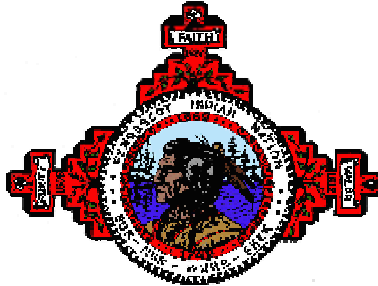


**PENOBSCOT INDIAN NATION  
FINAL SCIENTIFIC/  
TECHNICAL REPORT  
2005-06**



**DOE GRANT# DE-FG3605GO15175**

**Penobscot Indian Nation  
12 Wabanaki Way, Indian Island  
Old Town, Maine 04468**

***“PENOBSCOT INDIAN NATION’S  
STRATEGIC ENERGY PLANNING  
EFFICIENCY ON TRIBAL LANDS”***

**Ms. Brenda Fields, Project Director**

**Mike Sockalexis, Tribal Energy Coordinator  
Doug Baston and Ed Holt, Energy Consultants  
Alan Mulak, Energy Efficiency Consultant  
Tribal Energy Committee**

**November 17, 2006**

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**Penobscot Indian Nation**  
**Final Scientific / Technical Report**

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***Acknowledgement:*** “This material is based upon work supported by the of Energy (National Nuclear Security Administration) under Award Number DOE-DE-FG3605GO15175.”

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## **EXECUTIVE SUMMARY**

The research provided a more comprehensive understanding of energy resources, which resources to pursue in what priority, and specific next steps, especially for investing in energy efficiency. Best practices were used in development of Strategic Plan and Energy Resource Analysis. Technical Expertise was provided by Doug Baston of North Atlantic Energy Advisors and Ed Holt of Ed Holt and Associates. It was their due diligence and attention to detail that contributed to the success of energy grant.

Energy audits are a well known method to identify energy savings opportunities. In our view the key is to get a technically competent engineer who can provide practical and specific recommendations that are clearly communicated. PIN found it useful to use a competitive solicitation process, including a requirement for a sample audit, to find such a person. Alan Mulak, PE, LLC did an excellent job for us.

The methods used to evaluate the energy efficiency conservation measures (ECM) related to electricity use apply equally to the other energy resources. It is PIN objective to implement ECM in order to significantly impact electricity, oil, gas consumption and related costs. The savings can be substantial and reduction in energy use would drastically decrease. The estimate ECM implemented will have a payback of 2.5 years.

The hydro maps of Idaho National Energy Laboratory are useful to identify potential hydro sites, but require a high level of mapping software expertise to layer onto tribal maps. The digital wind maps of the National Renewable Energy Laboratory are

excellent as a way to visualize wind potential and are easy to access (requiring only latitude and longitude inputs to navigate); computer skills are needed to overlay on tribal maps.

Recommendations for the development of further tribal institutional capability relating to energy and energy facility siting procedures may be of interest to other tribes.

And finally, PIN, with other Mane Tribes, contacted the Venezuela Embassy and CITGO in October 2005 regarding their assistance on discounted home heating oil. An article in newspaper stated that CITGO was providing home heating oil to Bronx community in New York after President Hugo Chavez visited New York. PIN received a positive response and eventual assistance. In October of 2005, key Congressional leaders sent an open letter to all oil companies to aid in helping America's poor people, but only CITGO responded.

## **ACCOMPLISHMENT OF GOALS AND OBJECTIVES:**

The Energy Project would not be a success without the hard work and participation of the members of the Energy Committee: Charles Francis, Kirk Francis, Robbie Dana, David Pardilla, William Thompson, and Chris Mitchell. The Energy Committee was appointed by the Tribal Council in August and September 2005 to provide oversight and project direction. Mike Sockalexis was assigned the responsibility to manage project in September 2005 and he utilized the expertise of two consultants Doug Baston and Ed

Holt of North Atlantic Energy Advisors for Strategic Energy Planning and Energy Development Project. Alan Mulak, PE, LLC, was contracted conduct the energy audit. The overall supervision was done by Brenda Fields, Tribal Administrator for Grants and contracts.

Special thanks must go to Lizana Pierce, Project Officer, DOE Tribal Energy Programs, for her technical support and encouragement as PIN implemented and executed the project activities.

Also, thanks must go to State of Maine Director of Energy Independence and Security, Beth Nagusky, for her assistance, encouragement and support as PIN developed its wind resource on its trust land in Western Maine.

