PROPOSAL TO THE
NEW HAMPSHIRE GREENHOUSE GAS EMISSIONS FUND
MARCH 20, 2009

1.1 Program Title: **ROADMAP TO POSITION NH COMMUNITIES TO EXPLORE AND IMPLEMENT DISTRICT HEATING AND COMBINED HEAT AND POWER OPTIONS USING RENEWABLE CARBON NEUTRAL WOOD BIOMASS**

1.2 Program Type: We believe this proposal meets program type 8- "To improve the electric and thermal energy efficiency of new and existing residences and commercial buildings" and program type 10-" Education, outreach and information programs that promote energy efficiency, conservation, and demand response", and will lead to reduced greenhouse gas emissions generated in New Hampshire.

1.3 Program summary: Activities and lessons learned by four significant activities conducted during 2008 including the Community Scale Wood Biomass Project, the Groveton Distributed Energy and District Heating Feasibility Study, the Energy Component of the Coos County Economic Action Plan and the formation of the NH Wood Biomass Heat and Power Task Force have identified five critical topic areas that must be researched and then presented to communities and organizations as a "Roadmap" to pursue district heating and power opportunities. Those five topic areas include:

- **Technology/Equipment and Suppliers**
- **Systems Installation/Operation and Management**
- **Funding Opportunities**
- **Air Quality Regulations and Benefits**
- **Public Policy and Regulations**

In this proposed project, these five topic areas will be researched, explained, packaged and presented to New Hampshire communities and organizations wanting to pursue district heat/power systems using renewable and/or carbon neutral fuel sources. This proposal will provide communities with critical information needed to move from general planning efforts towards implementation.

1.4 Low Income Residential Customer Qualification: At present the Coos County communities of Groveton, Colebrook, Lancaster, and Berlin are all actively pursuing district heat/power projects. When implemented, these projects have the potential to serve the predominant low income residential customers in those communities. However, this project is intended to benefit the entire State of New Hampshire. At present we are aware of the Town of Barnstead and the Lakes Region Comprehensive Economic Development Plan have also targeted district heating as objectives.

1.5 Identification of Applicant Organization: The official applicant of this proposal is the North Country Resource Conservation and Development Area Council, Inc. which is a NH based 501 ©3 not for profit and registered with the IRS, the NH Secretary of State and Attorney General. The main contact for this project of the North Country Resource

Conservation and Development Area Council, Inc is its former Chairman, Russell Dowd. Mr. Dowd can be reached through the office of the North Country Resource Conservation and Development Area Council, Inc at 719 North Main Street, Rm 220, Laconia, NH, 03246. (603) 527-2093. Staff assigned to assist the North Country RC&D Area Council; principally Richard DeMark can be reached at the same address.

1.6 Identification of Subcontractors and Partners: It is anticipated that subcontractor(s), should this proposal be funded, will be hired to conduct the work described in Item 1.3 but are not identifiable at this time. However, there is an extensive list of partners that are listed in Item 9 which will help monitor and assess the project.

1.7 Authorized Negotiator(s): Same as identified in Item 1.5. Mr. Dowd is best reached via email through Richard DeMark at richard.demark@nh.usda.gov.

1.8 Project Energy Savings: Once education has lead to installation of modern district heating/power technologies it is estimated that up to 2.8 million gallons of #2 heating fuel can be displaced at an estimated savings of $7.0 million/year

1.9 Projected Greenhouse Gas Emissions Reductions: Once education has lead to installation of modern district heating/power technologies it is estimated that an estimated 6.3 million lbs of CO2 will be reduced.

