

Biggest State to Biggest Saver:
Energy Efficiency Solutions for Alaska

Proposal for
DE-FOA-0000251

Project Narrative

By the Alaska Energy Authority
Via the Alaska Housing Finance Corporation
With the support of
the Energy Efficiency and Conservation Working Group

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A. **Executive Summary:** Alaska's Energy Efficiency and Conservation Working Group (EECWG) has been meeting regularly since January 2010 to discuss how we might collaborate on efforts to improve energy efficiency (EE) in Alaska. The Working Group, initiated and led by the Alaska Energy Authority, consists of more than 20 partners that include state and federal government programs, utilities, state legislative offices, statewide non-profits, university programs, and tribal organizations. It is the intent of this Working Group to collectively promote targeted EE goals by engaging in cooperative program management and problem solving. At the heart of the EECWG effort is a common vision to become the most energy efficient state in the nation. This vision is actively supported by three goals identified in the April 2010 *Alaska Energy Pathway*, the first of which is the focus of this application:

- **A total electricity savings of 15% of 2010 use levels by 2020**
- A total heat savings of 15% of 2010 use levels by 2020
- The promotion of modern, efficient, and sustainable transportation options

Barriers to residential as well as commercial & industrial (C&I) energy efficiency include lack of awareness, affordability, accessibility, and availability (McLean-Conner 2009). The Ten Implementation Goals in the *National Action Plan for Energy Efficiency, Vision for 2025* reinforce the need to address these barriers in order to improve EE. Alaska, which ranked 45th overall in the 2009 American Council for an Energy Efficient Economy (ACEEE) scorecard, faces unusual challenges in regards to energy. Alaska has long, cold winters, far-flung and isolated communities, small islanded grids, heavy reliance on expensive and depleting fuel sources, and a regulatory environment that does not incentivize energy efficiency. In recent years, however, Alaska has begun to place a higher priority on energy efficiency. This change in attitude is due in part to an energy future made bleak by declining production of North Slope crude oil, aging infrastructure, and a desperate lack of economic alternatives for rural communities. Even with greater public will, the barriers cited above must be surmounted to achieve EE improvements.

In spring 2010, the Alaska Legislature passed HB306 which included establishing a state-wide electrical energy efficiency goal of 15% of 2010 consumption, per capita, by 2020. HB306, including this goal, was the result of months of work by a legislatively convened Energy Stakeholders Group, several members of which are also a part of the EECWG. Around the same time HB306 was introduced to the legislature in winter 2010, two documents were released to the public outlining appropriate next steps toward achieving greater energy security in the Southcentral region of the state. These documents, the state-sponsored Railbelt Integrated Resource Plan (RIRP) and non-profit sponsored REEL in Alaska Roadmap (hereafter referred to as the Roadmap), both highlighted the critical role of improved energy efficiency.

This year's legislation, as well as the RIRP and Roadmap, were all influenced heavily by the 2008 Report by Information Insights for the Cold Climate Housing Research Center, "Alaska Energy Efficiency Program and Policy Recommendations." This report has become a well known and frequently cited publication in discussions about how to improve energy efficiency in Alaska. Two years past publication the Alaska Energy Efficiency Program and Policy report is now out of date; the content needs to be revisited. The

report also did not address Alaska's regulatory framework – a necessary piece of assessing how to effectively reach an electric savings goal.

The EECWG was created as a forum to unite energy efficiency efforts in Alaska. In the four months the EECWG has been meeting it has made several significant strides toward their ambitious, shared vision. The Working Group agreed on a logo that will universally represent energy efficiency in Alaska—a central component for future outreach initiatives. The EECWG is in the process of designing a comprehensive, virtual EE center (a website) to better connect Alaskans to the resources that will help them be more energy efficient. And they have begun a conversation unprecedented in Alaska about the formation of a long-term strategic plan for energy efficiency. To create a more credible decision making authority within the EECWG the group is in the process of adopting a more formal governance structure.

Many EECWG members are currently engaged in some sort of EE public education campaign, and collectively we are creating an important outreach vehicle – our website, www.akenergyefficiency.org. Education and outreach is the group's common ground. By continuing to work together to overcome a lack of awareness, the first of four barriers to EE improvements, the EECWG will strengthen these ties and enhance the prospects for more sophisticated collaboration down the road. One third of this project will be focused on expanding current EE education and outreach efforts.

Although the EECWG has already drafted preliminary energy efficiency goals, these goals were made without the knowledge of the real savings potential. To fine tune the 15% by 2020 efficiency goal, as well as more scientifically target audiences for education and outreach efforts, statewide end-use data for both the residential and commercial sectors is required. Place-based planning offers decision makers a new analytical lens. Additionally, this information must be accessible and regularly updated as a way of measuring energy savings to determine success in goal achievement. One third of this project will focus on collecting and analyzing end-use data, and tracking progress towards our EE goals through the www.akenergyinventory.org GIS-based database.

The EE barriers of lack of availability and lack of access both stem in part from a regulatory framework that does not provide any incentives for energy efficiency. Alaska's regulatory/policy framework may need revisions to support efficiency targets. Without a thorough analysis of the status quo, however, it is difficult to recommend appropriate changes. Geo-enabled data and GIS technology can provide the tools to analyze policy options and predict the results. One third of this project will analyze the current regulatory/policy framework as it relates to incentives or barriers to energy efficiency improvements.

Each of the three components of this project is independent of and interconnected to the other two. Education and outreach is already happening; this project will further enhance the current effort, through moving from education and outreach to social mobilization. Results from the end-use study will be incorporated into the community mapping process that will form the core of Alaska's social mobilization campaign, and influence the regulatory/policy analysis. The regulatory/policy analysis might again add a new level of complexity to the implementation of education and outreach campaign(s) by reaching new, more important target audiences or providing materials for distribution.

Making energy efficiency improvements that will help us work toward the goal of becoming the most efficient state in the nation is a complex, multi-year endeavor. The Phase I Action and Phase II Implementation plans described below will involve elements of all three project components operating on parallel tracks. Phase I is expected to take about a year and a half. Phase II projects will begin in the second year and continue through the third. Throughout the duration of both phases of this project EECWG members will continue working on education and outreach efforts that evolve with the inclusion of information generated by Phase I activities and that are augmented by Phase II activities. The EECWG will not pause current efforts. This proposal is to help those efforts become more effective. Information generated by Phase I activities will enhance existing efforts by better informing them. In this way, the EECWG members will continue working toward their shared goal of 15% electric efficiency by 2020 while education and outreach efforts evolve and are augmented by new projects.



Partnering Organizations:

Alaska Building Science Network (ABSN)
Alaska Center for Energy and Power (ACEP)
Alaska Conservation Alliance (ACA)
Alaska Conservation Foundation (ACF)
Alaska Housing Finance Corporation (AHFC)
Alaska Village Electric Cooperative (AVEC)
Bristol Bay Native Association (BBNA)
Cascadia Green Building Council
Chugach Electric Association
Cold Climate Housing Research Center (CCHRC)
Denali Commission
Golden Valley Electric Association (GVEA)

Green Star
Homer Electric Association (HEA)
Matanuska Electric Association (MEA)
Municipal Light & Power (ML&P)
Renewable Energy Alaska Project (REAP)
Rural Alaska Community Action Program
Southwest Alaska Municipal Council (SWAMC)
UAF Bristol Bay College
Yukon River Inter Tribal Watershed Council
State Senator Bill Wielechowski
State Senator Lesil McGuire

B. Goal Development Process: The EECWG has already begun the stakeholder process to coordinate and improve energy efficiency efforts and has established a minimum electrical energy efficiency savings target of 15% by 2020. Much more work is required to reach this goal. The EECWG members realize that working together will maximize financial and human resources engaged in this process. The following are considerations that have already been or will be incorporated into the evolving strategic plan for realizing our energy efficiency goal:

Savings Target – The EECWG intends to actively pursue an electricity efficiency goal modeled after the one made by the Alaska State Legislature and supported by the recommendations made in the RIRP, in the Roadmap, and in AEA’s Alaska Energy Pathway. The primary energy savings will be the results of incentive programs, outreach, and other activities identified by the EECWG, and not significantly impacted by building codes and appliance standards. Therefore, Alaska will be pursuing an energy efficiency improvement of greater than 1 percent per year once gains through building codes and appliance standards are subtracted.