PIN wishes to knowledge the efforts of both Eastern Maine Development Corporation (EMDC), most in particularly, John Holden, Acting CEO and Tim Love for PINE for their due diligence along with Yvonne Francis-Ferland, President of PINE, for her leadership in negotiating the PIN/PINE MOU with TransCanada.

The **Goal of this project** is to develop a first step “**energy vision**” which both incorporates the following two overarching Principle Objectives established by the Nation and provides a policy framework for a more detailed – and prioritized – **Long Term Strategic Energy Plan**.

***The First Objective is to address the cost burden of our current energy dependency. To do this, we must both explore ways to make our existing tribal public facilities and private residences more energy efficient and look at alternative ways to purchase fuel supplies (such as through oil, propane, natural gas or electricity bulk purchase agreements or aggregations).***

PIN made major progress towards achieving this objective. Using grant funds, PIN arranged for an energy audit of tribal commercial facilities by a professional engineer, Alan Mulak, PE. The audit of the 13 largest commercial (tribal) facilities identified current energy use and costs, but more important, it makes specific recommendations for energy conservation measures addressing the electric, oil and gas usage in the facilities. These recommendations identify the expected capital cost, energy savings, cost savings, and payback for each measure for each facility.

In review of literature, energy efficiency programs, if adopted completely, do have a large potential to reduce costs to tribal governments and reservation residents. Some Indian households spend at 20% of their income on electricity, so cost savings can be very important to these households (Energy Information Administration 2000). Studies further state that secondary benefits from energy efficiency improvements and energy conservation can contribute to energy independence and improved tribal sovereignty. In a practical sense, energy efficiency measures frequently improve the performance and longevity of existing energy systems.

All energy efficiency measures, if implemented, would result in a capital cost of \$165,000 (\$128,000 after state rebates) and would save \$64,000 per year for an overall two year payback. Most of the savings would come from electricity efficiency (279,000 kWh per year), though some would come from oil (6,791 gallons per year) and propane (1,100 gallons per year). PIN is looking at the possibility of applying some of our current savings in fuel oil costs to help fund the initial capital investment with the idea of matching these funds with incentives available from Efficiency Maine.

Efficiency of Maine is a statewide effort to promote the more efficient use of electricity, help Maine residents and businesses reduce energy costs, and improve Maine's environment. Efficiency of Maine is funded by electricity consumers and is administered by Maine Public Utilities Commission. Also PIN will secure home heating resources at low cost or reduced cost or at bulk rate use. According to U.S. Department of Energy, Maine is among the highest spenders on energy in the country. As such, Maine continues to encourage energy efficiency and the use of renewable nergy.

PIN has not yet explored specific energy savings potential in our private residences, but we addressed that in general through aggregated purchasing of fuel oil supplies. For the 2005-06 heating season, PIN negotiated with CITGO, the oil company owned by the Venezuelan government, to obtain heating oil at a significant discount of roughly \$1.40 per gallon based on \$2.40. For the 2006-07 heating season, PIN continued to work with representatives of CITGO and with the Venezuelan government on bulk oil purchasing for all Indian tribes in Maine and in northern States where temperatures are cold. As the



results of negotiations, Tribal Representatives, for their effort, were able to obtain free fuel oil for all tribal and residential needs on the Reservation for the 2007 cold season. Members of PIN Negotiating Team are Erlene Paul and Clarice Chavaree, Tribal Human Services, Brenda Fields, Tribal Administrator of Grants and Contracts, James Sappier, Tribal Chief and Mike Sockalexis, Energy Project Coordinator.

The home heating oil program began by the Maine Tribes' initiative by contacting CITGO and the Venezuelan Embassy in the fall of 2005. The effort put forth on part of then Tribal Chief, James Sappier and Micmac Band Chief Billy Phillips and the friendship they forged with CITGO Representatives made the program very successful. Also, the program administration by Erlene Paul, Director of PIN Human Services, on behalf of all Maine Tribes was exceptional. The success of Maine Tribes made it possible for the home heating oil program expand to sixty-four tribes and in 2006 provided 100 million gallons of home heating oil.

To reiterate, the methods used to evaluate the energy efficiency conservation measures (ECM) related to electricity use apply equally to the other energy resources. It is PIN objective to implement ECM in order to significantly impact electricity, oil, gas consumption and related costs. The savings can be substantial and reduction in energy use would drastically decrease. The estimate ECM implemented will have a payback of 2.5 years. By implementing ECM PIN can realize its goal, ***“Reduce energy usage and cost in tribally-owned facilities and in home of tribal members.”*** (p.9, PIN Long-term Strategy Energy Plan)

Finally, one of the recommendations of the Long-Term Strategic Energy Plan is to investigate the feasibility of establishing our own tribal utility to provide electricity to the tribe and its members at a lower cost than is presently available. In doing so, PIN can then achieve its major objective of energy self-sufficiency and exercise tribal sovereignty..