1.10 Length of Program: It is anticipated that this program can be conducted within 12 month timeframe.

1.11: Total program Costs: $50,450.00

1.12 GHGER Funds Requested: $43,850.00

2) Executive Summary: Significant interest has been generated from the Community Scale Wood Biomass Project which in 2008 conducted workshops, tours and partially financed feasibility studies to convert existing fossil fuel heating systems including two county complexes, the Groveton Distributed Energy and District Heating Feasibility Study which brought European (Danish) district heating technology to New Hampshire, the Energy Component of the Coos County Economic Action Plan which targets decentralized heat and power generation systems as an economic development strategy for Coos County and the formation of the NH Wood Biomass Heat and Power Task Force which has brought together over forty individuals, organizations and agencies around the goals of creating district heat and power systems throughout New Hampshire. As a result of this activity a growing list of communities, primarily in Coos County, but also in other parts of New Hampshire are taking serious steps towards understanding how they could embark on the construction of district heat and power systems. Five key and critical topic areas have been as problems or barriers to these communities being able to

move forward. The topic areas and the proposed actions that will be conducted in this project include:

- **Technology/Equipment and Suppliers**: to create an inventory of firms capable and interested in supplying technical services, equipment and supplies necessary for both institutional (single building or building clusters) and community (district) scale heat and power projects.
- **Systems Installation/Operation and Management**: to design the business templates necessary for the successful installation and operation of community (district) scale projects and identify potential organizations, firms or partnerships of organizations or firms to serve as third party owner/operators of community/district heat and power systems should the community chose not to take on that role.
- **Funding**: to research and create an outline of existing and anticipated funding streams that could be used to design and install district/institutional scale heat and power projects.
- **Air Quality Regulations and Benefits**: To assess the current and anticipated air quality standards that heat or power projects will have to adhere to within the 1MW to 25 MW scales. Analyze air quality benefits resulting from the installation and use of high efficiency biomass DH / IH systems compared with the status quo.
- **Public Policy and Regulations**: To research current policy and/or regulatory barriers to community/district heat and power systems that distributes hot water versus steam. Create recommendations for public policy (including legislation) to promote institutional and community scale heat and power systems.

In this proposed project, these five topic areas will be researched, explained, packaged and presented to New Hampshire communities and organizations wanting to pursue district heat/power systems using renewable and/or carbon neutral fuel sources over the next 12 months. The total program costs for this project are $43,850.00 with $6600.00 being provided as in-kind matching funds. . This work will establish a "roadmap" for communities seeking to implement CHP and district heating systems, filling critical gaps in knowledge. This roadmap will help communities to be more effective as the move from planning to implementation. Finally, the roadmap will help communities to be more effective in their own fund raising efforts, thus leveraging additional funds to reduce NH's carbon footprint.

3) Proposed Work Scope and Schedule: Upon notice of acceptance of this proposal, the North Country RC&D will issue a Request for Qualifications to locate and hire an individual(s) or firm(s) to conduct the work described in Item 2. We anticipate the following major tasks to be accomplished:

a) Contactor Search and Hiring: This aspect of the project is anticipated to be accomplished within 2.0 months of notification to proceed. North Country RC&D and a sub-committee of the NH Wood Biomass Heat and Power Task Force will conduct this task.

b) Topical Research, Reporting, Educational Packaging: This aspect of the project will be accomplished within 3.0 months of notification to proceed. The hired contractor will conduct this task with oversight from the NH Wood Biomass Heat and Power Task Force.

c) Education and Outreach: This aspect of the project will be accomplished within 8.0 months of notification to proceed. The hired contractor will conduct this task with oversight from the NH Wood Biomass Heat and Power Task Force.

d) Project Evaluation: This aspect of the project will be accomplished within 10.0 months of notification to proceed. This task will be accomplished by the NH Wood Biomass Heat and Power Task Force with assistance from the contractor.

Quality assurance and fiscal oversight for the project will be the responsibility of the North Country Resource Conservation and Development Area Council.

