

**Public Service Company of New
Hampshire
Docket No. DE 11-184**

Data Request STAFF-02

**Dated: 09/21/2011
Q-STAFF-003
Page 1 of 1**

**Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff**

Question:

Reference PSNH response to Staff 1-3 and Joint Petition page 1(c) stating that PSNH grants a release of claims to the Wood IPPs. Is PSNH releasing any specific claims? If so, please describe.

Response:

The terms "Claim" and "Released Claim" are defined in Section 3 of the Settlement, Release and Support Agreement, and their meaning is a matter of legal interpretation; however, PSNH is unaware of any specific cause of action that would be covered by the settlement agreement.

DE 11-184

Joint Petition for Approval of Power Purchase Agreements and Settlement Agreement

**Wood IPPs' Response to Staff's
Data Requests to PSNH – Set 1**

Date Received: August 23, 2011
Request No.: Staff to PSNH 1-3

Date of Response:
Witness: None

Request: Reference Settlement, Release and Support Agreement, Section 3. Please identify all of the "Released Claims" being released by each of the parties to the Settlement.

Response: The terms "Claim" and "Released Claim" are defined in Section 3 of the Settlement, Release and Support Agreement, and their meaning is a matter of legal interpretation; however, the Wood IPPs are unaware of any specific cause of action that has been or could be asserted by any one party to the Settlement, Release and Support Agreement against another party.

Public Service Company of New Hampshire
Docket No. DE 11-184

Data Request STAFF-02
Dated: 09/21/2011
Q-STAFF-005
Page 1 of 1

Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff

Question:

Reference PSNH response to Staff 1-4: Why is the Commission being asked to approve the Settlement, Release and Support Agreement? How does this document relate to ratemaking or rates for PURPA purchases?

Response:

- a. The Commission is being asked to implement public policy interests of the state as reflected in the testimony of Commissioner Bald and Mr. Frantz, and the supporting letters submitted by Governor Lynch, the Executive Council, Senators Gallus, Forrester and D'Allesandro. PSNH has joined in this proceeding to assist the state in implementing those public policy interests.

The Wood IPPs required that PSNH agree to the Settlement, Release and Support Agreement in order to consummate the negotiations, leading to the PPAs and the withdrawal of their Supreme Court appeal of the Commission's orders issued in Docket No. DE 10-195. As indicated in the response to Question Staff 2-3, PSNH is unaware of any specific cause of action that would be covered by the settlement agreement. However, as PSNH shareholders make no return whatsoever from these agreements, those shareholders cannot be asked to take on the risk that the Company's entry into the Settlement, Release and Support Agreement, and the mutual releases contained therein, were imprudent.

Therefore, the Settlement, Release and Support Agreement's mutual release provision (Paragraph 3) specifically states:

"The foregoing release, remise, discharge, hold harmless obligation and covenant not to sue shall be effective with respect to PSNH only to the extent that the same are reviewed by the NHPUC and approved in a final and non-appealable order issued by the NHPUC."

In accordance with the quoted provision, the Joint Petitioners have requested Commission approval of the Settlement, Release and Support Agreement.

- b. The Settlement, Release and Support Agreement does not directly impact rates.

**Public Service Company of New
Hampshire
Docket No. DE 11-184**

Data Request STAFF-01

**Dated: 08/26/2011
Q-STAFF-004
Page 1 of 1**

Witness:

Request from: New Hampshire Public Utilities Commission Staff

Question:

Reference Settlement, Release and Support Agreement. Under what legal authority would the Commission approve the Settlement?

To be answered separately by any Joint Petitioner.

Response:

PSNH's Response

PSNH objects to this question as it seeks a legal conclusion.

Notwithstanding this objection, PSNH refers Staff to 18 CFR 292.304(a)(1)(i) and the plenary ratemaking authority granted the Commission in RSA 378:7. *See New Hampshire v New England Teleph. & Teleg. Co.*, 103 NH 394. (1961).

DE 11-184

Joint Petition for Approval of Power Purchase Agreements and Settlement Agreement

**Public Utilities Commission Staff Advocate's Response to
Staff's Data Requests to Joint Petitioners – Set 2**

Date Received: September 21, 2011
Request No.: Staff to Wood IPPs 2-8

Date of Response: September __, 2011
Witness: Thomas C. Frantz

Request: Reference Wood IPP response to Staff 1-15: Is it correct to say that the verification of the Initial Wood Price to be made pursuant to each PPA is that the Initial Wood Price set forth in each PPA reasonably and fairly reflects the actual market price(s) paid by the Wood IPPs for wood supplies during the six months prior to the specification of the proposed Initial Wood Price? If not, please explain what is to be verified.

Response: This response is being filed by Staff and PSNH to further clarify their response to Staff 1-15. The purpose of the Initial Wood Price verification process is to confirm that the negotiated Initial Wood Price included in each respective PPA is reasonable, taking into account the actual market prices paid by the Wood IPP power plant for wood fuel supplies during the applicable 6-12 month period prior to specification of such Initial Wood Price.

DE 11-184

Joint Petition for Approval of Power Purchase Agreements and Settlement Agreement

**Public Utilities Commission Staff Advocate's Response to
Staff's Data Requests to PSNH – Set 1**

Date Received: August 23, 2011
Request No.: Staff to PSNH 1-15

Date of Response: September 6, 2011
Witness: Thomas C. Frantz

Request: Reference Labrecque testimony, page 3, lines 19-21. Please explain the process envisioned by the Joint Petitioners regarding the Commission's "verification, review and approval" of the Initial Wood Price in each PPA. What information has been submitted with this filing that would allow for "verification" and "review" of the Initial Wood Prices? What exactly is to be "verified?"

Response: This response is being filed by Staff and PSNH. Each of the power purchase agreements filed for Commission approval in this proceeding provides that the "Initial Wood Price" specified in the fuel adjustment payment provisions thereof (or to be determined in the future pursuant to the provisions thereof) is "subject to verification, review and approval by the NH PUC." The Joint Petition filing does not include information that would allow for the review and verification of these "Initial Wood Prices."

The verification process proposed for the four power purchase agreements that contain a specific "Initial Wood Price" involves review and audit by Commission staff advocate and non-advocate staff member(s), on a confidential basis, of wood fuel price information made available by the relevant wood power plants at the offices of their counsel. This information would include both summary data regarding wood fuel purchases during the period used to determine the "Initial Wood Price" and copies of supporting data documenting the purchase transactions completed during the relevant period.

Following their review and evaluation of this information and documentation, it is anticipated that the staff advocate and/or non-advocate staff member(s) will prepare a verification report and/or supplemental testimony summarizing the review and verification process and setting forth his or their conclusions regarding the specified "Initial Wood Prices" and his or their recommendation.

With respect to the one power purchase agreement with a term starting in mid-2012, the verification process proposed is similar. The wood power plant that is party to this agreement would make available for Commission staff review and audit, on a confidential basis, wood fuel price information, including summary data regarding historic wood fuel purchases and, for wood fuel purchases during the six months prior to the specification of the proposed "Initial Wood Price",

both summary data regarding such purchases and copies of supporting data documenting the purchase transactions completed during the six-month period.

Following their review and evaluation of this information and documentation, these Commission staff members would prepare a verification report summarizing their review and verification process and setting forth conclusions regarding the specified "Initial Wood Price" and their recommendation. It is anticipated that the Commission would approve the "Initial Wood Price" for this particular agreement through issuance of a secretarial letter or order.



STATE OF NEW HAMPSHIRE
DEPARTMENT of RESOURCES and ECONOMIC DEVELOPMENT
OFFICE of the COMMISSIONER
172 Pembroke Road P.O. Box 1856 Concord, New Hampshire 03302-1856

GEORGE M. BALD
Commissioner

603-271-2411
FAX: 603-271-2629
george.bald@dred.state.nh.us

September 6, 2011

Edward N. Damon
Director, Legal Division
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

Re: DE 11-184, Public Service Company of NH
Joint Petition for Approval of Power Purchase and Sales Agreements and
Settlement Agreement
Non-Advocate Staff Data Request

Mr. Damon:

Here are my responses to the Data Requests, dated August 29, 2011.

Public Service of New Hampshire
DE 11-184 Public Service Company of NH

Request No. Staff 1-5

REQUEST: Reference Bald testimony, page 4, lines 7-13. Please quantify, for each of the Wood IPP facilities, the economic impacts in terms of both dollars and number of jobs associated with the retention of the employment at the facilities as well as keeping the network of supporting jobs intact.

RESPONSE: I have attached a copy two publication that I used to provide information on the economic impacts. The Economic Importance of New Hampshire's Biomass Industry, a study conducted by Sarah Smith, Marketing and Utilization Specialist, UNH and Eric Johnson, Timber Harvesting Council. Also, The Economic Importance of New Hampshire's Forest Based Economy, 2011. The study is done in cooperation with the North East State Foresters Association.



The **Economic Importance**
of New Hampshire's Forest-Based Economy
2011

A photograph of a deer standing in a pond, with a forest in the background. The image is faded and serves as a background for the text.

A NOTE FROM THE STATE FORESTER

With nearly 84% of the state covered by trees, forests are one of the major elements that define New Hampshire. They are vitally important to our social, economic, and environmental well-being. These forests help maintain New Hampshire's rural character, present an abundance of recreational opportunities, supply forest and timber products, provide energy, clean the air we breathe and the water we drink, and furnish habitat for many varieties of both plants and animals. These important attributes are also a significant economic driver for our state, resulting in a substantial contribution to our state's overall economy. This publication reveals the specific ways our forests contribute to the economy. It should be noted that these benefits are only available as long as we sustain our forests as forests. One important way of achieving that goal is by actively supporting and encouraging responsible management of our working forests and woodlands for multiple uses and benefits. The wise use and conservation of our forest resources while supporting a vibrant forest-based industry will provide the greatest long-term benefits and economic returns to the citizens of our state for generations to come.

BRAD W. SIMPKINS, INTERIM DIRECTOR
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CONTENTS

REVENUES FROM
NH FORESTS..... 3

THE FOREST
RESOURCE
OF NH 4

NH'S
FOREST-BASED
ECONOMY..... 7

SECONDARY FOREST
PRODUCTS 12

WOOD ENERGY .. 14

POSITION OF
FOREST-BASED
ECONOMY.....20

SOURCES 21

EXECUTIVE SUMMARY

The North East *State* Foresters Association has published a report similar to this in 1995, 2001, 2004 and 2007 for New Hampshire and the states of Maine, New York and Vermont. The intent is to describe the direct economic value of the forests of these states—showing that, indeed, in addition to the valuable scenic and other amenity values the forests of New Hampshire provide, they are also an economic engine that is integral to the economy of the state. No economic multipliers were used in determining the value of forest-based manufacturing, forest-related recreation and tourism and Christmas tree/maple syrup economies. Only direct sales and employment have been identified.

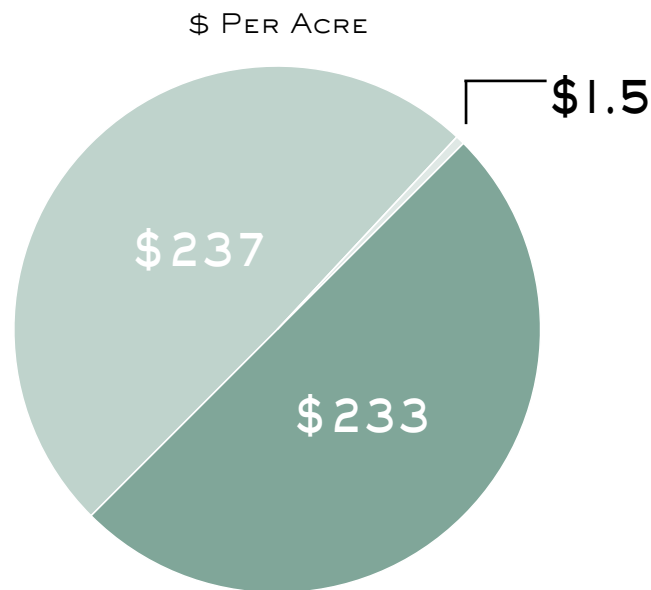
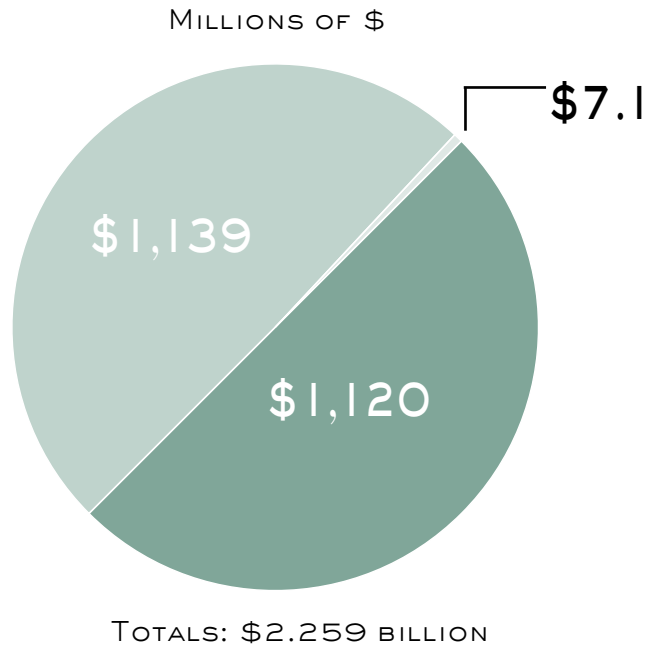
The economic value of these forest-based components of the economy of New Hampshire, at \$2.259 billion annually, is nearly 4% of the Gross State Product, which is the measure of all economic activity in New Hampshire in a year. Clearly, forests play an important role in the economic and non-economic life of the state.

