

A look at Five Years of
National Leadership
in the Development of
BIOMASS ENERGY



**BIOMASS
ENERGY
RESOURCE
CENTER**

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Catalysts – The energy behind a movement



PREFACE

National Leadership in Advancing Biomass Energy

Building on the success of our Vermont Fuels For Schools program, we have helped initiate similar programs in states across the country.

As we mark our five-year anniversary as an organization, we take this opportunity to celebrate our work to this point. Through the stories that follow, we hope to provide a sense of how we have expanded our reach to new regions and communities, while focusing our services in four distinct areas of action. We crafted these “action statements” during a mission reframing exercise we conducted in March 2006.

In just five years, we have grown from an offshoot of the Vermont Department of Public Service to the national leader in advancing the small- to medium-scale biomass energy market. Building on the success of our Vermont Fuels For Schools program, we have helped initiate similar programs in five states across the country, with another four developing programs. Meanwhile, we have continued to address issues of supply, technology, and policy that serve as potential barriers to the market. We owe a debt of gratitude to Senator Patrick Leahy for sharing our vision and finding ways to support the work we have done.

We also take this opportunity to establish our current position as we set a course for the future of BEREC. As our collective consciousness of climate change becomes more

acute, people are looking to replace fossil fuels with renewable resources. Woody biomass is one such resource that is accessible throughout much of the United States. Increasingly, rural communities are seeing woody biomass' potential to reduce their fuel costs and support their local economies, while reducing fire risk and fragmentation in their forests.

As the demand for biomass energy systems rises, so does the need for BERC to provide leadership at a national scale. There are right and wrong ways to approach biomass. We need to make available to communities the

As the demand for biomass energy systems rises, so does the need for BERC to provide leadership at a national scale.

resources they need to decide if biomass is right for them and, if so, how to create community-scale systems that are

environmentally and economically sustainable. We need to acknowledge that biomass is one of many solutions to the energy crisis, and yet we must also ensure that when funding is made available for renewables, biomass is part of the picture.

We view ourselves as catalysts—the energy behind a movement. As we look back at our first five years and prepare for the next five, we are adopting strategies to make our services more readily available and replicable. We have added a full-time communications director to our staff. We are getting our word out through national speaking engagements and conferences. In Vermont, we are producing a how-to manual for schools and a study of low-grade wood supply, both of which we can adapt for other states.

The nature of our work is often technical, but the implications are profound, affecting a diverse range of people and communities. You will have a chance to learn about a few such communities in the stories that follow.

Scudder Parker
President of the Board

Steven J. Allenby
Founding President

Timothy M. Maker
Executive Director



The nature of our work is often technical, but the implications are profound, affecting a diverse range of people and communities.



In many Western states, forest land managers must address the threat of forest fires. An unthinned forest (top) is a fire risk while a properly thinned forest (bottom) is less likely to experience catastrophic fire. Sustainable forest management is key to the environmentally-sound use of low-grade woody biomass for energy, whether in the West or in other forested areas of the country.

**...to achieve
a healthier
environment,
strengthen
local economies,
and increase
energy security...**



OUR MISSION

Defining the Mission:

The mission of the Biomass Energy Resource Center (BERC) is to achieve a healthier environment, strengthen local economies, and increase energy security across the United States through the development of sustainable biomass energy systems at the community level.

Achieving the Mission:

BERC strives to be the premier organization promoting sustainable biomass energy systems at the community scale. BERC has a particular focus on the use of woody biomass and other pelletizable biomass feedstocks. To achieve its mission, BERC:

- Provides vision and national leadership in the development of the small- to medium-scale biomass energy market;
- Initiates partnerships and guides project implementation in schools, hospitals, commercial buildings, district energy applications, and other commercial settings;
- Leads strategic development through education and training programs, collaboration with state and federal agencies and other partners, innovative project finance, research and policy development, project technical assistance, and program development; and
- Assesses available biomass energy technology and acts to bring better technology to the market.



BIOMASS FUEL

Sustainable Energy for Your Community

“Biomass refers to biological matter that can be burned for energy. Biomass fuel includes woodchips, bark, sawdust, other wood-product industry wastes, urban and forestry tree thinnings, cordwood, some clean forms of municipal solid waste, landfill gas, animal manure, agricultural crop residues, food processing wastes and energy crops (grasses or fast-growing trees).”

*– from Heating Communities with Renewable Fuels,
Tim Maker and Janet Penny*

Woody biomass represents a potential source of energy that is clean, renewable, sustainable, and affordable.

In every state in the Northeast, the Southeast, the Great Lakes states, the forested western states, and in other regions across the country, woody biomass represents a potential source of energy that is clean, renewable, sustainable, and affordable. A biomass energy system can support the local economy, maintain forest health, and reduce net emissions of the greenhouse gases that cause climate change. BEREC is committed to advancing the small- to medium-scale biomass energy market, so that more communities can have access to the information, expertise, technologies, and funding needed for the development of biomass energy systems. BEREC helps communities decide if biomass is appropriate for them, while reducing barriers to implementation.