4) Project Benefits:

4.1) Reduce greenhouse gas emissions: As a result of this initiative it is projected that communities and private interests will be able to proceed with wood biomass CHP projects resulting in a minimum of 2.8 million square feet of building space can be heated with renewable, carbon neutral wood biomass utilizing and estimated 43,000 green tons of wood chips annually, which is well within the projected sustainable wood harvest availability in both the Land Vest and Innovative Natural Resource Solutions reports. This heating conversion is estimated to result in an annual displacement of 2.8 million gallons of #2 heating oil annually resulting in an estimated 28,501 Metric tons/year of heating oil displaced CO2 emissions. These same projects have the potential to produce 35,650,000 kWh, which could result in 19,374 Metric tons/year of electric displaced CO2. The total displaced CO2 between displaced oil and electric generation would be 47,877 Metric tons/year. See attachments 2 & 3 titled Northern New Hampshire District Energy Opportunities, prepared by Dr. Morris Pierce. An additional opportunity for carbon dioxide displacement comes from using the electricity produced to run heat pumps instead of simply crediting it with displaced grid power. The heat pumps could be associated with the district heating plant or independent heating systems beyond the reach of the district heating system. If each kWh of power were fed to a ground source heat pump with the c o p of 4 with the resulting heat displacing oil at 80% efficiency, 1 kWh of electricity would displace the equivalent heat of 5 kWh of oil or about 1/8 of a gallon. This would result in an additional displacement of about 4.4 million gallons of oil worth about $11 million. The carbon dioxide savings of the heat pumps would be over 44,000 tn. The total savings would be over 73,000 tn. or almost 30,000 tn. more than simply displacing electricity. (Provided by Pentii J. Alto)

4.2) Cost Effectiveness: This project has a very favorable Total Resource Cost test. A total project cost of $50,450 has the potential to result in an annual #2 heating oil displacement of 2,805,000 gallons. At a conservative $2.50/gallon that results in a potential savings of $7,012,500/year. With a conservative service life of 15 years for

each district heating systems, that results in a total potential savings of $105,187,500 with an initial systems installation cost estimate of $43.6 million. These figures do not take into account the electrical savings created by each combined heat and power installation at the host site.

4.3) Reduce NH Peak Electric Load: Estimated annual electric generation from all projects moving forward is 35,650,000 kWh. See attachments 2 & 3 titled Northern New Hampshire District Energy Opportunities, prepared by Dr. Morris Pierce. Additional benefits could be achieved by coordinating the biomass produced electricity with wind power and demand response of heat pumps as described above. This will require the development and application of communications and energy storage equipment to optimize the operation of the electrical distribution and transmission systems. (contributed by Pentti J. Alto)

4.4) Promote Market Transformation: The relatively small public investment in education proposed in this project can result in significant market transformation. The utilization of sustainably available wood chips, the estimated displacement of fossil fuel and the relatively short pay back period from the investment will serve as catalyst to accelerate adoption of the technology with limited public investment. The local sustainability model is attracting timber harvesters as prospective investors in the district heating CHP projects to help them integrate harvesting with end us applications. This helps the harvesters stabilize their markets, establish long-term contracts and assure them of more efficient, local delivery which in turn spawns native resources driving locally produced and used power and heat energy. This paradigm allows Coos County to become a magnet for individuals and businesses seeking a sustainable community environment for business and job creation. For the timber harvesters the new model eliminates wild fluctuations in markets where demand is far removed from the local marketplace.

4.5) Promote Innovative Technologies: While district heating systems are not a new technology, the utilization of European style district heating systems are not yet known or in practice in the US. Concord Steam, one of the NH's limited district heating systems utilizes technology from 1938. We have learned through our connections with Danish engineering firms that there exist today vastly innovative district heating systems that need to be utilized in the US. Perhaps most innovative is not the operating technology but the concept of an evolving municipal role in establishing and operating these district heating plants once the model and methodology are proven. Nowhere is there a municipal model for carbon emissions reduction, transitioning from imported oil; development of local natural resources in sustainable manner and heightened generation efficiencies by managing heat and power production loads to local market situations. While the initial investment in these districts is third party and heavily grant funded the model, we believe, will become as firmly rooted in municipally supplied services as water and sewer utilities.