KEY FINDINGS IN THIS REPORT INCLUDE:

- ❖ New Hampshire is nearly **84% forested**—this is about as much forestland as the state had in 1725. **Families own over 68%** of the state's forests while **government owns 24%**, and the rest is owned by business.
- ❖ In 2009, **1.17 million cords of wood** (2.8 million tons) were harvested in New Hampshire while **2.74 million cords** (6.58 million tons) grew in the state's forests. This sustainable use of our forests has resulted in a forest that has trees that are larger than in the past and getting larger, over time. As one would expect given the recent recession, harvest levels are down from 2005—except for harvests of wood used for energy, which are up 25%.
- ❖ The annual contribution of forest-based manufacturing to the state's economy is nearly \$1.15 billion with **8,160 jobs** and payroll of \$384 million a year while forest-based recreation and tourism is worth \$1.12 billion with **11,401 jobs** and payroll of \$224 million. Combined, the forest's direct impact on the economy of the state is \$2.26 billion annually.
- ❖ Forest landowners received over **\$30 million from the sale of their timber** in 2009. This resulted in timber taxes of over **\$3 million paid to communities**.
- ❖ Wood for energy is an increasing use of wood in New Hampshire.
- ❖ The sale of **Christmas trees, wreaths and maple syrup was valued at over \$7 million** in 2009.
- ❖ Every 1,000 acres of forest supports **1.7 forest-based manufacturing jobs** and **2.4 forest-based recreation and tourism jobs**.
- ❖ On a statewide level, forests are managed sustainably. Just over **40 percent of the annual growth of our forests is harvested**, resulting in a forest that is getting larger and older, on average.

REVENUES FROM NEW HAMPSHIRE FORESTS

FIGURE 1. ANNUAL REVENUES FROM NEW HAMPSHIRE'S FORESTS



- FOREST-BASED MANUFACTURING VALUE OF SHIPMENTS
- FOREST-RELATED RECREATION AND TOURISM
- CHRISTMAS TREES/MAPLE PRODUCTS

THE ECONOMIC VALUE OF THESE FOREST-BASED COMPONENTS OF THE ECONOMY OF NEW HAMPSHIRE, AT \$2.259 BILLION ANNUALLY, IS NEARLY 4 PERCENT OF THE GROSS STATE PRODUCT, WHICH IS THE MEASURE OF ALL ECONOMIC ACTIVITY IN NEW HAMPSHIRE IN A YEAR.

OVER 76% OF
THE FORESTS IN
NEW HAMPSHIRE
ARE OWNED
PRIVATELY.

THE FOREST RESOURCE OF NEW HAMPSHIRE

New Hampshire's land area is 5.74 million acres. Of this, over 4.8 million acres, or nearly 84%, is forested. Timberland is a classification that the USDA Forest Service gives to forestland that is capable of producing repeated forest crops because the land is fertile enough and accessible to be able to harvest the trees. New Hampshire has 4.63 million acres of timberland, or about 81% of the state.

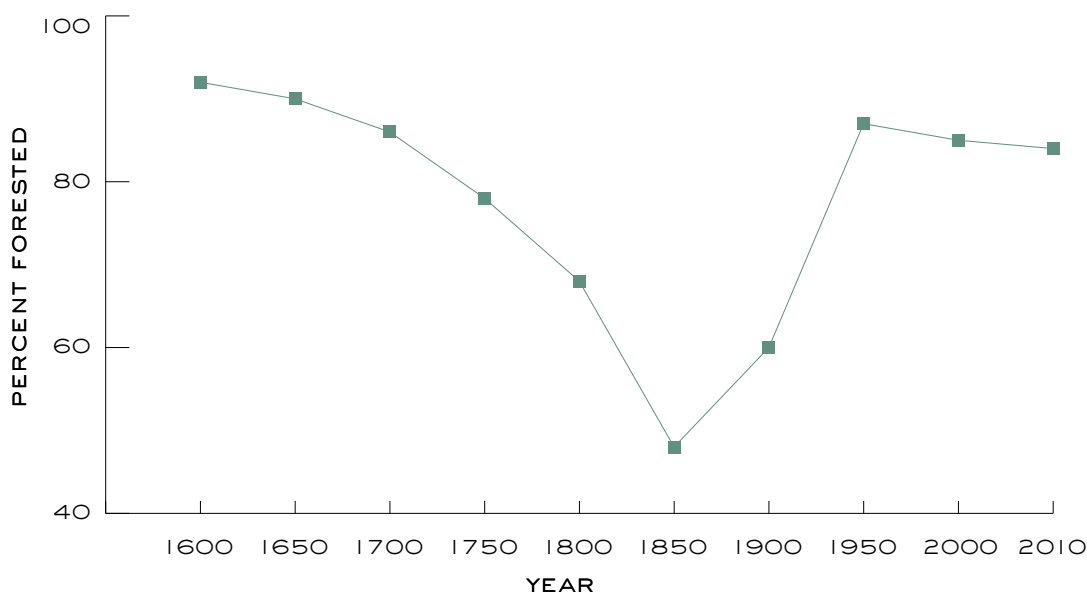
TABLE 1. LAND AREA, FORESTLAND AND TIMBERLAND IN NEW HAMPSHIRE, 2009

| TOTAL LAND AREA | FOREST LAND | TIMBERLAND |
|-----------------|-----------------|-----------------|
| 5,740,000 ACRES | 4,803,378 ACRES | 4,630,000 ACRES |

SOURCE: USDA Forest Service, *Forest Inventory & Analysis, 2009*

Historical data (see Figure 2 below) shows the area of forest today in New Hampshire, at 84%, is about what it was in 1725. The low was below 50% forested in 1860. Following this, a rush to western farmlands resulted in literally millions of acres of farmland naturally reverting back to forestland—with virtually **no** artificial planting of trees involved since the forests of the northeast regenerate naturally.

FIGURE 2. NEW HAMPSHIRE FOREST AREA



SOURCE: Harvard Forest 2010 & USDA Forest Service, *Forest Inventory & Analysis*

Over 76% of the forests in New Hampshire are owned privately (see Figure 3). The vast majority, 68% or 3.2 million acres, is owned by individuals and families. Business owns over 400,000 acres of forestland. Federal, local and state government own over 24% of New Hampshire's forests or 1.2 million acres.

FIGURE 3. FOREST OWNERSHIP, NEW HAMPSHIRE, 2009 (ACRES)

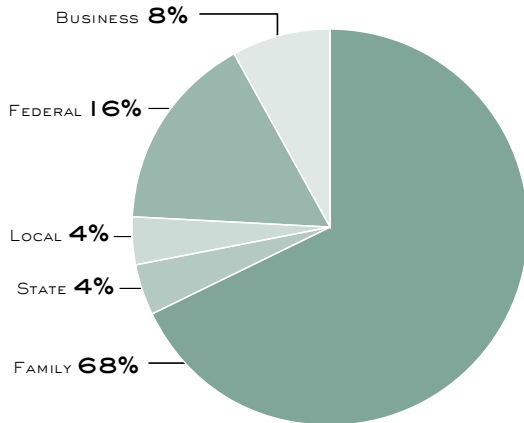
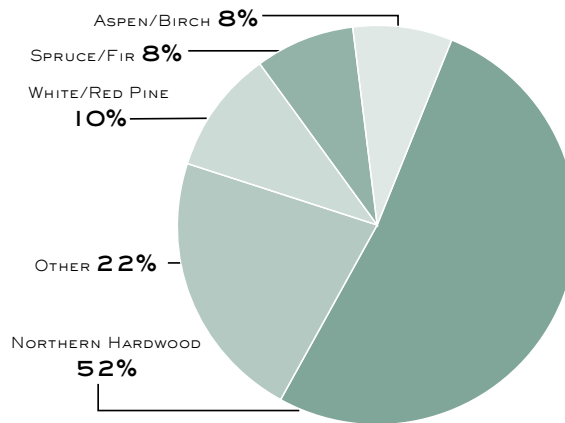


FIGURE 4. FOREST TYPES, NEW HAMPSHIRE, 2009 (ACRES)



SOURCE: USDA Forest Service, Forest Inventory & Analysis, 2009

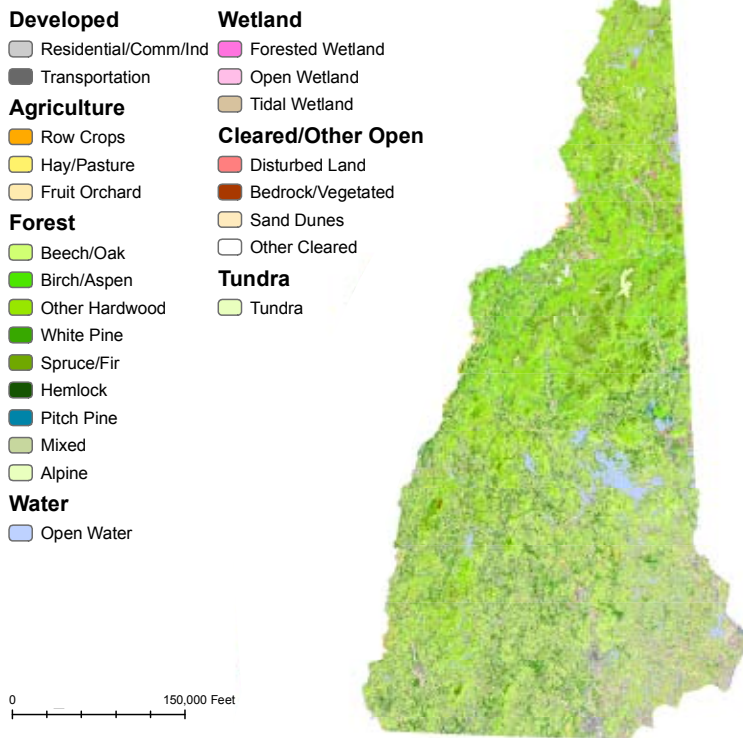
Forest types are areas of forest that have similar tree species growing. These areas tend to have similar growing conditions such as soils, elevation, aspect (compass direction that they face) and, in some cases, latitude. The northern hardwood type, which generally contains a variety of species, is dominated by sugar maple, red maple, yellow birch and American beech. Over 52% of the forested land area in New Hampshire, or 2.5 million acres, is covered by this type (Figure 4). It should be noted that although a forest type is dominated by the core species such as those listed above for northern hardwood, other tree species may also grow in those forests, though generally at reduced densities.

A MORE GENERAL WAY OF LOOKING AT NEW HAMPSHIRE'S FORESTS IS THROUGH A LAND COVER MAP. THIS SHOWS THAT THE STATE IS DOMINATED BY DECIDUOUS TREES—THOSE THAT LOSE THEIR LEAVES EACH FALL.



ARE
NEW HAMPSHIRE'S
TREES BIGGER
AND OLDER THAN
THEY WERE WHEN
WE WERE BORN?
SURPRISINGLY, YES.

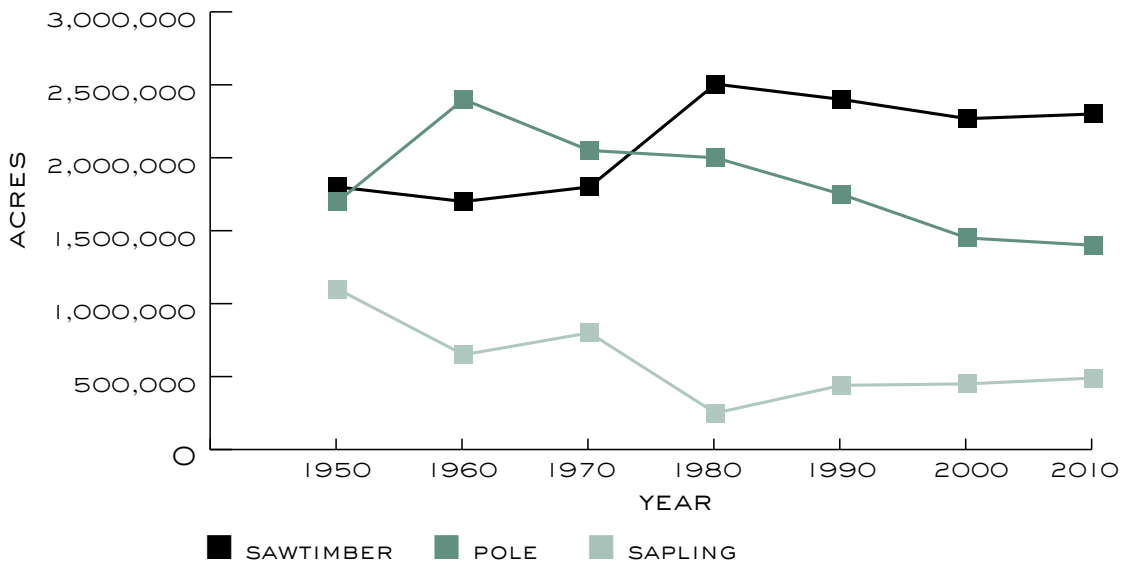
FIGURE 5. NEW HAMPSHIRE LAND COVER ASSESSMENT



SOURCE: Complex Systems Research Center, University of New Hampshire, 2002

Are New Hampshire's trees bigger and older than they were when we were born? Surprisingly, yes. As a result of timber harvesting levels that are way below growth (see Table 2 on page 13), our forests are larger and older than they were 50 years ago (see Figure 6 below).