Utility Role – Alaska has a statewide population of just under 700,000 people covering a territory equal in size to one fifth the continental U.S. with over 150 electric utilities – that is one utility for every 5,000 people. Alaska’s energy landscape is unique, not only to the nation but to the world. Having utilities at the table for conversations about how to improve energy efficiency and meet EE goals is absolutely critical. Currently six utilities are represented in the EECWG – five from the Railbelt region and the largest rural utility which serves more than 45 small communities. These entities promote energy efficiency to various degrees. Utility participation will be essential to all three components of this project: to develop or enhance EE education for their customers; to financially support the end-use survey; and to contribute to the conversation about how energy regulations/policies can be improved to better incentivize EE.

Efficiency Investment – Establishing an ambitious energy efficiency goal creates economic opportunities. Energy efficiency improvements require contractors, specialists, certifications, program managers and others who would directly benefit from a new electrical energy savings target. To the extent possible the EECWG will encourage local hire for all project work to ensure economic benefit is distributed within Alaska.

Long-term State Plan – A long-term energy plan from the State has recently been released. This “Energy Pathway” highlights the need for EE as a first step toward energy stability and sustainability in Alaska. The Pathway, combined with recent legislation, the RIRP and the Roadmap together make a strong case for improving EE. Yet there is no EE specific strategic plan. Data from the end-use studies and recommendations from the EE regulatory/policy analysis, combined with the evolving education and outreach efforts, will help to shape the long-term EE strategic plan that has been and will continue to be on the EECWG’s agenda. This project will contribute significantly to creation of that plan.

Reporting – Currently there is no established system for tracking exclusively energy efficiency savings in Alaska. However, geospatial technologies can play a central role as monitoring, evaluation, tracking and planning tools. Typical strategic benefits from geospatial projects include:

- Shared data and services
- Improved accuracy, consistency, timeliness of data
- Better access to data
- Improved services to citizens
- Ability to integrate data among other systems
- Information for improved decision making
- Ability to generate new meaning from the data

In July 2009, the Alaska Energy Authority (AEA), in cooperation with the Alaska Department of Natural Resources GIS Programming Unit, and the Geographic Information Network of Alaska, launched the Alaska Energy Data Inventory (AEDI) – a geospatial web-based interface to Alaska’s energy resource data. Building upon standard data protocols and documentation of geospatial data, the AEDI provides the structure and tools to consolidate, evaluate and report on energy efficiency across Alaska. The AEDI will serve as both housing for the end-use data produced in Phase I as well as a system for tracking savings generated during Phase II Implementation.

Consumer Behavior – Education and outreach is the common thread among EECWG member organizations and all the pieces of this project. The general public, policy makers, government officials, advocacy groups – these are among the audiences to be targeted by the EECWG in the comprehensive, collaborative, better organized, data-informed education and outreach efforts that will make up the Phase II Implementation Plan. Changing consumer behavior is a fundamental objective of these efforts whether by helping people make more informed decisions or by encouraging a market that incentivizes energy efficiency improvements. Phase I projects will produce the data and reports that will inform Phase II projects, ultimately facilitating goal achievement.

Investment/Resources – The ARRA brought a great deal of awareness to the importance of energy efficiency for social and economic sustainability. The Act also provided financial resources for new, creative ways to improve energy efficiency. In Alaska, ARRA EE funds have been distributed into nearly every corner of the state, and the list of organizations either distributing them or benefitting from that money is long. The EECWG formed and continues to work together to achieve common goals due in part to the momentum generated by the ARRA EE funds. The momentum generated by the ARRA is in part responsible for the commitment of EECWG members and their interest in pursuing SEP funds as a means of formalizing and building a comprehensive EE strategic plan. In this way the ARRA EE money has been directly leveraged by the EECWG as a catalyst for partnerships that will facilitate goal achievement.

Vision 2025 Implementation Goals – The ten implementation goals in the National Action Plan for Energy Efficiency’s Vision for 2025 document provide a strong framework for project goal development.

These ten Vision 2025 goals are incorporated into project objectives in this proposal at varying levels and will ultimately facilitate the 15% by 2020 goal achievement:

1. *Establishing cost-effective energy efficiency as a high-priority resource.* Recent legislation and policy recommendations made in the Roadmap and RIRP, and the creation of and growing strength of the EECWG, indicate energy efficiency is beginning to be seen as a high-priority resource in Alaska. It is the intent of the EECWG to draw increasing awareness and local resources to the goal of improving electrical energy efficiency 15% by 2020 through the efforts of projects such as the one in this proposal.
2. *Developing processes to align utility and other program administrator incentives such that efficiency and supply resources are on a level playing field.* The third component of Phase I, the regulatory/policy framework analysis and recommendations for amendments, will address the goal of better incentivizing EE.
3. *Establishing cost-effectiveness tests.* The EECWG expects that an analysis of the five cost-effectiveness tests will be included in both the inventory of education and outreach best practices and more effective regulatory/policy frameworks outside Alaska. This information will help the EECWG determine projects for Phase II during the synthesis of information and data gathered during Phase I and ensure that future energy efficiency efforts are as effective and cost-effective as possible.
4. *Establishing evaluation, measurement, and verification mechanisms.* Part of this project will produce end-use energy data that will serve as a baseline for future measuring of energy savings. Another part of this project will be creating a place to store data in an appropriate and publicly accessible web location. These two components of the project will help Alaska be better informed about electricity consumption, potential for savings, and realized savings.
5. *Establishing effective energy efficiency delivery mechanisms.* Establishing effective delivery mechanisms is a big part of current and future education and outreach efforts. The EECWG hopes to learn more about this from the inventory of best practices outside Alaska. Some standard delivery mechanisms could be used in Phase II education and outreach projects, such as bill stuffers, newsletters and email messages, public service announcements, cooperative campaigns with local media, etc.
6. *Developing state policies to ensure robust energy efficiency practices.* The third piece of Phase I, the regulatory/policy framework analysis and recommendations for amendments, will address the goal of better incentivizing EE.
7. *Aligning customer pricing and incentives to encourage investment in energy efficiency.* The third piece of Phase I, the regulatory/policy framework analysis and recommendations for amendments, will address the goal of better incentivizing EE.
8. *Establishing state of the art billing systems.* The third piece of Phase I, the regulatory/policy framework analysis and recommendations for amendments, will address the goal of better incentivizing EE.
9. *Implementing state of the art efficiency information sharing and delivery systems.* The EECWG is currently in the development stages of a website that will be a comprehensive portal for all

information relating to energy efficiency and conservation in Alaska, www.akenergyefficiency.org. This site will continue to be a work in progress through Phase II. It can be updated and improved with the results generated by Phase I projects, as well as a venue for the collaborative education and outreach projects of Phase II.

10. *Implementing advanced technologies.* The potential to include new technology as a part of an energy efficiency long-term strategic plan will be illuminated by the inventory of education and outreach best practices and the study of more effective regulatory/policy frameworks outside Alaska.

Market Actor Integration – Since the inception of the Alaska Energy Efficiency and Conservation Working Group (EECWG) in January, 2010, stakeholders have been engaged in the goal development process that has led to this proposal. The EECWG currently includes members from state and federal government, educational institutions, utilities, non-profits, and policy makers. Current and future outreach efforts intend to bring a more diverse spectrum of market actors into the Working Group for their involvement in collectively pursuing the 15% by 2020 energy efficiency goal.