4.6) Promote Economic Development: It is estimated that once communities and private interests begin to construct district heat and power systems that over 230 construction jobs can be created, 20 permanent operational jobs will be created and also sustain or

create an additional estimated 150 jobs for forest contractors, truckers, equipment suppliers and support systems. In addition, utilizing locally available fuel will keep fuel costs and revenues local for forest contractors and landowners. Finally, having a relatively inexpensive way to heat businesses, homes, and municipal buildings will stabilize eroding economies.

4.7) Promote Energy Cost Savings: See Item 4.2 above.

4.8) Promote Collaboration and provide Useful Information for Future program Evaluation and Improvement: As stated earlier, the NH Wood Biomass Heat and Power Task Force (see Item 9 for the list of participants) has brought together a unique and instrumental mix of industry experts, municipal officials, agencies and organizations that have rallied around the concepts of decentralized district heat and power.

4.9) Consistency with RSA 125-0:19: The purposes of this project are consistent with the draft Climate Change Action Plan by reducing CO2 emissions.

5) Measurement and Verification The North Country RC&D Area Council will diligently over see all aspects of this project, maintain accurate fiscal accounting and progress reporting to ensure the Commission that the project has attained the proposed results and can account for the expenditure of all GHGER and in-kinds funds.

6) Budget:
Narrative
Contracted services has four components, Research and Reporting; Educational Packaging; Education and Outreach; and Evaluation. It has not yet been decided whether to seek one contracted position to perform all four components or the separate them into different contracts. The In-Kind contributions are generated from an Advisory Committee of the NH Wood Biomass Heat/Power Task Force, the whole Task Force itself and the North Country RC&D Area Council. The other direct charges are calculated at 10%.

Budget Item	Requested from GHGER	In-Kind	Total
Contracted Services			
Phase 1 Research/Reporting	$18,000.00	$2000.00	$20,000.00
Phase 2 Educational Packaging	$8500.00	$1500.00	$10,000.00
Phase 3 Education and Outreach	$10,000.00	$1500.00	$11,500.00
Phase 4 Evaluation	$3,500.00	$1000.00	$4500.00
Other Direct Charges	$3850.00	$600.00	$4450.00
	$43,850.00	$6600.00	$50,450.00

7) Applicant Qualifications: The North Country RC&D has over 40 years experience developing and implementing projects, managing both public and private sector grants, hiring and managing employees and independent contractors.

Russell Dowd, of Madison, NH is the designated North Country RC&D Board liaison for this proposal. As such, Mr. Dowd will be the authorized agent for North Country RC&D for all application forms and reports. Mr. Dowd has been a member of the NCRC&D Board for 6 years.

The North Country RC&D Area Council is a legally organized 501(c)(3) in the state of NH and the IRS. It has established accounting procedures and has filed 990s with the IRS for several years.

While the North Country RC&D Area Council is a volunteer-run organization, it relies on technical support from the USDA Natural Resources Conservation Service as well as the other principal partners to help hire the right consultants to perform the duties described in this proposal. Rick DeMark is the designated Coordinator, assigned by USDA-NRCS to assist the North Country RC&D develop its Area and Annual Plans of Work and implement the projects contained in them.

8) Additional Information: It is expected that the Commission will receive proposals from the Northeast District Energy Corporation for the actual construction of one or more of the combined heat and power district heating systems described in this proposal. It is also expected that a proposal will be submitted by the Coos County Economic Development Corporation on the subject of positioning Coos County for the type of energy transformation that is proposed in the Coos County Economic Action Plan. It is important for the Commission to know that this proposal has been prepared in collaboration with both of these organizations and that together these proposals form the basis for a new energy future for not only Coos County, but the State of NH.

9) Letters of Interest or Commitment: See Attachment 4 below.