FIGURE 6. ACREAGE OF TREES IN NEW HAMPSHIRE FORESTS BY SIZE



SOURCE: USDA Forest Service, Forest Inventory and Analysis

DEFINITIONS: sawtimber – over 9" in diameter at 4.5 feet for softwood and 11" for hardwood

pole – over 5" in diameter

sapling – under 5" in diameter

NEW HAMPSHIRE'S FOREST-BASED ECONOMY

New Hampshire's abundant forests have provided the raw material to a vibrant forest products industry since the days settlers first arrived. Early in our country's history, logs were used to build dwellings. These were followed by more conventional New England homes and buildings built from boards and other sawed wood products sawed by up-and-down and water-powered sawmills. This was followed by more modern electric or diesel powered mills in the 20th century. Pulp and paper mills later dominated the use of wood in New Hampshire beginning in the late 19th century, and though no pulp mills remain in the state since the shutdown of the mill in Berlin in 2006, pulpwood is still harvested and travels to mills in Maine, New York and eastern Canada.

Since the 1980s, stand alone use of woody biomass for large-scale production of electricity and thermal energy (primarily heat), has become a significant part of the forest products industry.

Overall, the three main sectors of the wood using industries in New Hampshire—solid wood; pulp (all pulpwood exported); and wood energy—result in timber harvest levels that are 70% of all time highs in the 1980s and 1990s.

Additionally, the forest-based recreation and tourism sectors are significant—and growing. These sectors include camping, hiking, hunting, skiing (downhill and cross-country), snowmobiling, ATV riding, fall foliage viewing and wildlife viewing. These sectors have nearly the economic activity that the forest-based manufacturing sectors have, and they employ more than in manufacturing, though the average pay is significantly less in recreation and tourism as compared to forest-based manufacturing.

FOREST-BASED MANUFACTURING

Use of wood for various products is very robust and complex in New Hampshire. A forest landowner who sells timber will see his or her trees go to every conceivable economic use once they leave the woodlot. Forest-based manufacturing in New Hampshire includes:

- ❖ Timber harvesting and related trucking;
- ❖ Primary manufacturing (sawmills and wood energy plants for electricity and thermal);
- ❖ Secondary manufacturing (e.g. furniture, paper, etc.).

Large and small operations in the timber harvesting sector cut the trees down using chainsaws or, more commonly, mechanized felling equipment and bring the wood to a log landing with skidders or forwarders. The trees are cut into veneer logs, sawlogs, pulpwood, firewood, or processed into wood chips or other products for loading onto trucks and delivery throughout the region directly to primary manufacturing mills or energy plants or to wood concentration yards.

Highest value logs may be shipped to veneer mills that take thin layers from the log in sheets (or peel them like an apple peeler) to produce veneers that go into many uses. If the product is pulpwood, pulp mills will be the processor and use the wood to manufacture pulp used in paper manufacturing. Although New Hampshire does not have a primary pulp processing facility, mills in Maine, Canada and New York provide markets for this important product. Another primary manufacturer is the wood energy industry which takes whole tree wood chips or residues (biomass) such as chips and sawdust from sawmills and burns the wood material in a boiler to produce steam which, in-turn, produces electricity or, in somewhat smaller applications, at schools and hospitals and other commercial facilities within the state,

THE FOREST-BASED RECREATION AND TOURISM SECTORS ARE SIGNIFICANT—AND GROWING. THESE SECTORS INCLUDE CAMPING, HIKING, HUNTING, SKIING (DOWNHILL AND CROSS-COUNTRY), SNOWMOBILING, ATV RIDING, FALL FOLIAGE VIEWING AND WILDLIFE VIEWING.

ALTHOUGH
NEW HAMPSHIRE
DOES NOT HAVE
A PRIMARY PULP
PROCESSING
FACILITY, MARKETS
IN MAINE, CANADA
AND NEW YORK
PROVIDE MARKETS
FOR THIS IMPORTANT
PRODUCT.

produces heat from chips or wood pellets. In yet another application, heat or steam from biomass boilers are used for manufacturing processes such as dry kilns, greenhouses, or paper making. Any manufacturing process that needs large amounts of heated water or steam can get this energy product from boilers that use woody biomass as their feedstock. Wood cut into firewood for wood stoves, furnaces and boilers is still a significant user of wood in the state, especially as the price of oil increases.

The state also has nearly 50 substantial sized sawmills and specialty wood products mills. The wood energy sector has seen a renewed resurgence as fossil fuel prices increased before the recent recession and are increasing again. The state's six wood-fired electricity-generation plants built in the 1980s were joined by the large 50 megawatt Northern Wood Power plant at PSNH's Schiller Station in Portsmouth in 2006. This plant uses over 550,000 green tons of wood chips annually.

While use of wood for energy production is the area of the forest products industry that continues to grow, it is important to note that the raw material for this sector, chiefly whole-tree wood chips produced in the forest as part of normal timber harvesting activities, is a low value product. Loggers cannot build a successful business around just harvesting trees for wood chips. With today's prices, energy biomass, largely in the form of wood chips, is a residual or supplemental part of a timber harvesting operation that must contain sawlogs and pulpwood (higher value products) for the logging and trucking sector to survive. Forest landowners would not be willing to sell only trees to be chipped for wood energy, given the low price this product brings on the stump. However, woody biomass energy products are an important part of any timber harvesting operation.

To get a sense of the economic value of the forest products manufacturing sectors, we have used several economic indicators and metrics provided by the federal government. Employment and payroll data are taken from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Accounts and the U.S. Census of Manufacturers, 2009 and 2010. Value-added contributions and the value of shipments are provided by the U.S. Bureau of Census, Annual Survey of Manufacturers, 2010 (2009 data).

PRIMARY FOREST PRODUCTS MANUFACTURING AND WOOD FLOWS

In 2009, 43.5 million board feet¹ of hardwood sawlogs and 120.5 million board feet of softwood sawlogs were harvested from the forests of New Hampshire. Total sawlog harvest in 2009 was down about 100 million board feet from 2005 harvest. In 2009, 531,000 green tons of hardwood pulpwood and 271,000 green tons² of softwood pulpwood were harvested in the state. This is down about 22% from 2005 levels. Over 1.12 million green tons of whole tree chips were harvested in 2009—a 25% increase from 2005 levels. The estimated value of these harvested volumes to landowners in stumpage³ equals over \$30 million. Figure 7 on page 9 shows the flows of wood from the major categories of wood harvested—all calibrated in tons for easy comparison. The map that is part of Figure 7 shows the flows graphically.

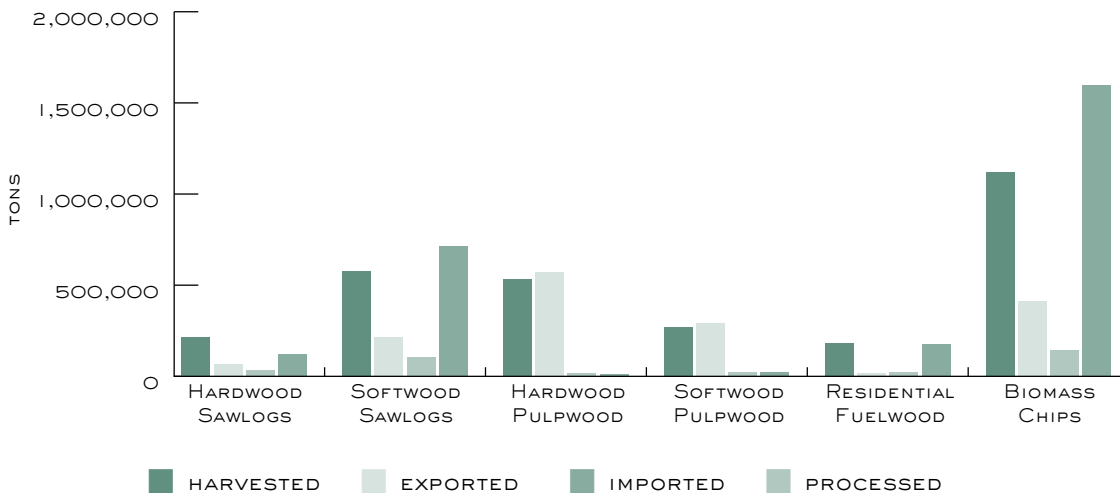
The economic value of these sectors can be seen in Figure 8 on page 10 and is explained in the next section.

¹ Board foot equals a solid piece of wood 1 inch thick by 12 inches wide by 12 inches long.

² Green ton – weight in tons (1 ton = 2000 pounds) of pulpwood or wood chips harvested from live trees—contains substantial amounts of water weight hence “green.”

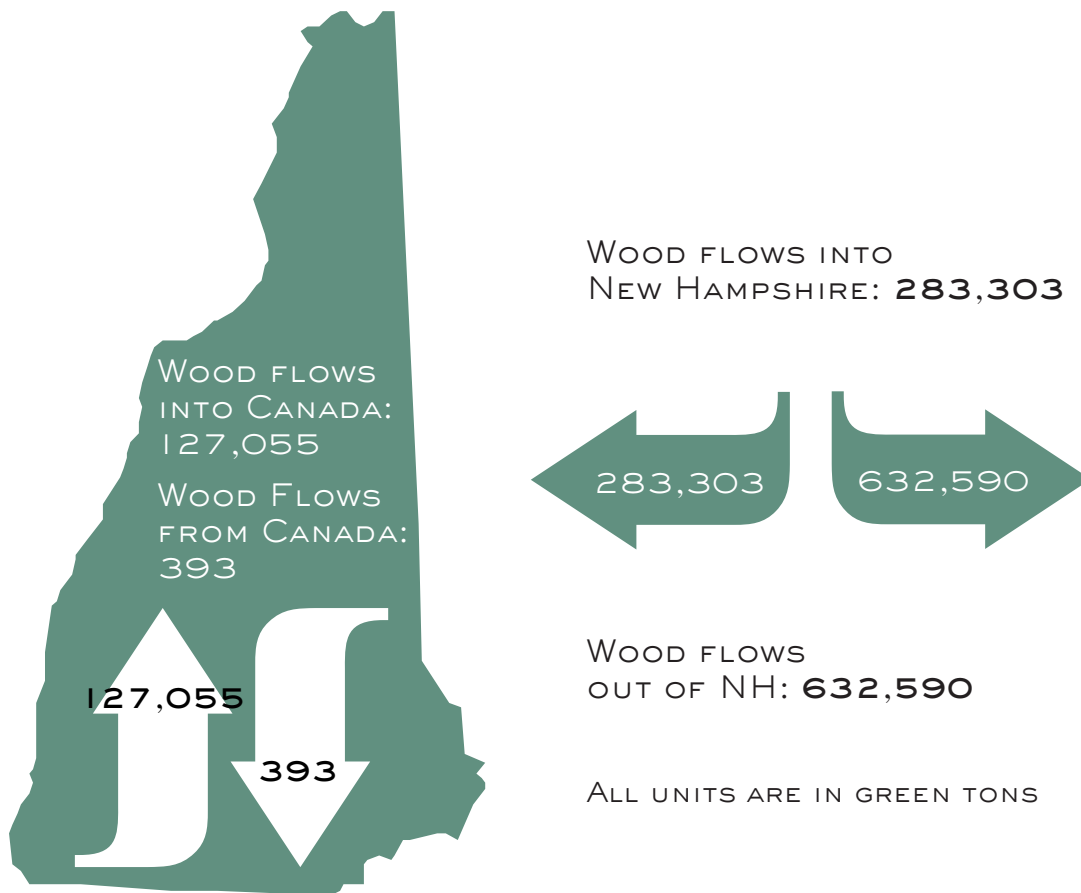
³ Stumpage – value landowners receive for their trees when they are sold in a timber sale.

FIGURE 7. WOOD FLOWS IN NEW HAMPSHIRE



SOURCES: Report of Cut data, NH DRA, 2009, NH Wood Processor Reports, 2009, Harvest and wood processor reports, Maine and Vermont and Statistics Canada

WITH TODAY'S PRICES, ENERGY BIOMASS, LARGELY IN THE FORM OF WOOD CHIPS, IS A RESIDUAL OR SUPPLEMENTAL PART OF A TIMBER HARVESTING OPERATION THAT MUST CONTAIN SAWLOGS AND PULPWOOD (HIGHER VALUE PRODUCTS) FOR THE LOGGING AND TRUCKING SECTOR TO SURVIVE.



