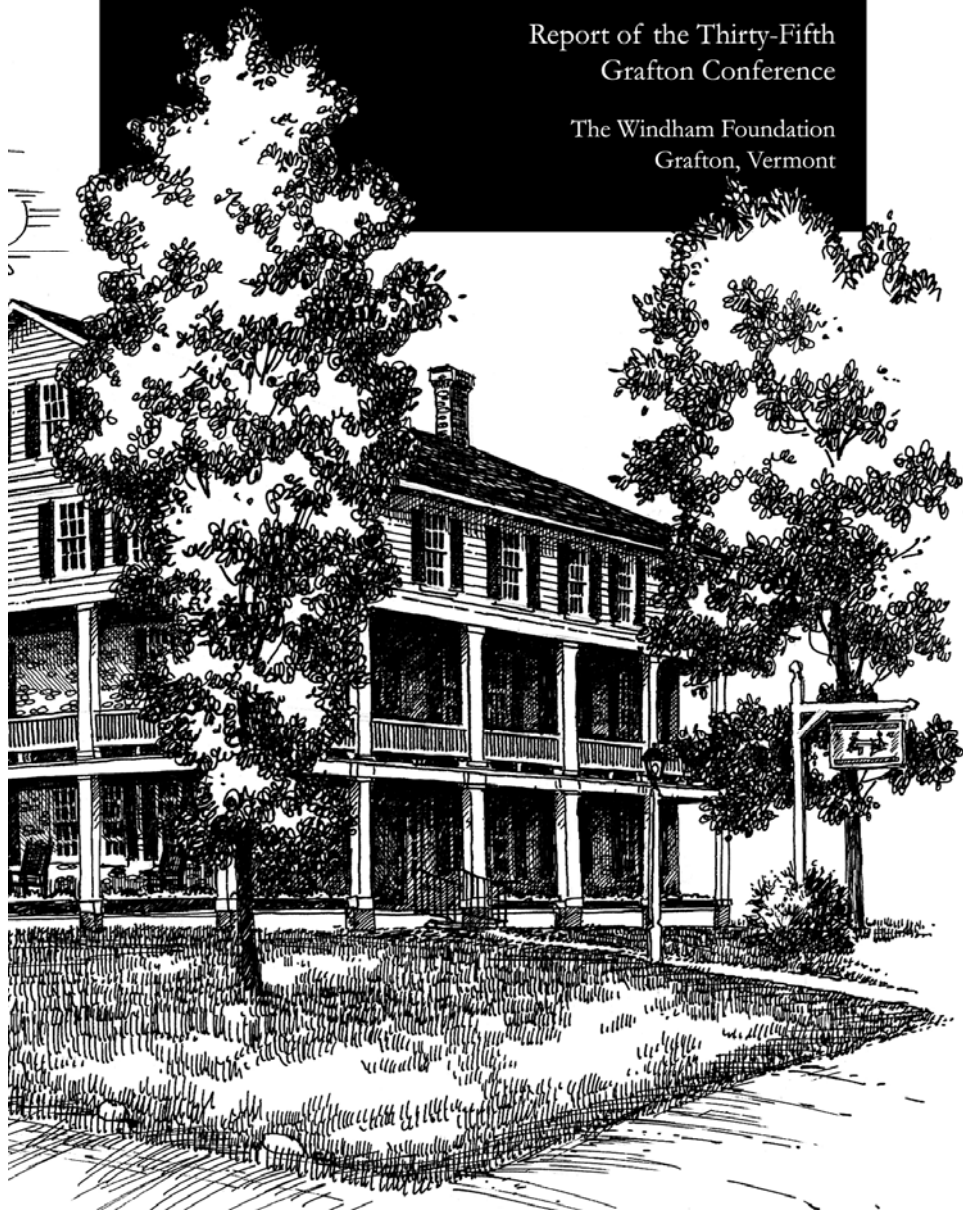


Vermont's Forest Economy: Advancing
Creativity and Entrepreneurship in
Value-Added Forest Products

Report of the Thirty-Fifth
Grafton Conference

The Windham Foundation
Grafton, Vermont



Vermont's Forest Economy: Advancing Creativity and Entrepreneurship in Value-Added Forest Products

Report of the 35th Grafton Conference
August 14 & 15, 2013

The Windham Foundation, Grafton, Vermont

Celebrating Windham Foundation's 50th Year



Promoting Vermont's rural communities

Ode to Wood

Too long have I not sung the praises
of our hardwood trees,
felled
cut
stacked
dried and hauled
to the house and woodshed
then split
and brought inside all winter long
to put inside our woodstove
to burn, to keep us warm.

This wood
that grows less than half a mile
from our house.

These trees that grow faster than I can cut them down.

Always making more than we can use.

Oh, finally I sing the praises of wood.

Home grown and handy, abundant,
convenient, cheap, the growth of these hills
right here at home

Finally now, I sing the praises
of our hardwood trees.