In terms of facilitating public policy, to that end, PIN has participated in the State of Maine's Public Utilities Commission's Renewable Resources Stakeholders Group (RRSG) and was included in Legislative Report on the Viability of Wind Power Development in Maine. Both reports were presented to the Joint House/Senate Utilities and Energy Committee of the 122<sup>nd</sup> Maine Legislature in 2006.

The objective of RRSG Report was to *"Examine the benefits and costs of renewable generation in Maine and develop strategies to maximize renewable generation that is cost competitive."* Key element in report was the positive statements about the development of wind power. PIN is currently assessing federal, state energy funding sources to prepare grant applications for funding to further develop tribal wind resource and to develop energy efficiency measures.

***The Second Objective is to address opportunities for renewable energy production. In doing this we must consider the environmental impacts of potential sources of renewable energy; the economic development***

***potential of each source (including associated, indirect economic development aspects); and the long-term cost and reliability of each.***

PIN has also made significant progress towards this objective during the course of the grant. We reviewed the renewable resources potentially available to the Nation, including hydro, wind, biomass, geothermal and solar energy. The analysis of Penobscot energy resources was in part conducted using several digital resource maps available through the federal national laboratory system. In each case, potential resource sites were located and marked on topographical maps of tribal land holdings – reservation, trust and fee lands. The intent was to draw attention to geographic areas of greatest technical potential, and, conversely, to eliminate those areas with no or marginal potential. Areas identified as high theoretical potential, based on the modeling, would require rigorous on-site measurement and analysis in order to verify and quantify the actual resource potential.

Situated on the Penobscot River, the Penobscot Nation has available a lot of hydro energy potential, most of it already developed. For this Energy Plan, PIN consulted new hydrographic models created by the Idaho National Laboratory (INL) using national level satellite data and analysis. PIN understands that INL is the lead laboratory for engineering support for the DOE Hydropower Program. INL continuously test new turbines for low head for its environmental, societal and economic benefits, as well as technology application and technology transfer. These research laboratories of INL, NREL and Sandia Laboratory all have technology information, and digital maps which can be overlaid on tribal lands and identified approximately the 20 MWs of small

capacity low head, low power hydro sites, which consist of less than 1 MW and 30 ft of hydraulic head.. These potential sites will have to be examined on the ground further to determine engineering and economic feasibility. As further study may show, low-head, low power resource development on tribal lands with river and stream may assist tribes and nations to be energy self-sufficient and a means to establishing internal institutional capacity-a tribal utility.

According to review of literature, The Idaho National Engineering and Environmental Laboratory in “with the U.S. Geological Survey recently completed assessment of all 20 hydrologic regions in the United States...” (Carroll, Gregory and Kelly Reeves, 2004). The assessment provides estimates of the amount of low head/low power potential, as well as, determining the different power classes of water energy resources. They used the state-of-the art digital elevation models and GIS in the assessment. PIN found this data quite useful in assessing tribal lands of water resource potential and further feasibility study will be needed to determine its economic benefit and for consideration of environmental impact.

Wind resources are strong in two of our land holdings—one trust land, the other fee land. Although we already had an anemometer collecting wind data at one of these sites at 40 meters, we also used the digital wind resource maps of the National Renewable Energy Laboratory to check on potential wind sites across all tribal properties. This led to our conclusion that sufficiently wind resource sites are limited to two tracts of land in the western mountains of Maine.

PIN conducted a RFP solicitation for a wind development partner, and PIN/PINE are currently working with the chosen wind developer to conduct the necessary environmental and technical feasibility studies for the trust land site at Alder Stream Township (AST) in western Maine. Apart from normal wind development hurdles, the biggest challenge facing PIN will be to arrange financing for an equity ownership position in the wind project of 49%. PIN/PINE is working with a financial advisor to scope out the potential financing resources available to PIN.

Penobscot lands also hold tremendous biomass potential. Most of this is forest land that is sustainably managed for pulp logs and to a lesser extent for saw logs. Because forest growth on the Nation's lands has a much higher value for these purposes than for energy, production for the primary purpose of biomass fuel is not, and will not be, a part of the Nation's forestry future. Management for the higher uses identified does produce some wood waste that could potentially serve as biomass fuel stock, but this byproduct by itself would not provide the foundation for an economically viable biomass electricity generation station.