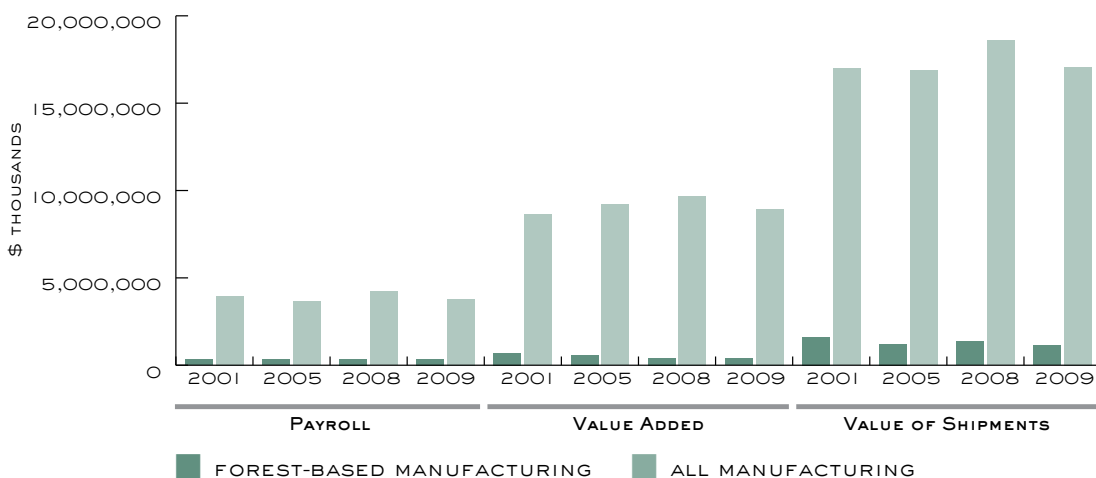
IN 2009, FOREST-BASED MANUFACTURING PROVIDED 9% OF THE MANUFACTURING PAYROLL (9% IN 2005) AND EMPLOYED 12% OF MANUFACTURING EMPLOYEES (13% IN 2005).

FIGURE 8. ANNUAL PAYROLL, VALUE-ADDED AND VALUE OF SHIPMENTS—NEW HAMPSHIRE FOREST-BASED MANUFACTURING INDUSTRIES



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, U.S. Census, Survey of Manufacturers, NH Dept. of Environmental Services, NH Public Utilities Commission, ISO New England, 2008, 2009 & 2010

FIGURE 9: FOREST-BASED MANUFACTURING AND ALL MANUFACTURING INDUSTRIES, NEW HAMPSHIRE 2001-2009



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, 2001-2009 & Annual Survey of Manufactures, U.S. Department of Commerce 2001-2009

Figure 9 provides a comparison of the forest-based manufacturing sector with the total manufacturing sector in New Hampshire over the period from 2001 to 2009. In 2009, forest-based manufacturing provided 9% of the manufacturing payroll (9% in 2005) and employed 12% of manufacturing employees (13% in 2005). Also in 2009, this sector provided 4% of value added receipts in manufacturing (6% in 2005) and 7% of value of shipments receipts (7% in 2005).

FORESTRY AND LOGGING

There are approximately 1,300 individuals employed in the forestry and logging sector in New Hampshire⁴ (see Figure 10 on page 11). Foresters provide services such as timber evaluation and appraisal, the development of management plans, management of the full suite of forest resources for the landowner and the preparation, marketing and supervision of timber sales. Foresters who provide services to landowners for compensation must be licensed by the state. There are over 300 licensed foresters in New Hampshire.

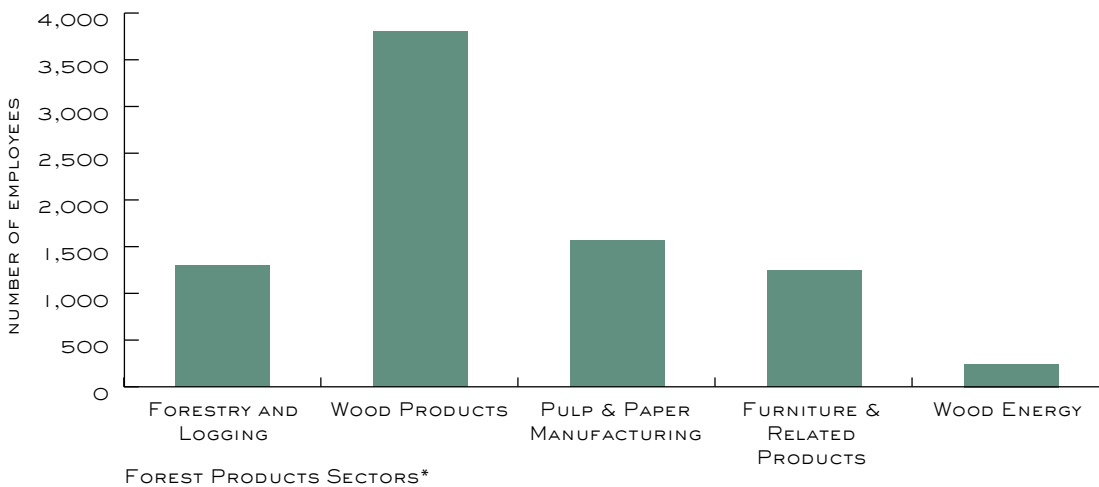
⁴ U.S. Dept. of Labor and U.S. Census, Annual Survey of Manufactures, 2009

The logging industry is an important source of employment in the New Hampshire forest products industry. Over 800 loggers are employed as sole proprietors or as part of larger full-service timber harvesting companies. The majority of these participate in the voluntary certification program—Professional Loggers Program—that promotes safety and environmental awareness through the NH Timber Harvesting Council. Loggers provide a full suite of services to forest landowners, often through foresters who manage the land for the landowner. Loggers have large investments that can easily total several million dollars. This investment is in logging machinery such as feller bunchers, skidders, forwarders, log trucks, chippers and other equipment.

Annual payroll for forestry and logging is \$59.1 million.

OVER 800 LOGGERS
ARE EMPLOYED AS
SOLE PROPRIETORS
OR AS PART
OF LARGER
FULL-SERVICE
TIMBER HARVESTING
COMPANIES.

FIGURE 10: EMPLOYMENT IN FOREST PRODUCTS MANUFACTURING



SOURCES: U.S. Dept. of Labor, U.S. Dept. of Commerce, Bureau of Economic Analysis and Innovative Natural Resource Solutions LLC, 2009 and 2010

*NOTE: Most of the employment in the wood energy sector is in the forestry/logging sector.

PRODUCTION OF LUMBER AND RELATED SOLID WOOD PRODUCTS

Employment in the manufacturing of solid wood products once the tree leaves the forest, totals over 3,800. These individuals run complicated computerized sawing equipment, sorters, fork lifts, trucks and other machinery. They also work at such tasks as sorting and grading of both logs and lumber.

In 2009, sawmills in New Hampshire processed 24.6 million board feet of hardwood sawlogs and 149 million board feet of softwood sawlogs into lumber (Figure 7). The total annual value added for wood products manufacturing which also includes kiln drying and planing, millwork, wood container and pallet manufacturing, and prefabricated wood buildings is \$120 million and the value of shipments was \$614 million (Figure 8).

Annual payroll in the solid wood products sector is \$115 million.

PULP AND PAPER MANUFACTURING

While the two wood pulp mills in New Hampshire closed in 2005 and 2006, there are still paper manufacturing plants operating that use purchased pulp from outside New Hampshire as raw material. Paper manufacturing in New Hampshire still employs over 1,500. These high paying jobs result in the production of both high-grade papers (writing, printing) and lower grade papers (paper towels).

THE WOOD
ENERGY SECTOR IN
NEW HAMPSHIRE
IS SIGNIFICANT AND
IS GROWING AND
DIVERSIFYING
QUICKLY.

Employees in this sector run the complicated paper machines and the multitude of related machinery (folding, cutting, etc.) located in the paper manufacturing firms. This sector does not account for the hundreds or more employed in the printing companies throughout the state, of which there are many large and small employers.

The total annual value added for paper manufacturing is \$113 million and the value of shipments is approximately \$360 million (see Figure 8 on page 10).

WOOD ENERGY

The wood energy sector in New Hampshire is significant and is growing and diversifying quickly. The sector includes traditional firewood processing, more sophisticated thermal uses of biomass such as wood chips and pellets, primarily for heating, as well as large-scale wood chip use for electricity generation.

Wood fiber and bark burned for energy are referred to as biomass and come from several sources: tree tops and low quality stems of harvested trees (whole tree chips) from forestry harvests, whole tree chips from land clearing or development, and sawmill residue. **Revenues from the sale of biomass chips to the plants in 2010 totaled over \$50 million.**

Please see page 14 for a more thorough review of the growing wood energy sector.

SECONDARY FOREST PRODUCTS MANUFACTURING

Secondary manufacturing generally refers to the cutting and assembly of lumber into parts or finished products. Paper making could be considered secondary manufacturing as well but we have covered that above instead because it starts with raw material—pulpwood. A diversity of trees growing in New Hampshire contributes to a vibrant secondary industry, composed of several hundred dispersed companies that provide jobs and economic stability to mostly rural communities. Cabinets, moulding, clapboards, furniture, canoe and kayak paddles and many other products are manufactured by this sector.

FURNITURE AND RELATED PRODUCTS

Furniture and related products is a category of manufacturing that includes wood kitchen cabinet and countertop manufacturing, non-upholstered wood household furniture manufacturing, and custom architectural woodwork and millwork manufacturing. In 2009, 1,245 individuals were employed in New Hampshire in this sector (Figure 10), with an annual payroll of \$56 million. The total annual value added for furniture and related products was \$72 million and the value of shipments was \$165 million (Figure 8).

CHRISTMAS TREES AND MAPLE SYRUP

Though small, the Christmas tree and maple syrup industry are an important local economic component of the forest products industry in New Hampshire and are well-recognized. In 2009, the wholesale and retail sale of maple syrup and related products totaled \$4.8 million while Christmas trees were \$ 2.4 million.

SUSTAINABILITY

Concerns about the sustainability of harvesting trees for products have become more acute in recent years, especially as discussion around increased biomass use for energy has reached the legislature and the halls of Congress. The notion of sustainability of use of forest resources centers on the basic definition: use of forest resources today should not impair possible use by future generations—in this case, use of trees to make products and create energy.

The vast majority of timber cut in New Hampshire comes from private forests. Private landowners make the decision about when or whether to harvest. Research from the USDA Forest Service National Woodland Owners Survey shows that timber harvesting is not the primary reason family forest owners own land. Providing wildlife habitat, nature viewing and other non-timber activities generally rank higher as reasons for owning land. Therefore, landowners are not so sensitive to what the market is demanding unless the price changes dramatically. Therefore, biomass which is the lowest value product at the stump (priced between .75 cents and \$2 per ton) is not likely to make landowners react to an uptick in market price.

Loss of forestland to other uses, such as development, is the biggest threat to New Hampshire's forests. Land use change is defined as when trees are harvested and put to various uses but the land changes from forest to non-forest use. Once converted to other uses, land is no longer in forest and cannot provide forest products for society. In recent years in New Hampshire, though slowed by the recent recession, approximately 5,000 acres of forest and farmland have been converted to developed uses each year. There are a multitude of public and private efforts that have been underway for decades to slow this conversion and keep lands in forests and farms. These include land trusts in the private sector and several state programs such as the Land and Community Heritage Investment Program (LCHIP) and federal programs such as the Forest Legacy Program.

Secondly, the rate of harvest of trees relative to the growth of the state's forests is important to the sustainability question as well. Recent data (see Table 2) shows that, in New Hampshire, annual harvests of timber for various products is just over 40 percent of the amount of wood that grows each year in the state's forests. In a nutshell, this means that each year the trees in New Hampshire's forests are growing larger and older. From a statewide perspective, the timber harvests are sustainable. This may not be the case if looking at a single tree species or a small geographic area of the State. And New Hampshire's sustainability record occurs through minimal state government regulation and much private commitment to stewardship.

TABLE 2. FOREST GROWTH VS. HARVESTING

| STATE | NEW HAMPSHIRE |
|---------------------------------------------------|---------------|
| STANDING VOLUME GROWING STOCK (GREEN TONS) | 304,025,663 |
| NET GROWTH GROWING STOCK (GREEN TONS/ANNUAL) | 4,947,048 |
| NET GROWTH TOPS & BRANCHES (GREEN TONS/ANNUAL) | 1,632,526 |
| TOTAL NET GROWTH (GREEN TONS/ANNUAL) | 6,579,574 |
| HARVEST (GREEN TONS/ANNUAL) | 2,800,000 |

SOURCE: USDA Forest Service, *Forest Inventory and Analysis*.

THE NOTION OF
SUSTAINABILITY
OF USE OF
FOREST RESOURCES
CENTERS ON THE
BASIC DEFINITION:
USE OF FOREST
RESOURCES TODAY
SHOULD NOT IMPAIR
POSSIBLE USE
BY FUTURE
GENERATIONS—IN
THIS CASE, USE
OF TREES TO MAKE
PRODUCTS AND
CREATE ENERGY.

AT THE RESIDENTIAL
LEVEL, WOOD IS
ONE OF MANY FUELS
USED FOR HEATING.
WOOD HEAT CAN
COME FROM EITHER
CORDWOOD OR
WOOD PELLETS;
POPULARITY OF
WOOD AS A PRIMARY
HEATING SOURCE
MAY INCREASE AS
NEW TECHNOLOGIES
ARE AVAILABLE TO
CONSUMERS AND AS
OIL PRICES RISE.

WOOD ENERGY IS A BIG PART OF NEW HAMPSHIRE'S ENERGY ECONOMY

While the last decade has seen wood energy gain increased attention at the national level, New Hampshire has a long history of using wood for thermal and electric energy generation. Many New Hampshire homes use wood as a primary or supplemental form of heating; and community-scale biomass applications, such as heating schools with wood boilers, is growing statewide. New Hampshire has seven operating utility-scale biomass plants, generating renewable electricity.

THE RESOURCE

Biomass fuel—primarily for biomass electric applications but also for some thermal—is the largest single component of New Hampshire's timber harvest. In 2009, over 1.1 million green tons of biomass chips were harvested from New Hampshire forests; this represents 38% of all volume harvested. This is an increase from 2005, when roughly 860,000 green tons of biomass fuel was harvestedⁱⁱ (Figure 7).