The potential to bring the benefits of biomass across the Northern Forest region and the nation



INTRODUCTION

BERC's Foundation and Rise From State Program to National Leader: The Vermont Fuels For Schools Initiative



“We aim to be the national experts not just on who’s doing biomass, but who is doing it right.”

**– Tim Maker
BERC
Executive Director**

BERC’s roots can be traced to the early 1990s, when Scudder Parker left the state legislature and came back to Montpelier to lead the Vermont Department of Public Service’s new Energy Efficiency Division. There he met Norm Hudson, a forester with the Department of Forests, Parks and Recreation, who envisioned a future in which Vermont would run on energy from its own wood resources. Parker and Hudson forged a relationship between the two state departments to pursue that vision. “We began to help schools convert to biomass,” recalls Parker, “but we quickly encountered the issues that come with a new energy source. There weren’t clear answers to questions of cost, supply, handling, technology, or quality.”

To find the answers, the Department came to depend on an independent contractor named Tim Maker, who had been working as a project manager for Vermont schools and others who were putting in woodchip heating systems. Tapping into Maker’s expertise, the Department developed the capacity to approach schools, institutions, and industries to analyze the cost effectiveness of a variety of wood energy options. According to

Parker, they started to believe that their efforts to promote wood energy and initiate projects might have the potential to bring the benefits of biomass across the Northern Forest region — and perhaps the nation.

The school wood heating initiative, which later became known as Fuels For Schools, was gaining momentum, but the federal funding for promoting community-level biomass was evaporating. In an unusual move, the Department adopted an idea proposed by Federal Grants Manager Lois Jackson of spinning the program off as an independent nonprofit capable of generating its own revenue. “We realized that it was likely to perish if it remained in government,” says Parker, “while as a nonprofit, it might flourish.”

With some leftover grant money and a champion in Washington in Senator Patrick Leahy, the Biomass Energy Resource Center launched

“A primary goal of BERC is to figure out the barriers to making small-scale implementation of woody biomass environmentally sound and economically feasible.”

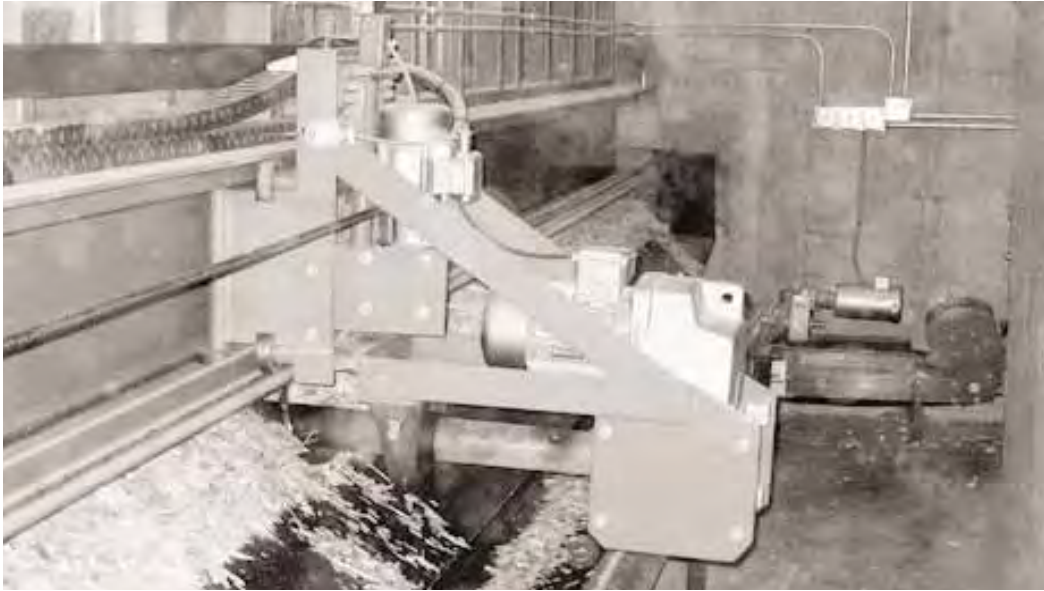
– Scudder Parker
President of BERC Board of Directors

in 2001. Maker, the go-to contractor, was hired as its first executive director. Since then, he has worked alongside BERC Board President Steven Allenby, a past vice president at Central Vermont

Public Service. “Steve has clarified the Board’s role as setting policy for the organization,” says Maker. “He led us through an important strategic planning process and retreat, where we focused and reframed our mission.”

Sustained by U.S. Department of Energy funding, the Vermont Fuels For Schools program has continued to grow, with BERC serving as the “glue” binding together four partners—the Vermont Superintendents’ Association and the Departments of Education, Public Service, and Forests, Parks and Recreation. “We formalized the complex network of relationships that deliver wood heating systems to schools,” explains Maker. “It can be challenging to bring state agencies together, but now we have some tangible products and all of the partners understand what we’re doing.”

Those tangible products include an introductory packet given to all schools considering a woody biomass system. Once a bond vote passes and a school moves forward, BERC provides technical support to architects and engineers. “BERC is of great educational value to those who haven’t done



An automated wood fuel handling system removes woodchips from the storage bin and carries them to the boiler.

