10/19/09

DRAFT

State Energy Policy and Program Recommendations

This document was created by the chairs of the Alaska State Senate Resources and Energy Committees, Senator Bill Wielechowski and Senator Lesil McGuire.

October 19, 2009

Dear Alaskans,

When oil hit $147 a barrel, the state's coffers overflowed, but Alaskans felt the pain of the highest gasoline and heating oil costs in the nation. With all our tremendous resources, we're facing natural gas shortages in Southcentral, businesses are closing their doors because of the price of energy, and some rural Alaskans are leaving their communities because they can't afford to heat their homes and keep their lights on. Members of the Senate Resources and Energy Committees have heard the urgent calls of Alaskans for help, and we've been working this past summer to find long-term solutions to many of the energy issues that have plagued Alaska for years.

In May, we traveled to Ruby, where we saw an experimental turbine in the Yukon River that works like a fish wheel and generates electricity. In Tanana, we saw people gathering hundreds of cords of drift wood from the Yukon to burn in an ultra-clean and efficient boiler to heat water and public buildings. At Chena Hot Springs, we were inspired by owner Bernie Karl, who generates electricity from geothermal wells in a project experts said could never be built. And on Kodiak Island we saw fish waste turned into biodiesel and a village that has cut its fuel use in half by ensuring that its power generation systems are efficient.

Alaskans are innovative people. As we look for way to address our energy challenges, we'd like your input. What's the best way to solve our gas shortage in Cook Inlet? How can we lower energy costs in rural Alaska and the interior? How can we take better advantage of hydro and tidal resources in Southeast?

This draft report is a compilation of the ideas and recommendations we've heard to date. As we consider these ideas, we want to hear your views about the recommendations presented here and those we've missed. To make this easier, we've set up a web site at www.energy.aksenate.org to let you know about our progress and to take your comments. What is your vision for Alaska's energy future? And how can we get there? Working together we can ensure all Alaskans have affordable and reliable energy now and in the future.

Bill Wielechowski

Senator Bill Wielechowski
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Introduction

Alaska is blessed with abundant energy resources, including oil, natural gas, and coal. We also have considerable, largely untapped renewable energy resources -- from ocean, wind and solar energy to geothermal, hydro and biomass. Yet, despite this wealth in resources, we are a vast, largely undeveloped state with a relatively small population. Unlike most of the Lower 48, many of our communities are not connected by roads or electrical grids. Most communities generate their own power and fuel is transported to them at great expense. Lack of infrastructure and high cost impede Alaska's development, even as we enjoy vast energy reserves.

Alaska faces many challenges. We rank 1st among the 50 states in terms of our energy consumption per capita and the prices we pay for energy are among the highest in the nation. In July 2009, the mean price for gasoline in 99 Alaska communities surveyed was $5.37 per gallon, with some communities paying up to $10/gallon. Alaskans pay 50% more for electricity than the U.S. average. And heating fuel costs are more than double the national average. To make matters worse, these costs are growing. In 2000, low-income households in remote, rural communities spent 16% of their income on energy. By 2008, this had grown to 47%.

Ensuring that energy is supplied in a reliable fashion is also a challenge. If freeze-up comes early and barge travel is blocked, fuel may not be delivered to a village on the brink of running out. If the generators in a remote community fail, power can be out for days. Even Alaska's largest city faces the prospect of natural gas shortages this winter, which could result in rolling black-outs and the need to cut back on home heating.

Meeting these challenges will be expensive. Building a small diameter in-state gasline or "bullet line" to deliver North Slope natural gas to the Interior and Southcentral could cost in excess of $4 billion. Constructing the proposed Susitna hydroelectric plant could cost $16 billion or more. And ensuring that communities have adequate bulk fuel storage and efficient generators could cost hundreds of millions of dollars.

The purpose of this document is to lay out some ideas for how Alaska can move forward towards greater energy independence and more affordable, reliable energy supplies over the long-term. Progress in this arena is necessary for the survival of Alaska's remote villages and unique cultures, for the health of Alaska's larger, more urban communities, and for the economic well-being of the state as a whole. Alaskan businesses require affordable energy just as its families do. A robust economy with plentiful, well-paying jobs depends on reasonably priced power. Quality of life in the 21st century depends on being able to stay warm, get to one's job, and use modern appliances and technologies to their fullest extent.

The draft recommendations in this report come from many sources – from testimony given at legislative hearings around the state, from conversations with energy experts and average Alaskans, and from taking note of the energy innovations and achievements of Alaskans. In addition, we've reviewed the energy policies and programs of others states and countries and considered which would make sense in Alaska.

The ideas presented here are just that – ideas. This document is an initial compilation of what we've heard and learned from Alaskans. They are presented here for public review and comment.

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Energy Goals:

Goal 1: Ensure all Alaskans have access to reliable energy supplies at the lowest cost over the long-term.

Goal 2: Develop Alaska's energy resources in a responsible manner with the aim of providing for the economic sustainability and growth of Alaska's communities and industries.

Goal 3: Ensure continued responsible exploration and development of Alaska's oil and gas resources and manage these resources for the maximum long-term benefit of all Alaskans.

Goal 4: Reduce the dependence of Alaskan communities on fossil fuels for electricity and heat by developing our renewable and alternative energy resources and by promoting energy efficiency and conservation.

Goal 5: Strive to produce 50% renewable energy by 2025 and increase energy efficiency at the household and utility level by 10% by 2015.

Goal 6: Maintain a commitment to environmental stewardship and responsible resource development, including anticipating the environmental effects of and regulatory response to climate change.

Goal 7: Promote energy research at Alaska's universities, energy education in our public schools, and workforce development programs at our post-secondary institutions and vocational schools.

A. Powering Alaska

Alaska ranks sixth in the nation for electrical rates, with costs 50% higher than the U.S. average. Electrical costs in some Alaskan communities, such as Lime Village ($1.17), exceed a dollar per kWh before Power Cost Equalization payments are factored in. In comparison, the average cost of electricity in the United States in 2008 was $.11 per kWh. Alaska's higher costs are due, in part, to the fact that most electricity consumers outside of Alaska's major cities are not linked to large electric grids; they are instead connected to mini-grids powered by diesel generators. Statewide, about half of electricity is generated using natural gas; nearly a quarter with hydropower; 20% with diesel; less than 10% with coal; and less than 1% with other renewables. In the Railbelt, peak energy consumption is about 800MW, with power generated by six member-owned, co-op utilities. Electrical consumption is growing much faster in Alaska than in the United States as a whole.

1. **Consolidate the six existing Railbelt utilities into a single entity for the purpose of planning, financing and building future electrical generation and transmission projects with maximum efficiency.**

   Discussion: Much of the generation and transmission infrastructure in the Railbelt is aging and will need to be replaced in the near future. In a September 12, 2008, report, consultants Black and Veatch projected that "the Railbelt region will need to issue new debt between $2.5 - $8.1 billion over the next 30 years to build new generation and transmission facilities to reliably serve the electric needs of citizens and businesses in the region. This level of investment . . . represents a significant challenge for the Railbelt region given its small size. Having the good faith and credit of the State supporting the regional entity will minimize the financial risks and result in a lower cost for debt." Formation of such an entity could lower consumer costs, increase efficiency, and improve the reliability of power generation and transmission systems in the Railbelt.

   Actions: Work with stakeholders to amend SB 143, "An Act establishing the Greater Railbelt Energy and Transmission Corporation," and pass a revised bill.