Maine has low to moderate temperature geothermal resources that are not suited to electricity generation, but that can be tapped for direct heat or for geothermal heat pumps. In fact, our energy audits identified two or three potential applications for geothermal heat pumps, but this is not seen as a major future source of energy unless housing on the reservation were converted from oil heat to geothermal.

Finally, Maine has plenty of solar energy potential, but converting it to electricity is expensive. We recommend that it be evaluated for inclusion in any new building design, or for buildings that may be constructed off-grid.

In comparison of the actual accomplishments with the goals and objectives of the project, the starting time for grant began in September of 2005. All project action steps and schedule outlined in grant were 90% completed on time. The following action steps were not completed as scheduled:

1. ***Month Three (December 2005)*** was completed in January 2007, one month later than scheduled. The task was ***“Energy Committee and consultants review RFP/RFQ responses, conduct oral interviews, if necessary, select proposed contact(ors), and assist with contract and scope of work negotiations, as requested.”*** Reason for delay was two fold: 1. Because of nation wide response to RFP and RPQ and holidays in November and December, the time was extended in receipt of solicitations. 2. Also the difficulty of scheduling interviews in person and by conference calls. RFPs came from as far Florida, Colorado and Oregon. From due diligence , PIN was told that it had the five top wind developers in United States and Canada
2. ***Month Seven (April 2006)*** saw the extension of time for completion of task of ***“Energy Vision and the review and approval by Tribal Council”*** by end of April. This task did not take place until July 7, 2007 for draft to Tribal Council and September 12, 2006 for Final approval by Tribal Council and Energy Committee.

The reason for delay was the information and data needed for completion in part was NREL's non-responsiveness to technical assistance needs of PIN.

3. ***Month Seven (April 2006)*** task scheduled for April ***“Baston/Holt work with NREL and SNL to match issues and goals described in Energy Vision process to federal laboratory technical assistance resources available to address tribal needs”*** was not unable to be completed until June 2006. The reason was that NREL and SNL were overcommitted in their resources to other tribes and non-Tribal organizations that they could not provide direct technical assistance to PIN during the grant period. The consultants were able to secure available wind, biomass, hydro and solar data and GIS Mapping data from the Idaho National Laboratory (INL) and existing resources. The task was completed and draft submitted to Tribal Council and a power point presentation by Ed Holt and Doug Baston was provided. It is important to note here that INL performs research and engineering in support of the development and application of renewable energy.

Generally, the project in totality was successfully completed. The only outstanding task is the completion of MOU with the wind power developer TransCanada. The PINE negotiating team has set December 31, 2006 as deadline for completion of MOU. A counter MOU and finance proposal of PIN/PINE project costs has been sent to TransCanada as result of meeting in September regarding PINE response to their initial MOU and financing PIN/PINE project costs for consideration. In the mean time,

TransCanada has moved forward in development of Kibby Township adjacent to Alder Stream Township. They have submitted a permit application to Maine Land Use Regulatory Commission (LURC). The Alder Stream Township application can be ready to submit to Maine LURC in March 2007 once MOU is approved.

## **SUMMARY OF PROJECT ACTIVITIES:**

The completion of tasks focused on the project activities in the four major identifiable project deliverables:

- 1. “Vision” and Strategic Planning;**
- 2. Alder Stream Township Wind Power development;**
- 3. Commercial Facility Energy Audit;**
- 4. Discount Home Heating Oil from CITGO**

In addition, PIN published two significant project documents: ***Long-Term Strategic Energy Plan*** and the ***PIN Commercial Facility Energy Audit***. These two documents are the project’s key deliverables. The number of meetings, the many conference calls and emails all were in the effort to coordinate and direct the project to its successful completion. PIN has identified the work products completed for each quarter and will be listed in under Project Deliverables at end of this Report. In addition, these two reports include all facts, figure and statistical charts that reflect the narrative portion of this technical report.



### ***First Quarter-September 1, 2005 to December 31, 2005:***

The effort for the first quarter was on organization of project, getting two consultants on board from North Atlantic Energy Advisors; begin drafting RFPs and RFQs for the selection of Wind Power Energy Developers and Commercial Energy Auditors. Also it was when the Tribal Energy Committee got formed and briefed on Scope of Work of Energy Grant. Mike Sockalexis, Energy Project Coordinator developed an Energy Briefing Notebook for Energy Committee. During this period, Mike Sockalexis with two energy consultants, Doug Baston and Ed Holt provided a Project Status Report to Tribal Council. Mike Sockalexis, Project Energy Coordinator attended the 2005 DOE Tribal Energy Program “*First Steps*” Review in Golden, Colorado. The initial meetings with CITGO took place to provide discount home heating oil at \$1.40 per gallon for 2005-06 cool seasons.