-David Budbill

Introduction

On August 14 and 15, 2013, a few dozen leaders in the forest products sector of Vermont gathered at the Grafton Inn for a Windham Foundation Conference entitled ***Vermont's Forest Economy: Advancing Creativity and Entrepreneurship in Value-Added Forest Products***. The Windham Foundation has hosted 34 conferences on a range of public policy and economic development issues. The conferences bring together a relatively small group of knowledgeable people who have very different perspectives on an issue. The most significant outcome of the conferences is usually the informal conversation that arises in this comfortable, quiet, natural setting. After each conference, a report is published that seeks to capture the highlights of the conference (the reports are available at the Foundation's web site www.windham-foundation.org). This report continues that tradition. The Foundation hopes this convening is but the beginning of an important conversation about how to advance the forest economy in Vermont.

The Windham Foundation recognizes that the future of the Vermont working landscape is founded in the Vermont forest products economy. The participants of this conference brought together leadership and experience in public policy, state government, and key sectors of the forest products economy to frame ideas that advance opportunities and prosperity for the future of the industry. With the heritage, craftsmanship and innovative leadership in forestry, milling and production – from small scale wood workers to manufacturers – Vermont has an enormous opportunity to advance the forest and wood products economy. It can do so in a manner that is sustainable and innovative and that adds value in ways that both promote rural prosperity and underpin the long-term management that produces central features of the character and beauty of the land that we love.

Vermont has heavily invested in the future of foods systems from “Farm to Plate” and food hubs to the Agricultural Viability Program, UVM Food Spire and Farm to School. These initiatives advance local foods and the agricultural economy of Vermont. Agriculture has always faced challenges, and the state of Vermont and the agricultural sector have worked together to address them and plan for a strong future for this important part of our state’s economy.

The Forest Products industry is of equal importance to the future of Vermont’s prized working landscape, and yet it has not received the public recognition, support and respect it deserves. And today, the forest products industry is in serious jeopardy. Competition in an uneven global field has meant the loss of approximately 40% of the mills and productive capacity in the Vermont forest products economy in the last 10 years. Today, close to 50% of the wood harvested in Vermont is milled and processed outside of the state. We are losing the highest end production value for Vermont’s valuable hardwood timber, and the weakness of the economic return puts negative pressures on land owners that can result in parcelization and the development of Vermont’s forested lands.

In this 50th anniversary year of the Windham Foundation, we were pleased to initiate a conference of this importance. We are grateful to have the Vermont Council on Rural Development as our partner and facilitator. Together, we invited key leaders in the forest products industry, from landowner and logger to value added producer, as well as public policy leaders. We spent 24 hours together to articulate a specific set of ideas that can support the progress of the forest products sector in the years to come.

In words from David Budbill’s poem Ode to Wood quoted on page three, let us join in saying “*Finally now I sing the praises of our hardwood trees.*”

Our Questions

We began our conference with a set of questions to frame our work:

- What are the key opportunities in some economic clusters connected to biomass energy, manufacturing and chain of custody production?
- What new products and new markets could be available to Vermont forest products producers?
- What public policies or services would best support the economic vitality of the sector?
- What process should be undertaken to systematize planning and provide support to help Vermont businesses compete for new opportunities?
- What education, training and mentorship will be needed to inspire and attract a new generation of innovative forest products industry leaders?

The Meeting

Our conference began on Wednesday evening with dinner and opening plenary presentations from the Commissioner of Forests, Parks and Recreation (<http://vtfpr.org>), Michael Snyder; and, the Secretary of Commerce and Community Development, (<http://www.accd.vermont.gov>) Lawrence Miller. After breakfast on Thursday, we had another plenary presentation with Rob Riley, president of the Northern Forest Center (www.northernforest.org), as well as a panel discussion about economic opportunities. Panel members included:

Tim Copeland, Copeland Furniture
(www.copelandfurniture.com),

Emma Marvin, Butternut Mountain Farm
(www.butternutmountainfarm.com),

Kevin Hastings, Amoskeag Woodworking
(www.amoskeagwoodworking.com),

Carina Driscoll, Vermont Woodworking School
(www.vermontwoodworkingschool.com), and
Chris Brooks, Vermont Wood Pellet Company
(www.vermontwoodpellet.com).

The bulk of the work and discussion happened in four breakout groups, each of which worked together for the majority of a day:

1. Expanding Capacity from Forest to Mills: Logging, Transportation, Workforce, and Mill Production

John Anderson, David Birdsall, Colleen Goodrich, Ben Machin, Carl Powden, Bill Sayer, Michael Snyder, Tom Ward.

Facilitator: Paul Costello

2. Advancing Innovative Woody Biomass for Heat

Chris Brooks, Rob Riley, Adam Sherman, Alex Ibey, Jamey Fidel, Paul Ralston.

Facilitator: Ellen Kahler

3. Branding Vermont and Capturing New Markets

Tim Copeland, Kevin Hastings, Emma Marvin, Carolyn Partridge, Mike Rainville, Tim Volk, Bob Allen.