WOOD HEATING

Wood can be used in a variety of thermal applications at the residential and industrial scale. For example, a number of New Hampshire sawmills use wood to heat kilns used to dry lumber. At the residential level, wood is one of many fuels used for heating. Wood heat can come from either cordwood or wood pellets; popularity of wood as a primary heating source may increase as new technologies are available to consumers and as oil prices rise. Harvest data suggest about 75,000 cords are cut commercially for firewood each year but older use data for New Hampshire and new data from Vermont suggest the usage for cordwood is more likely in the 250,000 cords per year range. More primary research is needed in this area to better understand this important use of wood for energy.

In 2009, an estimated 26,000 New Hampshire homes used wood as the primary heating sourceⁱⁱⁱ; a large number of homes also use wood as supplemental heat. This number has been increasing steadily from 1970, when an estimated 2,000 New Hampshire homes used wood as a primary heating source.

FIGURE II: NEW HAMPSHIRE HOMES HEATING WITH WOOD



SOURCE: U.S. Census Bureau, 2005 – 2009 American Community Survey, New Hampshire—Selected Housing Characteristics: 2005 – 2009

Wood is also becoming an increasingly popular fuel for community-scale heating, such as schools and municipal buildings. For example, in 2010 the Winnisquam School District began using biomass fuel to heat the high school in Tilton, New Hampshire. Using wood for heat is a highly efficient use of biomass fuel, with the majority of the energy in the wood captured and put to use. Biomass thermal applications of this scale generally use 1,000 to 2,000 green tons per year, and are an important opportunity to generate energy from renewable sources.

In addition to cordwood and community-scale heating, New Hampshire’s capitol complex and parts of Concord’s downtown are heated by Concord Steam, which uses wood to provide district heat to a portion of the city. District heating, often used in a campus environment, has opportunities for expansion in the state’s cities and town centers.

New Hampshire also has two pellet manufacturers, located in Jaffrey and Barnstead, which take in raw wood and manufacture a dried, densified pellet used in heating. Wood pellets, which can be used in specifically designed stoves, furnaces or boilers, provide an easy to handle, consistent and renewable way to generate heat.

BIOMASS ELECTRIC

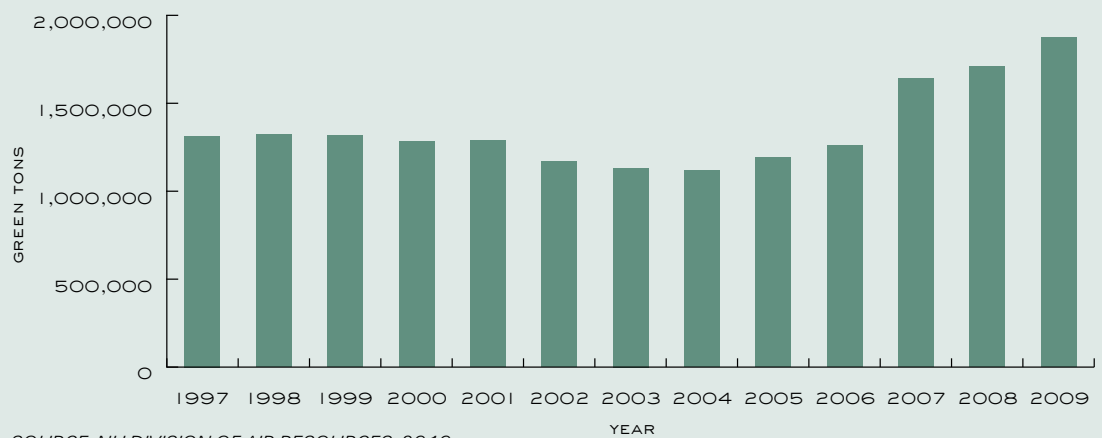
New Hampshire currently has 7 operating wood-fired power plants, that combined provide over 150 MW of generation capacity. Five of these plants have been in near-continuous operation for over 20 years, providing New Hampshire residents with renewable power from the state’s forests. Another facility was recently converted from coal to wood, replacing an imported fuel with biomass that is local and renewable. In addition to existing biomass electric projects, several more facilities are in various stages of development and have the potential to grow this market.

New Hampshire biomass plants used roughly 1.9 million green tons of wood fuel in 2009, up from 1.3 million green tons in 2000^{iv}. Much of the wood used at these facilities comes from New Hampshire timber harvesting operations, and some is purchased from suppliers in neighboring states.

NEW HAMPSHIRE
CURRENTLY HAS
SEVEN OPERATING
WOOD-FIRED POWER
PLANTS, THAT
COMBINED PROVIDE
OVER 150 MW
OF GENERATION
CAPACITY.

IN MANY APPLICATIONS, BIOMASS IS COST COMPETITIVE, AND CAN PROVIDE CONSUMERS WITH AN OPPORTUNITY TO SAVE MONEY, USE A RENEWABLE FUEL, AND SUPPORT THE LOCAL ECONOMY.

FIGURE 12: USE OF WOOD TO GENERATE ELECTRICITY IN NEW HAMPSHIRE



SOURCE: NH DIVISION OF AIR RESOURCES, 2010

BENEFITS OF BIOMASS

Biomass energy when used for generation of electricity, heat, or (someday) liquid fuel has a number of benefits. Biomass is a locally sourced fuel, and—unlike most other energy sources used in New Hampshire—benefits the local economy through jobs in the harvesting, processing and use of wood. There are often emissions reductions associated with biomass, depending upon the application and the fuel being replaced or offset. Biomass fuel is made from low-grade wood—generally not suited for higher value markets—and provides for landowners and land managers options and opportunities when practicing forestry. In many applications, biomass is cost competitive, and can provide consumers with an opportunity to save money, use a renewable fuel, and support the local economy.

TABLE 3. MAJOR USERS OF WOOD FOR ENERGY IN NEW HAMPSHIRE

| TOWN | TYPE |
|----------------|------------------------|
| ALEXANDRIA | ELECTRIC |
| ASHLAND | ELECTRIC |
| BETHLEHEM | ELECTRIC |
| PORTSMOUTH | ELECTRIC |
| SPRINGFIELD | ELECTRIC |
| TAMWORTH | ELECTRIC |
| WHITEFIELD | ELECTRIC |
| BARNSTEAD | PELLET |
| JAFFREY | PELLET |
| CONCORD | DISTRICT HEAT |
| DIXVILLE NOTCH | DISTRICT HEAT |
| ANDOVER | COMMUNITY SCALE (HEAT) |
| GREENFIELD | COMMUNITY SCALE (HEAT) |
| HANOVER | COMMUNITY SCALE (HEAT) |
| MARLBOROUGH | COMMUNITY SCALE (HEAT) |
| PEMBROKE | COMMUNITY SCALE (HEAT) |
| PENACOOK | COMMUNITY SCALE (HEAT) |
| SUTTON | COMMUNITY SCALE (HEAT) |
| TILTON | COMMUNITY SCALE (HEAT) |



SOURCES FOR THE WOOD ENERGY SECTION:

¹ New Hampshire Division of Forests and Lands, 2009 Report of Cut Data.

² New Hampshire Division of Forests and Lands, 2005 Report of Cut Data.

³ U.S. Census Bureau, 2005 – 2009 American Community Survey, New Hampshire – Selected Housing Characteristics: 2005 – 2009.

⁴ New Hampshire Department of Environmental Services, Air Resources Division, 2010.

THE RECREATION
ACTIVITIES INCLUDED
IN THIS REPORT
CONTRIBUTE \$1.35
BILLION DOLLARS
IN SALES TO THE
NEW HAMPSHIRE
ECONOMY.

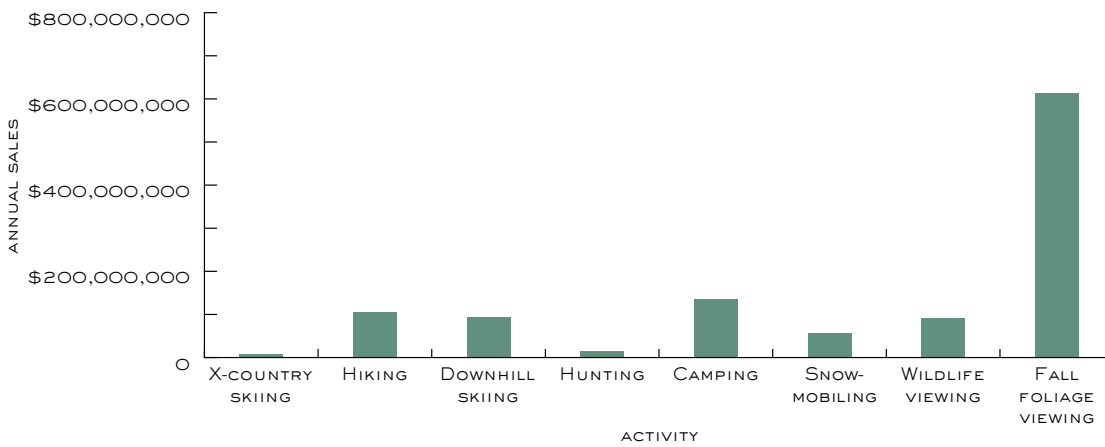
FOREST-BASED RECREATION

Logically, a large percentage of recreation and tourism activities in New Hampshire are linked to the forest because it so dominates the landscape. In most places where people recreate, forests are at the site or nearby or in clear view of the location. Yet estimating the specific contribution made by the forest environment towards recreation and tourism expenditures is still a challenge. The recreation activities selected for this report use the same methodology as those used in our similar reports in 2004 and 2007. The activities that take place primarily in the forest environment include camping, hiking, hunting, downhill skiing, cross-country skiing, snowmobiling, fall foliage viewing, and wildlife viewing. Attributing 100% of the economic contribution of these activities to forests is an overstatement, but 50% is an understatement. In his analysis for this report, Dr. Hugh Canham assumed three-quarters (75%) of each activity would not take place if there were no forests. That percentage is 100% for fall foliage viewing.

Further description of the methodology used is helpful because the data sources are not as straightforward as those used for forest products. As with the forest products estimates, the most up-to-date data was used for recreation and tourism. Estimates of number of visitor, or participant, days engaged in for each selected recreation activity were drawn from the National Survey on Recreation and the Environment (NSRE) (Cordell et al 2004) and by updating the data in the previous studies by the percent increase in population as determined from U.S. Census projections (U.S. Bureau of the Census). Expenditure data per participant-day are an average of (1) updated amounts from the 2007 study using the change in Consumer Price Index (U.S. Bureau of Labor Statistics) and (2) updated data on outdoor recreation spending (Stynes and White, 2006). For hunting and wildlife viewing no direct number of visitor-days was developed. Instead, direct estimates of expenditures were updated from those in the 2006 National Survey of Fishing, Hunting, and Wildlife-Related Activities (U.S. Department of Interior 2006). Employment impacts were calculated by first taking estimated 2009 sales and deflating them back in time and using a sales to employment ratio. For payroll, the estimate of sales to payroll was applied directly to the 2009 sales results.

The recreation activities included in this report contribute \$1.35 billion dollars in sales to the New Hampshire economy. The portion attributed to the forest resource is \$1.12 billion dollars. These are distributed among purchases at food and beverage stores, automobile gasoline service stations, accommodations (lodging places), eating and drinking establishments, and a host of other retail trade or service sectors. Fall foliage viewing is the largest contributor with over 45% of the total sales, and is followed by, in order, wildlife viewing, cross country skiing, snowmobiling and hunting (Figure 13). **About 11,401 people are directly employed in recreation and tourism as a result of the forest with payrolls of \$187 million annually due to forest-related recreation in New Hampshire.** All of these numbers have trended slightly upwards since the 2007 and 2004 reports were issued. In the 2007 report (2005 data), recreation/tourism activities related to forests contributed \$1.07 billion annually while in 2004 (2002 data) it was \$940 million annually.

FIGURE 13. ANNUAL SALES IN OUTDOOR RECREATION ACTIVITIES IN NEW HAMPSHIRE ATTRIBUTED TO FORESTS—2009



SOURCE: *Direct Economic Impact from Forest-Related Recreational Activities in New Hampshire for 2009*, Dr. Hugh Canham.



POSITION OF FOREST-BASED ECONOMY IN NEW HAMPSHIRE

Table 4 provides a comparison of the forest-based manufacturing sector with the total manufacturing sector in New Hampshire (also see Figure 9). An important note in Table 4, in the asterisks to the table, an interesting fact is noted about the economic activity level in the forest products industry during the recession period beginning in 2008. Compared to data from 2005, in 2009 the forest products economy performed better than the manufacturing economy as a whole. All manufacturing was at about 50% of 2005 levels in 2009 while forest products manufacturing was over 64% of 2005 levels.

TABLE 4. GROSS STATE PRODUCT, FOREST-BASED MANUFACTURING, NEW HAMPSHIRE, 2009

| TYPE | MILLIONS OF \$ |
|---------------------------------------------|-----------------|
| WOOD PRODUCTS MANUFACTURING | \$120 |
| FURNITURE AND RELATED PRODUCT MANUFACTURING | \$72 |
| PAPER MANUFACTURING | \$113 |
| FORESTRY AND LOGGING | \$20 |
| WOOD ENERGY | \$50 |
| TOTAL | \$375* |
| GSP, MANUFACTURING, NEW HAMPSHIRE | \$6,453** |
| GSP TOTAL | \$59.400 |

*This is over 64% of what the value of these forest sectors was in 2005.