- Executed contracts with initial consulting team, Doug Baston of North Atlantic Energy, and Ed Holt of Ed Holt & Associates.
- Consultants meet with PIN Energy Committee in October 12, 2005 for input on RFPs and RFQs for potential consultants to project.
- Consultants draft RFPs and RFQs for Energy Audit and Renewable Energy Development, and secured PIN Energy Committee approval.
- Consultants generate bidder lists, issue RFPs & RFQs and addressed bidders questions
- PIN Energy Committee organized and briefed by selected Project Coordinator, Mike Sockalexis and Two Project Consultants: Doug Baston and Ed Holt

- Project Coordinator, Consultants and Energy Committee reviewed RFP and RFQ responses
- Mike Sockalexis established internal PIN Grant files and energy program folder for PIN Energy Committee.
- In October and November 2005, Project Status Report to PIN Tribal Council and a power point presentation given to Tribal Council and Energy committee by Energy Coordinator and two consultants.
- Program Presentation to 2005 Tribal Energy Program “*First Steps*” Review, Golden, Colorado (Mike Sockalexis)
- Attend two DOI/CERT conference/workshops in Denver, Colorado in October and November, 2005, by Mike Sockalexis at DOI “*First Step*” Conference PowerPoint Presentation.
- PIN/Department of Natural Resource prepares initial GIS Mapping of proposed site at Alder Stream Township.
- Gave Project Status Reports to PIN Land Committee and update Wind Power presentation to Tribal Council in October and November 2005 with Tim Love, PIN Economic Development Manager.
- Attended initial meetings with CITGO and other Maine Tribes on CITGO’s Discount Home Heating Oil Program for Low Income people.

### ***Second Quarter- January 1, 2006 to March 31, 2006:***

The project was quite busy this quarter. The key project activities were the selection of Wind Power Developer and Energy Efficiency Auditor. In addition, Doug Baston and Ed

Holt completed the first draft of Energy Vision/Strategic Plan for review by Energy Committee as result of meetings in first quarter. Alan Mulak, PE, LLC commenced energy audit field work in March. Mike Sockalexis, Energy Project Coordinator, secured all building plans per Alan Mulak's request and scheduled meeting with Tribal Facilities Director, David Pardilla. PIN would provide assistance where needed to complete the energy audit.

From the list of potential wind power developers, the Tribal Energy Coordinator, Tribal Energy Committee and the two Project Consultants, Doug Baston and Ed Holt reviewed RPP and RFQ proposals and verified information and background of wind developers. TransCanada was selected as Wind Power Developer for the proposed 100 MW Alder Stream Township Wind Power Project. Several events happened in March. TransCanada provided a power point presentation to Tribal Chief and Council and then they transferred responsibility for project to Penobscot Indian Nation Enterprises (PINE). PINE continued negotiations of MOU with TransCanada. Mike Sockalexis, Tribal Energy Coordinator would stay on negotiation team with Yvonne Francis-Ferland, Chairperson of PINE, Greg Sample, Esq., and Attorney for PINE and John Holden, Acting CEO for PINE. **This marks the completion of a major project deliverable number Two under Objective Two, even though the MOU is still being negotiated.**

Penobscot Indian Nation Enterprises (PINE) is a federally chartered corporation created by Penobscot Tribal Council to develop business opportunities for the Penobscot Indian Nation. PINE's legal and political separation from tribal government provides the

needed independent business framework necessary for creating proprietary businesses and attracts private sector investments. PINE was given responsibility to negotiate with TransCanada the MOU for predevelopment costs and for developing the investment strategy to acquire 49 per cent ownership of Alder Stream Township Wind Power Project with TransCanada. It is their intention to fund 100% of the Project's Development Costs.