2. **Fully evaluate the costs and benefits of a variety of new potential sources of power production for the Railbelt.**

   Discussion: A Regional Integrated Resource Plan (RIRP) is currently being developed for the Railbelt, which will guide development of the region's power systems over the next 50 years. A draft report is due in November, with a final by December. This report will assess the cost and feasibility of numerous power production scenarios, including purchasing new gas-fired generators; constructing the Susitna hydro project;

constructing a hydro project at Lake Chakachamna; installing wind farms on Fire Island, at Eva Creek, and/or in Nikiski and Delta; producing power from the Healy Clean Coal Plant and/or using Chuitna coal; development of tidal energy in Cook Inlet; and development of geothermal energy from Mt. Spurr.

Actions**:** Schedule Senate Resource and Energy Committee hearings as soon as the legislative session convenes in January to review the findings of the RIRP and make recommendations.

3. **Invest in those Railbelt projects that will provide the lowest cost, most reliable energy for the Railbelt over the long-term, giving due consideration to renewable energy.**

Discussion: Once the Regional Integrated Resource Plan is thoroughly reviewed, the Administration and legislature must make hard decisions about which projects to fund to ensure a reliable and affordable long-term power supply for the Railbelt. The cost will be great, but timely action is needed.

Actions**:** Add capital to the Railbelt Energy Fund and/or appropriate funding for specific projects, as needed.

4. **Add capital to the state's Power Project Loan Fund**.

Discussion: The Power Project Fund provides loans to utilities, local governments and independent power producers for the development or upgrade of electric power facilities, including conservation, bulk fuel storage, and waste energy conservation. The loan term is related to the productive life of the project, but cannot exceed 50 years. Interest rates vary between tax-exempt rates at the high end and zero on the low end. Forty-seven loans for a total of $26 million are currently out, with only one past due. The Fund balance is running low and more funding is necessary to respond to legitimate, cost-saving requests from applicants.

Action**:** Add a minimum of $10 million to the Power Project Fund.

5. **Improve the efficiency of diesel power generation through increased funding for the Alaska Energy Authority's Rural Power System Upgrade Program.**

Discussion: In the last decade, the Alaska Energy Authority has upgraded about 35 rural power systems, resulting in an average increase in efficiency of 26%. These upgrades have saved these communities more than $1 million a year in fuel costs. About 25-30 community power systems still need to be upgraded. Since 2000, funding for these

upgrades has come predominantly from the Denali Commission. However, the Commission's budget is in sharp decline and the state will have to step in if it wishes to assist the 25-30 communities still in severe need of upgrades.

Action**:** Provide $10 million in state funding for the Rural Power System Upgrade Program for the next four years.

6. **Increase funding for the Rural Power Systems Technical Assistance Program, also known as the Circuit Rider Program.**

   Discussion: The Alaska Energy Authority (AEA) currently provides assistance to power system operators in more than 120 villages. The goal of this program is to enable local operators to become self-sufficient in running remote systems in an efficient and cost-effective manner. Unfortunately AEA staff are stretched thin and cannot respond to many requests for assistance.

   Action**:** Increase funding annually to $200,000 to enable AEA to provide technical assistance to more villages, cutting costs and increasing the reliability of power systems

7. **Continue to fund the Power Cost Equalization (PCE) Program. Review its rules to ensure they are not a disincentive to developing local renewable energy sources and increasing energy efficiency**.

   Discussion: The PCE Program provides assistance to households in rural areas of Alaska, where the cost of electricity can be three to five times higher than in more urban areas. It improves the standard of living for more than 78,000 Alaskans by helping to pay for power costs that average $.60/KWh, but can be as high as $1. PCE pays a portion of about 30% of the power sold by participating utilities and has a total annual cost of about $37 million. Some observers, however, believe the program provides a disincentive for utilities to achieve greater efficiency and use renewable energy. These concerns should be reviewed and appropriate programmatic changes made if necessary.

   Action**:** Appropriate $37 million for the PCE program in FY'11.

8. **Continue to develop Southeast Alaska's hydroelectric potential to eliminate dependence on fossil fuels and provide affordable, renewable energy to make Southeast Alaska self-sufficient on its energy supplies.**

   Discussion**:** Projects under consideration or development include Reynolds Creek Hydro near Hydaburg, Falls Creek Hydro in Gustavus, Whitman Lake Hydro in Ketchikan, Ruth

Lake Hydro near Petersburg, Burro Creek Hydro near Skagway, Elfin Cove Hydro, Triangle Lake Hydro in Metlakatla, Takatz Lake and Blue Lake Hydro in Sitka, Thayer Creek in Angoon, Connelly Lake in Haines and the run of the river hydros proposed in Hoonah.

Actions**:** Complete an Integrated Resource Plan (IRP) for Southeast Alaska to assess regional needs, power production alternatives and their costs. The IRP will build on the current Southeast Alaska Electrical Intertie System Plan and create a sustainable and rational approach that will provide an economic pathway for prioritized state investment.

9. **Develop regional electrical grids interconnecting adjacent Southeast communities and utilities with hydropower generation via economically rational transmission lines.**

Discussion**:** Regional grid systems will allow for the development of local resources, displacing diesel dependence while dispatching cost-effective and environmentally preferred renewable energy resources throughout the region. Components underway include the Kate-Petersburg Intertie, Coffman Cove to Naukati Intertie, Metlakatla-Ketchikan Intertie, Swan-Tyee intertie, and Prince of Wales Intertie.

Actions**:** Where economically feasible, allow for regional and sub-regional development of electrical grid networks to allow for the efficient dispatch of renewable energy resources. Utility corridors should be developed to support multiple uses such as electrical transmission, transportation and telecommunication.

10. **Broaden the scope of the Southeast Alaska Energy Fund and capitalize it.**

Discussion: This fund would provide a mechanism to help pay for construction of power generation projects in Southeast and completion of appropriate electrical grids throughout the region. Many communities in the region are not on hydropower and still burn oil to generate electricity and heat. Communities now on hydro are facing capacity shortages and face supplemental use of diesel-generated power. While hydroelectric projects provide low-cost, renewable power over the long-term, they are extremely capital intensive. The state can play a critical role in helping to capitalize these projects on the front end. The completed IRP will guide expenditures of these funds.

Actions**:** Pass SB 132 and capitalize it once an Integrated Resource Plan has been completed.

11. Increase state funding for the Bulk Fuel Upgrade Program to ensure that communities have adequate storage to make cost-saving bulk fuel purchases.

Discussion: In the early 1990s, many rural communities faced the threat that they would no longer be allowed to take delivery of fuel in bulk quantities because of the condition of their bulk fuel storage tank farms. The Bulk Fuel Upgrade Program, which has been largely supported by the Denali Commission, provides funding for repairs to enable affected communities to continue to receive fuel. Sixty-four projects have been completed so far, seven are underway, and 33 remain. Unfortunately funding from the Denali Commission is in decline and the state will have to step in to complete this effort.

Action**:** Increase state funding for the Bulk Fuel Upgrade program to $5 million a year for the next three years.

12. Revise the interest rates for the Bulk Fuel Revolving Loan Program and Bridge Fuel Loan Program to ensure that there is an incentive for communities to maintain good credit histories.

Discussion: There are two state loan programs designed to help communities purchase fuel in bulk at competitive rates. The first is the Bulk Fuel Loan Program, administered by the Alaska Energy Authority (AEA), which has an interest rate equal to the 12-month average of municipal revenue bonds for communities that have borrowed at least twice previously. The second is the Bridge Loan Program, administered by the Department of Commerce, which has a zero interest rate. The Bulk Fuel Loan Program is only available to communities that maintain a good credit history; the Bridge Loan Program is available to any community that has applied to the AEA and been rejected, usually because of poor credit history. These communities are rewarded with an interest rate that is better than what they could have gotten from AEA. This situation needs to be reviewed to remove this incentive for poor repayment and to ensure that all communities receive the technical assistance they need to maintain financial fitness.

Actions**:** Draft appropriate statutory changes.