C. Phase I Action Plan:

Activities/Benchmarks

Education/Outreach Benchmark: Build capacity for effective, coordinated energy efficiency programs and messaging.

Activities:

- A. Conduct a statewide needs assessment for improving energy efficiency in Alaska.
- B. Conduct an inventory of best practices in energy efficiency education and outreach.
- C. Integrate the Alaska needs assessment with the survey of best practices from outside to develop coordinated energy efficiency strategies and messages based on proven approaches and local needs as recommendations for Phase II Implementation Plan.

Phase II Objective: Deliver coordinated energy efficiency messages to all Alaskans.

End-Use Data Benchmark: Compile commercial and residential end-use data required to set and measure realistic, achievable electricity energy efficiency goals in Alaska.

Activities:

- A. Design comprehensive statewide commercial and residential electricity end-use studies.
- B. Conduct end-use studies and analyze results.
- C. Integrate study results into recommended education and outreach efforts in Phase II Implementation Plan.
- D. Create a tracking system for end-use data that is integrated with the web-based interactive mapping protocols of the Alaska Energy Data Inventory (AEDI) database.

Phase II Objective: Determine potential for energy efficiency improvements and incorporate strategies suggested by the data into evolving education and outreach efforts; measure resulting savings.

Regulatory/Policy Benchmark: Determine amendments to Alaska's regulatory and policy framework to maximize the potential for energy efficiencies.

Activities:

- A. Conduct an in-depth review of the current regulatory and policy framework influencing energy efficiency in Alaska.
- B. Review the regulatory and policy frameworks in other jurisdictions with higher energy efficiency performance.
- C. Recommend amendments to Alaska's regulatory and policy framework based on comparable successes elsewhere to inform Phase II Implementation Plan.

Phase II Objective: Amend Alaska's regulatory and policy framework to facilitate greater energy efficiencies.

Final Phase I Activities: Assess Action Plan success and write Implementation Plan.

- A. Evaluate preliminary electricity savings from first year of the project and determine if on target for 15% by 2020 (1.5% or more a year for 10 years will equal 15% or greater savings by 2020).
- B. Review results from Phase I activities to assess Action Plan success and determine 15% by 2020 goal likelihood of success.
- C. Synthesize recommendations from Phase I activities to produce list of additional activities and required timeline for completion in order to reach expected Phase II benchmarks; write and submit Implementation Plan to Department of Energy.

Project risks will be identified and responded to by the EECWG prior to undertaking any of the listed activities. The Working Group’s diversity and collective experience make it a valuable venue for problem solving and source of solutions. EECWG’s dedication to finding adequate solutions for problems is supported by our common vision to become the most efficient state and the demonstration of commitment from all partners.

Schedule/Deliverables – The goal of the Phase I Action Plan is to collect information and end-use data, and analyze Alaska’s current regulatory framework to determine a better informed, data driven electrical energy efficiency goal and a more effective targeted approach to EE public outreach and education. This goal is inspired by the longer-term goal to improve energy efficiency in Alaska 15% by 2020. There are three significant project milestones: the integration of current efforts and needs in Alaska with best practices for education and outreach projects to inform recommendations for Phase II, the integration of end-use data to more targeted education and outreach efforts, and recommendations for amendments to Alaska’s current energy efficiency policy and regulatory framework governing electrical utilities. The success of project milestones for Phase I will be measured by the degree to which the information gathered in each piece of the project is useful in effectively reaching the 15% by 2020 goal. This success will be largely unknown until the Phase II Implementation Plan is completed.

Please see the attached Gantt chart on page 15 for a visual representation of the project schedule, including milestones, deliverables, and timeline for activities.

Funding and Costing Profile –

| Task | Managing Organization | Total Anticipated Cost | \$ Requested |
|------|--|------------------------|---------------|
| 1 | Alaska Energy Authority | \$50 | \$50 |
| 2a | Chugach Electric Association | \$400-\$600K | \$225K |
| 2b | Alaska Energy Authority | \$75K | \$75K |
| 3 | Cold Climate Housing Research Center | \$50K | \$50K |
| 4 | EECWG | unknown | \$0 |
| | Total Phase I Anticipated Cost: | \$545-\$745K | \$400K |

Project Funding Profile

As the State Energy Office the Alaska Housing Finance Corporation (AHFC) is the project applicant but all funds will be subawarded to the Alaska Energy Authority, overall project manager. AEA will in turn manage the flow of funding to project activities through Memorandums of Agreement with the other two Phase I task managers, Cold Climate Housing Research Center and Chugach Electric.

1. Education/Outreach Benchmark: The two subtasks are expected to cost approximately \$50,000 to conduct. Work will be contracted to a third party via a competitive bidding process. Effective messaging for education and outreach efforts requires a thorough understanding of how best practices can be most effectively incorporated into the local context to achieve the desired results. The Alaska Energy Authority will manage this effort on behalf of the EECWG. Results will be shared with the EECWG, which will combine the two inventories to produce a list of recommended activities for the Phase II Implementation Plan.

2a. End-use data Benchmark: It is impossible to make accurate energy savings goals without first knowing current use levels and achievable savings potential. The comprehensive, statewide end-use data study will cost between \$500,000 and \$700,000. Work will be contracted to a third party specializing in end-use studies. The DOE contribution requested in this application is \$225,000 to put toward the development and execution of the study. Chugach Electric Association will manage this effort on behalf of the EECWG. Results will be shared with the EECWG, which will incorporate the results into recommendations for education and outreach activities in the Phase II Implementation Plan.

2b. The second piece of this component, the creation of a tracking system for measuring energy savings, will cost approximately \$75,000. The Alaska Energy Data Inventory (AEDI) database, a collaborative effort of state and federal offices led by the Alaska Energy Authority, currently tracks alternative energy data on GIS layers. Adding a layer for energy efficiency will provide a public place for the end-use data generated by the Chugach Electric led study as well as regular updates on end-use data from a variety of programs managed by the EECWG members and other stakeholders. Having a place to put the data will allow energy use in Alaska to be tracked over time, thus providing a vehicle for measuring project success and goal achievement. This task will be managed by the Alaska Energy Authority on behalf of the EECWG. Work will be contracted to a credible third party and results shared publicly on the web portal www.akenergyindex.org.

3. Regulatory/Policy Benchmark: Alaska's regulatory framework is antiquated and does not currently incentivize energy efficiency. Alaska's lack of decoupling structure and no system benefit charge are just two examples of regulatory inadequacies. Changing the regulatory and policy framework will first require a review of the status quo by a reputable third party and then recommendations on which to base amendments. The review and analysis of Alaska's regulatory and policy framework as it relates to energy efficiency will cost approximately \$50,000. This work, a continuation of the 2008 Alaska Energy Efficiency Program and Policy report, will be contracted to an established, credible, in-state third party and will be managed by the Cold Climate Housing Research Center on behalf of the EECWG.

4. Phase I Assessment/Implementation Plan Completion: The cost for the assessment of the Phase I Action Plan and creation of Phase II Implementation Plan will be staff time at the Alaska Energy Authority and other EECWG member organizations. The EECWG sees this cost as an in-kind contribution to the project and seeks no Department of Energy funds for it.

| | Task 1 | Task 2 | Task 3 | Task 4 | Cumulative Projected Expenditure |
|--------|--------|--------|--------|--------|----------------------------------|
| Oct-10 | | | | | |
| Nov-10 | | | | | |
| Dec-10 | | | | | |
| Jan-11 | | \$95K | | | \$95,000 |
| Feb-11 | | | | | |
| Mar-11 | \$50 | | \$50K | | \$195,000 |
| Apr-11 | | | | | |
| May-11 | | | | | |
| Jun-11 | | | | | |
| Jul-11 | | | | | |
| Aug-11 | | | | | |
| Sep-11 | | | | | |
| Oct-11 | | | | | |
| Nov-11 | | | | | |
| Dec-11 | | | | | |
| Jan-12 | | \$205K | | | \$400,000 |
| Feb-12 | | | | | |
| Mar-12 | | | | | |
| Apr-12 | | | | | |

Project Costing Profile

Sustainability – The EECWG is committed to pursuing energy savings long-term. This project will help jump start significant savings by providing a framework on which to base future energy efficiency projects. The collaborative nature of the EECWG means that the potential funding for additional projects is as diverse and broad as the membership of the group, especially once a data-informed and well-supported long-term strategic plan has been written. Without such a plan, securing funding can be challenging. Additionally, this project will bind the EECWG members together in a more formal capacity, thus facilitating increased collaboration, more effective use of resources, and providing a multi-party venue that inspires creative solutions to problems like lack of funding.