Upon signing of Agreement with CITGO, PIN implemented the 2006 Home Heating Oil Program and because of the use of LIHEAP clients, the program was managed by Erlene Paul, Director of PIN's Human Services and "Reece" Chavaree. The program negotiators included Brenda Fields, Tribal Administrator of Grants and Contracts, James Sappier, Tribal Chief and Mike Sockalexis, Tribal Energy Coordinator, Erlene Paul and Clarice Chavaree, Tribal Human Services. The program will provide discount heating oil to eligible 162 homes on Indian Island for 2006 cool season. Another 50 households meet the lo-income definition utilized by the U.S. Department of Housing and Urban Development. **This completes a second project deliverable number Four under Objective One.**

- Reviewed Wind Power Developers and Energy Audit RFPs and selected the contractor for each project activity.
- Reviewed Technical Assistance RFQ responses and accepted qualified firms.
- Consultants draft, and Energy Project Coordinator and Energy Committee reviews, first draft of Energy Vision/Plan

- Continued meetings with Energy Committee, and Tribal Council as necessary, to review progress
- Energy audit contractor starts/completes review of tribal facilities.
- North Atlantic Energy Advisors and Ed Holt & Associates continue to provide counsel and support to Energy Project Coordinator and Energy Committee on as needed/as requested basis.
- Continued to advice on proposed Alder Stream Township wind project and advice on partner business negotiations with TransCanada.
- TransCanada gave a power point presentation to Tribal Council in March 2006 on Kibby Project and proposed Alder Stream Wind Power Project
- The Nation at its March Monthly Meeting transferred to PINE the project responsibility.
- The Tribal Energy Committee upon selection of developer, recommended in March TransCanada to PINE. PINE will commence negotiations with TransCanada.
- Alan Mulak, PE, spent the week of March 27<sup>th</sup> assessing the energy efficiency of 13 commercial (tribal) facilities. Mike Sockalexis, Project Coordinator, collected from several sources the facility designs and drawings, especially the electrical and heating source. He arranged meeting and assistance from David Pardilla, Facilities Director and with William Thompson, Air Quality Coordinator for Nation. William will conduct air quality testing in the facilities.

### ***Third Quarter- April 1, 2006 to June 30, 2006:***

The Project Activities for this quarter are proceeding accordingly to Grant Proposal. The Energy Audit is near completion. Tribal Council reviewed preliminary results. Doug Baston of North Atlantic Energy, Inc. completed the assessment of renewable energy resources with GIS Mapping of proposed sites. PIN Tribal Energy Committee continued to work on Tribal Energy VISION and Strategic Plan with Consultants Doug Baston and Ed Holt. Ed Holt has continued to provide expertise input in the wind power project.

Progress on the Wind Power Project was delayed briefly because of Lease Permits and Amendment to Tribal Comprehensive Community Plan which called for a Tribal General Meeting and approval to include wind power and granting lease permit. Consultants on hand to give briefings, along with Mike Sockalexis, Energy Project Coordinator and Tim Love, Economic Development Manager and Tribal Attorney, Greg Sample. Conference calls continued with TransCanada regarding MOU and development budget that included PINE expenses for Wind Power Project.

PINE secured Delta Investments CEO/President, Brad Mead to assist in developing financial strategy to purchase 49% ownership in AST Wind Power Project with wind developer, TransCanada, per wind developer's proposal to PIN/PINE.

Mike Sockalexis, Energy Project Coordinator, attended Maine Land Use Regulatory Commission meetings regarding TransCanada application for wind power development

at Kibby Township which is adjacent to Alder Stream Township and will continue their progress through the LURC application procedure.

The negotiations of the MOU with TransCanada was delayed because of negotiations with Ultimate Power Company (UPC) for the rights to data and anemometer tower and computer equipment and the cost to TransCanada and PINE to purchase data and equipment at Alder Stream. The original price went from \$80,000 to \$60, 000 and finally \$45,000 because the tower collapsed during high winds this past spring. This basically renders the loss of anemometer tower useless without data. TransCanada agreed to still purchase data and equipment after many conference calls. The Project attorney, Greg Sample drafted the sale agreement and final MOU with UPC. UPC was the previous developer who installed 40 meter anemometer at Alder Stream in 2002. UPC in August 2005 decision to not proceed with Alder Stream Wind Power Project because of their over extend commitments to other wind projects. UPC agreed to convey to PIN/PINE the data and equipment.

The 2006 Home Heating Oil program Agreement has been signed with CITGO and PIN has begun the 2007 program negotiations w/ CITGO. PIN Negotiation Team traveled to New York for final review of 2006 season and then traveled to Venezuela as guest of President Hugo Chavez in April 2006. Because of use of LIHEAP eligible list, confidentiality had to be maintained by having Erlene Paul, Director of Human Services manage the Home Heating Oil Program.