13. **Hold 5-10 training classes annually for power plant and bulk fuel operators at the Alaska Vocational Technical Center to teach operations, maintenance and management best practices**.

Discussion: The Alaska Vocation Technical Center (AVTEC) has purchased high efficiency generators and switchgear on which power plant operators can be trained. In the past funding for this training has come from the Denali Commission; that funding, however,

is in sharp decline. Bringing power plant managers and well as bulk fuel operators to AVTEC is an effective way to train plant managers, improve reliability of service, and reduce ongoing operational costs.

Action**:** Invest $250,000 in FY'11 to ensure adequate training for power plant and bulk fuel operators.

B. Heating Our Homes

Alaska is one of the coldest states in the nation, and many Alaskans struggle to meet their most basic winter necessity – a warm and comfortable home. Not surprisingly, Alaska homes use more energy for space heat than their Lower 48 counterparts. According to the Institute of Social and Economic Research, the average annual cost for heating a home in Alaska was around $4,500 in 2008. This accounts for about 45% of the total energy used to run a home.

The high cost of heating fuels and inefficiently designed homes in such a cold climate are the main contributing factors to this problem. When temperatures dip, Alaskans turn up the thermostat, but far too often much of that heat disappears through drafty windows and poorly insulated walls. For 30 years, the Weatherization program has helped low-income Alaskans identify and eliminate energy inefficiencies. The Home Energy Rebate program provides rebates to home owners who invest their own money in increasing the efficiency of their homes. Continued appropriations to these two programs will help Alaskans stay warm during the winter, while cutting fuel costs and reducing the future demand for energy assistance programs.

1. **Provide additional funding for the state's weatherization program.**

   Discussion: According to a recent report prepared for the Alaska Housing Finance Corporation, more than 27,000 housing units statewide still need to be weatherized. One in five rural homes and nearly 8,000 homes in Anchorage cannot maintain a comfortable room temperature during winter. In addition, more than 115,000 homes statewide are said to be "drafty." Weatherization is a proven way to reduce energy costs over the long-term. Annual savings from weatherization average $526/year or $7,565 over the life of the improvements. Nationally, the Department of Energy (DOE) reports that weatherization saves the equivalent of 3 barrels of oil per dwelling a year or 60 barrels over 20 years. DOE reports that $1.83 is saved for every dollar spent on weatherization. The $200 million the state appropriated in 2008 for weatherization is likely to be fully encumbered by the end of FY'10.

   Action: Invest an additional $150 million in the state's weatherization program in FY'11.

2. **Provide additional funding for the state's Home Energy Rebate program.**

   Discussion: This program assists homeowners in making energy efficiency improvements for their home. The program requires a home energy rater to evaluate homes before and after the improvements. The more a home's energy efficiency improves, the greater

the possible rebate. Participating homeowners have seen an average reduction of 45 percent in the energy used to run their space-heating appliances (e.g. furnace, stove, etc.) and an average reduction in energy costs of 30 percent. More than 15,000 Alaskan homeowners are currently participating in the program and 3,000 remain on the waitlist. In 2008 the legislature appropriated $160 million for this program. This funding is likely to be fully encumbered by June 30, 2010.

Action: Invest an additional $50 million in the state's Home Energy Rebate program in FY'11.

3. **In years when oil averages over $75/barrel and surplus funds are available, expand the state's heating assistance program to assist more Alaskan families.**

Discussion: The federal Low Income Heating Assistance Program pays a portion of the heating bills for about 9,500 Alaskan families that earn up to 150% of the poverty level. The new state Heating Assistance Program helps families earning up to 225% of the poverty level. However, when oil prices skyrocket, heating costs become a burden even for middle-income Alaskans. Consider expanding the program to include families up to 350% of the poverty level during times when the state is most able to afford it and Alaskans are most in need. Tier benefits by income level and other measures of need (e.g., local fuel costs).

Action: Draft legislation to expand the state's heating assistance program when surplus state funds are available.

C. Maximizing Energy Efficiency

Energy efficiency is a clean, cheap, abundant, and immediately available source of energy savings for Alaska and the nation. It helps to reduce carbon emissions, dependence on foreign oil, and the impact of debilitating energy costs. It is also a bargain. In contrast with conventional electrical generation, which nationally costs an average of $.07-$.15 a kilowatt hour, energy efficiency generally costs about $.025 a kilowatt hour. It is also stably priced, in contrast with volatile fossil fuels, and beyond the reach of international disruptions.

The push for energy efficiency has been cast as an effort to "save negawatts" instead of generating more megawatts. It's a way to meet energy needs without constructing costly new facilities. Most importantly, energy efficiency is not about sacrificing and deprivation. It's about minimizing waste and doing the same or more with less. The cheapest form of energy is that which is not used.

The American Council for an Energy-Efficient Economy ranks Alaska 37th among the 50 states in terms of its energy efficiency policies. This provides Alaska with an opportunity. We can reduce our energy consumption and costs more easily than other states by harvesting the "low-hanging fruit" of energy efficiency.

1. **Reduce demand for electricity and heating fuels by 10% by 2015.**

   Discussion: Fifteen states have adopted energy efficiency targets, known as Energy Efficiency Resource Standards. Texas began in 1999 with a goal of offsetting 10% of electric load growth with energy efficiency. With minimal cost, this goal was met and then increased to 15% by 2009 and 20% by 2010. Vermont achieved their 7% target in 7 years, with 1.5% more in 2007 and a goal of 2% per year thereafter. Since 2004, Hawaii has been meeting a 0.4-0.6% efficiency savings target each year, with a goal of 20% combined energy efficiency savings and renewable energy production by 2020. Nevada is shooting for a 20% decrease in electrical consumption by 2020 and an 18% decrease in natural gas use. After making energy efficiency upgrades to 8 public facilities, the State of Alaska reduced energy in those buildings by 24% in the first year alone.

   Action: Establish an Energy Efficiency Resource Standard of 10% reduction in electricity and heating fuels by 2015.

2. **Provide incentives to encourage Alaskans to replace inefficient appliances with more efficient ones.**

Discussion: Several states (e.g., Oregon, Wisconsin, and Connecticut) provide rebates to homeowners who replace older energy-inefficient appliances (e.g., furnaces, clothes washers, dishwashers, refrigerators, and water heaters) with appliances that are substantially more efficient than federal standards. The Department of Energy reports that last year savings from Energy Star appliances were enough to power 10 million homes and avoid greenhouse gas emissions from 12 million cars. Consumers also saved a total of $6 billion.

Action: Draft legislation to create an Alaska appliance rebate program and appropriate $2 million to this program initially.

3. **Provide technical assistance to businesses (e.g., through a commercial energy audit program) to help reduce overall energy demand and help businesses improve their profitability through energy efficiency.**

   Discussion: The Alaska Energy Authority (AEA) plans to use federal stimulus funds to initiate a pilot technical assistance program. Such a program should be continued with state general funds.

   Action: Appropriate $100,000 to AEA for an ongoing technical assistance program to assist businesses with efficiency improvements.

4. **Require Alaska's largest electric utilities to develop plans to increase their energy efficiency, including adoption of annual and 10-year energy savings targets, and annually report on their progress.**

   Discussion: Setting measurable efficiency targets (known as Energy Efficiency Resource Standards) and looking at efficiency as a resource that must be attained will help utilities and the state to maximize energy efficiency. Annual reporting will provide consumers and the state with information that can be used to determine progress toward meeting statewide energy efficiency goals. It will also allow for a comparative analysis of actions designed to reduce energy consumption.

   Action: Draft legislation requiring Alaska's largest utilities to develop and implement plans to increase energy efficiency and to provide annual progress reports to their customers.