Facilitator: Amy Shollenberger

4. Fashioning New Forest Products: Creating New Designs, Products, Clusters, Chains of Custody

Richard Bissell, Carina Driscoll, David Hurwitz, Charlie Shackleton, Kathleen Wanner, Lawrence Miller, Elizabeth Bankowski.

Facilitator: Jolinda LaClair

The conference ended with reports from the small groups, each of which were asked to present three clear action steps that rose to the top of their priority list during their discussion. Rather than simply list the reports from each small group, this report will attempt to outline the cross-cutting issues and action steps that arose repeatedly during

the small group reports. These categories of opportunity for the industry are outlined below.

Key Ideas and Opportunities

Opportunity #1: Tell the Story of Vermont's Forest Products

The Challenge: Although Vermont is the fourth most forested state in the United States, and Vermonters overwhelmingly value the beauty, character and recreational opportunities that our forested lands provide, we are woefully disconnected from understanding the need to keep forests in production in order to keep them healthy and economically viable. The forest products industry needs the support of Vermonters in order to keep land open and keep the industry strong; however, too few Vermonters have any connection with a working forest, and many have negative reactions to cutting trees or other means of working the land.

We all know that Vermont needs healthy forests. Our forests provide multiple benefits, including (but not limited to) clean water, clean air, carbon storage, recreational opportunities, wildlife habitat, scenery and one billion dollars of economic activity each year. However, we often do not make the connection that we must keep our forests in production in order to reap these benefits. Also, the stewards of our forests often work in isolation and do not interact with the community in the same way that farmers might, so it can be more difficult for people to make that direct connection to the people who work the land.

Three key suggestions arose under this opportunity area:

1. Educate the general public – both Vermonters and tourists – about the importance of working and productive forests and the people who steward the forests.
2. Work with schools to implement the Project Learning Tree curriculum across the state, and seize opportunities for school-specific “Forest-to-School” educational opportunities.
3. Develop local markets for local wood where appropriate as one part of the growing local working lands economy.

1. Educate the General Public

As mentioned above, Vermonters are largely unaware of the connection between good forest stewardship, a working landscape, and the benefits provided by healthy forests. A few past efforts have had some success, and some strategies have been developed but not adopted. Specifically, participants noted that the “Celebrate Forestry” campaign of the 1980s had some success with getting Vermonters more connected to forest lands. More recently, the “Local Wood. Local Good” campaign has been developed and shows some promise, but has not been widely adopted or implemented by the industry.

This education campaign is particularly important for three key reasons:

1. Landowners need to understand the value of a working forest and have some incentive for keeping land in forests, when development and other economic pressures are weighing on them. They need to be and feel supported in maintaining productive forests.
2. Without a basic understand of why keeping Vermont forests in production is important, many Vermonters are not only reluctant to support the activity needed to keep forests healthy, but may actually fight against the types of

activities essential to conserve working forests for the future.

3. Forests are complex systems and require long-term planning and commitment, often spanning more than one generation. It is important to ensure that we continue to engage Vermonters in this important conversation and educational outreach.

The participants made several specific suggestions for activities during their small-group brainstorming, but generally speaking, the ideas coalesced around the following:

- Partner with other organizations to include forest education components with activities that are already happening. For example, ask the Green Mountain Club to include forest education on their trails and in their programs, or ask the cheese council to educate people about where the cutting boards come from as well as the cheese.
- Encourage Vermonters to do healthy activities in the forest, and use this opportunity to educate them about the importance of productive forests for recreation purposes.
- Bring forest activities out into the open. Participants noted that many of the activities of a working forest are basically hidden from the public view. Suggestions were made to bring some of these activities out into the open and include an educational component when that happens (like “touch a truck day”).
- Include “Forest Products” every time we talk about the working landscape. Many times, the focus is on agriculture and its many contributions to Vermont’s culture, economy, and heritage. We must remember to include forest products when we talk about the working landscape, so people deepen their recognition that those working lands are both agricultural land and forest land.

2. Work with Schools

Participants noted how effective the agricultural community has been in incorporating an agricultural curriculum into Vermont schools, and also how effective the “farm to school” program has been in teaching students where their food comes from. A similar effort should be made for forest products, so that Vermont school children can understand why forests are important, and how many products the forest provides. In addition, this type of educational focus will foster an interest in working in the forest products industry and help to identify and encourage students who show an interest and aptitude for this type of work.

Several participants noted that a forest products curriculum already exists and could be incorporated into Vermont schools – Project Learning Tree (<http://www.plt.org/environmental-education-curriculum>). Although this curriculum is broadly about environmental issues, it does have specific components that focus on forests.

In addition, participants suggested that school should be encouraged to take advantage of school-specific opportunities to teach students about forests and forest products. A few examples offered included:

- When a school is installing a wood pellet heating unit, students could be taught about how pellets are made by touring a local pellet manufacturing plant, as well as talking to foresters and loggers about where the wood comes from.
- If a school is using locally made wood products, students could tour where the products were made and talk to the manufacturers, as well as foresters and loggers to learn about different kinds of wood and how it gets made into furniture and other products.