**This is just over 50% of what the value of manufacturing was in 2005.

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The North East *State* Foresters Association (NEFA) is the State Foresters of Maine, New Hampshire, Vermont, and New York cooperating with the U.S. Forest Service State & Private Forestry on issues of common interest (see www.nefainfo.org).

This booklet is part of a series on the economic importance and value of forest-based manufacturing and forest-related recreation and tourism of the four states in the NEFA region. Past reports can be viewed at www.nefainfo.org. Economic multipliers were **not** used in this or any past reports and the economic benefits associated with forest values such as clean water, carbon, soil stabilization and regional green space, among others, are also not included in this report. As a result, the final values are very conservative.

This publication was funded in large part through a grant from Northeast Utilities.

The Economic Importance of New Hampshire's Biomass Industry



A voluntary survey to gather data about the biomass industry

The Economic Importance of New Hampshire's Biomass Industry

Two parts:

- Direct impact of seven wood to energy plants
- Direct impact of wood chip suppliers

Wood-To-Energy Plant Data:

- NHTOA survey representing 5 plants
- UNH Cooperative Extension survey representing 4 plants
- Data combined and expanded to represent 7 plants
- This summary is not a scientific survey
- Data should be treated as an estimate

New Hampshire's Biomass Industry

Wood-to Energy Plant information continued.

Electrical Power Production 120 MW

Tons of Wood Consumed 1.8 M Tons

1.8 @ \$25 = \$45 million

New Hampshire's Biomass Industry

Wood-to Energy Plant information cont.

| | |
|--------------------------------|--------------|
| Number of direct employees | 150 |
| Total Payroll (incl. benefits) | \$15,650,000 |

| | |
|--------------------|---------------|
| Fuel (non-wood) | > \$1,000,000 |
| Maintenance/Parts | > \$5,000,000 |
| Other purchases | > \$1,000,000 |
| Property Taxes | > \$1,000,000 |
| Other Taxes & Fees | > \$3,000,000 |

| | |
|----------------------------|---------------------|
| Total Direct Impact | \$71,650,000 |
|----------------------------|---------------------|

New Hampshire's Biomass Industry

Total Number of Suppliers est. 260

On-going Supplier Survey

- NH Timber Harvesting Council initiative
- An attempt to get a handle on the economic impact of logging contractors producing chips.

New Hampshire's Biomass Industry

20 Supplier's Numbers

| | |
|---------------------|-------------|
| Chip Production | 597,642 |
| T | |
| Pulp Production | 149,141 T |
| Firewood Production | 35,000 T |
| Sawlog Production | 31,903 MBF |
| Stumpage Paid | \$7,976,574 |

New Hampshire's Biomass Industry

20 Supplier's Numbers cont.

| | |
|------------------------|-------------|
| Number of employees | 237 |
| Total Payroll | \$9,281,425 |
| Subcontractors | \$1,825,063 |
| Payroll/Unempl. Tax | \$934,191 |
| Work. Comp/Health Ins. | \$1,193,857 |

New Hampshire's Biomass Industry

20 Supplier's Numbers cont.

| | |
|----------------------|-------------|
| Equipment/loans | \$4,627,907 |
| Maint./Repairs | \$4,030,447 |
| Equip. Insurance | \$394,740 |
| Fuel | \$5,622,177 |
| Vehicle Registration | \$259,000 |

New Hampshire's Biomass Industry

20 Supplier's Numbers cont.

| | |
|---------------------------------|------------------|
| Moving Equipment | \$314,693 |
| Job closeout/BMPs | \$127,093 |
| Road/Landing const. | \$281,535 |
| <u>Other Tax, Permits, Fees</u> | <u>\$971,775</u> |

TOTAL **\$37,840,477**

NH Renewable Portfolio Standard

- Passed in 2007 to increase use of clean, renewable power by utilities,
- Creates secondary market for renewable power (sale of “credits”),
- Class 3 established to support “existing biomass”

NH RPS review process

- Over the next four to six months the PUC will receive public input and host 4 meetings.
- 1- Adequacy of current/potential resources
- 2- Energy efficiency/Thermal Class
- 3- Multi-year procurement agreements
- 4- Fund distribution

Get involved and comment

- Participate in a public meeting. Dates will be posted on NHTOA website and PUC website.
- Complete a wood producer survey and forward it to Sarah Smith at UNH Cooperative Extension
- Submit written comments to the PUC

Email: rpsreview@puc.nh.gov

Mail: Public Utilities Commission
Sustainable Energy Division
21 S. Fruit St., Suite 10
Concord, NH 03301

For More Information

Go to:

<http://www.puc.nh.gov/Sustainable%20Energy/Review%20RPS%20Law.html>

SAMPLE IMPACT SHEET



RED JACKET LOGGING

31 Red Jacket Road
NH 00380

Redhill,
603-000-

0000, redjacket@email.net

Owner: **Red Redjacket**

Selective Logging
Whole-Tree Harvesting
Trucking

Redjacket Logging is part of New Hampshire's \$1.7 billion forest products industry. Did you know that New Hampshire is 84% forested and that most of the state's forestland is privately owned? Our forests contribute to our quality of life by providing, goods, services, and the green backdrop that we all enjoy. Each timber harvest must comply with NH timber harvesting laws which include protections for wetlands and water quality. NH has approximately 200 licensed professional foresters and well over 350 certified professional loggers managing well over 3000 timber sales each year. (UNH Cooperative Extension)

In 2010, Redjacket Logging:

- Harvested over 2 million board feet of sawlogs supporting NH's sawmill industry.
- Harvested 45,000 Tons of whole-tree chips contributing to NH's renewable power industry.
- Paid over \$450,000 in stumpage, 10% of which is returned to NH towns.
- We provide 12 full-time, year-round, full-benefits jobs.
- Our payroll is \$500,000, employment taxes and insurance adds another \$150,000.
- My company spends \$500,000 on equipment loans and maintenance.
- We spend over \$300,000 on fuel.

**Please Forward Logger Economic Data to
Sarah Smith**

**General Questions call NHTOA at
Office: (603) 224-9699**

Eric Johnson; ejohnson@nhtoa.org

Jasen Stock; jstock@nhtoa.org

www.nhtoa.org

54 Portsmouth Street, Concord, NH 03301

Public Service of New Hampshire
DE 11-184 Public Service Company of NH

Request No. Staff 1-6

REQUEST: Reference Bald testimony, page 4, lines 23-24. Please provide any written documents associated with the referenced economic development plan for the North Country.

RESPONSE: My reference was to a strategy more than specific plan for all of the North Country. We want to assist the IPPs, Issacson Steel and Berlin, and approving the PPAs insures that this will occur. While Issacson Steel is not a party to the PPAs, the company is strongly affected by the outcome, and therefore, so is the City of Berlin. My response in 1-5 details some of the economic impacts from the Wood IPP facilities. But it is important to remember that the 140 employees at Issacson are impacted by this project going forward.

DE 11-184

Joint Petition for Approval of Power Purchase Agreements and Settlement Agreement

**Department of Resources and Economic Development's Response to
Staff's Data Requests to Joint Petitioners – Set 2**

Date Received: September 21, 2011

Date of Response: September 29, 2011

Request No.: Staff to DRED 2-2

Witness: George M. Bald

Request: Reference Commissioner Bald testimony at page 2 line 27 and page 3 line 2 and Staff Advocate testimony at page 5 line 1: What is the evidence supporting the conclusion that unless the Wood PPAs are approved, the Wood IPP plants will face imminent closure?

Response: The imminent threat to the IPP's future viability is based on comments from the plants themselves, as well as a basic understanding of the fuel costs for biomass plants as compared to the average price for which they can sell their power.

DRED has been working closely with several of the IPP's over the past year. The threat to the plants' future is based on information garnered from multiple conversations during that time. However, DRED will cite four examples specifically. The first example was a presentation given by Mike O'Leary of the Bridgewater plant during a meeting at Merrimack Valley High School in Penacook on March 31st, 2011. This meeting was sponsored by the NH Timberland Owner's Association/Timber Harvesting Council to bring attention to the IPP's plight. During this presentation, Mr. O'Leary made mention that the plants were in trouble under current conditions, and they would not be able to survive into the future, although no specific date was given. During this presentation, Mr. O'Leary also displayed a Powerpoint program outlining several of the issues the Bridgewater plant was facing, including their costs (a copy of the Powerpoint program is attached).

A second example is an interview conducted by Chris Jensen of NH Public Radio in February, 2011. During this interview, Mr. Jensen interviewed several people connected to the IPP/biomass issue, including two plant managers, Mike O'Leary from Bridgewater and Russ Dowd from Pinetree Power in Tamworth. During this interview, both plant managers made reference to the dire conditions the plants faced. Mr. Dowd made a statement that "we are heading for the edge of the waterfall, the wood power plants. I mean, we're watching the spray right now." He further went on to state that the plants could be shut down in three to four months. Mr. O'Leary stated his plant had lost almost \$700,000 in one

-2-

month. The interview includes several additional statements by plant managers and others. A copy of the NHPR interview is attached. The third and fourth examples are attached as pdf files, one from the New Hampshire Business Review

Bridgewater Power Company LP Power Plant Perspective

Mike O'Leary - Bridgewater Power

Fact Sheet

- **Commercial Operation - 1987**
- **Output – 15 MW – 130,000 MWH's**
- **Fuel – Wood – 235,000 green tons**
- **Ash – 4,500 wet tons**
- **Staff - 19**

Why Wood?

Beyond the Renewable Argument

- Fueled by an in state resource \$5.75-\$7+ million fuel \$\$ all stay in state.
- Direct employment (19) costs of \$1.5 -\$2 million – per plant
- Indirect employment – 80-100 per plant
- Property tax expenditures in excess of \$100K per year
- Community Relations - \$35K+

Why Wood Cont'd

- **Permit Fees – Excess of \$50K**
- **State Income Taxes**
- **Supplier, fees & taxes**
- **Employee taxes etc.**
- **Below PSNH Default Service Rate**

Where we've been/Where we are

- **20 year fixed price rate orders with PSNH**
- **Rates were based on PSNH projections and approved by the NHPUC**
- **Major capital upgrade to qualify for Renewable Energy Credits - 2007**
- **Entered into a 3 year fixed price contract with Constellation New Energy**

Where we've been/Where we are cont'd

- All output sold unit contingent – 3 years
- Bundled Energy, Capacity & REC's
- Contract expired at the end of August 2010
- Have sold real-time since

Market Conditions

- **RTC Energy Price - \$48/MWH**
- **RECS - \$12-15 ea.**
- **Capacity - \$5/MWH**
- **All in revenue - \$65-70/MWH**

Mike O'Leary - Bridgewater Power

Fuel Cost

- $235,000 * 25 = \$5,875,000$
- $235,000 * 30 = \$7,050,000$
- $235,000 * 35 = \$8,225,000$
- $\$5,875,000/130,000 \text{ MWH} = \45.19
- $\$7,050,000/130,000 \text{ MWH} = \54.23
- $\$8,225,000/130,000 \text{ MWH} = \63.27

What we're doing?

- Multiple off-take arrangements sought
- DRED
- PSNH
- Governor

What do we do now?

- Grassroots PR campaign
- Build Support
- Make Calls
 - To find your legislative representative please go to:
<http://www.gencourt.state.nh.us/house/members/wml.aspx>

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Back

JUNE 3, 2011

Four N.H. wood-burning plants warn they'll shut down without purchase deal

By Kathleen Callahan

Operators of four New Hampshire biomass plants that employ nearly 100 workers say they could face imminent closure if they're not able to secure short-term energy contracts with Public Service of New Hampshire.

The four wood-fired biomass plants - in Bridgewater, Bethlehem, Tamworth and Alexandria - have teamed up in an attempt to secure power-purchase agreements with the state's largest electric utility, which has held firm against entering agreements with the plants.

Plant operators say they cannot survive on the open market and will be forced to shut down operations if they cannot sell their energy, at least in the short term, to PSNH.

"We're not asking for much, we're not asking for the world - we just need to get by for the next few years until the economy turns around," said Mark Driscoll, manager of the Pinetree Power plant in Bethlehem.

The plants have joined together in a grassroots lobbying effort with representatives from the state's related industries - logging, forestry and farming - who they say would be affected if the plants were to close. Supporters have launched a website, called and written letters to state officials and held meetings across the state to raise awareness.

"There's a lot of interconnectedness within this industry," said Shelagh Connelly, president of Holderness-based Resource Management Inc., which recycles about 20,000 tons of wood ash each year from the biomass plants. The ash is then sold to about 150 New Hampshire farmers a year, who use it as a low-cost and locally sourced fertilizer, she said.

"You don't realize how many people are involved and dependent on these plants," said Connelly, who founded her company when the plants were built in the late 1980s. If the plants close, she would be forced to eliminate three equivalent full-time positions and sell one truck from a fleet of six, she said.

"It will have a profound impact on forestry in the state and how the integrated forest products companies

conduct forest operations." said Bridgewater plant manager Mike O'Leary.

According to supporters, the four plants directly and indirectly support about 400 jobs, including plant workers, loggers, distributors, farmers, ash recyclers and others.

"They're good jobs - they're full benefits," said O'Leary of Bridgewater's 19 positions. "It's an area of the state where the quality of the jobs we're talking about are not easily replaced."

