

**Coos County Economic Action Plan
Energy Technical Review Committee
Priority Action Strategies**

Action 1- Support the development and growth of local energy committees.

Justification - Significant momentum was generated by the leadership of the Carbon Coalition (a non-partisan affiliation of citizens, scientists, businesses, students, communities and organizations) in getting a Climate Change Resolution passed in 164 towns across the state, calling for both federal and local action on climate change. This concerted grassroots push has resulted in the formation of over 90 (number is growing monthly) local energy committees (LECs). Each LEC, whether appointed by its respective municipality or ad hoc, is charged with seeking solutions to its town's energy consumption as well as renewable energy options.

There exists an unprecedented opportunity to transform the enthusiasm and emerging activities of New Hampshire citizens to reduce energy use and greenhouse gas emissions into organized, measurable and regionally based actions, and to help communities share their hurdles, benchmarks and successes with each other. The Energy TRC strongly advocates for support of the formation of Coos County LECs and a county-wide integration of these committees. This collaboration of Coos LECs will not only serve as a vehicle for implementing energy efficiency/production strategies but also as a conduit to this greater statewide action and voice of LECs.

By emphasizing capacity building within Local Energy Committees, the LECs can be the catalyst for TRC identified actions such as:

- Development of local heat/power supply plans which can lead to the creation of community scale, de-centralized heat and/or combined heat and power facilities.
- Utilization of existing state enabled legislation for tax incentives at the community level for the energy efficiency improvements by households and businesses.
- Educate residents on existing technical and financial assistance programs for improving energy efficiency.
- Organize locally based energy efficiency and awareness programs modeled after the Plymouth Area renewable Energy Initiative and others.
- Conduct assessments of energy consumption at the local level.
- Create Alliances with other Local Energy Committees.
- Assess opportunity to improve energy efficiency standards in local building codes.
- Ensure that the master list of all recommendations and ideas created by the Coos County EAP Energy TRC are not lost.

Key Implementation Players: The Carbon Coalition's Local Energy Committee Working Group with its lead partners – Clean Air Cool Planet, NH Carbon Challenge, The North Country Council, representatives from the Seacoast Energy Committee Alliance, New England Grassroots Environment Fund, Cool Monadnock Initiative, and

the Jordan Institute, Governors Councilman Ray Burton, utility companies, existing municipal governments.

Resources needed for Implementation: Energy committees can be instigated either through administrative entities within a municipal government (eg, Selectboard or Planning Board) or as an ad hoc group. The critical resources are connected, motivated citizens either with experience in organizing and energy issues or a willingness to learn. No initial cost is necessary. Costs are relevant to the projects undertaken. For instance, many energy benchmarking tools are free of charge such as with EPA's Community Energy Challenge or grants can be pursued for small projects through the New England Grassroots Environment Fund. Other free services include those of above Implementation Players. Large scale efficiency projects can utilize performance contracting.

Timeline For Implementation: On going project. Many committees have already begun to form and others can be supported to act in the short term. Rapid capacity building for extensive project implementation is dependent upon solicitation of capable members and use of existing regional and state LEC resources.

Measures of Success: Numbers of committees formed, number of members on each committee, number and scope of projects undertaken, greenhouse gas reductions, energy and money saved.

Action 2: Develop an alternative energy technology curriculum at White Mountains Community College.

Justification:

There is a rapidly growing need to develop a trained workforce capable of operating alternative energy systems such as biofuel, solar, wind, and hydropower systems at the commercial and residential level. In addition there is a need for trained workers to conduct energy audits, install insulation, energy efficient boilers and heating systems.

White Mountains Community College is uniquely positioned to provide the technical training to students in the near future. Local high schools could provide appropriate level training to prepare students to arrive in this technology program prepared. A variety of educational opportunities are envisioned including:

1. A one year certification program in alternative energy technology. This would be a three semester program that would include a final one semester internship/apprenticeship program.
2. A two year Associates Degree in alternative energy technology that would provide a broader range of courses in anticipation of matriculation to a four year university level program. The emphasis would continue to be to develop technically qualified personnel to work on alternative energy technology systems.

3. A non-resident program using a combination of computer delivered courses with week long residential periods for hands on experience.
4. Continuing education programs for people working in alternative energy technology that would gain continuing education credits to maintain certification.
5. Community level workshops and conferences for area residents on alternative energy systems and energy conservation.

The need for alternative energy systems to replace fossil fuels is a national and state goal. The rising price and dwindling supply of fossil fuels is driving research into new or improved ways to generate energy and heat. The target area for students to come from and work in is Coos, Carroll, Grafton, Essex, Caledonia and Oxford Counties.

Key Implementation Players:

1. White Mountains Community College
2. Local High Schools
3. Industry (solar, wind, biomass, hydro, conventional power)
4. Tradesmen (plumbers, electricians, contractors)
5. US Department of Energy
6. US Environmental protection Agency
7. New England Sustainable Energy Association and NHSEA affiliate
8. Foundations to provide start up grants.

Resources Needed for Implementation:

1. Instructors/Professors (2-3 full time or equivalent)
2. Industrial and residential systems that can be used multiple times.
3. Building, plumbing and electrical supplies.