5. **Establish a pilot program to install building energy monitors in homes and small businesses to enable consumers to reduce their energy use in response to meter readings that reveal current energy usage and costs.**

Discussion: Building energy monitors help consumers determine how much energy they are consuming or a particular appliance is using. They have been shown to influence consumers to reduce consumption by 10-15%. The Alaska Energy Authority has $75,000 to put towards a pilot building energy monitor program. States employing monitor technology by way of Smart Meters include Arizona, Idaho, and Missouri. California recently required utilities to provide Smart Meters to all customers. Some meters are available for Anchorage residents to rent at the Loussac and Anchorage School District libraries.

Action: Pending success of the Alaska Energy Authority's building energy monitor pilot program, appropriate an additional $250,000 towards a more extensive building energy monitor program.

6. **Implement a comprehensive public education campaign to increase energy efficiency and conservation to minimize the need for costly investments in additional energy infrastructure.**

Discussion: Energy efficiency and conservation is typically 50-75% cheaper than building new power plants or buying energy on the open market. By setting efficiency goals and implementing a strong education campaign to meet those goals, the state and utilities can forecast anticipated energy efficiency gains over a set number of years and make appropriate infrastructure decisions to reduce the amount of energy produced by an equivalent amount, thereby saving energy and money.

Action: Task the Alaska Energy Authority and Alaska Housing Finance Corporation with conducting a statewide energy efficiency educational campaign and appropriate $175,000 annually for this purpose.

7. **Encourage the Department of Education to include energy efficiency lessons in K-12 curriculum.**

Discussion: Educating children about energy efficiency helps them to develop energy efficiency habits which they will carry with them into adulthood. Children also inspire and influence the adults in their lives.

Action: Work with school districts and the state Department of Education to encourage integration of energy efficiency lessons into K-12 curriculum.

8. **Investigate the costs and benefits of requiring utilities to decouple revenues from sales to provide greater incentives for utilities to promote and invest in energy efficiency.**

   Discussion: Decoupling separates utilities' revenue from their sales, thereby eliminating a disincentive for them to promote and invest in energy efficiency. Because most Alaska utilities are cooperatively rather than investor owned, decoupling in Alaska will require more research to ensure that it will not result in higher costs for ratepayers. According to the American Gas Association, 18 states had implemented revenue decoupling, with two states pending, including Nevada, Wyoming, Washington, and Oregon.

   Action: Hold legislative hearings to better understand the pros and cons of decoupling utility revenues from sales in Alaska.

9. **Provide technical assistance to local governments interested in adopting energy efficiency standards for residential and commercial buildings.**

   Discussion: Ninety-two percent of Alaskans live in communities with populations over 2,500; of those, 68% live in communities with building codes in place and 52% live in communities with energy codes in place. The Alaska Building Energy Efficiency Standard is already in place for residential energy efficiency through the Alaska Housing Finance Corporation. If we build new structures to be energy efficient, we won't need to weatherize as many structures, saving money in the long run.

   Action: Provide assistance through the Alaska Housing Finance Corporation and Alaska Energy Authority in implementation, code enforcement, energy audits, and efficient building design to communities interested in establishing energy codes.

10. **Implement a voluntary Energy Efficiency Labeling Program for buildings.**

    Discussion: Energy performance labeling supports increased energy efficiency by making the efficiency of buildings observable, in much the same way that the Energy Star labels provide information for consumers on appliance energy use. Labeling also supports other policies and programs, such as energy-efficient mortgages, promotion of energy efficiency by realtors and property inspectors, and incentives to promote energy efficiency upgrades of houses and buildings. This program could use the Alaska Housing Finance Corporation's AKWarm Energy Star rating system for new construction as well as the Weatherization program to rate retrofits. The American Society for Heating, Refrigerating and Air-Conditioning Engineers will release a building energy label in 2010.

Action: Hold legislative hearings to better understand the pros and cons of implementing an Energy Efficiency Labeling Program for buildings.

11. Make low-interest loans available to Alaska's commercial fishers for energy efficiency upgrades.

Discussion: Volatility in fuel costs continues to have an impact on Alaska's commercial fishing fleets, cutting into profits and threatening productivity. In recent years, advances have been made in diesel and outboard engine technologies, vastly improving fuel efficiency and performance. There have also been substantial developments in alternatives to traditional diesel and gasoline generator sets and modifications to vessel hulls, which significantly boost energy efficiency. Commercial fishers across the state are eager to take advantage of these and other new technologies that significantly lower operating costs.

Action: Consider HB 20, "An Act relating to commercial fishing loans for energy efficiency upgrades and increasing the maximum amount for certain loans under the Commercial Fishing Loan Act."

D. Investing in Renewable Energy

While energy efficiency and conservation are the most immediate and cost-effective ways to address the high cost of energy in Alaskan communities, renewable energy development will play an important role in creating long-term solutions to Alaska's energy challenges. By providing a source of flat-priced, inexhaustible, and locally produced electricity, renewable energy offers many advantages over the unstably priced, finite, and logistically challenging fossil fuels that many communities rely upon for electricity, heat, and transportation. Hydroelectric, biomass, wind, geothermal, and solar power are all renewable energy sources that utilize proven and commercially available technologies.

Hydroelectric

Hydroelectric power is generated from the movement of water flowing from a higher to a lower elevation. It is Alaska's largest source of renewable energy, accounting for 24% of the state's electrical generation. Alaska has an estimated 40% of the U.S.'s untapped hydroelectric power. While most of Alaska's hydroelectric potential is in the Southeast region, there are two Southcentral projects currently being studied that could meet a significant portion of the Railbelt's annual energy needs: the Susitna Dam project, which would be located in the Mat-Su region and feature a system of two dams producing up to 1,800 MW, and the 330 MW Chakachamna Project, a proposed lake tap system that would be located 84 miles southwest of Anchorage.

Biomass

Biomass energy, which can be used for both heat and power, is generated through the combustion of biomass materials, including wood, agriculture products, solid waste, fish waste, biodiesel and other biofuels. Biomass, in the form of cordwood, has long been a staple for heat generation in Alaskan homes, but new technologies and high diesel prices are making wood, fish waste, solid waste, and other types of biomass a viable source of heat and even electricity. Alaska's potential for biomass development is high, with an estimated 10 times more unused biomass energy resource potential than needed to offset diesel fuel used for power production in rural Alaska.

Wind

Wind energy is generated by using turbines to harness the kinetic energy of the wind to generate electrical energy. Alaska has abundant wind resources suitable for development. The largest areas of class 7 "superior" wind power in the U.S. are located in Alaska and much of coastal Alaska has "good," "excellent," or "superior" wind resources. While some

rural communities in Western Alaska have been using wind energy to displace diesel fuel for over a decade, the installed capacity of wind energy in Alaska is comparatively small and was recently doubled with the completion of the 4.5MW Pillar Mountain Wind Project in Kodiak. Other wind energy projects being planned or developed include a 54MW project on Fire Island near Anchorage and the 25MW Eva Creek project north of Healy, which together could provide approximately 5% of the Railbelt's annual electrical energy.

Geothermal

Geothermal energy is derived from heat within the earth and is used to provide either direct heat or to produce electricity. While there is only one operating geothermal electric plant in Alaska, a 400kW plant at Chena Hot Springs near Fairbanks, the potential for the development of this resource is well documented, with vast resources along the Aleutian Islands and significant prospects in dispersed areas throughout the state. Sites that have significant potential for electrical generation and that are near enough to population centers to be developable include Akutan on the Aleutians Islands; Mt. Makushin, near Dutch Harbor; and Mt. Spurr, across Cook Inlet from Anchorage.