Upon completion of this project each Working Group organization will continue pursuing energy efficiency improvements with general funds, outside grants, and other, currently unknown funding

sources. Collectively, the EECWG is already engaged in a wide assortment of activities with the same end goal in mind: saving energy, and money, for Alaskans. This project will help to improve and better organize the current efforts with new, needed information. EECWG members will not stop their current efforts for this project, and so will not need to re-start after this project is completed. This project merely provides the opportunity for Alaska to more efficiently and quickly reach our energy efficiency goals.

Risk Management – The EECWG will identify, analyze and respond to perceived risks associated with this project in quarterly meetings and/or more regular electronic correspondence regarding project planning and assessment. Risks and potential solutions will be discussed until a plan of action to mitigate those risks has been established.

Potential risks to project success include:

1. Failure to procure additional money to fulfill funding needs for statewide energy end-use study. The solution for a lack of sufficient funding is to reduce the quality of the study so that the cost would be lowered to available funding. Some data is better than none, though good data is better than mediocre.
2. Inability to reach consensus among EECWG members on a more formal structure of governance and a resulting loss of the group's long-term viability. The solution to this problem will require more creative thinking, and a lot of careful negotiating. The easiest way to avoid this risk will be to keep an open dialogue within the Working Group, listen well, and constantly reassure members that reaching the common vision is worth compromise.

Bibliography and References –

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2. Information Insights. 2008. Alaska Energy Efficiency Program and Policy Recommendations. http://www.akenergyauthority.org/PDF%20files/6-12-2008_AKEnergyEfficiencyProgram&PolicyRecommendations.pdf
3. McLean-Conner, Penni. 2009. *Energy Efficiency Principles and Practices*. Tulsa, Oklahoma: PennWell Corporation.
4. Railbelt Integrated Resource Plan (RIRP). 2010. <http://www.akenergyauthority.org/regionalintegratedresourceplan.html>
5. REEL in Alaska Roadmap. 2010. <http://akvoice.org/policy-positions/reel-in-alaska-roadmap>

Biggest State to Biggest Saver: Energy Efficiency Solutions for Alaska
Phase I Action Plan Schedule/Deliverables

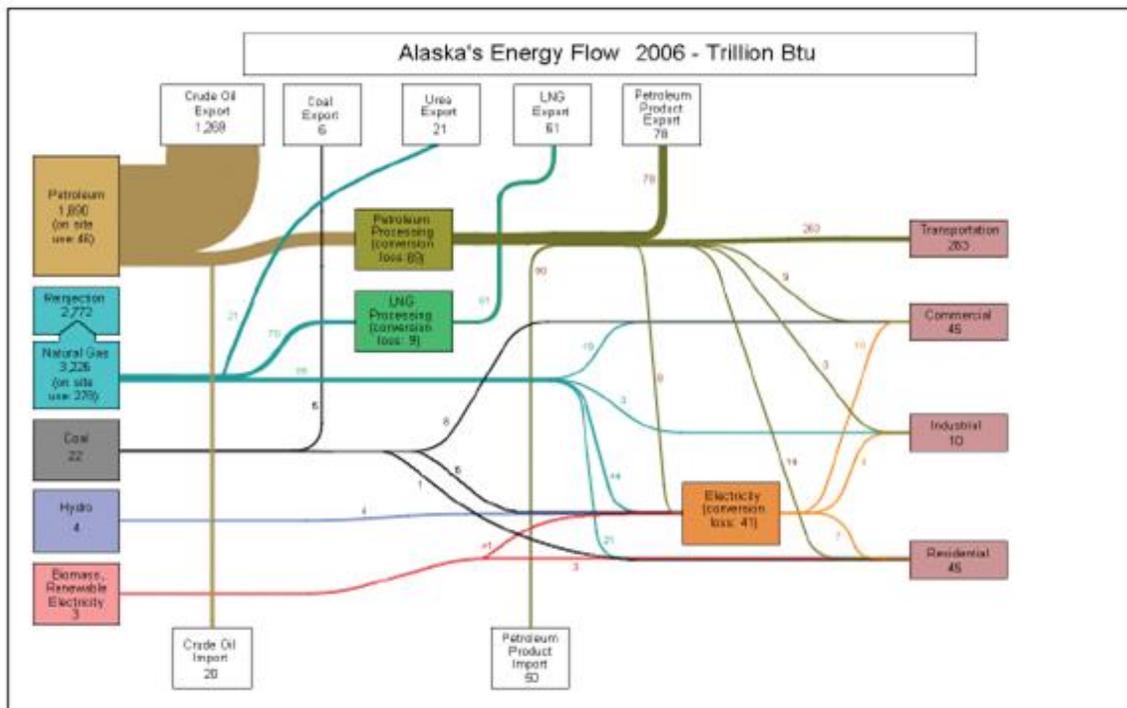
| ID | Tasks | Notes | Start | Finish | Duration | Timeline | | | | | | | | | | | | | | | | | | | |
|----|--|--|-----------|------------|----------|----------|-------|-----|-----|-------|-----|-----|-------|-----|-----|-------|-----|-----|-------|-----|-----|-------|-----|-----|-----|
| | | | | | | Q4 10 | Q1 11 | | | Q2 11 | | | Q3 11 | | | Q4 11 | | | Q1 12 | | | Q2 12 | | | |
| | | | | | | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May |
| 1 | 1.1: Inventory current EE efforts in AK | Cooperative effort led by Alaska Energy Authority | 10/1/2010 | 3/29/2011 | 180d | | | | | | | | | | | | | | | | | | | | |
| 2 | 1.2: Inventory EE education/outreach best practices outside AK | Cooperative effort led by Alaska Energy Authority | 10/1/2010 | 3/29/2011 | 180d | | | | | | | | | | | | | | | | | | | | |
| 3 | 1.3: Integrate AK efforts with outside best practices in recommendations for Phase II Implementation Plan | Energy Efficiency and Conservation Working Group (EECWG) | 3/30/2011 | 5/28/2011 | 60d | | | | | | | | | | | | | | | | | | | | |
| 4 | 2.1: Design statewide energy end-use study | Cooperative effort led by Chugach Electric Association | 10/1/2010 | 1/28/2011 | 120d | | | | | | | | | | | | | | | | | | | | |
| 5 | 2.2: Conduct end-use study; analyze results | Cooperative effort led by Chugach Electric Association | 2/1/2011 | 1/31/2012 | 365d | | | | | | | | | | | | | | | | | | | | |
| 6 | 2.3: Integrate results into recommended education/outreach efforts in Phase II Implementation Plan | EECWG | 2/1/2012 | 3/31/2012 | 60d | | | | | | | | | | | | | | | | | | | | |
| 7 | 2.4: Create tracking system for end use data that's integrated with web-based interactive mapping protocols of the Alaska Energy Data Inventory (AKEI) | Completed on behalf of EECWG by Alaska Energy Authority | 10/1/2010 | 1/28/2011 | 120d | | | | | | | | | | | | | | | | | | | | |
| 8 | 3.1: Review current regulatory/policy framework influencing energy efficiency in Alaska | Cooperative effort led by Cold Climate Housing Research Center | 10/1/2010 | 3/29/2011 | 180d | | | | | | | | | | | | | | | | | | | | |
| 9 | 3.2: Review regulatory/policy framework in other places with higher EE annual savings | Cooperative effort led by Cold Climate Housing Research Center | 10/1/2010 | 3/29/2011 | 180d | | | | | | | | | | | | | | | | | | | | |
| 10 | 3.3: Recommend amendments to regulatory/policy framework to inform Phase II Implementation Plan | EECWG | 3/30/2011 | 5/28/2011 | 60d | | | | | | | | | | | | | | | | | | | | |
| 11 | 4.1: Year One Electricity Savings Status - 1.5% or higher? | EECWG | 10/1/2011 | 10/30/2011 | 30d | | | | | | | | | | | | | | | | | | | | |
| 12 | 4.2: Assess Action Plan accomplishments; submit Phase I Deliverables Summary Report | EECWG | 4/1/2012 | 4/30/2012 | 30d | | | | | | | | | | | | | | | | | | | | |
| 13 | 4.3: Synthesize Phase I recommendations; write and submit Implementation Plan | EECWG | 5/1/2012 | 5/30/2012 | 30d | | | | | | | | | | | | | | | | | | | | |