Overall, the four major project deliverables proceeded according to work plan.

- Reviewed Preliminary Results of Energy Audit and begin plan to implement ECM recommendations
- Completed assessment of wind, hydro, biomass and solar potential on tribal trust and fee lands.
- Completed second draft of Energy Vision/Plan, and Energy Project Coordinator and Energy Committee review and comment.
- Continued meetings with Energy Committee, and Tribal Council as necessary, to review progress
- North Atlantic Energy Advisors and Ed Holt & Associates continue to provide counsel and support to Energy Project Coordinator and Energy Committee on as needed/as requested basis.
- NAEA and Holt & Associates continue to advise on proposed Alder Stream Township wind project and advise on partner business negotiations.
- North Atlantic Energy Advisors and Ed Holt & Associates continue to support Nation's efforts in securing information regarding additional public, private, and foundation funding to support their energy-related activities.
- The project is proceeding beyond the current scope of work schedule. With the selection of TransCanada as wind power developer for the Nation, negotiations with them have progressed to the point of development of a Pre-Development Budget PINE and agreed to by TransCanada. TransCanada also agreed to cover costs incurred at anemometer site and data collection to date.



- A draft MOU between Nation and TransCanada is currently being reviewed by attorneys and consultants re: partnership and financing.
- PINE has secured a financial consultant, Brad Mead, CEO/President of Delta Group in Connecticut.
- Doug Baston, North Atlantic Energy is developing map for Wind, Hydro on other PIN Tribal lands, as well as potential biomass sites.
- Ed Holt has provided additional consultant services to the potential Wind Power project and has attended meetings and on conference calls.
- Doug Baston, Consultant has assisted Energy Coordinator in developing funding sources to conduct energy efficiency work as well as grant application for funding from Administration for Native Americans (ANA) for Environmental Regulatory Assessment submitted in March 2006.
- Mike Sockalexis, Energy Project Coordinator, attended several Land Use Regulatory Commission (LURC) meetings regarding regulations and policies governing permitting renewable energy sources in Maine.
- Mike Sockalexis also participated in the negotiations along with Erlene Paul, Director, Clarice Chavaree, HHS, Brenda Fields, Grants and Contracts and Tribal Chief, James Sappier for low home heating oil from CITGO as part of Venezuelan's Discounted Heating oil Program.
- In April 2006, PIN negotiations team traveled to New York and then to Caracas, Venezuela to finalize agreement for 2007 heating season.
- Erlene Paul managed the Home Heating oil Program for the five Maine Indian Communities. Maine Tribes negotiated 950,000 gallons at \$1.40/gal.

- Brenda Fields, Erlene Paul, Clarice Chavaree, Mike Sockalexis and James Sappier, Tribal Chief negotiated with State of Maine LIHEAP for the Nation's share of \$5 mil. Appropriated by the Maine Legislature to purchase CITGO Home heating oil. Delegates from the Nation including Mike Sockalexis went to New York City and Washington, D.C. to meet with CITGO President and Venezuelan Ambassador.

#### ***Fourth Quarter- July 1, 2006 to September 30, 2006:***

The Fourth Quarter is centered on completion of project deliverables and finalization of two major documents of the project: the PIN Strategic Energy Long Term Plan and the Tribal Commercial Energy Audit. The two Consultants, Doug Baston and Ed Holt presented to PIN Tribal Energy Committee and the Chief and Council the **Final VISION/Strategic Energy Plan**, which was accepted and approved. This report was also submitted to Lizana Pierce, DOE Tribal Energy Project Manager in Golden, Colorado. **This completes a project deliverable number One under Objective One.**

Alan Mulak, PE, LLC completed and finalized the **PIN Commercial Facility Energy Audit Study** and submitted his report to PIN Tribal Chief and Council and to the Tribal Energy Committee. This was an excellent detailed report on the need for ECM in the 14 tribal facilities. The report was also sent to DOE Tribal Energy Project Manager, Lizana Pierce in Golden, Colorado. **This completes a major project deliverable number Three under Objective One.**

Mike Sockalexis, PIN Tribal Energy Coordinator, prepared and presented his Final Report in a power point presentation at the 2006 DOE Tribal Energy Program Review in October.