“We want to provide firms with capacity, so our ideas need to be practical, deliverable, and replicable.”

– Scudder Parker



At Mount Anthony Union Middle School, heating system operators now spend only 20 minutes a day with the wood heating system.



Calais Elementary School was the first in Vermont to install a wood system in 1986, starting the wave of successful wood projects in schools throughout the state and now in other parts of the nation.

this kind of work before,” says David Epstein, the architect who designed the new Mount Anthony Union Middle School, with BERC serving as wood system project manager. “Then we can take that experience and run with it.”

Epstein’s firm has since had two more biomass projects for which it did not need BERC’s help. Parker says that is precisely the result that BERC desires. “We want to provide firms with capacity,” he explains, “so our ideas need to be practical, deliverable, and replicable.”

“The cost of making one million BTUs with oil is \$17. With wood, it’s \$5.50. That’s a huge difference. When I use that example, people get bug-eyed.”

**– Jim Marsden
Director of Buildings & Grounds,
Mount Anthony Union School District**

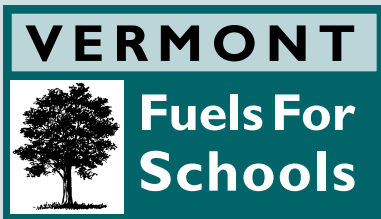
Using its on-the-ground experience from projects like Mount Anthony as a foundation, BERC has shifted its primary role from direct implementation to strategic coordination. In January 2007,

BERC convened over one hundred school officials and industry representatives at the state’s annual school biomass conference. Fourteen Vermont schools are planning to build wood heating systems this year alone; with the increased demand comes a number of questions, and BERC is working to find the answers. “There’s a concern that there are only one or two vendors supplying the boilers here, so we are conducting a nationwide survey of vendors to identify and attract new qualified players that have not yet done business in Vermont,” says Maker.

While BEREC is making it easier for communities to build biomass systems, it also advises them on whether it is the right choice. “Wood isn’t for everyone,” says Joe Kohler, the mechanical engineer for the Mount Anthony project. “BEREC has the knowledge of where to get chips from, how to get them, how much they cost—all the information needed to do a proper feasibility study.

“BEREC can also say ‘no’, and suggest alternatives,” he adds. “They handle the strategic work for these systems—we just hook ’em up!”

Five years after BEREC’s foundation, its Vermont Fuels For Schools initiative is thriving. Meanwhile, BEREC has extended its reach far beyond the Green Mountain State. The following four stories demonstrate BEREC’s rapid growth from a program spun off by a state agency to a national leader in advancing the small- to medium-scale biomass energy market. Each success story exemplifies one of the action statements that accompanies BEREC’s mission.



Vermont Fuels For Schools — A Capsule View

- Currently 20% of all public school students in Vermont attend wood heated schools.
- Over the last fifteen years, 31 schools have installed woodchip heating systems.
- On average, heating bills have been reduced 30-50% compared to oil systems and 75-80% compared to electric heating.



**Providing vision and
national leadership
in the development
of the small- to
medium-scale
biomass energy
market**



Recognizing that Energy Security Supports the Mission:

Crotched Mountain

**“For me, there’s
no question that
the Northern
Forest has an
incredible energy
opportunity sitting
in its hands.”**

– Don Shumway

Crotched Mountain Rehabilitation Center serves disabled individuals and their families across the Northern Forest region. Its home campus in Greenfield, New Hampshire, includes a hospital for children and adults with brain injuries and developmental problems, as well as a special education school and housing for clients and the workforce.

The size of the campus and its rural location made this an ideal candidate for conversion from oil to a central wood-fired power plant. As a nonprofit organization, however, the mission had to be considered before making the switch. “Our decisions have to bear in mind three things: our finances, the health of our residents, and our community,” explains Don Shumway, Crotched Mountain’s President & CEO.

To address the first concern, BEREC led Crotched Mountain through a series of feasibility studies. “We were in no position to invest in anything that would increase our costs,” Shumway recalls, “but we were compelled by the conclusion that fuel savings would pay back the

initial cost in seven years, at which point we'd be operating at a more stable, inexpensive level.”

Emissions research showed that the conversion would improve air quality; as an added incentive, the rubble from construction would be used to build a five-mile, wheelchair-accessible trail to enable residents to enjoy the surrounding 1,400-acre forest preserve. Moreover, switching to woody biomass would allow Crotched Mountain to spend its fuel dollars in the local community. “We’re five miles from a very happy

What is the Northern Forest Biomass Energy Initiative?

The Northern Forest Biomass Energy Initiative (NFBEI) was convened in January 2006 by BERCC and the Northern Forest Center, a regional nonprofit organization dedicated to creating healthy communities, economies, and ecosystems throughout the Northern Forest region. The conveners were joined by the Carsey Institute of the University of New Hampshire, which focuses on research and policy development that helps rural communities in the region and throughout the nation. The overall purposes of



the NFBEI are to explore the potential for woody biomass from the Northern Forest to provide an increased source of renewable, sustainable energy for the region and to determine what needs to happen for that potential to be realized.

sawmill owner,” Don says. “He secured a contract that is going to use his chip supply year round.”