3. Develop Local Markets

Although Vermont has a relatively small population, opportunities do exist for developing local markets for forest and wood products. The state and the industry should do all we can to foster these markets and encourage consumers to purchase local products, just as they have been encouraged to buy local food. In addition to full time Vermont residents, other potential in-state markets include second home owners and tourists. Potential “low hanging fruit” products to market to these customers might be furniture, pellets and craft products.

Opportunity #2: Identify and Address Landowner Interests and Challenges

The Challenge: Approximately 88,000 landowners are responsible for Vermont’s forest land. Forest land is valuable and expensive to maintain as open, undeveloped property. At the same time, forests are complex systems and land stewardship can be challenging for landowners. Vermont has a “fair tax” policy called Use Value Appraisal, (<http://www.vtfpr.org/resource/documents/UVA/FPR%20Information%20Brochure.pdf>), which allows landowners to enroll land that has a forest management plan in order to be taxed at the “current use” value of the land rather than the development potential value of the land. However, in order to qualify, the landowner must have a 25 acre or larger parcel of forest land. For landowners with small parcels, few economic incentives exist to keep the land open and to steward it properly. The bottom line question is: Can the landowner afford to keep the land in forest?

In spite of the challenges outlined above, many landowners do indeed keep forest land in production and steward it well. Because of this, everyone who lives, works, and plays in Vermont benefits from the things the forest helps to provide:

clean air and water, carbon sequestration and storage, other environmental and ecological protections and boundless recreational opportunities. Despite these benefits the forest landowners are providing, they are rarely able to reap a profit from the harvesting of trees or other forest products. Sometimes, the harvesting even creates a financial cost for the landowner.

Further, we know that larger parcels and tracts of forest are better for environmental and ecological reasons. However, landowners do not have incentives to keep larger parcels intact, and no simple way exists to allow landowners to aggregate parcels to benefit from the few incentives that are offered (e.g., Use Value Appraisal). Currently, landowners receive only about 3% of the total one billion dollars of revenue generated from the forest products industry annually.

The group did not have specific action steps for this opportunity area, but rather had a few key questions that need further exploration and then potential action:

- How can we increase margins along the whole chain of custody and make sure the landowner has an economic incentive for keeping forest land in production?
- How can we encourage landowners to aggregate parcels to keep larger tracts of land in forest?
- Can we find ways to reward landowners for the benefits their forests provide?
- How can we build stronger connections between landowners and others in the forest products industry?

Opportunity #3: Build New Markets – within the Industry and beyond Vermont

Challenge: The basic reality that the Vermont forest products industry must face is that wood is a commodity product in a global marketplace. It is nearly impossible for Vermont enterprises to compete in this global commodity market because of the high costs of production here in relation to other parts of the world. At the same time, like other commodities, wood has great potential for having value added to it. The key is to add the value to the wood here in Vermont, rather than shipping the raw product to other places to add the value. Developing key value-added markets could allow Vermont forest products enterprises to create products for those markets and reap the benefits of adding the value here in Vermont.

One frustration that was expressed throughout the Grafton Conference was that there limited chain of custody and value adding collaboration in the industry, so that opportunities are missed for connecting businesses within the industry to take advantage of both intra-industry opportunities and opportunities to break into new markets outside of Vermont. Several people in several ways expressed the need to break the isolation of the people and the different components in the forest products industry, identify connection points and opportunities for collaboration and for products to be sold.

The group listed several specific ideas for further consideration:

- Offer regular networking opportunities.
- Host an annual EXPO or conference (like the Farm Show) to bring industry stakeholders together to explore the entire supply chain and its opportunities.
- Identify connection points and educate stakeholders about how to prioritize local wood product purchases.

- Work with landowners and end users to encourage them to advocate for local wood and forest products.
- Look for other partnerships outside of the forest products industry, such as the cheese council, horse shows, and tourist attractions that could help to build a market for Vermont forest products.

Another key area that should be explored is “new markets.” Participants recognized the potential of the Northeast and key population centers (e.g., Boston and New York), as well as potential global markets where consumers are looking for experiential, sustainable, or high-quality custom products (e.g., China). Participants noted the potential of “mass customization” as a way to reach out to these customers, but noted that the industry may need to adopt new technologies and production methods to take advantage of these markets if they are identified.

The key suggestion here is to develop a “Grand Marketing Plan” that first reviews available data and studies and then potentially conducts needed research to fill in the gaps in order to identify potential markets with specificity, identify consumer price expectations, suggest product development activities, and develop ways to promote the products to the customers. Participants noted that customers’ priorities are: aesthetics, budget, and sustainability (in that order). The question is how to promote the aesthetics and sustainability of Vermont forest products, and still get a fair market price from the customer and have resources to provide for profitable margins through the chain of custody—from the final producer, to the mill, the trucking company, logger and landowner.

Opportunity #4: Build Infrastructure and Distribution Capacity

The Challenge: As noted above, the costs of production are high in Vermont, compared with other places around the world. Vermont has lost processing capacity over the past few decades, and now faces the unfavorable reality that most of Vermont's raw logs must be shipped out of the state for processing, sending their value elsewhere.