A form of heating/cooling technology called geothermal heat pumps or ground-source heat pumps utilize geothermal energy to extract heat from or disperse heat to the ground. These devices, despite their high installation costs, are becoming an increasingly cost-effective means to heat and cool buildings and may be particularly viable in areas where the only option for heating is costly diesel fuel.

Solar

Solar energy uses radiation from the sun for heating and electrical generation. Although somewhat limited by Alaska's long, dark winters, solar power is being used in a handful of Interior rural communities, including Lime Village, Stony River, and Tanana, to offset power otherwise produced through diesel generators.

Renewable Energy Policies

1. **Incentivize the development of renewable energy sources by creating a state production tax credit for renewable energy generation.**

   Discussion: In energy plans across the nation, production incentives are playing an increasingly important role in encouraging the development of renewable energy resources. Twenty-five states offer some sort of renewable energy corporate tax incentives and five states and the federal government offer production tax credits.

Because a production tax credit can only be claimed by a power producer that has made a significant investment in infrastructure and is already producing electricity, it allows the state to incentivize renewable energy development without requiring large state appropriations to unproven projects and technologies.

Action: Pass SB 31, "An Act relating to a geothermal electricity production tax credit under the Alaska Net Income Tax Act."

2. **Provide low-cost financing for customer-owned renewable energy systems.**

Discussion: Fifteen other states have programs that offer reduced-interest loans to businesses, residents, non-profits, and other sectors for installing renewable energy systems that generate energy for their own use or otherwise reduce the amount of electricity consumed. A state renewable energy loan program could provide an alternative to costly state grant programs while still assisting end-users with the high capital costs of purchasing and installing renewable energy systems.

Action: Draft legislation establishing a low-interest loan program for businesses, residents, and non-profits interested in investing in a renewable energy project.

3. **Provide financial incentives to utilities to invest in renewable energy systems.**

Discussion: Community- or utility-scale renewable energy production is generally more cost effective than smaller scale renewable energy projects. The Power Project Fund currently has $5.2 million remaining for loans at a variable rate of 5.7%. Increasing the funding and relaxing the interest rate for renewable energy projects will help incentivize utilities to develop and expand renewable projects. These incentives will also help utilities meet renewable portfolio goals or standards.

Action: Lower the interest rates for Power Project Fund loans for renewable energy projects.

4. **Continue to appropriate $50 million a year to the Renewable Energy Fund through 2012.**

Discussion: In 2008, the Legislature pledged $300 million in funding over a five-year period for in-state renewable energy projects by creating the Renewable Energy Fund. The Renewable Energy Fund provides grants of up to $4 million dollars to eligible renewable energy studies and projects including feasibility and reconnaissance studies, energy resource monitoring, and construction of renewable energy projects, natural gas

projects, or infrastructure for transmission or distribution. Continuing to support the Renewable Energy Fund through FY2012 will allow the Legislature to fulfill its five-year pledge to helping communities throughout the state develop their renewable energy resources and transition off of traditional fossil fuels sources.

Action: The Legislature should continue to appropriate $50 million a year through 2012 to the Renewable Energy Fund.

5. **Ensure utilities generate and/or purchase renewable energy by establishing a renewable portfolio standard or goal.**

Discussion: Thirty-two states have some sort of renewable portfolio standard or goal in place. Despite having their own unique challenges to producing renewable energy, these 32 states realized the importance of increasing their renewable energy production capacity and the necessity of having a quantifiable goal to work towards. These states have taken varying approaches to crafting renewable portfolio standards or goals that take into account their own unique energy needs and individual challenges.

Action: Work with utilities and other stakeholder groups to draft legislation establishing renewable portfolio standards or goals for the state.

6. **Institute a net-metering program.**

Discussion: Net-metering is required by law in most US states. It is an important component in the efforts of other states to encourage businesses and individuals to invest in renewable energy systems and to generate their own power. As with renewable portfolio goals, there have been a wide range of approaches taken to adopting net-metering programs and Alaska should be able to develop a program that works for our unique energy needs and challenges.

Action: Consider SB 131, HB 31, and HB 66, "An Act relating to net energy metering for retail electricity suppliers and customers."

7. **Require utilities to report annually to their retail customers their sources of electricity (i.e., their "fuel mix").**

Discussion: Utilities in Washington, Oregon, and many other states regularly report the sources of the electricity sold to retail ratepayers to encourage investment in renewable energy. These initiatives, known as "fuel mix disclosures," are intended to educate

customers about the fuels that are used in producing the electricity they use in their homes and businesses.

Actions: Draft legislation requiring electric utilities to report their fuel mix to customers on an annual or semi-annual basis. Encourage utilities to offer renewable energy purchase plans in addition to the standard rate plans, This could be modeled after the Sustainable Natural Alternatives Program (SNAP) offered by Golden Valley Electric Association and Homer Electric Association.

E. Ensuring that Energy is Affordable for Alaskans

The prices Alaskans pay for energy are among the highest in the nation. In July 2009, the mean price for gasoline in 99 Alaska communities was $5.37 per gallon, with some communities (e.g., Arctic Village) paying up to $10/gallon. Nationally, the average price for gasoline was $2.46. During the same month, heating fuel averaged $5.36 a gallon in Alaska, with some communities (e.g., Wainwright) charging nearly $8/gallon to commercial customers. Nationally the average price for heating fuel during 2009 averaged $2.51.

Unfortunately, these costs are growing, especially as a percentage of household income. In 2000, remote households with the lowest incomes spent an estimated 16% of their income on home energy. By 2008, this had ballooned to 47%, according to the Institute for Social and Economic Research. For many Alaskans, help is needed.

1. **Ensure Alaskans pay a fair price for the energy they consume.**

   Discussion: Alaskans pay significantly more for energy than residents of other states. For example, gasoline prices are significantly higher in Alaska than in other western states, even when transportation costs are included. Heating fuel costs are also exceptionally high, particularly in rural areas, burdening families and crippling businesses. One tool other states have employed to control costs is to prohibit sellers from charging excessive and exorbitant prices for products consumers rely on and to require them to justify those prices when they're necessary.

   Action: Consider price gouging legislation, including amended versions of SB 54 and HB 68.

2. **Evaluate whether the State of Alaska should help to lower heating fuel prices or smooth out price volatility and if so, how this can be accomplished in a way that minimizes unintended consequences.**

   Discussion: Implementation of a program to subsidize fuel costs or smooth out price volatility is complicated and requires thorough consideration and input from a wide range of stakeholders. However, it could have substantial benefits for Alaskan households and businesses and deserves further study.

   Action: Consider SB 162, "An Act relating to a heating fuel energy relief program," SB 91, "An Act relating to the emergency energy relief program of the Alaska Energy Authority," and related proposals.

3. **Encourage the Regulatory Commission of Alaska (RCA) to come up with a predictable pricing methodology for Cook Inlet gas in collaboration with utilities, gas producers and consumers.**

   Discussion: Review and approval of gas supply contracts is a time-consuming and expensive process for all parties. Achieving agreement early on about an acceptable pricing methodology will facilitate future reviews, reducing costs and delays.

   Action: Consider legislation that would either establish a pricing methodology or require the RCA, in concert with stakeholders, to develop one.

4. **Develop a statewide fuel buying cooperative to cut the costs of heating fuel for Alaskans.**

   Discussion: In many communities, fuel purchases are made independently by the utility, school, and other entities. Communities don't attain the benefits of buying fuel in as large a quantity as possible. If purchasers within communities and between communities were able to join together and purchase fuel through a regional or statewide cooperative, they should be able to secure lower prices and better terms.

   Action: Draft legislation mandating the Alaska Energy Authority to assess interest in developing such a cooperative and assist in its development, if warranted.