Attachment 1- NH Biomass Heat Power Task Force

Members:

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Wagner Jim (jwagner@wspellets.com) jwagner@wspellets.com

Attachment 2- Coos County District Heating Projects

Northern New Hampshire District Energy Opportunities

There are numerous opportunities in northern New Hampshire to develop small district energy projects based on modular biomass combined heat and power (CHP) technology. The plants would be designed as package units that could be permitted and installed quickly, with a pre-insulated underground hot water piping network installed to deliver the low-cost heat to participating customers. While some systems will serve a group building of customers and might never be expanded, in larger communities one or more initial systems would serve a core group of larger customers and would be designed to expand over time to serve the entire community.

Colebrook

A 400 kW biomass CHP plant would be installed at Upper Connecticut Valley Hospital and the district energy network would also supply the Indian Steam Health Clinic, Monadnock Valley Low-income Apartments, Colebrook Academy, and Colebrook Elementary School. The system would expand over time to serve other consumers in Colebrook.

Element	Cost
Modular Biomass CHP Plant	$3,250,000
Hot water piping network (7,300 trench feet)	$2,900,000
Building connections	$300,000
Subtotal	$6,450,000
30% soft costs (engineering, contingency, etc)	$1,935,000
Total	**$8,385,000**

Groveton

A 400 kW biomass CHP plant would be installed at or near the former Wausau Paper power plant and the district energy network would also supply the Groveton Elementary School, Groveton High School, two churches, a bank, Weeks Health Clinic, and Emerson's Hardware. The system would expand over time to serve other consumers in Groveton.

Element	Cost
Modular Biomass CHP Plant	$3,250,000
Hot water piping network (2,900 trench feet)	$1,160,000
Building connections	$180,000
Subtotal	$4,590,000
Soft costs (engineering, contingency, etc)	$1,377,000
Total	$5,967,000

Lancaster North End
A 400 kW biomass CHP plant would be installed at or near the PJ Noyes Warehouse and the district energy network would also supply the Lancaster Elementary School, Country Village Nursing Home, Weeks Medical Center Home Health and Hospice Services, Coos Motor Inn, Lancaster Motor Inn, former courthouse building, Coos County Courthouse, and several apartment complexes. The system would expand over time to serve other consumers in Lancaster and eventually be connected to the Lancaster Weeks Medical Center.

Element	**Cost**
Modular Biomass CHP Plant	$3,250,000
Hot water piping network (5,100 trench feet)	$2,040,000
Building connections	$205,000
Subtotal	$5,495,000
Soft costs (engineering, contingency, etc)	$1,648,500
Total	$7,143,500

Lancaster Weeks Medical Center
A 400 kW biomass CHP plant would be installed at the Weeks Medical Center and the district energy network would also supply the Lancaster Physicians Office. The system would expand over time to serve other consumers in Lancaster and eventually be connected to the Lancaster North End system.

Element	**Cost**
Modular Biomass CHP Plant	$3,250,000
Hot water piping network (650 trench feet)	$260,000
Building connections	$150,000
Subtotal	$3,660,000
Soft costs (engineering, contingency, etc)	$1,098,000
Total	$4,758,000

Berlin Androscoggin Valley Hospital
A 400 kW biomass CHP plant would be installed at the Androscoggin Valley Hospital and the district energy network would also supply the North Care Clinic. The system would expand over time to serve other consumers in Berlin and eventually be connected with one or more other systems in Berlin.

Element	**Cost**
Modular Biomass CHP Plant	$3,250,000
Hot water piping network (1100 trench feet)	$440,000
Building connections	$135,000
Subtotal	$3,825,000
Soft costs (engineering, contingency, etc)	$1,147,500
Total	$4,972,500

Berlin White Mountains Community College
A 400 kW biomass CHP plant would be installed at the White Mountains Community College and the district energy network would also serve other nearby buildings owned by the community college and the Coos County Nursing Home. The system would expand over time to serve other consumers in Berlin and eventually be connected with one or more other systems in Berlin.