The project broke ground in July 2006, went online five months later and, as Shumway puts it, “We’ve been toasty ever since.”

The story does not end there. Shumway’s interest in the project led him to join the Northern Forest Biomass Energy Initiative, co-conceived by BEREC, to explore woody biomass’ potential as a sustainable, renewable energy source for communities across the region. The Greenfield campus is helping to advance the work of the Initiative. “We wanted to demonstrate a technology that basically any community in northern New England could consider,” explains Shumway. “We’ve been presenting the idea for our plant ever since the conceptual phase, when it only existed in drawings. Now, not a day goes by that we don’t have someone coming to look at the completed physical plant.”

“We aren’t an environmental organization,” says Shumway, “but we feel that it’s important for this country to take advantage of its biomass resource base to protect its energy supply and support its communities.”

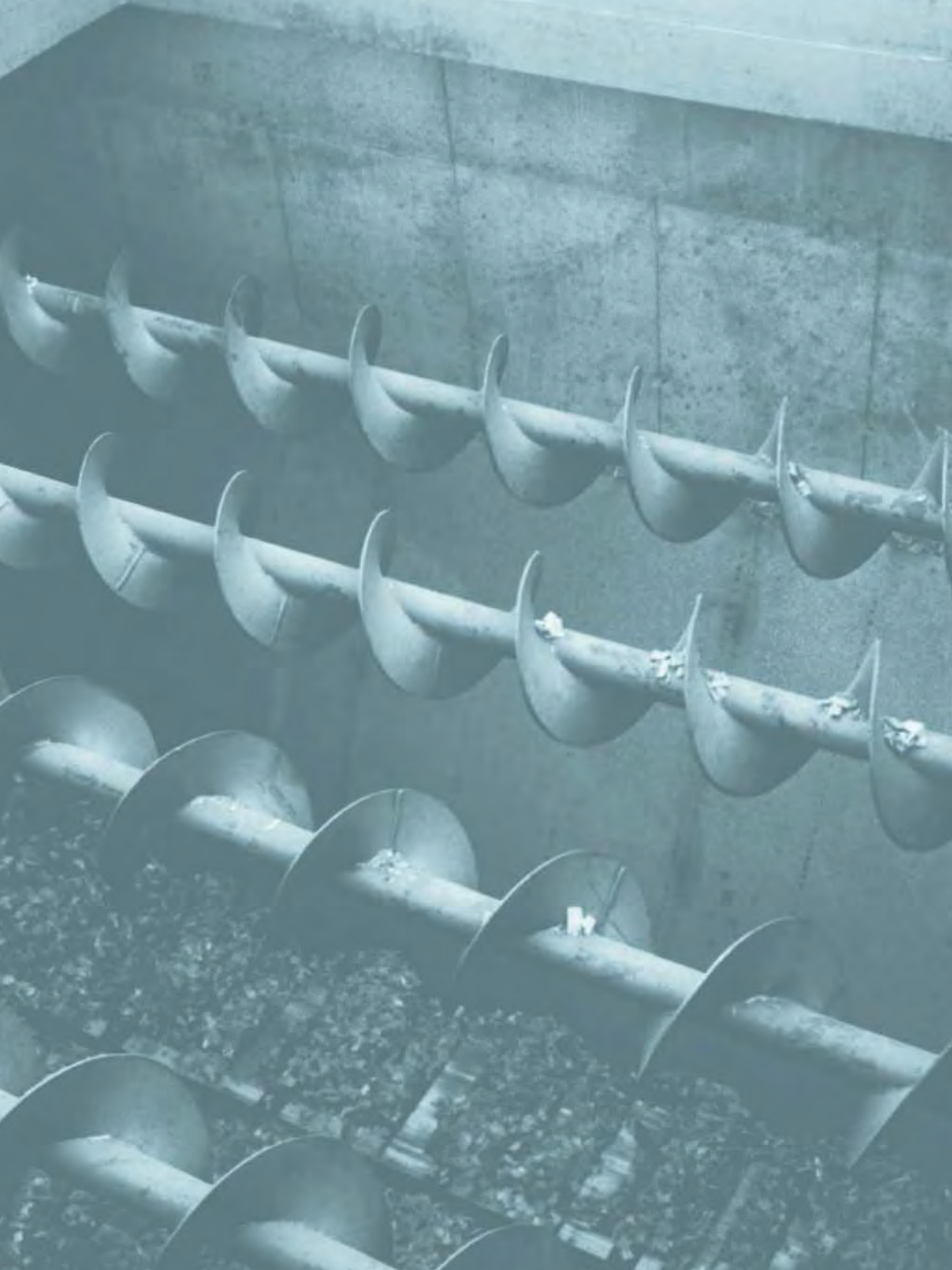
“We view carbon neutrality as vital public policy for this country and its economic stability.”