F. Developing Alaska's Energy Resources

Alaska's natural resources are vast and impressive. We are the second largest oil producer among the 50 states, having produced almost 17 billion barrels of oil since statehood. Prudhoe Bay is the largest oil field in the United States, and the North Slope contains 14 of the 100 largest oil fields in the country. Alaska also contains huge reserves of natural gas. The Department of Energy estimates that there may be up to 124 trillion cubic feet of recoverable natural gas on Alaska's North Slope alone. We also have roughly half of the coal reserves in the U.S. and nearly 1/8 of the world's reserves. With the potential for 5,500 billion short tons of coal, Alaska has been referred to as the "Saudi Arabia of Coal."

Yet, resource development in Alaska, with its rough conditions and vast distances, is challenging and expensive. North Slope oil production peaked at over 2 million barrels a day in 1998 and has declined to about 662,000 barrels per day in 2009 -- a 66% reduction. Currently, Alaska accounts for about 13% of the nation's domestic oil production, while for years it averaged 20%. Alaska has only one operating coal mine, and natural gas production in Cook Inlet is declining rapidly, threatening businesses and households with the prospect of rolling back-outs and the need to turn down thermostats.

Alaska must act with purpose and resolve if we wish to maintain a robust economy with high paying jobs and a state government capable of providing needed services to its citizens. About 42% of current state revenue comes from oil production. This revenue stream must be enhanced and diversified if Alaska is to have the resources to build new infrastructure to meet its energy needs over the next fifty years.

1. **Fully support efforts to bring Alaska's North Slope natural gas to market, maximizing benefits to Alaskans.**

   Discussion: More than 35 trillion cubic feet of natural gas are known to exist on Alaska's North Slope, and geologists estimate that an additional 150 trillion cubic feet will likely be discovered. As oil production on the North Slope declines, these vast reserves of gas can provide clean- burning affordable gas to Alaskans and the Lower 48, jobs for Alaskans, and a steady source of income to the state to pay for state services. Construction of a pipeline to bring Alaska's gas to market is one of Alaska's highest energy priorities.

   Actions: Stay the present course and await the results of the competing "open seasons" scheduled for 2010, one by TransCanada Alaska and ExxonMobil and the other by

ConocoPhillips and British Petroleum. During open seasons, pipeline builders solicit interest from gas producers and others in shipping their gas. Prepare for negotiations with gas producers by ensuring that the state has the technical and commercial expertise to carry out effective negotiations.

2. **Evaluate Alaska's natural gas tax regime to ensure it maximizes returns to the state for its gas resources, while providing a reasonable incentive to monetize Alaska's gas.**

   Discussion: When oil prices are high and gas prices are low, Alaska's current production tax may not adequately compensate Alaska for its valuable gas resources. The legislature should thoroughly evaluate the current tax system to ensure that Alaskans receive a fair return for their gas under all price scenarios.

   Actions: Following conclusion of the two "open seasons" and once there is greater alignment between gas producers and pipeline companies and more data available about the economics of the various proposals, undertake a review of Alaska's gas tax regime to determine whether modifications are necessary.

3. **Pursue environmentally responsible drilling off Alaska's coast with significant sharing of associated revenues between the state and federal government.**

   Discussion: Responsible oil and gas development in federal waters off Alaska's coast will provide jobs for Alaskans, extend the life of the Trans-Alaska Pipeline, and move Alaska and the nation towards energy independence and security. This must be accompanied by significant sharing of revenue from offshore development between the federal government and affected coastal states, including Alaska. These states support offshore development with infrastructure, such as roads, docks and pipelines, and bear the responsibility for dealing with impacts from offshore development. Persistent leadership from the legislature and executive branch and close coordination with Alaska's congressional delegation will be needed to ensure that drilling is allowed and revenue shared in a fair manner.

   Actions: Actively promote oil and gas development off Alaska's coast and a system of revenue sharing that fairly compensates coastal states for their support of offshore development. Work closely with Alaska's congressional delegation and Secretary of the Interior Salazar.

4. **Support the development and extraction of Alaska's heavy and viscous oil resources and pursue opportunities to make Alaska a worldwide center for heavy and viscous oil research and development.**

Discussion: Heavy oil, a type of crude oil which is very viscous and does not flow easily, is far more difficult and costly to extract, transport, and refine than the medium grade Alaska North Slope crude traditionally extracted from the North Slope. However, heavy oil is also far more abundant: there are over 20 billion barrels of known heavy oil reserves on Alaska's North Slope, with the potential for another estimated 100 billion barrels yet to be discovered. The State of Alaska should encourage and support the development and use of new technologies to develop these heavy oil resources. The State of Alaska should also take the lead in viscous oil research by creating an Arctic Resource Research Center that could serve as a central research facility for heavy and viscous oil development worldwide. By engaging partners with heavy oil resources from around the world, Alaska could facilitate research and provide insights into viscous oil development and environmental issues that could be exported to northern climate countries and other regions with abundant viscous oil resources. (Source: DOR 2006 Fall Revenue Sources Book.)

Action: Maintain support for Alaska's net profits tax, which enables producers to deduct expenditures and receive tax credits for costly capital investments, making it more economic to develop more challenging oil fields.

5. **Urge Congress to pass legislation to open the coastal plain of the Arctic National Wildlife Refuge to responsible oil and gas exploration and production.**

Discussion: The oil industry, the state, and the United States Department of the Interior consider the Arctic coastal plain to have the highest potential for discovery of very large oil and gas accumulations on the continent of North America, estimated to be as much as 10.4 billion barrels of recoverable oil. Opening the Arctic coastal plain to oil and gas exploration and development could strengthen the nation's energy security while ensuring a long-term revenue source for the state and creating jobs for Alaskans. Furthermore, new technologies and drilling practices have greatly reduced the impact of oil and gas exploration and development on the environment, allowing for a smaller environmental footprint than previously possible.

Action: Maintain pressure on Congress and President to authorize oil and gas development in the Arctic coastal plain.

6. **Support efforts to open the National Petroleum Reserve, Alaska to responsible oil and gas development.**

Discussion: The National Petroleum Reserve, Alaska is a 23-million acre area on the North Slope set aside in 1923 to provide an emergency oil supply for the nation. It contains an estimated 9.3 billion barrels of oil and 59.7 trillion cubic feet of natural gas. Environmentally responsible development of this area, which considers local subsistence activities and critical wildlife needs, would extend the life of the Trans-Alaska Pipeline, provide jobs for Alaskans, and help support construction of a natural gas pipeline.

Actions: Advocate for regularly scheduled lease sales within NPRA and streamlined permitting.

7. **Ensure and expedite the development of oil and gas resources in the Pt. Thomson area of Alaska's North Slope.**

Discussion: The Pt. Thomson Oil Field, about 60 miles east of Prudhoe Bay, is believed to hold 200 million barrels of liquid hydrocarbons and 8 trillion cubic feet of gas. This vast gas reserve is equal to about a quarter of the known gas reserves on the North Slope and is critical to construction of a large diameter gas pipeline from the Slope. For several decades, the gas at Pt. Thomson has not been developed, despite repeated assurances from North Slope producers that the area would be developed. As a result, the Department of Natural Resources terminated the Pt. Thomson unit and revoked leases within it, citing breach of contract. This summer, in keeping with an agreement with the state, ExxonMobil and its partners drilled the first exploratory wells in the area since 1982. The state must be vigilant to ensure that work continues and this resource is developed for the benefit of all Alaskans.

Action: Support the Administration's efforts to ensure that oil and gas exploration and development activities proceed at Pt. Thomson.

8. **Closely monitor all state oil and gas leases to ensure that leasees actively explore for and produce oil and gas wherever economically practicable.**

Discussion: Alaska's oil and gas is a public resource that Alaskans rely on to fuel our economy and support critical state services. Alaskans deserve the assurance that when we lease land to an exploration or development company, exploration and production will proceed if economically feasible. Close monitoring will help assure that.