Element	**Cost**
Modular Biomass CHP Plant	$3,250,000
Hot water piping network (2.100 trench feet)	$840,000
Building connections	$175,000
Subtotal	$4,265,000
Soft costs (engineering, contingency, etc)	$1,279,500
Total	$5,544,500

Berlin Senior High School
A 400 kW biomass CHP plant would be installed at the Berlin Senior High School and the district energy network would also serve the Berlin Junior High School and Hillside Elementary School. The system would expand over time to serve other consumers in Berlin and eventually be connected with one or more other systems in Berlin.

Element	**Cost**
Modular Biomass CHP Plant	$3,250,000
Hot water piping network (5,100 trench feet)	$1,400,000
Building connections	$150,000
Subtotal	$4,800,000
Soft costs (engineering, contingency, etc)	$1,440,000
Total	$6,240,000

Dr. Morris Pierce 2/5/2009

Attachment 3

Northern New Hampshire District Energy

Initial Biomass Combined Heat & Power System Development

Coos County District Energy Projects	Square feet of space heated	Annual wood chips (tons)	Estimated Heating oil displaced (gallons/year)	Estimated Annual Electric Generation (kWh)	Heating oil CO2 displaced (Metric tons/year)	Electric CO2 Displaced (Metric tons/year)	Total CO2 displaced (Metric tons/year)
Colebrook Upper Connecticut Valley Hospital	300,000	4,500	293,000	3,750,000	2,977	2,038	5,015
Groveton	300,000	4,500	293,000	3,750,000	2,977	2,038	5,015
Lancaster Weeks Medical	250,000	4,000	260,000	3,250,000	2,642	1,766	4,408
Lancaster North End	325,000	4,700	306,000	3,900,000	3,109	2,120	5,229
Mt. View Grand Resort/White Mountain Regional School	300,000	4,500	293,000	3,750,000	2,977	2,038	5,015
Berlin Androscoggin Valley Hospital	250,000	4,000	260,000	3,250,000	2,642	1,766	4,408
Berlin White Mountains Community College	250,000	4,000	260,000	3,250,000	2,642	1,766	4,408
Berlin Senior High School	250,000	4,000	260,000	3,250,000	2,642	1,766	4,408
Mt. Washington Resort	600,000	9,000	580,000	7,500,000	5,893	4,076	9,970
Total	2,825,000	43,200	2,805,000	35,650,000	28,501	19,376	47,877

Prepared by Dr. Morris Pierce 3/13/2009

Attachment 4- Letters of Support & Commitment

North Country Council, Inc.
Regional Planning Commission & Economic Development District
The Cottage at the Rocks
107 Glessner Road
Bethlehem, New Hampshire 03574
(603) 444-6303 FAX: (603) 444-7588
E-mail: nccinc@nccouncil.org

March 18, 2009
Mr. Richard DeMark
RC& D Coordinator
North Country Resource Conservation & Development
719 North Main St, Rm 220
Laconia, NH 03246-2772
RE: Support for RC&D's Proposal to the NH Greenhouse Gas Emissions Fund
Dear Mr. DeMark:
North Country Council is pleased to add its support for your application to the NH Greenhouse Gas Emissions Fund. As you know, the interest generated by the Groveton Distributed Energy and District Heat Feasibility Study resulted in a number of North County communities seriously investigating local options for power and heat utilizing their most abundant resource, wood biomass. This interest has lead to the identification of the obstacles you describe in the proposal narrative.

Communities are stymied by the process of sorting through the various options, resources, and regulations. This opportunity to inform and educate communities will result in more local projects with the potential to significantly reduce greenhouse gases coming on-line earlier, as the learning curve will be shortened.

This investment in education will reap benefits far in excess of its cost, and the earlier these activities are implemented, the greater the benefit will be. All eyes will be on the first systems to come on-line, and this project will ensure that they are the most effective and efficient possible, in terms of start-up and operating costs, long-term reduction of greenhouse gases, and strengthening of the local economy, especially for the North Country. We hope that you will view this project as the necessary first step in achieving the goals of Greenhouse Gas Emissions Fund.