– Don Shumway

Crotched Mountain — A Capsule View

- **Equipment Installed:** Two wood boilers, one of 8 million BTU/hour and another of 4 million BTU/hour. Combined they produce enough capacity to heat the existing buildings and anticipated physical site expansion for the future.
- **Number of People Served:** About 2,800 per year (Staff of 800 and more than 2,000 patients annually)
- **For more information about the Crotched Mountain Rehabilitation Center, please visit www.crotchedmountain.org**

**Initiating
partnerships and
guiding project
implementation in
schools, hospitals,
commercial buildings,
district energy
applications, and
other commercial
settings**



A Small Town School Brings a Big Idea to the West:

Darby, Montana

“We wouldn’t have a program if it wasn’t for BEREC. We call them the guru of the whole effort. We’ve used them as a sounding board for just about every problem we’ve ever had.”

– Tom Coston

Rick Scheele describes Darby as being “pretty much in the heart of things” when forest fires ravaged Montana’s Bitterroot Valley in 2000. Today, Scheele and Darby’s 800 or so other residents are viewed as pioneers in a regional woody biomass program that reduces fire risk while giving school budgets a much-needed break.

Serving communities in five western states, the Fuels For Schools initiative originated not in the Rockies but in the Green Mountains of Vermont. Sue LeVan-Green, a Forest Service program manager exploring uses for fire-prone “unmerchantable” wood, watched BEREC’s Tim Maker deliver a presentation on woody biomass fuel systems at a national Rural Community Assistance Meeting. “The audience was standing room-only,” LeVan-Green recalls, “and a lot of the folks from the West got excited when they heard Tim’s presentation.”

LeVan-Green sent Maker to Darby to help the town figure out the cost of building a wood-fired boiler to heat its elementary and high schools. “There are big differences between East and West,” she explains.



At Darby, heating system operators found that western softwood fuels worked as well as eastern hardwood chips had worked in New England.

“Western schools are much poorer, and the towns can be up to 70 percent federal land, which means harvesting can be contentious. BERC walked the line very well—they were seen as pro-forester, pro-environment, and pro-community, so they were able to create a win-win-win situation.”

BERC was also able to show Darby how switching to wood fuel could benefit the school budget. “We saved about \$100,000 last year alone,” says

“You can put it all on paper, but a lot of people want to see it and smell it before they’ll be open to trying it in their community. That’s why the Darby demonstration project is so important.”

– Sue LeVan-Green

Scheele, who manages the central wood boiler system that heats the town’s elementary, middle, and high schools. “As the price of oil goes up, the more we save.”

Online since 2003, Darby’s biomass boiler has been a catalyst for the region. “Everyone who has done biomass conversion in the West has visited the Darby site first,” says Tom Coston, who helps coordinate the five-state Fuels For Schools initiative. “There is so much more interest in biomass now than there was even a couple of years ago; I think there will definitely be a need for BERC to keep working on a regional planning level.”

Of all the visitors, Scheele says he most enjoys sharing the boiler with Darby’s kids. “It’s part of their curriculum,” he explains, describing one

project where students tested wood types for BTUs and another where they explained the boiler's benefits to the school and the community. "They've pretty much learned the same things that the adults have learned."

He is also pleased with the system's performance. "It not only saves the district money, it saves me headaches. I had three oil-fired boilers before this that didn't work," he says.

With a laugh, he adds: "If they get rid of the biomass boiler, then I'm leaving, too."



This fuel oil boiler used to heat one of the Darby schools and now serves as backup to the new three-school woodchip system, providing complete protection in case of any situation that may arise.

Darby, Montana — A Capsule View

- Equipment Installed:
3.0 MMBH heat output
boiler capacity
- Number of People Served:
More than 530 students
on the three-school campus
consisting of an elementary,
middle, and high school
- For more information about
this program, please visit
the U.S. Forest Service's
Fuels For Schools site at
www.fuelsforschools.org



FISCHBEIN

HAS 100

PREMIUM WOOD PELLET FUEL

PREMIUM WOOD PELLET FUEL
WOOD PELLET FUEL
WOOD PELLET FUEL
WOOD PELLET FUEL

**Assessing available
biomass energy
technology and
acting to bring
better technology
to the market**



Self-sufficiency Sustains a Sawmill:

Heyes Forest Products

**“I think it’s
essential for
farm and forest
businesses to
address the
cost of energy.”**

– Fred Heyes

Fred Heyes would be the first to tell you that it has not always been easy keeping a sawmill running for 35 years. “People assume that if you’ve been in business for that long, you must be doing fine,” he says. “But we’ve seen some significant downturns in the lumber industry.”

It is no accident that his business, Heyes Forest Products in Orange, Massachusetts, has succeeded for so long. Heyes is a model of self-sufficiency in all aspects of his work, from maintaining his equipment to crafting the policies that govern the industry. He has served as a town assessor and planning board chairman. He has also helped to write state legislation to regulate timber harvesting, forester licensing, and net metering for agricultural businesses that produce electricity from renewable energy sources. “You have to be involved in your government, or you’ll be left aside,” he contends.

Complementing this philosophy is an interest in sustainability. Much of the material at Heyes’ sawmill is harvested from his own land, which is conserved in partnership with the New England Forestry Foundation

and has been certified by the Forest Stewardship Council. “So many places around me that were small farms are now subdivisions,” he says in explaining his rationale for conserving the land. “Unless we can address fragmentation of the forest base, we’re not going to have sustainable forestry in Massachusetts.”