Supporters also estimate the four plants' impact on the local and state economy to be at least \$40 million annually, from the loggers who pay vehicle registration fees and buy supplies at area auto part stores to local farmers who purchase the recycled ash for fertilizer.

Rising costs

The four biomass plants were built in the mid-to-late '80s, when - in a push to promote home-grown and renewable energy - the state required PSNH to enter a 20-year rate order with them.

But that was a loss for PSNH, because the long-term rate was significantly higher than the market value of the energy, said Martin Murray, spokesman for the utility. "Our customers suffered because they were forced to pay very high prices for the energy from these plants."

After the 20-year period was up, most of the plants were able to secure short-term contracts with other providers, which have since expired.

Now the plants are attempting to sell energy on the open market, where they are essentially bleeding out. O'Leary said the Bridgewater plant has been operating at a loss nearly every month since its short-term contract expired last August.

One reason for this is the rising cost of diesel fuel, which has driven up the cost of wood, he said. This is on top of the recession, which caused an overall drop in demand for energy.

Another major impact on the industry has been the huge drop in energy prices, particularly the downturn in the cost of natural gas. In the Renewable Energy Credit market, natural gas is considered a Class III REC. (RECs can be traded like commodities and exist to encourage the use of renewable energy.)

Because they use older technologies, most of the wood-burning plants also qualify for Class III RECs. Facilities with more updated and cleaner technology qualify for higher-class RECs.

The relatively low cost and large supply of natural gas has outstripped the demand for Class III RECs. A small player when it first emerged, natural gas has become so ubiquitous it dominates about 50 percent of New England's energy portfolio, said PSNH's Murray.

"The landfill gases have now jumped into the Class III REC market, and the price just continues to drop," said Driscoll.

The state Public Utilities Commission is currently reviewing the state's Renewable Portfolio Standards, with a report of its findings to go to the Legislature in November and new standards to go into effect by July 2012. The current standards do allow for the four wood-burning plants to move up to the Class I REC market, but in order to qualify they would have to undergo significant capital upgrades.

So to remain viable, the plants hope to see an increase in the percentage of Class III RECs utilities are required to obtain.

However, said Driscoll, "we can't make it through next July on the open market. That's why we need a short-term contract from PSNH, or we won't even be around to take advantage of any changes to the RPS."

O'Leary said the plants have offered PSNH rates at or below its default service rate, which is 8.7 cents per kilowatt-hour. But since the utility can purchase the energy for less on the spot market, it hasn't bitten.

"We are obligated to serve our customers at the lowest possible price," said Murray. "Today, we cannot justify paying more for energy from the biomass plants than we would if we purchased the energy from the marketplace."

Plus, he pointed out, it's not only PSNH that is not purchasing power from the plants, since they can sell their power and RECs to buyers throughout New England.

"It's very telling that they can't find a buyer," said Murray. "The question is not, 'Why can't they sell to PSNH?' - the question is, 'Why can't they sell to anyone?' At the moment, they can't compete in the marketplace because their commodity is priced too high."

Murray also pointed to the fact that none of the plants are owned by New Hampshire entities. The Pinetree plants in Tamworth and Bethlehem are owned by GDF Suez, a multinational energy conglomerate based in France; the Bridgewater plant is majority owned by Public Service Enterprise Group of New Jersey; and the Alexandria plant is owned by Indeck Energy Services Inc. of Illinois.

"The corporations that own these plants have large purse strings, but they don't appear willing to help these guys get over the hump," said Murray.

"PSNH uses that - 'Oh, you're owned by a multimillion-dollar corporation' - but people aren't in business to lose money," said Driscoll. "These jobs are in New Hampshire, these plants pay New Hampshire taxes."

O'Leary said that as long as there's light at the end of the tunnel - in the form of a short-term contract to tough out the current market - the owners will keep the plant in business "to preserve that infrastructure."

For now, the plants are hoping for a hot summer, which would help market prices rebound while they continue to lobby the state and PSNH for short-term contracts.

"We do have sympathy for the position they find themselves in," said Murray. "We have always been open to discussions of how we can help if possible, but what we are looking for is fairness for our customers."

NewBiomassNH

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It's Not the Price of Biomass Power - It's the RECs

Editor's note - this analysis was updated April 20 to clarify that newer and recently modified biomass plants are held to higher emissions standards because of the Clean Air Act, not the NH Renewable Energy Portfolio Standards. Under the NH RPS, Class I and Class II biomass power plants are held to the same emissions standards. ST

New Biomass NH Analysis

Several of New Hampshire's older generation biomass power plants say they'll be forced to shut down soon if they are unable to secure power purchase agreements with electricity providers like Public Service Company of New Hampshire (PSNH). At a presentation called "Biomass in Crisis" a few plant representatives explained their predicament and urged loggers, chippers, haulers, and others to pressure the Governor, Executive Councilors, and legislators to help them secure contracts. They've organized a grassroots political campaign that has already flooded Concord with letters, emails and calls.

What the biomass plants are asking for is not without precedent. In the late 1980s, when these wood-fired power plants were built, the State required PSNH to enter twenty-year agreements to purchase their power. Those contracts expired a few years ago. The plants were able to secure short-term contracts selling to other providers. Now, those contracts have expired and the biomass plants have been selling power on the "real time" or "spot" market, at prices that fluctuate hourly. They've been selling power for less than it costs to produce for months. They simply cannot compete with other power producers on the spot market. But they can sell power to PSNH at a competitive price, they claim, in return for the stability of a long-term contract.

The four plants who warn they are within "months" of closing, Bridgewater Power Company, Pinetree Power Bethlehem, Pinetree Power Tamworth, and Indeck Energy Alexandria, say they won't survive without long-term contracts from PSNH. PSNH says they were required to pay these plants higher-than-market prices for two decades and they shouldn't be forced to do so again. The utility, New Hampshire's largest, argues it's time for the biomass plants to "sink or swim" in the competitive market. Forcing PSNH to sign purchase contracts with Bridgewater, Bethlehem, Tamworth and Alexandria would amount to PSNH ratepayers subsidizing these plants, according to a spokesman. The utility notes that Pinetree's plants are owned by international energy conglomerate GDF Suez, with annual revenues of more than \$100 billion, and that Bridgewater Power is majority-

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It's Not The Price of Biomass Power, It's the RECs

owned by Public Service Enterprise Group in New Jersey with \$12 billion in annual revenues. The Alexandna plant is owned by Indeck Energy Services, a privately held energy developer based in Illinois.

All of these issues aside, we believe there is another reason, beyond price, why PSNH is not interested in buying power from these older-generation power plants. It's called New Hampshire's Renewable Portfolio Standards (RPS), which took effect in 2007. The RPS requires that providers such as PSNH buy a certain percentage of their annual power from renewable energy sources like biomass plants. The providers receive Renewable Energy Credits, or RECs, equal to the number of megawatt hours purchased. They are required to buy a larger percentage of renewable power each year. In 2008, providers needed to purchase 4% of their annual power from renewable power generators. Nearly 25% of a utility's power must come from renewable sources by 2025. This would seem to benefit biomass plants in Bridgewater, Alexandna, Tamworth and Bethlehem, but according to the RPS, some renewable energy is more valuable to providers than others. The RPS categorizes renewable energy producers into four classes. Providers must build a "portfolio" by purchasing power from the various classes.

With respect to biomass power plants, the smaller, older-generation plants offer Class 3 RECs. These are less valuable to providers over the long term than Class 1 RECs. Newer biomass plants like the one at Schiller Station (owned by PSNH), and proposed biomass plants like two projects in Berlin, offer Class 1 RECs. These newer plants are held to higher emissions standards under the Clean Air Act, so in addition to providing renewable power, they are more environmentally friendly.

Put simply, PSNH doesn't need power from older-generation Class 3 biomass plants. They need power from newer, cleaner, renewable energy sources that offer Class 1 RECs, since they are required to purchase an increasing percentage of Class 1 RECs through 2025.

Thankfully, the RPS offers Class 3 biomass plants an opportunity to move up to Class 1, but it would require significant capital improvements. Hopefully, these plants will recognize the value of these investments, to keep themselves viable and operating long into the future. Hundreds of jobs and millions of dollars in economic benefits to New Hampshire are at stake, as the plants themselves have eloquently argued.

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**Public Service Company of New
Hampshire
Docket No. DE 11-184**

Data Request STAFF-01

Dated: 08/26/2011

Q-STAFF-017

Page 1 of 1

Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff

Question:

Reference Labrecque testimony, page 5, lines 8-14. a. For how long a period of time does PSNH expect any excess annual (i.e., above \$8.5 million) above-market costs will be deferred? b. At what point in time would the recovery of such deferrals commence? c. What circumstances would trigger or otherwise allow for the recovery of such deferrals to commence? d. Over what period of time would such deferrals be recovered? e. What is the current estimate of such deferrals associated with the PPAs?

- a. For how long a period of time does PSNH expect any excess annual (i.e., above \$8.5 million) above-market costs will be deferred?
- b. At what point in time would the recovery of such deferrals commence?
- c. What circumstances would trigger or otherwise allow for the recovery of such deferrals to commence?
- d. Over what period of time would such deferrals be recovered?
- e. What is the current estimate of such deferrals associated with the PPAs?

To be answered by PSNH.

Response:

- a. This question cannot be precisely answered without knowing when this proceeding will result in a final, unappealable order; what the market prices for energy will be during the term of each of the PPAs; how the Wood IPPs will operate during the term; what the Commission will approve as the Initial Wood Price for each of the PPAs; and what the actual cost of wood will be for each of the Wood IPP facilities. In general, PSNH expects any deferral period to be relatively short, perhaps in the range of 1 to 3 years.
- b. As noted in the Joint Petition, recovery of deferral would commence at such time that the the over-market costs of the underlying PPAs is less than \$8.5 million during an Energy Service year. In the event that there is a remaining deferred balance when the arrangements terminate, PSNH would then recover such deferred amount plus carrying costs over time, subject to the limit that recovery could not exceed \$8.5 million annually.
- c. See the response to subsection (b), above.
- d. Any deferral would be recovered over whatever time period is necessary to allow for full recovery of any such deferral and its associated carrying costs, in light of the \$8.5 million annual recovery cap.
- e. Please see the response to subsection (a) above.

**Public Service Company of New
Hampshire
Docket No. DE 11-184**

Data Request STAFF-01

**Dated: 08/26/2011
Q-STAFF-008
Page 1 of 1**

**Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff**

Question:

Reference Frantz testimony, page 4, lines 15-17 and Labrecque testimony, page 5, lines 1-4. Please identify and quantify each of the costs included in the \$8.5 million of costs that will be transferred from the energy service rate to the distribution rate, including the "certain administrative expenses." Please explain how those individual cost items were selected and why it is appropriate to shift recovery of those costs from the energy service rate to the distribution rate. Is the transfer of the \$8.5 million of costs from PSNH's energy service rate to its distribution rate intended to be a temporary transfer or a transfer of permanent or indefinite duration?

To be answered by separately NHPUC and PSNH.

Response:

PSNH's Response

The \$8.5 million transfer was part of a negotiated settlement. To the best of my knowledge, the figure was based on an estimate of the typical annual quantity of uncollectible expenses and regulatory assessment expenses that are allocated to the Energy Service rate reconciliation each year. These costs are not energy related, i.e. they do not correlate with the quantity of energy service provided, and were considered by the negotiating parties to be candidates for transfer to the distribution rate. The duration of the transfer should be permanent since these expenses are not energy related.

DE 11-184

Joint Petition for Approval of Power Purchase Agreements and Settlement Agreement

**Public Utilities Commission Staff Advocate's Response to
Staff's Data Requests to PSNH – Set 1**

Date Received: August 23, 2011

Date of Response: September 6, 2011

Request No.: Staff to Staff Advocate & PSNH 1-08

Witness: Thomas C. Frantz

Request: Reference Frantz testimony, page 4, lines 15-17 and Labrecque testimony, page 5, lines 1-4. Please identify and quantify each of the costs included in the \$8.5 million of costs that will be transferred from the energy service rate to the distribution rate, including the "certain administrative expenses." Please explain how those individual cost items were selected and why it is appropriate to shift recovery of those costs from the energy service rate to the distribution rate. Is the transfer of the \$8.5 million of costs from PSNH's energy service rate to its distribution rate intended to be a temporary transfer or a transfer of permanent or indefinite duration?

Response:

The transfer of \$8.5 million was a negotiated amount intended to satisfy PSNH's criterion that the Energy Service rate not be adversely affected by these PPAs. The quantity, \$8.5 million, was based on the estimated annual amount of regulatory assessment expenses and uncollectible costs that are allocated to Energy Service each year.

The duration of the transfer is up to the Commission to decide, but it was not intended to be permanent.

**Public Service Company of New
Hampshire
Docket No. DE 11-184**

Data Request STAFF-02

**Dated: 09/21/2011
Q-STAFF-006
Page 1 of 1**

**Witness: Richard C. Labrecque
Request from: New Hampshire Public Utilities Commission Staff**

Question:

Reference PSNH response to Staff 1-16: Please identify the specific provision(s) in the settlement agreements approved in Order No.s 25,123 and 24,750 that would have to be modified to implement the public policy interests referred to in the response.

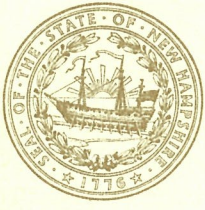
Response:

PSNH objects to this question as it seeks a legal conclusion.