Action: Ensure that the Department of Natural Resources has adequate staffing to monitor lease activity, using the best available information on reservoir engineering and production costs.

9. **Evaluate the costs and benefits of constructing an instate pipeline (bullet line) to transport North Slope or Foothills gas to the Railbelt, including associated transportation tariffs.**

   Discussion: No decision should be made about state support or financial incentives for an in-state gas line until policy makers and the public know the cost of transporting gas to the Railbelt. Those costs will depend in great part on anticipated demand for gas; volume and construction cost will determine the pipeline tariff.

   Actions: Review the results of economic analyses, due in June 2010, which will estimate pipeline costs and tariffs. Determine private sector interest in the project and determine whether state participation is needed.

10. **Support efforts to develop additional storage capacity for natural gas in Southcentral Alaska to meet peak winter demand.**

    Discussion: Regardless of where the Railbelt gets its natural gas in the decades ahead, the region will need additional storage capacity to enable utilities to buy gas in the spring, summer and fall and hold it for use during peak-demand winter months. Developing large-volume storage capacity in the Railbelt will be costly and must be initiated soon to meet anticipated need.

    Action: Analyze whether incentives are needed to encourage private developers to develop Cook Inlet storage capacity open to all gas producers for a reasonable fee.

11. **Provide incentives for new oil and gas development in Cook Inlet.**

    Discussion: Alaska's largest population center, Anchorage, along with the Kenai Peninsula and Mat-Su Valley, relies on natural gas from Cook Inlet to generate power and heat homes. However, production in the Inlet is rapidly declining and Railbelt utilities lack sufficient gas under contract starting in 2011. Without new exploration and gas production from Cook Inlet, consumers could face electricity and gas shortages, higher rates and/or forced conversion to other power-generating fuels such as diesel. It is imperative that the state consider a range of incentives and strategies to increase exploration and production in Cook Inlet, where the Department of Natural Resources estimates 7-8 trillion cubic feet of gas likely remain.

    Actions: Evaluate a range of incentives to stimulate additional investment in Cook Inlet, including providing a state subsidy or matching grant for exploration; paying to mobilize

or demobilize a jack-up rig; creating state/private sector partnerships to explore outside of existing units; conditioning state support for a renewed liquefied natural gas (LNG) export license on development of new reserves in exchange for export license; and creating a more functional market for Cook Inlet gas through posting of gas prices and flexible pricing. Complete updated gas reserve estimates for Cook Inlet. Ensure that gas explorers and producers have access to the non-wilderness areas of Kenai National Wildlife Refuge. Improve the pipeline system to ensure gas can flow wherever needed. Encourage development of storage facilities that are open to all producers. Require the Regulatory Commission of Alaska to consider supply as well as price. Require companies doing business in Cook Inlet to share subsurface information, including engineering data, reservoir characteristics, and seismic mapping in exchange for the unusually low tax rates in the Inlet.

12. Identify and evaluate all potential sources of natural gas for the Railbelt.

Discussion: In addition to increased production from Cook Inlet and pipeline gas from the North Slope or the Foothills, the other two options for a gas supply for the Railbelt are Doyon's gas prospects in the Nenana Basin and imported liquefied natural gas delivered by tanker to Cook Inlet. Either option would require substantial capital investment and thorough economic evaluation to determine their economic feasibility as a temporary source of gas for the Railbelt.

Action: Evaluate the findings and recommendations of the Regional Integrated Resource Plan for Southcentral, once the plan is completed in December 2009.

13. Ensure the continued viability of Alaska's largest refinery.

Discussion: The Flint Hills North Pole Refinery is the state's largest refinery, with a crude oil processing capacity of about 220,000 barrels per day. It supplies gasoline, jet fuel, heating oil, and diesel to Alaska markets. Due to decreased demand for jet fuel, the refinery has shut down one of its three processing units. In addition, when oil prices skyrocketed in 2008, the refinery experienced financial difficulties and managers said they were considering whether to shut down, sell or significantly alter the refinery. Current cuts in production have already affected the state's economy, causing the Alaska Railroad to lay off employees and reduce service. State policymakers have suggested various strategies to help sustain the refinery, including possible transfer of ownership to a state corporation and/or breaks in royalty prices paid on state oil used by the refinery. At current oil prices this may not be necessary, but future oil price spikes could threaten the viability of the refinery.

Action: Ask the Department of Natural Resources to prepare an action plan for maintaining the viability of this refinery, including possible transfer to a state corporation.

14. **Support responsible exploration and development of Alaska's coalbed gas resources and continue to study the potential for coalbed methane to serve as a local energy source for rural Alaskan communities.**

Discussion: Coalbed methane or coalbed gas is a form of natural gas extracted from coal beds. Alaska's hypothetical coal resources exceed 5.5 trillion short tons and may contain up to 1,000 trillion cubic feet of coalbed methane and other coalbed gases. Coalbed methane could be an attractive alternative to diesel fuel, particularly in rural Alaska. The Division of Geological and Geophysical Surveys, in cooperation with the U.S. Geological Survey, is currently developing a drilling program that will assess the coalbed gas potential for identified sites in western North Slope, the Yukon, and Alaska Peninsula. The State should continue to support these efforts and others like it to access the potential for coalbed gas as an energy source.

Actions: Offer shallow gas leases as interest is expressed and ensure that local input is fully considered. Gather data on coalbed methane resources.

15. **Support the development of underground coal gasification (UCG) technology in Alaska.**

Discussion: Cook Inlet Region Inc. (CIRI) is proposing to develop an innovative underground coal gasification project in Cook Inlet to fuel a new 100 MW power plant. The coal would be turned into a synthetic gas, similar to natural gas, underground, leaving ash and other hazardous byproducts far below the surface. This technology, which does not require any mining, has been used in other countries for over 50 years. The CIRI project would also capture and sequester carbon emissions and use them to enhance oil recovery in the Inlet. CIRI believes they have enough coal on their land to produce power for the Railbelt for 10,000 years. Because the process for underground coal gasification is new to Alaska, there currently is no regulatory structure or permitting process appropriate for this form of development.

Action: Work with the Department of Natural Resources to draft legislation to craft a regulatory structure and permitting process appropriate for underground coal gasification.

16. Support efforts to separate propane from North Slope natural gas and transport it to communities around the state.

Discussion: About 2% of North Slope natural gas is propane, which could be separated from the rest of the gas stream and trucked or barged to communities around the state for heating, cooking, and electrical generation. Such a plan would require construction of a propane processing plant on the North Slope. Propane could serve as a bridge fuel until a gas pipeline is built and could support a value-added export industry in the long-term.

Actions: Evaluate storage and distribution needs within communities if this project is shown to be economically viable. Make appropriate investments.

17. Support efforts to explore for natural gas in the Nenana Basin, Gubik Field, and other promising areas.

Discussion: Rather than place all hopes on a North Slope pipeline or increased Cook Inlet discoveries, the state should support efforts to search for gas in the Nenana Basin and Gubik fields. Diversifying gas sources and evaluating multiple options will help ensure a stable source of gas supply for the Railbelt.

Action: Thoroughly evaluate oil and resource potential on state lands. Maintain a robust and easily accessible database of this information for new explorers. Provide predictable land access.

18. Address Alaska's marine infrastructure deficit in the Arctic.

Discussion: As arctic marine shipping increases to support the State's on-shore and off-shore oil and gas development, Alaska must improve its arctic marine infrastructure. Examples of needed infrastructure include communications systems, port facilities, ice information centers, places of refuge, icebreakers, and equipment to assist in emergency response and oil spill clean-up.