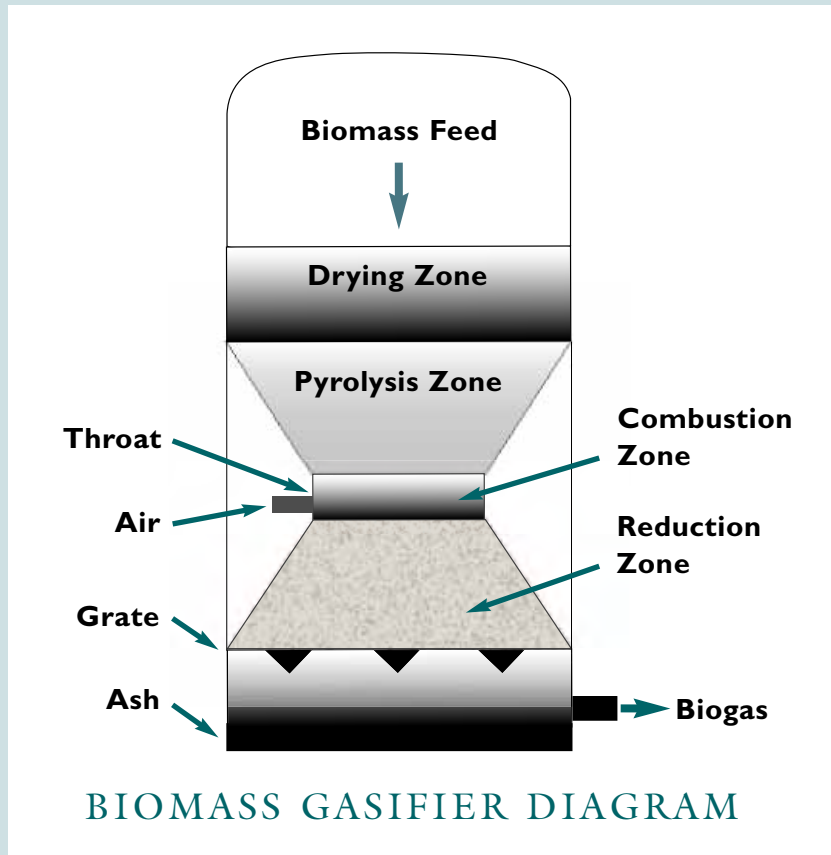
Now, Fred Heyes is taking the notion of self-sufficiency one step further. With BEREC’s help, he is planning to gasify biomass—the sawmill’s byproduct—as a means of generating his own electricity and heat. The technology does not yet exist commercially at the appropriate scale in the United States. After surveying the globe, BEREC identified a manufacturer in India and is working to help the company adapt its product for the U.S. market. The challenge is to redesign the gasifier to meet U.S. environmental standards, which are more stringent than those in India.

“The market’s always changing, and I don’t have a glass ball to tell me what’s going to happen next. So, we try to be self-sustaining. There’s no such thing as ‘waste’ anymore.”

– Fred Heyes



Heyes is willing to wait for the technology to be done right. “We expect this to be a commercially viable system, not a demonstration,” he explains. “Once the gasifier is here, though, we will be happy to let people come see it, to help move this technology forward.”



Heyes Forest Products — A Capsule View

- Equipment to be Installed: 300 kW gassifier (electrical capacity of gasifier/engine/generator system)
- Expected Output: It will produce 1.5 million kWh of electricity per year.
- For more information about Heyes Forest Products, please visit www.heyeforest.com



**Leading strategic
development through
education and
training programs,
collaboration
with state and
federal agencies
and other partners...**



Borrowing BERC's Expertise Through All Phases of a Program:

Black Hills, South Dakota

“A successful demonstration site can make the difference between the believers and the non-believers.”

– Greg Josten

Thanks to Mount Rushmore, most Americans are aware of the Black Hills. When it comes to forests, however, the region is under the radar. “We have a kind of small, isolated forest, stuck out in the Great American Desert,” says Greg Josten of the South Dakota Department of Agriculture’s Division of Resource Conservation and Forestry. “It’s not really a big area for developing alternative technologies, so we try to keep our eyes open for what’s happening in other parts of the country.”

For the past five years, Josten’s open eyes have been searching for a solution to the growing problem of slash piles left behind in the forest. “With the drought we’ve been in, the snowpack doesn’t compact the piles and they take longer to decompose,” he explains. “The only way we’ve had to get rid of them is to burn them.”

When Josten learned about BERC and the successful Fuels For Schools initiative in other western states, he thought it could work in the Black Hills. He invited administrators from schools and other public facilities across the region to a presentation on the program. “Our

initial meeting was right after Hurricane Katrina when fuel prices were up, so everyone was looking for alternatives—it was very timely,” says Josten. “But people don’t fund based on intuition; they need numbers.”

BERC helped the state produce those numbers, first by visiting facilities to verify their capacity for a biomass system, then by developing an application process for facilities to request a feasibility study. “Based on the applications and BERC’s advice, we were able to decide which were the

“Between Vermont and South Dakota, the forest types and conventional fuels are different, but the opportunities and applicable technologies are the same. We wanted someone who had experience doing this, and BERC had the track record.”

