, Office of Energy Efficiency and Renewable Energy, Oak Ridge National Laboratory, <http://bioenergy.ornl.gov/papers/misc/switgrs.html>

The primary focus of the study should be anchored in the understanding and quantifying both beneficial *and* detrimental impacts the institution of a TPCE may have on the Wisconsin timber product industry. Critical to this analysis are the following:

Demand-Side / Consumer Impact

- Determine how the ability to effectively manage commodity price risk translates into financial benefits to the timber product commodity consumers.

Taxpayer Impact

- Determine what amount of taxpayer subsidies supporting timber product consumer industries in Wisconsin today might be directly attributed to commodity price risks that could be reasonably mitigated through the establishment of a TPCE.

Supply-Side / Producer Impacts

- Determine and quantify to what extent and specifically how small timber producers and supply-side timber product service providers might benefit through the institution of a TPCE.

Governmental Role

- Study the potential role of state government in acting as a financial clearinghouse to the TPCE either directly or through a private Wisconsin financial institution acting as an administrator.
- Estimate the level of financial backing required given commodity value at risk, potential magnitude of default risks and explore various models under which financial security might be obtained through the issuance of revenue bonds, etc.
- Compare the taxpayer costs of securing the guarantees of suppliers acting through the TPCE with the costs associated with industry tax benefits and subsidies. Outline and quantify the advantages and disadvantages a TPCE may have in creating new markets, mitigating industry risk and more effectively deploying taxpayer money to support timber product industries critical to the Wisconsin Economy

- Identify the appropriate state and federal governmental agencies and their respective roles in relation to the establishment, oversight and formal regulation of a TPCE

Public & Private Sources of Debt and Equity Capital and Business Model Analysis

- Recommend possible business models and sources of venture capital to finance the startup of a Wisconsin TPCE and outline possible synergies with current programs and resources available to entrepreneurs looking to establish businesses within Wisconsin.