★ = milestone
 = deliverable

DE-FOA-0000251
June 7, 2010

D. Potential Project Impact: Alaska's total site energy consumption for transportation, electricity and heat is approximately 363 trillion Btus per year. Electricity consumption is approximately 21 trillion Btus per year, or roughly 5.5% of total energy use. A savings of one percent per year of the electricity consumption would result in a savings of approximately 210,000 MMBtu per year. See Alaska Energy Flows diagram below for a more complete picture of all energy flows in the state.

The impact on the state and its residents of a one percent improvement per year is massive, especially in remote rural regions where energy prices are extremely high at upwards of \$8 per gallon of heating fuel and often over \$0.75 per kWh of electricity. When the goal of 15% savings in ten years has been achieved, the financial impacts to Alaskans and Alaska communities will be significant, and the impact will continue to reverberate in personal, local and state economic conditions.



E. Partnership Structure and Capabilities:

The collective wealth of ability, expertise, and credibility within the EECWG provides a strong foundation for any collaborative undertaking. This proposal is submitted by the Alaska Energy Authority via the Alaska Housing Finance Corporation with the support of 21 additional EECWG members. In Phase I of the project three EECWG organizations will have primary roles in managing tasks with the full support of the entire Working Group. During Phase II more EECWG organizations will be actively involved in task management, again with the full support and on behalf of the larger body.

Over the course of this project's timeline we anticipate other stakeholder organizations, from the Working Group and beyond, to join our collaborative effort. We will be actively seeking a broader network of entities engaged in this project, particularly from regions of the state not represented by any of the current partners.

Currently the Regulatory Commission of Alaska (RCA) is not a member of the EECWG. Part of the process of Phase I Action Plan is to determine how the RCA might fit into the Working Group. The RCA has been identified as a weak body within the context of energy efficiency and part of this project is to determine how the regulatory environment might be improved. For this reason it would be beneficial to bring the RCA into the Working Group and into this project as a partner. Having the RCA at the table during discussions of how to effect positive change in regards to energy efficiency would help all partners, including the RCA, have a better understanding of what is currently possible, how the impossible can become possible, and the great importance of realizing energy savings. The EECWG will be actively seeking the RCA's involvement immediately, whether or not this proposal is accepted.

Project partners will work together through the established forum of the EECWG to reach project goals. This will entail continuing and improving current outreach efforts and changing the regulatory and policy frameworks to better incentivize energy efficiency. The following is a list and brief description of the EECWG members partnering for this project:

From the University:

1. The Bristol Bay Campus of the University of Alaska is developing a sustainable energy program, which has a strong energy efficiency component. Classes offered include topics such as weatherization, building science, lighting and appliances, basic physics related to electricity and heat. Some classes are distance-delivered via internet and phone and are available statewide. Besides education, the sustainable energy program includes outreach activities. For example, the Bristol Bay Campus was awarded a Rural Business Enterprise Grant (RBEG) of \$88,000 from USDA to be used to improve energy efficiency of small business buildings in the Bristol Bay region in 2010. Also, the Bristol Bay Campus was awarded funding from the Department of Education to build a small super energy efficient building to serve as an educational model. The building is to be built in Dillingham in 2010 and is to be largely based on the Passive House standard.

2. **Alaska Center for Energy and Power (ACEP)** based at the University of Alaska is dedicated to applied energy research and testing focused on lowering the cost of energy throughout Alaska and developing economic opportunities for the State, its residents, and its industries.

ACEP works across campuses and pulls from the University's extensive resources and expertise, making it interdisciplinary, needs-driven, and agile. In addition to a focus on research, ACEP also seeks to increase educational opportunities in energy for all Alaskans by offering seminars and courses on a range of energy related topics, facilitating rural training opportunities, and offering graduate and undergraduate research fellowships.

From State Government:

3. **The Alaska Energy Authority (AEA)** provides both supply-side and demand-side energy efficiency and conservation programs statewide. Existing programs include the Village Energy Efficiency Program (VEEP, previously VEUEM), conducting audits and efficiency improvements in over 50 villages; a pilot project to test building energy monitors; a rural power systems upgrade program, which installs waste heat capture units on rural diesel powerhouses to heat nearby public buildings; a tool loan kit of energy efficiency measuring equipment and other tools; and most recently, establishing a grant program to distribute \$5.1M to Alaska cities as part of the ARRA Energy Efficiency and Conservation Block Grants.

AEA, with AHFC, co-funded the writing of the Alaska Energy Efficiency and Conservation Policy and Program Recommendations report in 2008 that is widely used as a roadmap for efficiency efforts. AEA has organized the Regional Railbelt Integrated Resource Plan, which covers energy efficiency for the Railbelt region of Alaska. And to be unveiled soon by the Governor, The Alaska Energy Plan, which includes energy efficiency plans for Alaska outside the Railbelt. AEA is in the starting stages of developing a commercial energy audit program, conducting a baseline assessment of energy end-uses in Alaska, and initiating planning for industrial energy efficiency, among other programs.

4. **Alaska Housing Finance Corporation (AHFC):** AHFC has 27 programs, loans, or initiatives related to energy efficiency in Alaska. The primary ones, Weatherization, Supplemental Housing, Home Energy Rebate and the Building Energy Efficiency Standard are well established. The commercial and municipal building retrofit, energy efficiency education, loans, and information resources are expanding or in development. The AKWarm software and the Alaska Retrofit Information System work hand-in-hand to document the efficiency of buildings in Alaska, and provide analysis and research potential on arctic building energy use. AHFC currently administers over \$425 million in energy efficiency and conservation programs and initiatives. Since April, 2008 over 40,000 Alaskans have been directly involved in some aspect of AHFC energy efficiency programs.

5. **Alaska State Senator Lesil McGuire (R):** As one of the co-chairs of Senate Resources, Sen. McGuire played a strong role in the development and ultimate passage of Senate Bill 220, an omnibus energy efficiency bill currently awaiting the Governor's signature. SB220 was the product of efforts by the Alaska Senate Energy Policy Group, a joining of members of the Senate Resources and Senate Energy

committees intended to study options, take public feedback on, and eventually write legislation to reduce the consumption of non-renewable resources.

6. Alaska State Senator Bill Wielechowski (D): The other co-chair of Senate Resources and also chair of Senate Energy, Sen. Wielechowski played an equally strong role in the development and passage of SB 220. Both Senators McGuire and Wielechowski have proven themselves committed to ensuring Alaska's energy future is bright.