The PIN Negotiation Team met with CITGO to finalize **Agreement for 2007 CITGO Home Heating Oil Program**. This will allow each tribal household on or near Indian island to receive 300 gallons of number one/two home heating oil regardless of income. This will allow more homes to benefit from program than the 2006 season. **This completes a major project deliverable number Four under Objective One.**

The PINE Negotiation Team with Tim Love, Economic Development Manager, Project Attorney, Greg Sample, Project Consultant Brad Mead and John Holden, Acting PINE CEO, met with TransCanada to discuss draft MOU and the status of Alder Stream Wind Power Project. Based on discussions and some agreements, Brad Mead will draft an alternative MOU for review and discussion, as well as a monthly project budget for PINE. Conference call was held internally to discuss draft of MOU by Brad Mead before submission to TransCanada.

**This MOU nearly completes the project deliverable number 2 under Project Goal Two.** The deadline of December 31, 2006 is the proposed for completion of MOU between PINE and TransCanada.

- Presented Final results of Energy Audit by Alan Mulak to the Tribal Council and develop funding planned to begin implementation of ECM recommendations.

- Presented final draft of the Strategic Energy Plan to the Energy Committee for review and comment in September 2006 by Mike Sockalexis and Consultants.
- Presented final draft of the Strategic Energy Plan to the Tribal council for their review and final approval in July and Final in September 2006.
- Prepared plan, schedule, and financing arrangements to implement audit recommendations.
- Continued to work with the Venezuelan government and CITGO and its agents on bulk oil delivery plan.
- Meeting in New York in October 2006 to sign final home heating oil agreement. Each household will receive home heating oil for 2007 season.
- Continue to coordinate with PINE (Penobscot Indian Nation Enterprises) on development of the Alder Stream/TransCanada wind project.
- Draft MOU with TransCanada and PINE/Nation is being reviewed internally.
- North Atlantic Energy Advisors and Ed Holt & Associates continue to provide counsel and support to Energy Project Coordinator and Energy Committee on as needed/as-requested basis.
- NAEA and Holt & Associates continue to advise on proposed Alder Stream Township wind project and advise on partner business negotiations.
- NAE and Ed Holt & Associates continue to support Tribe in securing additional public, private, and foundation funding to support their energy-related activities.
- Prepared Final Report and power point presentation for October 2006 DOE Tribal programs meeting in Denver.

## **IDENTIFY WORK PRODUCT (S) DEVELOPED AND TECHNOLOGY TRANSFER ACTIVITIES:**

**PIN Strategic Plan for Sustainable Energy:** A long-term plan for energy self-sufficiency and sustainable energy development on tribal lands.

**PIN Commercial Facilities Energy Audit Study:** A Report that makes recommendations, cost savings and conclusions of energy audit conducted at the thirteen (13) largest Tribal Facilities on PIN. The second section of study are the Energy Conservation Measures (ECM) addressing the electric, oil, and gas usage in the facilities.

**PIN 2006 DOE Tribal Energy Program “First Steps” Energy Grant Review**

### **Listing of Work Products per Quarter:**

#### **First Quarter**

1. Contract with North Atlantic Energy Inc. executed
2. Copy of RFQ and RFP for Energy Audit and Wind Power Developer
3. 3-ring Energy Briefing Notebook for Tribal Energy Committee
4. List of Tribal Energy Committee

5. PowerPoint Presentation to Tribal Council October 12, 2005 on Project
6. PowerPoint Presentation at 2005 DOE Tribal Energy Program Review
7. GIS Mapping by Tribal Natural Resource Dept. of Alder Stream Township
8. Initial CITGO Presentation of Home Heating Oil Program

## **Second Quarter**

9. Selected bidders from RFPs and RFQs and compiled list
10. 1<sup>st</sup> Draft of Energy VISION and Strategic Plan by Consultants
11. Presentation by selected Wind Power Developer to Tribal Council
12. Talking Points w/ Wind Power Developer by Ed Holt, Consultant
13. Alder Stream Township Wind Power Proposal and Development Budget
14. Tribal Council Resolution transferring Wind Power Project to PINE
15. Copy of Initial MOU w/ Wind Power Developer

## **Third Quarter**

16. Preliminary Energy Audit Report by Alan Mulak to Tribal Council
17. 2<sup>nd</sup> Draft of VISION/Strategic Plan by Consultants
18. Completed Assessment of Renewable Energy resources of Tribal Lands
19. Agreement w/ CITGO for 2006 Discount Home Heating Oil Program

## **Fourth Quarter**

20. Presentation of Final Results of Energy Audit by Alan Mulak
21. Presentation of Final VISION/Strategic Energy Plan by Consultants
22. Agreement w/ CITGO for 2007 Home heating Oil Program
23. 2<sup>nd</sup> Draft of MOU w/ Wind Power Developer.