– Greg Josten

best candidates for a successful biomass program,” says Josten.

Two of the candidates—the State Veterans Home and a school for troubled teens—plan to have woodchip-fueled heating systems in place for the 2008 heating season. BERC is serving as a consultant to the local engineer who

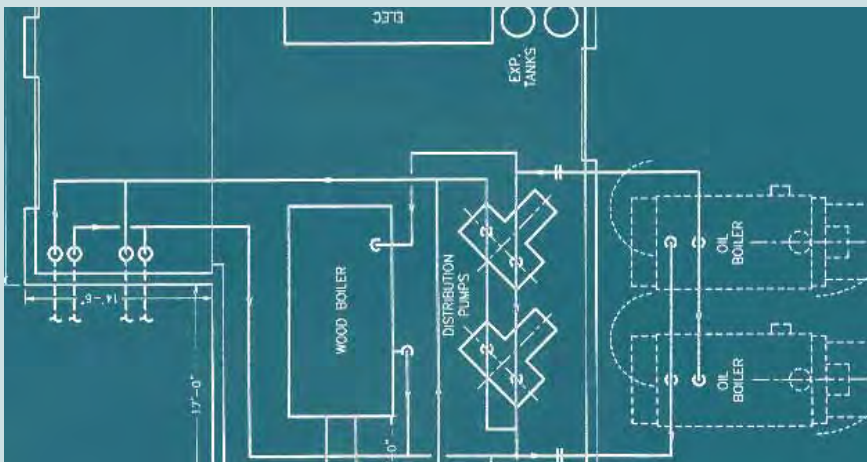
is designing the wood system. To ensure that a sustainable supply is in place, Josten’s team has hired BERC to do a woodchip procurement study based on BERC’s work in New Mexico and New Hampshire.

To help the program function autonomously in the future, BERC will provide training materials to the agency that will serve as a clearinghouse for information on biomass heating conversion. Meanwhile, the demand is growing. “There is definitely potential for a snowball effect,” says Josten. “The biomass is here. As the price of conventional fuels goes up, biomass becomes a really appealing option.”



Black Hills, South Dakota — A Capsule View

- Candidates for woodchip-fueled heating systems:
The State Veterans Home and a school for troubled teens
- Expected Timeframe: Plans are to have woodchip-fueled heating systems in place for the 2008 heating season.
- For more information about South Dakota's Black Hills Region please visit the Department of Agriculture's Division of Resource Conservation & Forestry at www.state.sd.us/doa/forestry



BERC hired and trained a local engineer to assist in analyzing the wood heat option for many facilities. Now, BERC is helping the engineer design and implement the first two woodchip projects in the Black Hills.

**“We aren’t just focused on schools —
we look at any facilities that might fit the profile.”**

– Greg Josten

**...innovate project
finance, research and
policy development,
project technical
assistance,
and program
development**



Setting a Course for the Future

BERC Looks Ahead

While the world seeks sustainable options for energy, we envision a bright future for the expanding use of biomass fuels.

As we look to a future that increasingly uses biomass fuel, BERC will be guided by several clear objectives. First, we will inform communities of the benefits of replacing conventional fuels with biomass produced in a sustainable way. Second, as we encourage the use of environmentally sound energy, BERC will provide the critical support that facilitates biomass project development and implementation. Third, by educating policymakers, program partners, and the general public, BERC will create the conditions for developing successful biomass energy projects long into the future. This, in turn, will help develop biomass energy public policy to benefit communities on a wider scale.

BERC continues to develop strategies that will make its services more available and easily replicable for new clients and partners. The organization will also increase its presence on the national front by taking the lessons learned from the Northern Forest Biomass Energy Initiative and, networking with allies, bring this message to agencies and communities across the nation. As BERC's fundraising efforts generate more unrestricted funds for the organization, new initiatives will be undertaken. While the world seeks sustainable options for energy, we envision a bright future for the expanding use of biomass fuels.

Board of Directors

BERC's board embodies a wide range of relevant professional experience and plays an active role in providing service to clients and consulting guidance to project partners.

Steve J. Allenby
Vice President (founding President)
Proctor, Vermont

Steve has been in the energy field for more than 26 years. He worked for 14 years for an investor-owned utility in the Northeast, the last six of which, as senior vice president of operations and marketing and president of the utility's unregulated energy services subsidiary. Since leaving the utility, Steve has focused on the development and financing of government and private sector energy efficiency and renewable energy projects.

Roger Ballentine
Washington, D.C.

Roger was a senior member of the White House staff, serving President Bill Clinton as chairman of the White House Climate Change Task Force and deputy assistant to the President for Environmental Initiatives. He is a well-known environmental and energy policy advocate and analyst and is a Senior Fellow at the Progressive Policy Institute. Roger is also the founder and president of Green Strategies Inc., in Washington, D.C.

Lynn Benander
Greenfield, Massachusetts

Lynn is the manager of Co-op Power, a consumer-owned cooperative dedicated to building community-owned clean energy resources in the northeastern United States. Prior to joining Co-op Power, she directed the Cooperative Development Institute, an economic develop-

ment nonprofit supporting the development of energy, agriculture, food, and housing-related group-based businesses in the Northeast. She brings experience in the community-scale energy industry, fundraising, and nonprofit management experience to the BERC Board.