From Federal Government:

7. The Denali Commission: Introduced by Congress in 1998, the Denali Commission is an independent federal agency designed to provide critical utilities, infrastructure, and economic support throughout Alaska. Recognizing the critical role energy plays in the quality of life and economic development of Alaska's communities, the Denali Commission has made energy its primary infrastructure theme since 1999.

The Energy Program primarily funds design and construction of replacement bulk fuel storage facilities, upgrades to community power generation and distribution systems, alternative-renewable energy projects, and some energy cost reduction projects. The Commission works with the Alaska Energy Authority (AEA) and other partners to meet rural communities' fuel storage and power generation needs.

From the Alaskan non-profit sector:

8. The Alaska Conservation Alliance (ACA) is the statewide umbrella group for approximately 40 member organizations with a combined membership of over 38,000 Alaskans: one strong voice advancing conservation in Alaska. The Alliance believes that a healthy environment and a strong economy go hand in hand. As part of our mission, the Alliance works to support energy efficiency policies and programs that move the state towards a more energy efficient, economically viable future.

For the 2010 session, the Alliance identified energy efficiency as one of its priority issues, specifically SB 121 that would set energy efficiency goals for public buildings. The Alliance is also worked with a group of diverse stakeholders around the Railbelt region to develop the Railbelt Energy Efficiency Landscape (REEL) in Alaska Roadmap. The project, with consultation from Natural Capitalism Solutions, seeks to suggest ways in which the Railbelt could reach up to 50% energy efficiency gains by 2025. The Roadmap is meant continue to foster stakeholder collaboration and input to implement the recommendations of this and other energy efficiency reports for the Railbelt.

9. Alaska Conservation Foundation (ACF), founded in 1980, is the only public foundation dedicated to conservation in Alaska, connecting thousands of committed donors and businesses worldwide with more than a hundred grassroots conservation organizations in Alaska. ACF serves as funder and supportive resource for a diverse community of nonprofits working to protect and wisely manage Alaska's natural resources. Over the last 30 years, ACF has awarded more than \$29 million in grants to over 200 Alaskan organizations and individuals. In fiscal year 2010, ACF will issue over \$3 million in

grants — the largest year of grantmaking ever, surpassing last year's record of \$2.3 million. Through strategic funding, ACF supports Alaska's most critical issues, fosters problem solving and innovation, and protects Alaska's incredible yet vulnerable ecosystems, communities and economies. As a part of their strategic funding and commitment to a sustainable Alaska, ACF funded the recent "REEL in Alaska Roadmap."

10. **The Alaska Building Science Network (ABSN)** is a member supported association of individuals, businesses, and organizations dedicated to promoting energy efficiency as an essential component of durable, safe and affordable housing in Alaska.

ABSN publishes a quarterly newsletter and provides technical training workshops throughout Alaska. Many ABSN courses earn continuing education credits through the Alaska State Homebuilders Association and other certification agencies. ABSN can also put together teams of experts that can perform energy audits, make energy efficiency recommendations, and train construction crews, building owners, maintenance workers and occupants.

11. The **Cold Climate Housing Research Center (CCHRC)**, founded primarily by home builders in 1999, supports the development of healthy, durable, affordable, and sustainable shelter for the people of the North through applied research, public outreach and education. Ongoing efforts include partnering with the Alaska Housing Finance Corporation on a number of projects: a major rewrite of the AkWARM™ software; improving access to the Home Energy Rebate Program in Fairbanks; advancing AkWARM and the Alaska-specific Building Energy Efficiency Standard (BEES) to include small commercial buildings; and several other programs. With AHFC and private support, CCHRC has implemented the Sustainable Northern Shelter program and last summer built an energy efficient, affordable prototype home in Anaktuvuk Pass, more than 100 miles north of Fairbanks. CCHRC is currently working with five other villages on structures for their communities. The majority of the organization's contact with the home building and/or home owning public is about increasing the energy efficiency of residences, and the organization serve these audiences through direct one-on-one consultations, classes and workshops, and several lines of publications (from how-to DVDs to brief explanations of building science).

12. **Green Star®** is a non-profit organization, based in Anchorage, Alaska, that encourages businesses to practice waste reduction, energy conservation and pollution prevention through education, technical assistance, and an award-winning voluntary "green business" certification program.

The cornerstone of the GreenStar program is the business certification program, called the "GreenStar award." The award is given to businesses that meet ten GreenStar standards, including reductions in energy and water consumption, community outreach, and future green goals.

Over 150 different Alaskan businesses, organizations, and entities have gained Green Star certified award status.

13. **Renewable Energy Alaska Project (REAP)** is a coalition of 70 large and small Alaska electric utilities, businesses, conservation and consumer groups, Alaska Native organizations, and municipal, state and federal entities that share the goal of increasing the production of renewable energy in Alaska to bring the benefits of clean, local and predictably priced energy to the citizens of Alaska.

REAP believes energy efficiency is the cheapest and quickest way to save money, reduce greenhouse gas emissions, and work towards domestic energy security. It educates the public and policy makers on the benefits of renewable energy and energy efficiency through written materials such as the *Renewable Energy Atlas of Alaska*, free monthly energy forums, the annual *Business of Clean Energy in Alaska* conference and *Alaska Renewable Energy Fair*, and other events. Over the last several years its advocacy has been instrumental in the creation of the Renewable Energy Grant Fund for which so far \$175 million has been appropriated, the creation of the Emerging Energy Technology Fund, over \$360 million in state appropriations for weatherization and rebate programs and a state energy policy which sets a goal for Alaska of 50% renewable electricity by 2025 and a 15% reduction in electricity usage by 2015.

14. **Rural Alaska Community Action Program Inc.'s (RurAL CAP's)** is a private, statewide, nonprofit organization working to improve the quality of life for low-income Alaskans since 1965. RurAL CAP provides resources and services to enhance child and family development, improve housing, save energy, develop leadership, promote environmental conservation, prevent substance abuse, and foster independent living. RurAL CAP's energy programs consist of: Weatherization Services, the VISTA Energy Program, RAVEN, the AmeriCorps Program, the Energy Wise Program, and Rural Energy Enterprises.

15. **Southwest Alaska Municipal Conference (SWAMC)** is a non-profit regional economic development organization for Southwest Alaska. SWAMC serves three subregions of Southwest Alaska: the Aleutian/Pribilofs, Bristol Bay, and Kodiak. SWAMC was formed out of the common interests of the region encompassing the Aleutians East Borough, the Aleutians West Census Area, the Bristol Bay Borough, the Dillingham Census Area, Kodiak Island Borough, and the Lake & Peninsula Borough. In 1988, municipal leaders from the region forged a partnership to advocate for the needs of rural communities and the responsible development of the region's core economic sector - commercial seafood harvesting and processing.

The SWAMC Energy Project started in December 2005 and was developed as a means to document energy costs, increase energy conservation and efficiency efforts, and facilitate alternative energy development within the SWAMC region. The goal of the Energy Project is to assist southwestern Alaskan communities in lowering energy costs by focusing on energy conservation, investment in renewable energy and cooperative purchasing agreements.

16. **Yukon River Inter-Tribal Watershed Council (YRITWC)** is an Indigenous grassroots organization, consisting of 70 First Nations and Tribes, dedicated to the protection and preservation of the Yukon River Watershed.

YRITWC's vision is, put simply, "to be able to drink water directly from the Yukon River." Though they work on much more than just energy, the YRITWC has a department dedicated to renewable energy and energy efficiency.

In 2009, Watershed Council helped provide Renewable Energy and Energy Efficiency technology training to 20 students, and plans to continue doing so. The YRITWC also has a number of other renewable energy projects, every year installing at least one alternative energy project on the watershed.

Tribal Organizations:

17. **Bristol Bay Native Association. Inc.** is a Tribal Consortium, made up of 31 Tribes and is organized as a non-profit corporation to provide a variety of educational, social, economic and related services to the Native people of Bristol Bay region of Alaska.