Timeline for Implementation:

1. Proposal design team would refine these ideas by July 2008.
2. Curriculum development would be done by October 2008.
3. Grant writing and industry outreach would be simultaneous.
4. Recruitment and hiring of faculty by February 2009.
5. Student recruitment from January 2009 to August 2009.
6. Curriculum implementation and refinement by faculty by August 2009.
7. First 20 students start program September 2009.
8. Internship/apprenticeship begins June 2010.
9. First year technician certification graduation late August 2010.
10. Start of second year of program September 2010 and non-resident program begins.

Measures of Success:

1. Graduating technically proficient and certified students who can work in the alternative energy technology sector.
2. Reducing demand for fossil fuels in the region.
3. Increased energy efficiency, competitiveness and cost savings in the region.

4. Apprenticeship opportunities at area businesses, hotels, ski areas and building complexes.
5. Keeping local youth in the region by providing opportunities for high paying jobs in a rapidly growing field.

Action Strategy # 3-Energy Production

Action Statement: Create an economic and cost accounting model(s) / to assist in the planning, evaluation and development of small (<15 mwh) Combined Heat and Power generation units in village center sites country-wide that would utilize the efficiency benefits of co-location with existing local businesses & manufacturing facilities The objective is to develop high efficiency units, using local, renewable resources for local power/heat consumption, avoiding the costly expense of constructing transmission lines for the export of an otherwise local product.

Justification: The loss of manufacturing and papermaking jobs has lead to large vacated facilities that can be reused at relatively low cost. Many of these faculties encompass the necessary components for co-locating small energy systems to support reuse by new manufacturing efforts.

The Groveton's Wausau Paper facility is a prime example; centrally located with assets (gas-fired, co-generation plant, electrical interconnect with the grid, large wastewater treatment plant capacity, wood yard, truck scales and dump, and adjacent natural gas line) that would benefit repurposing for manufacturing. Co-location would gain efficiencies by selling off electrical and thermal products to nearby industries as well as serve as a district-heating source for the community

Key Implementation Player(s): Biomass Energy Resource Center, Northeast District Energy Corporation, NH Dept of Resources and Economic Development, USDA Rural Development, NH Office of Energy and Planning, private industry

Timeline For Implementation: *This will be a long-term plan, Year one to target sites and recruit technical people to work on model.*

Resources Needed for Implementation.

1. State secured business loans
2. Experienced technical and economic people to develop model
3. Local Support.

Measure of Success: Saving a Target location that has potential for energy site, Form action group to redevelop.

Action 4 Strategy: Conduct an energy audit for Coos County that:

- Analyzes available renewable fuel resource capacity
- Assembles present and estimated future energy consumption needs
- Estimates current and future greenhouse gas emissions

Justification: In an effort to understand the proverbial leaky energy bucket and craft a more energy efficient future for the county's existing structures, along with future developments, there must first be an understanding of where those leaks are by benchmarking current energy use. Energy audits serve to identify current energy use and greenhouse gas emissions and can provide officials, businesses, and residents with an understanding of where energy inefficiencies lie. It also guides communities in addressing those inefficiencies, spurring the county's economic future through avoided energy costs. Inefficient buildings cost taxpayers, businesses, and home owners a significant amount of money each year that could otherwise have been used to better serve the county as a whole. Identifying the current energy needs, along with the county's future needs, will allow the county to plan on what type of energy production and distribution systems are necessary for future, sustainable economic growth.

Additionally, the creation of a county wide fuel resource map can serve as an economic driver by creating sustainable, self-sufficient businesses that utilize local fuel resources to meet current and future energy needs at the county's economic hubs. These fuel resources can include a host of renewable fuels such as timber resources, other biomass resources, wind resources, etc. This local fuel identification capacity can provide a marketing tool for the county to pitch to interested companies wishing to have their energy supply grown locally. This will not only help stabilize local fuel prices, but also help stabilize the county's economy by keeping those energy dollars within the region. In order to create this marketing plan, however, the county must investigate exactly what type of fuel resources are available for harvesting in a sustainable manner and depict those resources on a map. This can be in the form of number of harvestable hectares of timber fuel, or number of acres of arable land within the county to grow a fuel crop, etc.

Key Implementation Players: RPC, NH DRED, EPA and their Portfolio Manager program, NH PUC, NH Government Center, Society for the Protection of New Hampshire Forests, NH OEP, USDA, NH Dept. of Agriculture, Local Energy Committees.

Resources Needed for Implementation: Depending on the desired depth of an audit, a range of resources may come into play. For instance, to gain an understanding of how a building may stack up to similar building in the region the local energy committee can utilize the free online Portfolio Manager program provided by the Environmental Protection Agency. Mapping fuel resources will need the help of foresters, farmers, and mapping experts. Understanding future energy needs will likely require assistance from OEP and the PUC.

Timeline for Implementation: Short term, immediate project for the energy audit. This benchmarking and resource identification needs to, and can occur in a very short time frame. Expect 1 year for substantial energy auditing data. Expect at least 1 to 2 years for sizeable fuel resource mapping.

Measures of Success: Completion of county wide energy audit, number of individual audits completed by municipalities, etc., by January, 2010, completion of county fuel resource map.