Notwithstanding this objection, PSNH states that the Commission is being asked to implement public policy interests of the state as reflected in the testimony of Commissioner Bald and Mr. Frantz, and the supporting letters submitted by Governor Lynch, the Executive Council, Senators Gallus, Forrester and D'Allesandro. PSNH has joined in this proceeding to assist the state in implementing those public policy interests. To the extent that the Commission deems it necessary to alter or modify the referenced settlement agreements approved in Orders Nos. 25,123 and 24,750 in order to implement these public policy interests, PSNH would agree to such limited changes.

Note: In Order No. 25,123 (June 28, 2010) the Commission approved the rate settlement for PSNH's distribution rates. Order No. 25,123 did not address any specific adjustments. The Commission noted that the settlement "calls for an overall revenue increase of \$45.5 million...While the settlement agreement states that the parties did not agree on each element leading to that amount, they did agree that the amount was reasonable and appropriate." *Id.* at 29. Neither the settlement, nor the Order, directly addressed the allocation of the PUC assessment or PSNH uncollectible expense; however, the revenue deficiency included in the settlement was premised, in part, on an allocation of uncollectible expense and regulatory expense to functional components.

Although not specifically addressed in Order No. 25,123, the parties agreed to a revision in the allocation of uncollectible expense in the most recent rate case docket. In the 2006 PSNH distribution rate case, the parties settled on an allocation of 52% of PSNH's uncollectible expenses to its energy service rate. See Settlement Agreement in Docket No. DE 06-028 at 6. That settlement was approved in Order No. 24,750 (May 25, 2007). In the most recent rate case, the parties agreed to a revenue requirement that provided an allocation of 65% of uncollectible expense to energy service.



JOHN H. LYNCH
Governor

State of New Hampshire

OFFICE OF THE GOVERNOR

107 North Main Street, State House - Rm 208

Concord, New Hampshire 03301

Telephone (603) 271-2121

www.nh.gov/governor

governorlynch@nh.gov

DE11-184
Attachment SEM-13
Page 1 of 5

August 22, 2011



Mr. Thomas Getz, Chairman
and Commissioners
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

Dear Chairman Getz and Members of the Commission:

I write in support of the Power Purchase Agreements submitted by Public Service Company of New Hampshire and five wood-fired, biomass power plants (Independent Power Producers). The power contracts and the accompanying settlement agreement will facilitate the construction of the Berlin BioPower project and provide important benefits to our state and its economy, and I urge you to approve them.

Our state has a long history of supporting renewable energy. Biomass plants and other renewable energy sources have been operating in New Hampshire for decades. In 2007, we enacted the Renewable Portfolio Standard to further encourage the development of renewable energy resources here in our state. In addition to the environmental benefits, biomass power plants provide good jobs to New Hampshire citizens in rural areas of the state and help to support a healthy forest products industry. In addition to people directly employed by the plants, the operation of the wood-fired power plants helps to indirectly support hundreds of jobs and numerous small businesses through purchases of fuel and other materials.

Given the state of the energy market today, it has become difficult for small wood-fired plants to continue to operate without the stability of contracts to sell their power to a utility company. The Power Purchase Agreements address a short-term problem in a measured and responsible way. The petition and settlement agreement will also allow the Berlin BioPower project to go forward, which is an important step forward for economic development in Coos County. I believe it is in the public interest for the Commission to approve the power contracts and the settlement agreement so that the Independent Power Producers can bring stability to their businesses as they weather these difficult economic times, and Berlin BioPower, LLC may become a reality. New Hampshire will be best served by the Commission's expeditious approval of these agreements.

Thank you for your time and consideration.

Sincerely,

John H. Lynch
Governor

STATE OF NEW HAMPSHIRE

Executive Council

STATE HOUSE ROOM 207

CONCORD, NEW HAMPSHIRE 03301

(603) 271-3632 FAX: 271-3633



JOHN H. LYNCH, GOVERNOR

EXECUTIVE COUNCILORS:
CHRISTOPHER T. SUNUNU

RAYMOND S. BURTON
RAYMOND J. WIECZOREK

DANIEL I. ST. HILAIRE
DAVID K. WHEELER

August 24, 2011



Mr. Thomas Getz, Chairman
and Commissioners
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

Dear Chairman Getz and Members of the Commission:

We write in support of the Power Purchase Agreements submitted by Public Service Company of New Hampshire and several wood-fired, biomass power plants (Wood IPPs). These power contracts will provide important benefits to our state and its economy, and we urge you to approve them.

Public Service Company of New Hampshire and the Wood IPPs negotiated the Purchase Power Agreements over the past several weeks with the support of the Governor, Resource and Economic Development Commissioner George Bald, certain staff of the Public Utilities Commission, several members of the State Senate, and many of us.

The Purchase Power Agreements will maintain the operation of the Wood IPPs at a time of uncertainty in the national energy market. They will keep employed not only those persons who work at the six plants, but also those in New Hampshire's forest products industry and in the many small businesses that serve the men and women employed in that industry.

The power contacts submitted to the Commission are also part of a larger agreement that will allow the Berlin BioPower Project to go forward, which will bring needed jobs, renewable power, and economic development for Coos County.

We believe that these agreements are in the interest of the State of New Hampshire and we urge you to approve them without delay.

Sincerely,

Raymond S. Burton
Executive Councilor

Daniel St. Hilaire
Executive Councilor

Christopher T. Sununu
Executive Councilor

Raymond J. Wieczorek
Executive Councilor

David K. Wheeler
Executive Councilor

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| RAYMOND S. BURTON 338 RIVER ROAD BATH, NH 03740 TELEPHONE 747-3662 | DANIEL I. ST. HILAIRE 43 HAMPTON STREET CONCORD, NH 03301 TELEPHONE 226-3378 | CHRISTOPHER T. SUNUNU 71 HEMLOCK COURT NEWFIELDS, NH 03104 TELEPHONE 658-1187 | RAYMOND J. WIECZOREK 1060 RAY STREET MANCHESTER, NH 03104 TELEPHONE 624-1655 | DAVID K. WHEELER 523 MASON ROAD MILFORD, NH 03055 TELEPHONE 672-6062 |



The Senate of the State of New Hampshire

107 North Main Street, Concord, N.H. 03301-4951

August 16, 2011

State of New Hampshire
Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, New Hampshire 03253



Dear Commissioners,

As the NH State Senator for District 2, representing 27 towns in Grafton County and 4 in Belknap County, I strongly support the five proposed Power Purchase Agreements submitted to the PUC for approval.

The energy markets have created significant operating challenges for some time to New Hampshire's current biomass plants, especially Bridgewater, Pinetree -Bethlehem, Tamworth and Indeck-Alexandria. Today, these plants are in grave jeopardy of closing and consequently the loss of jobs, not only at these facilities, but also the network of jobs that support the biomass industry in New Hampshire will be a devastating blow to the northern towns.

I urge the Commission to approve these Power Purchase Agreements as filed as soon as possible. The contracts are short-term, but will provide much needed assistance to these plants and the affected regional economy. In addition, it will allow the State time to develop a thoughtful, long-term sustainable policy that will ensure continued success of these facilities.

Sincerely,

A handwritten signature in cursive script that reads "Jeanie Forrester".

Jeanie Forrester
NH State Senator, District 2
State House, Room 105-A
603.271.2141



The Senate of the State of New Hampshire

107 North Main Street, Room 302, Concord, N.H. 03301-4951

JOHN T. GALLUS
District 1

Office 271-3077

TTY/TDD
1-800-735-2964

August 24, 2011

State of New Hampshire
Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, New Hampshire 03253

Dear Commissioners:

As the NH State Senator for District 1, representing 57 communities in Coos, Grafton and Carroll Counties, I strongly support the five proposed Power Purchase Agreements submitted to the PUC for approval.

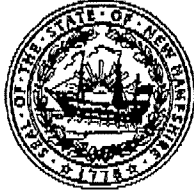
The energy markets have created considerable operating challenges for some time to New Hampshire's current biomass plants, especially the Bridgewater, Pinetree-Bethlehem, Tamworth and Indeck-Alexandria. Currently, these plants are in grave danger of being shutdown. As a result, there will be the loss of many jobs, not only at these biomass plants, but also the forest industry and the many other related jobs that would have drastic consequences on an already struggling area of New Hampshire.

I strongly urge the Commission to approve these Power Purchase Agreements as filed as soon as possible. The contracts are short-term, but will provide much needed assistance to these plants and the affected regional economy. In addition, it will allow the State adequate time to extend a vetted, long-term sustainable policy that will ensure continued success of these facilities.

Sincerely yours,

A handwritten signature in black ink, appearing to read "John T. Gallus".

Senator John T. Gallus
Senate District 1



The Senate of the State of New Hampshire

107 North Main Street, Concord, N.H. 03301-4951

LOU D'ALLESANDRO
Senate District 20

State House, Room 117
(603) 271-2117

August 24, 2011

State of New Hampshire
Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, New Hampshire 03301

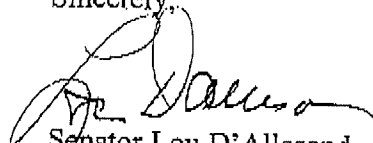
Dear Commissioners:

In an effort to support economic recovery and job growth in an area that desires both, I'm writing to voice my strong support for the five proposed Power Purchase Agreements submitted to the PUC for approval. It would appear that this action will help stimulate the North Country economy and provide job opportunities in construction as well as for the long term.

These agreements are essential in order to keep these small plants in operation and our citizens at work. I would urge the Commission to act quickly to approve these agreements that will support the wood product industry and move the Berlin Biomass Plant project forward. The North Country is in desperate need of the jobs that would be created by this project.

It's important that the State develop a thoughtful, long-term, sustainable policy that will ensure continued success of these facilities. These short-term contracts will allow ample time to do so while providing much needed assistance to these plants and the affected regional economy.

Sincerely,


Senator Lou D'Allesandro
Senate District 20



TITLE XIX-A FORESTRY

CHAPTER 227-G POLICY, DEFINITIONS, AND ADMINISTRATION

Section 227-G:1

227-G:1 Declaration of Purpose. – It is hereby recognized and declared that the public welfare of this state requires the maintenance, protection, conservation, multiple use, and rehabilitation of forests for the social, economic, and environmental benefits that result from a diverse forest cover. Such benefits include forest products, a viable forest-based economy, recreation opportunities, scenic values, healthful surroundings, climate mitigation, clean water, and biologically diverse populations of plants and animals. It is further recognized that long-term sustainability of the state's forests will require: the prudent acquisition and management of state-owned forests; data collection, planning, and education; protection of critical resources; monitoring and protection of forest health; and control of woodland fires.

Source. 1995, 299:1, eff. Jan. 1, 1996.

TITLE XIX-A FORESTRY

CHAPTER 227-J TIMBER HARVESTING

Section 227-J:1

227-J:1 Declaration of Purpose. – It is hereby recognized and declared that the public welfare of this state requires the care and protection of forest cover adjacent to certain waters of the state and along public highways, and the proper disposal of slash and mill residue resulting from forest operations in certain circumstances to help conserve the amount and quality of surface waters and groundwaters of the state; reduce the incidence and severity of forest fires; promote healthful surroundings, recreational opportunities, and scenic values; ensure future forest productivity; improve conditions for wildlife; and provide other benefits to the public as the result of perpetuating a proper forest cover, while continuing to meet the timber needs of forest industries and providing income and employment for our citizens without undue infringement on the rights of private forest landowners.

Source. 1995, 299:1, eff. Jan. 1, 1996.

TITLE XXXIV PUBLIC UTILITIES

CHAPTER 362-A LIMITED ELECTRICAL ENERGY PRODUCERS ACT

Section 362-A:1

362-A:1 Declaration of Purpose. – It is found to be in the public interest to provide for small scale and diversified sources of supplemental electrical power to lessen the state's dependence upon other sources which may, from time to time, be uncertain. It is also found to be in the public interest to encourage and support diversified electrical production that uses indigenous and renewable fuels and has beneficial impacts on the environment and public health. It is also found that these goals should be pursued in a competitive environment pursuant to the restructuring policy principles set forth in RSA 374-F:3. It is further found that net energy metering for eligible customer-generators may be one way to provide a reasonable opportunity for small customers to choose interconnected self generation, encourage private investment in renewable energy resources, stimulate in-state commercialization of innovative and beneficial new technology, enhance the future diversification of the state's energy resource mix, and reduce interconnection and administrative costs.

Source. 1978, 32:1. 1994, 362:2. 1998, 261:1, eff. Aug. 25, 1998. 2010, 143:1, eff. Aug. 13, 2010.

TITLE XXXIV PUBLIC UTILITIES

CHAPTER 362-F ELECTRIC RENEWABLE PORTFOLIO STANDARD

Section 362-F:1

362-F:1 Purpose. – Renewable energy generation technologies can provide fuel diversity to the state and New England generation supply through use of local renewable fuels and resources that serve to displace and thereby lower regional dependence on fossil fuels. This has the potential to lower and stabilize future energy costs by reducing exposure to rising and volatile fossil fuel prices. The use of renewable energy technologies and fuels can also help to keep energy and investment dollars in the state to benefit our own economy. In addition, employing low emission forms of such technologies can reduce the amount of greenhouse gases, nitrogen oxides, and particulate matter emissions transported into New Hampshire and also generated in the state, thereby improving air quality and public health, and mitigating against the risks of climate change. It is therefore in the public interest to stimulate investment in low emission renewable energy generation technologies in New England and, in particular, New Hampshire, whether at new or existing facilities.

Source. 2007, 26:2, eff. July 10, 2007.