Sincerely, ~

Michael King

Executive Director

From: JimRubens@aol.com
Sent: Tuesday, March 17, 2009 11:35 AM
To: Demark, Richard - Laconia, NH
Subject: NC District Heating Proposal(s)
Rick:

Congrats to you and to Peter Riviere for your creative and visionary work aimed at bringing energy dollars home to the North Country, raising value added for each of those dollars, while at the same time addressing the carbon problem.

I would urge you to have a meeting with Senators Gregg and Shaheen personally (not just staff) to inform them of what you are doing and to ask for their help with funding.

One future funding source may be the anticipated national climate cap & trade bill. From that will flow genuinely sufficient funds to really make a dent in transforming the US energy economy, if the climate bill is structured properly ... <u>if a substantial portion of the anticipated national climate bill cap & trade revenues are directed to investments in transforming the energy economy</u> (rather than most in tax rebates which get spent on credit card debt and flat screen TVs). Use of these revenues may well vary by state and even within regions of each state, making a national one-size-fits-all approach work against specific North Country goals.

Please let me know if I can be of any assistance.

Best,

Jim Rubens
Union of Concerned Scientists
(603) 643-6059
(603) 359-3300 c
JimRubens@aol.com

A Good Credit Score is 700 or Above. See yours in just 2 easy steps!

From: Pentti J. Aalto [pjaesd@comcast.net]
Sent: Thursday, March 19, 2009 12:31 AM

Subject: Re: Proposal to NH RGGI-Request for Letter of Support and Commitment

Hi Rick

Congratulations on an excellent piece of work. I believe the proposal hits the important points, and is well structured.

I do have a couple of thoughts for changes.

I believe the project as described in this proposal, has dramatic potential to help develop the north country as a center of excellence in these technologies. The cost, energy and carbon dioxide savings can be very large. I strongly support this venture and will try to assist it in any way that I can.

Pentti J, Aalto

pjaesd@comcast.net

603 485 2559

Subject: NH Greenhouse Gas Emissions Fund Proposal

Rick Demark, Coordinator
North Country RC&D Council
719 North Main Street, Rm 220
Laconia, NH 03246

Dear Rick:

The USDA Forest Service Northeastern Area Wood Education and Resource Center wholeheartedly supports the North Country RC&D Council's proposal entitled *"ROADMAP TO POSITION NH COMMUNITIES TO EXPLORE AND IMPLEMENT DISTRICT HEATING AND COMBINED HEAT AND POWER OPTIONS USING RENEWABLE CARBON NEUTRAL WOOD BIOMASS"*.

The Northeastern Area works with State Forestry agencies and a wide variety of cooperators to support good forestry throughout the Northeast and Midwest (20 states). Within our Area-wide Strategic Plan we discuss key goals and objectives that we try to achieve in collaboration with our partners on behalf of the Area's forests. One of those goals with it's related objective is to:

Goal 2. Enhance the capacity of forests to provide public benefits

- **Objective 2.A:** Promote and encourage the viability of forest-based industries.
- **Objective 2.B:** Help the Northeast and Midwest to meet their need for renewable energy, to reduce greenhouse gases, and to conserve energy.

Your project supports Goal 2 and provides a tremendous resource/model for other states in the Northeastern Area. You committee has developed a very thoughtful proposal that will help community leaders and policy makers at the state and regional level better understand how to use forest resources efficiently and effectively to address our regional and National needs for stable and secure energy resources.

As you know, we provided support to the North Country RC&D Council in the past to help New Hampshire schools determine how wood could be used to reduce energy costs. We see this project as a natural evolution of that work by your committee. We will continue to support your Council's efforts to support good forestry and provide economic benefits to New Hampshire communities from the State's abundant forest resources.

Please feel free to contact me regarding our support for this project at (304) 285-1538 or email me at lmccreery@fs.fed.us.