The Bristol Bay Partners – made up of the Bristol Bay Area Health Corporation, Bristol Bay Economic Development Corporation, Bristol Bay Housing Authority, Bristol Bay Native Association, and the Bristol Bay Native Corporation – met on January 18, 2008, and decided on a process to address the high cost of energy in Bristol Bay.

BBNA seeks to address "*public enemy #1*"- expensive energy- through a combination of alternative energy and energy efficiency.

Utilities:

18. **Alaska Village Electric Cooperative (AVEC)** is a non-profit electric utility, whose enormous service area is the world's largest for a retail cooperative. AVEC serves 53 villages stretching from Kivalina to Kodiak Island, and purchases five million gallons of fuel annually.

Faced constantly with high energy costs, AVEC is dedicated to efficiency and conservation. AVEC encourages members to be efficient about personal electricity use, and the organization itself is in the process of increasing the operating efficiency of their power plant facilities and distribution lines.

19. **Anchorage Municipal Light and Power (ML&P)** is an electric utility that services an area of 19.9 contiguous miles, including a large portion of the commercial and high-density residential areas of the Municipality. ML&P also provides all-requirements power to two military bases. Approximately 81 percent of ML&P's retail revenue comes from commercial accounts and military bases.

ML&P generates, transmits and distributes electric power and has a one-third working interest in the Beluga River Gas Field. ML&P operates seven gas-fired turbines and one heat-recovery turbine. Five of the turbines are equipped to use No. 2 fuel oil as alternate fuel. ML&P also owns 53.33 percent of the Eklutna Hydroelectric Power Plant.

20. **Chugach Electric Association** is a member-owned utility that serves more than 69,000 metered retail locations in a service territory extending from Anchorage to the northern Kenai Peninsula.

Chugach's energy efficiency initiative is called Smart Power. It encompasses all activities that promote energy efficiency and energy conservation. The concept was adopted in 2008 and the first component, the CFL buy-down program, ran throughout 2009. More than 100,000 CFLs were sold. In addition, Smart Power includes a Web site (www.smartpowerak.com); an energy monitor research project ("Watt Buster") funded in part by a grant from AEA; development of an online self-audit tool; LED holiday lights trade-out; public messaging ("Power Down") to encourage energy conservation in winter; and education and outreach. Chugach has applied to be an Energy Star partner.

21. The **Golden Valley Electric Association** (GVEA) board of directors established an official "Energy Conservation" policy in 1987. GVEA's demand-side management programs, the EnergySense programs – HomeSense, BuilderSense and BusinessSense – were established in the early 1990s and serve residential and commercial coop members (www.gvea.com/energyprograms/energysense/). Since the program's inception, GVEA has spent over \$3 million on direct program expenditures and served over 7,000 residential and commercial members within its service area. Resources for these programs come directly from GVEA's general treasury and support to energy audit contracting services and rebates for installing energy efficiency devices in homes and businesses. GVEA collaborates with the regional weatherization provider, Interior Weatherization, to provide GVEA's energy audit program to qualified low-income recipients at no cost. GVEA is a resource for end-use energy information to its service area members, provides workshops and public awareness presentations. In 2009, GVEA worked with EPRI to assess and make additional recommendation to its Energy Programs.

In 2005, GVEA initiated the state's first renewable energy program, SNAP (Sustainable Natural Alternative Program, www.gvea.com/energyprograms/snap/). GVEA has multiple renewable energy studies and on-going renewable energy projects, including several funded by the Alaska Energy Authority. Integrating energy efficiency practices with renewable energy, GVEA completed building the state's largest solar water heating system at Denali Education Center to help offset DEC's seasonal peak energy use and high operating cost – an energy use situation that is indicative for much of the state's hospitality industry.

22. **Homer Electric Association** (HEA) is a member-owned utility that serves more than 28,000 metered retail locations in a service territory covering 3,166 square-miles on the western Kenai Peninsula, from Sterling to Kachemak Bay near Homer. The electric cooperative provides service to a variety of members, including large industrial sites such as the Tesoro refinery, the ConocoPhillips Liquid Natural Gas facility, and the Swanson River Gas Field.

HEA's energy efficiency program is called Wise Watts. The program was launched in the fall of 2009 with the hosting of two Energy and Conservation Fairs. The fairs (one in Homer and one in Kenai) brought together vendors and energy experts who were able to demonstrate the most advanced technology in energy saving appliances, construction materials, and alternative energy generation. The fairs also featured a workshop from Alaska Housing Finance Corporation on how to obtain state weatherization grants and a second workshop conducted by an energy auditor on steps to take to weatherize your home.

23. **Matanuska Electric Association (MEA)** is Alaska's oldest and second largest electric cooperative. The member-owned utility serves over 55,000 customers and is committed to providing high-quality, competitive energy related services that benefit their members. MEA is currently in the process of applying to be an Energy Star partner – a significant display of the utility's dedication to energy efficiency.

Roles of Participants/Demonstration of Commitment – It is the intention of the EECWG to formalize relationships and create a system of governance within the group with a Memorandum of Understanding (MOU) between all partners. This MOU will be forthcoming. For the purpose of this proposal the partnering EECWG members have submitted Letters of Support to demonstrate commitment to the project and to collaboratively working toward Alaska's energy efficiency 15% by 2020 goal.

During Phase I of this project only the Alaska Energy Authority (AEA), Cold Climate Housing Research Center, and Chugach Electric will be actively engaged in task management. These three members will lead the three components of Phase I with the guidance of the EECWG. The Alaska Energy Authority will be the sole principal investigator for the project and as such will organize the combined activities of Phase I.

The EECWG will meet at least quarterly to discuss, among other things, potential risks and their solutions, project performance, planning, and any milestones reached during the previous quarter. Electronic communications will be more regular with updates on activities, requests for feedback from the PI, notices of reports between AEA and DOE, etc.

F. Statement of Project Objectives:

TITLE: Biggest State to Biggest Saver: Energy Efficiency Solutions for Alaska

A. OBJECTIVES

The overall project objectives:

- Devise a coordinated, statewide system to promote energy efficiency improvements
- Overcoming barriers due to lack of awareness, availability, accessibility, and affordability
- Improve Alaska's electricity energy efficiency by 15% by 2020

Phase I objectives:

1. Build capacity for effective, coordinated energy efficiency strategies and messaging.
2. Compile commercial and residential end-use data required to set and measure realistic, achievable electricity energy efficiency goals in Alaska.
3. Determine amendments to Alaska's electrical regulatory and policy framework to maximize the potential for energy efficiencies.

Phase II objectives:

4. Deliver effective, coordinated energy efficiency strategies and messages to all Alaskans.
5. Incorporate goals and strategies derived from end-use data into evolving education and outreach efforts.
6. Amend Alaska's regulatory and policy framework to facilitate and incentivize greater energy efficiencies.

B. SCOPE OF WORK

This project builds on a collaborative approach already begun by the approximately 20 stakeholder-members of the Energy Efficiency and Conservation Work Group (EECWG). The EECWG has adopted an energy efficiency vision for Alaska and its members are committed to a collaborative process to reach its goals. The EECWG collaboration will be an effective vehicle for improving energy efficiency by promoting organized and efficient use of human and financial resources. For Alaska to become the most energy efficient state is a formidable challenge but, the momentum already generated by the EECWG is a good start.

The Alaska Energy Authority will be the overall project manager. However, Phase I objectives of this project will be undertaken on behalf of, and with the support and guidance of the Working Group. The three member organizations charged with managing the three main components will consult and confer

with the other members. The working group will adopt a more formal system of governance to create a decision making authority within the organization. That authority is made credible by the collective weight of the EECWG members. The Alaska Energy Authority, however, remains solely responsible for the obligations of the award.