Participants noted several areas where needs exist. Further study and, ideally, investment into these areas could significantly increase the industry's ability to add value to wood here in Vermont and keep the economic benefits here. The areas identified are as follows:

- Equipment
- Processing (tool suppliers, kilns, mills)
- Storage & Distribution (concentration lots)
- Regulation (Act 250, for instance)
- Investment and financing
- Workers Compensation and Unemployment Insurance (and worker safety)
- Cost of energy/electricity
- Workforce development
- Research and development (products, processing)
- Succession planning
- Business development
- Tax credits

Because of time constraints, participants were not able to delve deeply into these issue areas. However, it was clear that these are important areas for further dialogue. During the plenary sessions, Secretary Miller pointed out that Vermont has strong assets in its forest products cluster.

Participants suggested that the Agency of Commerce focus economic development resources on developing this cluster and addressing the issues listed above, in order to provide the industry with the support it needs to grow and thrive.

Priority Action Steps

Each work team developed a set of priority action ideas that can be implemented to respond to the ideas and opportunities identified in the retreat. Their priorities are listed in this section.

Expanding Capacity from Forests to Mills: Logging, Transportation, Workforce and Mill Production

1. The industry and a broad set of allies need to build a strong unified voice to promote the future of the forest products industry and educate the public to the virtue of the working forest. Forests should remain forests. Vermonter's are united in support of the working landscape—that means they need to understand and support the economic practices that perpetuate that landscape into the future. There is strong common purpose and can be collective positive messages in support for a strong future for the sector in Vermont.
Leads: VPA, Working Lands Partnership and Coalition, Vermont Forest Roundtable, Associated Industries of Vermont, other convened partners.
2. In state and local permitting and regulation policies, supporting productive working lands should be seen as a core priority. Regulation should be improved that allow economic development that directly contributes to the perpetuation of working lands. Vermont should lessen regulation for infrastructure that maintains the land in production. This should be part of the State of Vermont's Economic Development Strategic Plan.
Leads: VT Agency of Commerce.

3. Vermont wood products manufacturers should expand cooperative marketing to sell the big story of Vermont craftsmanship and to expand markets. A campaign should include
 - a. A systematic approach to marketing assistance to forest products businesses;
 - b. Sharing resources in industry to expand marketing;
 - c. The state can expand cross promotion of wood products with agriculture and tourism.

WHO: Chief Marketing Officer and Commissioner of Tourism and Marketing, partner with VWMA and VFPA to produce a marketing campaign.
4. Vermont partners should work together to develop a wood technologies research center – a hub at UVM in partnership with the engineering school/shared with the Rubenstein school of natural resources. The center would research for new products, markets, efficiencies, innovation and technology.

WHO: Convening leadership by the Commissioner of Forests Parks and Recreation, UVM and partners.

Advancing Innovative Woody Biomass for Heat

1. Market development will depend on strengthening consumer demand through:
 - a. Developing Rebates/tax policy incentives for homeowners (for appliances) = policy + financing
 - b. Total energy standard/thermal RPS for utilities (RECs) = policy + financing
 - c. Demonstration projects -> cluster demand (e.g., pellet boilers and district heating) = education
 - d. Marketing the story of VT Local Wood = marketing

WHO: A partnership that includes BERCE-VT, NFC, BETC, NEBTWG, VWMA, VSJF, VNRC, VT legislature, VT Forest Parks and Recreation, WLEB.

2. Expanding the supply through:
 - a. Building a greater return value to landowner (e.g., end user investment in supply production – capital gains tax credit; ensure integration with whole wood products market).
 - b. Provide technical assistance for groups of landowners to own, manage, harvest cooperatively.
 - c. Ensure sufficient and appropriate financing for processors and loggers (get consulting foresters to be mobilizers for financing).
 - d. Improve logger capacity (e.g., equipment, modernizing logging), financial incentives for training and equipment and workforce (WC rates).
 - e. Use the Biomass Resource Center for technical assistance and research support (in woods, mill, secondary facility, and support industry collaboration).

WHO: A partnership that includes BEREC/E-VT, UVM EXTENSION, CAPITAL PROVIDERS/FLEX CAP FUND at VSJF, Northern Forest Center, VWA, WLEB, VFPA, VT Forest Guild.

Branding Vermont and Capturing New Markets

1. Develop a Market Assessment
 - Inventory current research (from past 3 years); Analyze gaps; hold listening sessions with the industry; do a product analysis to identify key products and markets for market development; evaluate current demand and potential future demand.
 - Then do a values analysis to assess willingness to participate in 'buy local'/local sourcing economy on the part of producers, customers, landowners, and institutions.
 - The first task is identifying some funding.

WHO: VSJF, funded by the state and convening others, including partnerships with industry orgs, Northern Forest Center, state agencies and UVM extension.
2. Tell the story of Vermont Forest Products
 - Implement "Local Wood. Local Good." to build common messages to the public.