Sincerely,

LEW R. McCREERY
Woody Biomass Coordinator

Cc
Steve Milauskas

Dear North Country RC&D,

Most of us in Bethlehem support greenhouse gas reduction, growing a sustainable North Country economy, building energy security, and promoting energy conservation. The work of North Country RC&D in exploring district/biomass heating and the formation of the NH Wood Biomass Heat/Power Task Force have built a strong foundation for initiatives that will address all these issues simultaneously. I would like to mention that the Task Force has become a group that holds the promise of real results because so many constituencies are represented: all levels of government, engineering, business, planning, academia, and more. I hope you will be able to secure funding to move this work to the next stage, and look forward to the day when we commence one of these projects in Bethlehem.

Regards, David Van Houten
Bethlehem Energy Committee

SCHOOL ADMINISTRATIVE UNIT 58

NORTHUMBERLAND - STRATFORD - STARK
15 Preble Street, Groveton, NH 03582
Telephone (603) 636-1437
Patricia Brown
Business Manager

March 19,2009
Mr. Jack Rudennan
Director, Sustainable Energy Division
Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

Fax (603) 636-6102
www.sau58.org
Carl M. Ladd
Superintendent* of *Schools
Frederick Bailey
Administrative Coordinator

Subject: Grant application to the NEW HAMPSHIRE GREENHOUSE GAS EMISSIONS FUND RFP
for PROGRAMS TO REDUCE GREENHOUSE GAS EMISSIONS IN NEW HAMPSHIRE

Dear Mr. Ruderman

Please consider this letter in support of the grant application by the North Country Resource Conservation and Development Area Council, Inc. The study to be funded by this grant will provide important and necessary information that will be used by communities for moving ahead with district heat and power projects in the future. After installation, substantial benefits will be brought the reduction of greenhouse gas emissions in Groveton. Additionally, benefits to the local community will be low cost heat and power for its residents, commercial and industrial customers as well as a new incentive for its economic development efforts. Further, local expenditures for fuel will largely remain in circulation within the North Country region. We also see that this will be a positive step in the long term viability of the wood harvesting and transportation sectors by allowing for long term price stable contracts.

Thank you in advance for any and all consideration for the above referenced proposal.

/

Carl Ladd
Superin tendent

cc: Northumberland School Board
Northumberland Board of Selectmen

Service to Children, the Community, and the Future
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BERC

Renewable • Reliable • Resourceful

Biomass Energy Resource Center

March 20, 2009

Rick Demark, Coordinator
North Country RC&D Council
719 North Main Street, Rm 220
Laconia, NH 03246

Dear Rick:

We are writing to express strong support of the North Country RC&D Council's proposal entitled **"ROADMAP TO POSITION NH COMMUNITIES TO EXPLORE AND IMPLEMENT DISTRICT HEATING AND COMBINED HEAT AND POWER OPTIONS USING RENEWABLE CARBON NEUTRAL WOOD BIOMASS"**.

The program would build from lessons learned by all our activities in the North Country over the past several years through 2008, including the Community Scale Wood Biomass Project and BERC's work in the area on its North Country Biomass Energy Project, now in its second year of support through the Neil and Louise Tillotson Fund. As a participant in the NH Wood Biomass Heat and Power Task Force, we support the five critical areas of focus of this proposal, namely:

- **Technology/Equipment and Suppliers**
- **Systems Installation/Operation and Management**
- **Funding Opportunities**
- **Air Quality Regulations and Benefits**
- **Public Policy and Regulations**

In particular, BERC is keenly interested in and supportive of community scale district energy systems and identification of the barriers that exist in implementing and managing these systems at the community level. Similarly, the air quality issues are of paramount import as we look to install the cleanest, most efficient systems possible. BERC looks forward to being an active partner in this work, and supports this RC&D roadmap as an important component of successful implementation of these systems in the North County.

PO Box 1611, Montpelier, VT 05601-1611 • ph 802-223-7770 • fax 802-223-7772 • info@biomasscenter.org • www.biomasscenter.org

Thank you for the opportunity to provide this letter of support, and please let us know how we can be helpful as you move forward.
Sincerely,
Christopher Recchia
Executive Director