Dwayne Breger
Amherst, Massachusetts

Dwayne is manager of the Renewable Energy and Climate Change Group at Massachusetts Division of Energy Resources (DOER). His group implements the state's Renewable Energy Portfolio Standard and other programs to promote renewable energy including the Massachusetts Biomass Energy Working Group and an initiative to assess and facilitate the development of the woody biomass supply infrastructure in the state. Dwayne serves as a member of the Staff Working Group of the 9-state Northeast Regional Greenhouse Gas Initiative. He holds a doctorate in resource economics from the University of Massachusetts Amherst, a master's in technology and policy from MIT, and an engineering bachelor's degree from Swarthmore College.

Erich Golschneider
Treasurer
Corinth, Vermont

Erich was born and raised in Connecticut, and graduated from Bryant College in Smithfield, Rhode Island. After eight years as a CPA, he moved into financial management at home health care agencies in Connecticut and Vermont, and is now site/finance manager for Dartmouth Journal Services, a publications services company in Waterbury, Vermont. He brings a high level of nonprofit financial management experience to his role as treasurer of BERC.

Eric Kingsley
Secretary
Portland, Maine

Eric serves as vice-president of Innovative Natural Resource Solutions L.L.C., a consulting firm with expertise in forest-based economic development, land conservation, and biomass energy. Eric has

played key roles in the development, acquisition, and financing of several large-scale biomass projects. Based in Portland, Maine, Eric brings more than a decade of hands-on experience with biomass projects to his role at BEREC.

Michelle Manion

Boston, Massachusetts

Michelle is the program manager of the Climate and Energy team at NESCAUM / NESCCAF. She specializes in economic analysis of environmental and natural resource policy, with a focus on energy and climate change policy. In particular, she has extensive experience in economic modeling, including the use of regional models to estimate the economic impacts of environmental policies and initiatives at the regional level. She has also managed projects for a variety of governmental and nonprofit clients including the U.S. Environmental Protection Agency, the U.S. Department of the Interior, the World Bank, the World Commission on Dams, and Conservation International.

Scudder H. Parker

President

Middlesex, Vermont

Most recently, Scudder was the Democratic candidate for Governor in Vermont. Before that he worked as the policy coordinator for Vermont Businesses for Social Responsibility. He also worked at the Vermont Department of Public Service as director of the Energy Efficiency Division (1990-2003). There Scudder helped create Efficiency Vermont, Vermont's innovative and nationally recognized Energy Efficiency Utility. He has worked consistently to support renewable energy. Scudder served as a Vermont state senator from Caledonia County from 1981-88.

Rick Tillotson

Dixville Notch, New Hampshire

Rick is vice president and director of Tillotson Corporation, which is the owner of Tillotson Farms & Forests in Hereford, Quebec, and Canaan, Vermont, and of the Balsams Grand Resort Hotel, Dixville Telephone, Tillotson

Rubber (and its biomass energy facility and rubber factory), and the forest lands of the certified Balsams Tree Farm, in Dixville, Colebrook, Columbia and Stewartstown, New Hampshire. Rick engages himself with many nonprofit and community organizations in northern New Hampshire's Coos County, as well as a number of charitable foundations. He is also active in the Tillotson North Country Foundation, Inc. and The Poore Family Foundation for North Country Conservancy.

Don Wichert

Madison, Wisconsin

Don is the director of the Focus on Energy Renewable Energy Program at the Wisconsin Energy Conservation Corporation in Madison, Wisconsin. He manages the state's \$4 million renewable energy public benefits program. Don has worked in the environmental and energy fields for 25 years, most of it with the Wisconsin Division of Energy as chief of the Energy Resources Section.

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Financial, Project and Program Partners

Major Funders in BERC's First Five Years

- U.S. Department of Agriculture Forest Service, Forest Products Laboratory
(numerous contracts)
- U.S. Department of Agriculture Forest Service, Northeast Region
(numerous contracts)
- U.S. Department of Energy
(administering our five consecutive earmarks from federal appropriations)
- Vermont Department of Public Service
(two major grants at BERC's inception)

Other Public Agency Funders

- U.S. Bureau of Indian Affairs, Department of Energy and Mineral Resources
- U.S. Department of Agriculture Forest Service, Regions 1 & 4
- Massachusetts Technology Collaborative
- New Mexico Department of Energy, Minerals and Natural Resources
- Rhode Island State Energy Office
- South Dakota Department of Agriculture
- Wisconsin Division of Energy
- Bitterroot Resource Conservation & Development Area, Montana
- Boulder County Transportation Department, Colorado

Other Project Partners

- U.S. Bureau of Indian Affairs, Office of the Southwest Regional Forester
- Montana Department of Natural Resource Conservation
- Vermont Air Pollution Control Division
- Vermont Department of Buildings and General Services
- Vermont Department of Forests, Parks & Recreation

Vermont Department of Education
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Resource Systems Group
Richford Wood Initiative, Vermont
Select Engineering Services
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Consulting Clients

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