- Tell the story of the Vermont forest and the people in it.
- Identify and magnify the emotional resonance of the story of working forest and the people who produce from it.

WHO: Consortium of Forest Products organizations, Forest Parks and Recreation, and key leaders in the Department of Tourism and Marketing.

3. Deepen Intra-Industry Communication and Education by systematically expanding networking and collaboration, developing an annual conference/expo, identifying connection points, and connecting with landowners.

WHO: VT Woodlands Association and Vermont Wood Manufacturers Association with convening leadership from the Commissioner of Forests Parks and Recreation. The convener should call people together to start, but the effort must be industry driven.

Fashioning New Forest Products: Creating New Designs, Products, Clusters, Chains of Custody

1. Build a gathering of Innovators where creative minds cross pollinate to further consider new product development, cluster and chain of custody opportunities.

WHO: WLEB, Windham Foundation with VT Woodworking school and Guild

2. Develop as statewide marketing Initiative
 - Begin with a feasibility study that evaluates consumer preferences; who is buying where, what, and how?
 - Explore partnerships between wood products industry and other VT organizations: cheese council, horse shows, and tourism.
 - This coordinated sales and marketing effort should unite all leading partners, establish funding, connect to trade shows, reach out to major buyers, and connect to consumer events.

WHO: Tourism and Marketing with WLEB

3. Vermont should build a clearinghouse for Vermont (and beyond) Lumber
 - Establishing a consistent and ‘virtually’ unified source for local wood that lets all producers know “who’s got it, what they’ve got, where it’s at.”

WHO: Vermont Forest Products Association with WLEB funding.

Additional Working Group Notes

Expanding Capacity from Forest to Mills: Logging, Transportation, Workforce, and Mill Production

- Encourage or attract the development of a low cost entry level wood/furniture producer – a VT IKEA business
- Encourage more harvesting on state and federal lands in VT
- Harvest roadside trees – especially on interstate – for logs and/or wood for heating for low income Vermonters
- Target assistance to municipality support for working lands production
- The state should look at reducing costs of insurance, particularly WC – especially as we advance a new health care system
- Target regulatory assistance to the Forest Products industry
- Develop systematic platform for education from K to College on Working Forest priority
- WLEB should look for a kiln application
- Increase local sourcing of VT wood products by government/private sector/institutions
- Revise the cornerstone local sourcing target to architects and designers and state contractors
- Preferential pricing for businesses that perpetuate Vermont’s working forests
- Develop information necessary for the carbon market. Monetize value of sequestration and market as offsets
- Extraction charge on water for commercial sales that is returned to working forest
- Voluntary contribution like carbon
- Lower trucking costs by relaxing road weight restrictions and DOT guidelines
- Support or facilitate expansion of pellet heating in VT

Advancing Innovative Woody Biomass for Heat

Foundational Values

- Sustainably managed wood supply
- Efficient use of wood supply
- Appropriate scale processors
- Ensure community benefits of facilities (local ownership preferred)
- Import substitution – economic opportunity
- Climate change mitigations/carbon sequestration
- Conservation -> efficiency -> renewables => thermal efficiency + electric renewables
- Find ways to recognize full costs of getting to market

WOOD BIOMASS DEMAND CHART

	Residential Market Channel (pellets and chunk wood)	Commercial Market Channel (chips, pellets, other)
Policy	-state rebate -state income tax incentives - pellet boiler rebates for appliances -buy VT fuels and appliances	-state rebate for appliance (link to efficiency) - create an efficiency scale for qualifying for a permit (e.g., SPEED contract @ 50% efficiency...do we allow something to get built...get policy of at least 50% efficiency for co-gen facilities to get permits -clarify the efficiency target for electricity generation at PSB - regional procurement standards for biomass at power plants (regional across the state)
Technology	-condensing units -ESPs -heat metering (existing technology at smaller scale) -bulk storage – deploy it -air source heat pumps + natural gas + efficiency rate systems are THREATS	-use heat metering (ESCOs) technology – “sell heat services” -heat storage/gasification -bulk delivery trucks -opportunities for process heat for the industries (e.g., cheese making, green houses)
Workforce	-need to grow & train workforce (installers) – mostly done by manufacturers -expose existing HVAC workers to pellet stoves and chunkwood systems	-retraining trained workers for commercial facilities operations/vendors do the training

	(certified technicians)	
Financing	<ul style="list-style-type: none"> -state rebate and/or state income tax incentives for pellet boilers -find ways to decrease payback period -insurance and mortgage repercussions – need to educate insurance agents and mortgage brokers -customer financing (firewood CSA) -coop ownership of storage silo -longer term supply agreements (10 year heat supply contracts) 	<ul style="list-style-type: none"> -bridge up front financing gap of bulk delivery systems -state rebate and/or state income tax incentives for commercial woody biomass boilers -heat sale contracts – credit worthiness of large contracts for financing district heating suppliers...nothing exists yet as a legal and financing contract template for small or large scale district heating systems -need more vendor provided financing/ability to recapture is hard/default – high volume sales at good interest rates/ need a risk pool of \$\$ to reduce risk
Sales/Marketing/Brand (consumer education)	<ul style="list-style-type: none"> -bulk delivery opportunity -be exposed to who is producing the product (learn the story) -rebrand “biomass” to “local wood heat” -local wood – explain ease, ecological benefits, automatic 	-
Technical Assistance/Business Metrics	<ul style="list-style-type: none"> -Learning Journeys -model neighborhood program – assisting homeowners get installs, fast and easy 	-Learning Journeys
Research/F easibility		
Networks	<ul style="list-style-type: none"> -clusters of end users -owner financing of local wood supply 	<ul style="list-style-type: none"> -local ownership preferred (not necessarily for the technology) -all inclusive local system -community benefits of facilities