The Alaska Energy Authority will manage the education and outreach component. Chugach Electric Association will manage the end-use data studies. The Alaska Energy Authority will manage data storage and measurement. The Cold Climate Housing Research Center will manage the regulatory/policy analysis. Whenever possible the actual work will be done by EECWG member organizations. In-kind contributions will be solicited when appropriate. Some of the work will likely be contracted to qualified non-member parties such as the Institute for Social and Economic Research at the University of Alaska or Information Insights of Anchorage and Fairbanks. The total cost for Phase I will exceed the maximum amount of this award by between approximately \$170,000 and \$370,000. Additional contributions will be made by EECWG member organizations to help complete the projects and activities. Additional outside grants will be sought, if necessary.

Data and research generated by Phase I activities will be used to inform Phase II education and outreach activities with strategies and messages coordinated among EECWG members. These strategies and messages will be developed for specific target audiences and delivered by various EECWG member organizations. Phase II funding will be shared by EECWG members to implement these coordinated strategies. The final Phase I activity will be development of a Phase II Implementation Plan in which more detail about the second half of the project will be given. One example of a Phase II outreach activity will be conveying needed regulatory and policy changes established by Phase I activities to policy makers and other state leaders.

C. TASKS TO BE PERFORMED

PHASE I Action Plan

Task 1.0 – Build capacity for effective, coordinated energy efficiency strategies and messaging. Current energy efficiency efforts in Alaska are fragmented. In order to achieve any energy savings goal, efforts must become better planned, coordinated and delivered around addressing identified and agreed upon needs and goals. Assessment of Alaska’s energy efficiency program needs along with gathering information about national best practices will enable us to identify changes or additions needed in the portfolio to achieve our goals. More importantly, it will provide the foundation for a more organized, coordinated effort to improve energy efficiency in Alaska. This effort will facilitate development of a collectively agreed upon and integrated action plan designed to most effectively address Alaska’s needs and readiness for change through application of proven strategies.

Subtask 1.1 – Conduct a statewide needs assessment for improving energy efficiency in Alaska. The needs assessment will identify the gap between current and desired energy efficiency outcomes through: 1) identifying existing programs and their effectiveness; 2) identifying areas of overlapping activity vs. areas of deficient activity; 3) consideration of community readiness

for change to better identify what types of activities will be most effective; and 4) definition of what efforts are needed to achieve our goals. The EECWG has already begun to define current and planned energy efficiency programs, but there remains more work to be done, especially in regards to identifying the effectiveness of cumulative efforts. This task will be managed by the Alaska Energy Authority.

Subtask 1.2 – Conduct an inventory of best practices in energy efficiency education and outreach. Alaska currently ranks near the bottom on the ACEEE scorecard. However, this low ranking allows Alaska to learn from the successes and failures of others, and to adapt strategies successful in other jurisdictions to Alaska. This task will be managed by the Alaska Energy Authority.

Subtask 1.3 - Integrate the needs assessment with the survey of best practices to determine what activities are applicable to Alaska and hold the greatest promise. The combined portfolio of strategies and messages will be used in Phase II Implementation Plan. This task will be undertaken by the EECWG.

Task 2.0 – Compile commercial and residential end-use data required to establish and measure realistic, achievable electricity energy efficiency goals in Alaska. An energy efficient goal is a blind guess without information about how energy is being used now. End-use surveys provide detailed pictures of how consumers are using energy. End-use surveys also provide important insights into the types of strategies and messages likely to generate the best results. For example, if the end-use survey reveals that 80 percent of residential consumers are already using CFLs, little would be gained by focusing on that issue.

Realistic goals for improvement depend on having a reliable starting point, but Alaska has no data to support an accurate starting point. The legislative goal of 15% by 2020 is only an estimate of what may be possible. End-use surveys of commercial and residential consumers will permit Alaska to develop realistic and achievable goals and inform the strategies for achieving those goals.

There is already a great deal of interest in collecting end-use data along the Railbelt. Chugach Electric Association has begun discussions with Alaska Housing Finance Corporation, the Alaska Energy Authority, and other regional utilities about conducting end-use studies. In order to make this a statewide endeavor, however, additional funding is required, and statewide data is critical for informing statewide policy changes and outreach efforts.

In addition to conducting the end-use study this proposal includes the creation of a data storage and tracking system to measure energy savings. The Alaska Energy Data Inventory (AEDI) database, a collaborative effort of state and federal offices led by the Alaska Energy Authority, currently tracks alternative energy data on GIS layers. Adding a layer for energy efficiency will provide a public place for the end-use data generated by the Chugach Electric led study as well as regular updates on end-use from a variety of programs managed by the EECWG members. For instance, currently AEA is managing the ARRA's small cities Energy Efficiency and Conservation Block Grant program. Written into the

contract with each grantee is a mandate to measure and report energy used and saved. This information could go onto an energy efficiency layer of the AEDI.

Subtask 2.1 – Design comprehensive statewide commercial and residential electricity end-use studies. This task will be managed by Chugach Electric Association.

Subtask 2.2 – Conduct end-use studies and analyze results. This task will be managed by Chugach Electric Association.

Subtask 2.3 - Integrate study results into education and outreach efforts included in Phase II Implementation Plan. This task will be undertaken by the EECWG.

Subtask 2.4 – Create tracking system for end-use data that is integrated with the web based interactive mapping protocols of the Alaska Energy Inventory database.

Task 3.0 – Determine amendments to Alaska’s regulatory and policy framework to maximize the potential for energy efficiencies. Assuming the Governor approves it, Alaska’s energy efficiency portfolio is about to expand immensely. The 2008 Alaska Energy Efficiency Program and Policy report outlined some policy issues, but given the altered energy landscape, an updated analysis is needed. In addition, the 2008 report did not address Alaska’s regulatory framework. Maximum energy efficiency success may require changes to how utilities are currently regulated.

Subtask 3.1 – Conduct an in-depth review of the current regulatory and policy framework influencing energy efficiency in Alaska.

Subtask 3.2 – Review the regulatory and policy frameworks in other jurisdictions with higher energy efficiency performance.

Subtask 3.3 – Recommend amendments to Alaska’s regulatory and policy framework based on comparable successes elsewhere to inform Phase II Implementation Plan.

Task 4.0 Assess Action Plan Success and Write Implementation Plan

Subtask 4.1 – Evaluate Alaska’s success during the first year of the project to cut electricity by a minimum of 1.5% of 2010 consumption. This progress report will be a show of good faith. The projects included in this proposal will likely not have an immediate energy savings return. Other projects being undertaken and planned by the members of the EECWG, however, could show signs that Alaska is on track to save 15% by 2020 within one year. The methods for measuring savings will not be fully established after the first year of this project as the baseline end-use data will still be in collection. Results for this preliminary evaluation will likely be a crude estimate but it will be better than nothing at all and will be a milestone on which to compare other, future measurements.

Subtask 4.2 – Review results from Tasks 1-3 to assess Action Plan success and determine likelihood of success of the 15% by 2020 goal; complete Phase I Deliverables Summary Report.

Subtask 4.3 – Synthesize recommendations from Tasks 1-3 to produce list of activities and required timeline for completion in order to reach expected Phase II benchmarks; write and submit Implementation Plan to Department of Energy.

PHASE II Implementation Plan (anticipated)

Task 5.0 – Deliver coordinated energy efficiency messages to all Alaskans.

Task 6.0 – Incorporate the energy efficiency goals and appropriate strategic targets gleaned from the end-use surveys into evolving education and outreach efforts.

Task 7.0 – Amend Alaska’s regulatory and policy framework to facilitate and incentivize greater energy efficiencies.

D. DELIVERABLES

The periodic and final reports shall be submitted in accordance with requirements given on the “Federal Assistance Reporting Checklist” and accompanying instructions attached to DE-FOA-EE0000251. The project team will complete quarterly and final Progress Reports, quarterly and final Financial Reports, final Property Certification Reports, annual Indirect Cost Proposal Reports, a Phase I Deliverables Summary Report, and a Phase II Implementation Plan.