**change existing policy focus on electricity only to electrical and thermal

**find ways to recognize time costs of getting to market

INDUSTRY DEVELOPMENT CHART

	Landowners->Second Org Manufacturers
Policy	<ul style="list-style-type: none"> -current use (do more to leverage groups to be part of current use) -workers comp issues -monetize public goods for ecological services (not just voluntary) -FEMA payments (1/2% of higher rates) to invest in water bars and landowner for forest health (EQIP, NRCS \$\$) – get NRCS to support landowner use of EQIP for forest management (conservation districts – flexible \$\$)
Technology	<ul style="list-style-type: none"> -collect info on best technology available – biomass technical center -proactive state support for technology adoption -use VT as demonstration ground for technology/IP and open selling of that logistics knowledge/best practices – information sharing -product innovation needed on chunk cord wood technology – rating or certification system in dry wood for chunk wood and efficient burning, dry wood -extension model/BERC – expand services -tours to learn from Biomass Resource Center for technology education, efficiency opportunities – industry/private sector -more cut to length technology (longer thru contracts, higher payments, lower workers comp, transition time support and training from manufacturers)
Workforce	<ul style="list-style-type: none"> -workers comp issues -need for variable cost arc contracts -apprenticeships for management and floor guys at existing plants -welders, mechanics, electricals – tech school background -logger training to offset WC (master logger certification) -movement to smaller mechanized equipment (e.g., harvesters) – training needed
Financing	<ul style="list-style-type: none"> -find forest land owners with \$\$ to invest in primary and secondary businesses -state capital gains tax on investments in industry could be eliminated -capital providers need education on the industry needs -working capital needed – financing this (recognizing connected value)
Sales/ Marketing/ Brand	<ul style="list-style-type: none"> -check off marketing program (like milk) for every pellet stove sold – goes into a regional marketing campaign (hardwood industry has just done this) -bulk delivery companies are needed with efficient routes -marketing of industry and wood resource -distribution service image, clean, storytelling to consumer

	<ul style="list-style-type: none"> -brand wood heating/marketing message -comprehensive stump-to-BTU to tell whole story ...need greater integration -build VT brand as place to be a Launchpad to rest of North American market – using European boiler makers to have VT as demonstration site for their products -tours, marketing campaign -telling the story of WHO is involved in getting product to market – develop ways to market/tell the story – marketing TO consumers...educate landowners about role of biomass as part of good forest management -local wood
Technical Assistance/ Business Assistance	<ul style="list-style-type: none"> -organize Learning Journeys to see innovation in other places – technical journey – business side - look at this -business cooperative of timber land owners – equity owners into district heating plants...land owners having equity owners in biomass heating facilities (promote mutual benefit enterprise) -get consulting foresters to be more proactive wood mobilizers
Research/ Feasibility	<ul style="list-style-type: none"> -do we have the sustainable supply of the wood resource (900 tons of capacity) to reach goal of 18% thermal from wood by 2025? -where would it come from and how do we get it? -is it economical to the landowner? -community owned forests – harvesting going to local school use local utilization – we have town forests already – get chips into local schools
Networks	<ul style="list-style-type: none"> -reduce silos between efficiency and renewables -have clusters of pellet users – would help industry mature faster 0connect with net-zero building movement to help achieve in part through local wood use

**ground truthing needed: weave in here the base economics of market forces; 18% thermal by 2025 goal

Branding Vermont and Capturing New Markets

Challenges summary:

- Complex industry with many products and markets
- Many markets and customers with different desires and needs
- Vertical integration is challenging
- Lack of support infrastructure AND at the same time, idle assets
- Ubiquity of and ignorance about forests
- Internal/external communication and marketing

Opportunities summary:

- New markets (China, experiential consumer)
- Markets along the supply chain (architects, contractors)
- Consumer education to connect to forests (recreation)
- Network building

Solutions/Ideas Brainstorm:

- Trip to China
- Execute on Local Wood. Local Good. Campaign
- Make a “grand plan” to rationalize the complexity of the industry (marketing plan)
- Build internal networks
- Partner with recreation orgs to educate consumers...build public awareness campaign re: value of forested landscape (ads, rest areas, ski areas)...get Vermonters on board with understanding the benefits of the forest...and that a working forest is productive
- Inventory of market research/gap analysis/listening and market research to fill gaps
- Hire a connector: someone who understands the whole industry ecosystem and identifies the connection points to be responsive to the market
 - Industry <-> industry (whole supply chain)
 - Industry->market
- Co-operative
- Network/collaboration – loggers/landowners/markets (concentration yard) – do a pilot project in one county that gets replicated throughout the state – county forester leading with support from FPR?
- Bring forestry “out” so people can interact with it – transparency and education
- Annual conference for contractors
 - How to source local
 - How to incorporate local into projects

- Wood Industry Expo? Like the Farm Show
- Piggyback on NELA?
- Include education and raise the bar
- Who is the audience?
- Resources exist to help architects/contractors spec for local – these are not being utilized
 - Architect continuing education classes/lunch and learns
 - Guideline for BGS – no obligation
 - Procurement standards? Hard to do
- VT wood brand?
- Strategic plan
- Commissioner of Working Lands
- FUNDING for implementation
 - State
 - Philanthropy – Forest Funders Network?
 - Non-profit advocacy
- Extension person for FP industry
- Raise awareness – sink or swim together
- Focus on larger business climate – Make Forest Products CLUSTER a priority
 - Infrastructure
 - Attract business back
 - Grow current business
- “eliminate taxes” ☺
- Deal with Workers’ Comp costs
- Cheap electricity
- Equipment
- Write and tell the story of Vermont Forest Products
 - Current and future consumers
 - Marketing and education
- Hyde Park Elementary Pilot Project
 - Local schools
 - Building and educating all the way through the project
- Connect to the VT Dept of Tourism and Marketing – Agriculture and Forestry
 - Vermont Life Magazine
 - @thisisvt
 - Welcome centers
 - Best of VT project
 - An actual place to display products and sell them? (Newport tasting center)
 - More VT products in retail/rest areas

- Make an APP so when are visiting Vermont and see a VT FP, you can tap and buy it (QR codes?)
- Marketing and technical assistance to FP businesses
- Traveling exhibit for museums
 - ECHO
 - Montshire
 - Fairbanks
 - Also farmers markets, festivals, fairs
- Collaboration with GMC for education
- Groton State Forest
- Landowners have the biggest stake

Fashioning New Forest Products: Creating New Designs, Products, Clusters, Chains of Custody

What's working:

- Convening conversation at this event
- Incredible entrepreneurs: artists, innovators, businesses, educators
- Renaissance of forestry economy

What's not working:

- Structure of the industry association/an organizational assessment is critical for the future (moose in the room!)
- Selling VT wood products
- Businesses tentative and hesitant to innovate
- Enterprises need to want to grow

Brainstorm notes:

- Clearinghouse for VT lumber and beyond
- Source for local wood who's got what and where is it located?
- Distributor of VT lumber
 - Direct to entrepreneur (e.g., black river)
- Gathering of innovators
 - How is the gathering titled? How to get people to show up? How are you invited? Creative minds cross pollinating – tap into the creative side of VT
- Trade shows – value?
- Buyers mission
- Consumer event (Woodstock) what's missing?
- Fashioning new forest products

- Creative, innovators
- Environment to foster creativity
 - Exist today? NO
 - Design
- Idea: forum for innovation
- Missing at the table: mill owners, larger FP manufacturers
- Nothing big happening – make meetings more interesting and productive
- Need to learn/education/conversation
- Marketing – Facebook, website
- TELL THE STORY
- Access to new markets
- Resource connection – VMEC
- Sourcing local wood – how important is that for FP?
 - Cost of production
 - Local mill vs. local wood
 - FSC
 - VT vs US
 - VT brand – where it is made
 - Supply chain
 - Naked table project
- Statewide clearinghouse of supply (website)
- Importance of relationships and community connection
- Not about “price” of supply for many FP manufacturers
- Availability and consistent supply IS critical
- Design: be true to artists creative interest – less about what I think the consumer wants
- Design – gathering
 - Around design competition in Woodstock – lack of participation don’t want to be judged
- Strength – design / weakness: commercializing design
- Development of supply chain would help the industry
- New technology – equipment
- Potential for new products – rolling pins, canoe paddles
- School/education
- How to get products to new markets?
- New market development
 - Boston, NY – store? Presence?
 - Showroom possibilities?
- Statewide marketing initiative
- Research/data

- Consumer preference
- Supply: inventory to show
- Explore new partnerships: artisan cheese, horse shows, VT activities, conferences, events, NASDA, out of state events, connection to higher-ed (UVM, Middlebury)
- Association/organization – need assessment of what is/is not working (elephant)
- Assess structure of industry
- Build something the industry trusts across the supply chain
- Furniture making is ART
 - Marketing (art vs. craft)
 - Stories (Forest to market / forest to family / know your forester / know your wood)
- Statewide marketing initiative
- Feasibility study
 - Trade show
 - Buyers mission
 - Consumer events
 - Funding
 - Leadership – VWPM council not funded

Participant List

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Kevin Hastings	Amoskeg Woodworking
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Carolyn Partridge	House Agriculture Committee
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Notes