Action: Request the Governor's Administration to develop cost estimates and timelines for making needed infrastructure improvements.

19. **Support efforts to ratify the United Nations Convention on the Law of the Sea to enable greater oil and gas development off Alaska's coast.**

Discussion: The U.N. Convention on the Law of the Sea permits member nations to claim an exclusive economic zone out to 200 nautical miles from shore, with an exclusive sovereign right to explore, manage, and develop all living and nonliving resources, including deep sea mining, within that exclusive economic zone. The U.S. Arctic Research Commission estimates that the Law of the Sea Treaty would permit the U.S. to lay claim beyond the present 200-mile exclusive economic zone to an area of the northern seabed off Alaska that is equal in size to California. This area is likely rich in oil and gas resources. In order for the U.S. to exercise greater control over the Arctic and exercise jurisdiction over an extended area of the continental shelf, the U.S. must ratify the Law of the Sea Treaty, which has been pending since 1994.

Action: Advocate for U.S. Senate ratification of the Law of the Sea Treaty.

G. Leading by Example: State Government Initiatives

State government is one of the largest energy consumers in Alaska. There are nearly 1,800 state owned buildings and facilities, 24,500 state employees, and 6,291 vehicles in the state fleet. In just 12 of its buildings, the state spent nearly $1.9 million on electricity and $1.2 million on heat last year. In addition, more than $4.3 million was spent on transportation fuels. By committing to reducing the amount of energy used in public buildings and fuel consumed by state vehicles, not only can the State of Alaska save money and reduce environmental impacts, but it can also serve as an example to local governments, businesses, nonprofits, and citizens that energy efficiency and conservation measures work.

Committing state funding toward energy efficiency in state operations could also have the secondary benefit of providing the business to attract performance contractors, energy auditors, and retailers that sell efficient appliances, vehicles, and other products to Alaska. Additionally, by committing to purchasing electricity produced from renewable energy sources like wind, hydro, and geothermal and to using alternative and renewable energy fuels like biodiesel, compressed natural gas, and synfuels in state vehicles, the state could encourage the further development of those technologies.

1. **Adopt energy savings targets for state agencies.**

   Discussion: In addition to retrofitting public facilities to meet energy efficiency standards, setting energy efficiency targets within state agencies can help reduce energy consumption. Idaho and Kentucky are among the states that have set efficiency targets for state agencies.

   Action: Draft legislation requiring the Department of Administration to set energy savings targets for state agencies.

2. **Set standards of efficiency for construction of new public facilities and complete energy audits and efficiency retrofits for existing public facilities.**

   Discussion: As the owner of nearly 1,800 public facilities, the easiest way for the state to reduce energy costs is to maximize the energy efficiency of these facilities. Efficiency measures put in place in eight state buildings cut electricity usage by 22%, natural gas by 15%, and fuel oil by 36%. The total reduction in energy use for these eight facilities in the first year was 24%.

Performance contracts, under which contractors pay for energy assessments and building retrofits upfront and then are reimbursed incrementally through annual energy savings, allow the state to retrofit many more buildings than could be funded normally. To help the state identify which facilities consume the most energy and prioritize energy retrofit projects accordingly, an energy use index database containing energy use data for each public facility should be established using utility bills. By prioritizing retrofit projects and using performance contracts, the state, school districts and the University can begin saving energy right away and save in operating costs for years to come.

Actions: Draft legislation directing the Department of Transportation and Public Facilities to adopt energy efficiency standards for new public facilities and to retrofit as many existing facilities as possible, using cost–effective performance contracting. Pass SB 121, "An Act relating to energy efficiency for public facilities with the intent to reduce state operating costs."

3. **Establish standards favoring the procurement of appliances, equipment, lighting and other devices that bear the "Energy Star" label or meet other requirements prescribed by federal or state law, whenever cost-effective.**

Discussion: Energy Star appliances can save upwards of 60% in energy consumption. Compact fluorescent lights use 75% less energy and last 10 times as long as incandescent bulbs. These more efficient products save in energy, replacement and operating costs.

Action: Draft legislation requiring the Department of Administration to adopt regulations establishing standards favoring the procurement of equipment that bears the "Energy Star" label or meets other requirements prescribed by federal or state law, whenever cost-effective.

4. **Use the most cost-effective, safe and energy efficient broad spectrum lights on roadways.**

Discussion: There are approximately 31,000-36,000 roadway lights in Alaska. Current maintenance costs are $200/hr and replacements occur every 2.5 years. The per lamp cost for energy efficient LED lights is about $268. These energy efficient bulbs last 15-20 years with no maintenance required. Payback is approximately 7 years. The Municipality of Anchorage has replaced most of the bulbs throughout the municipality. Unfortunately, because many arterial roadways are state roadways, the Municipality has been unable to replace the bulbs at those intersections. A state requirement for efficient lighting at these arterial intersections is estimated to achieve an additional 20%

in efficiency. As of early September 2009, the Municipality of Anchorage had already realized approximately $150,000 in savings from replacement of 4,200 roadway fixtures in Anchorage.

Action: Draft legislation requiring the Department of Transportation and Public facilities to use energy efficient broad spectrum lights on roadways, where safe and cost-effective.

5. **Update state vehicle fleets to be more fuel efficient.**

Discussion: Last year the state spent roughly $4.3 million on transportation fuel. If state fleets were even 10% more efficient, savings would exceed $400,000 annually. Replacement of inefficient vehicles with vehicles that meet the EPA's fuel economy guide will save costs and reduce greenhouse gases. Montana, Maine, Washington and Utah are among the states that require state agencies to manage transportation fuel consumption and promote the use of clean domestic alternative fuels.

Action: Draft legislation requiring the Department of Administration to adopt a policy that favors purchase of high-efficiency vehicles.

6. **Purchase renewable energy, where available and affordable, to account for a certain percentage of state agency electrical consumption.**

Discussion: Renewable energy purchase programs support renewable energy generation by providing a consistent, reliable consumer that is willing to pay a premium for electricity from renewable energy sources. By guaranteeing that the government will purchase a certain amount of renewable energy, purchase programs provide a degree of security that makes investment in renewable energy projects more attractive to utilities. Purchase programs also help utilities meet renewable energy portfolio standards and goals, providing a guaranteed payback on a certain portion of renewable energy production. Nine other states have green or renewable energy purchase programs established on the state level.

Action: Draft legislation requiring the Department of Administration to adopt a policy requiring state facilities to purchase renewable energy, wherever available and affordable.

7. **Incorporate viable renewable energy sources into the planning, construction, and operation of new public works projects.**

   Discussion: By incorporating viable renewable energy systems (ground and water source heat pumps, solar, micro-hydro, etc.) into new public works projects, the state could offset considerable long-term operating costs for a relatively small, if any, increase in capital costs for new public works projects.

   Action: Pass SB 71, "An act relating to alternative energy systems for public works."

H. Moving Forward: Transportation in the 21st Century

Transportation accounts for 33% of all energy consumed in Alaska, which makes it the second largest energy-consuming sector of the state economy. As with other types of energy, transportation fuels are also more expensive in Alaska than elsewhere. In July 2009, the average price for gasoline in 99 Alaska communities was $5.37 per gallon, with some communities paying up to $10/gallon. Nationally, the average price for gasoline in July was $2.46.

Moving Alaska forward in the 21st century will require using more efficient vehicles and providing a greater variety of transportation options. Improving public transportation and pedestrian and bike trails will help to reduce fuel consumption, congestion and greenhouse gases. Nationwide, only 2.5% of trips are made using public transit. If that percentage were increased to 10%, research shows that our nation's dependence on foreign oil could be reduced by more than 40%.

1. **Support the development of community transit systems and plans to provide alternatives to private passenger vehicles for transportation.**

   Discussion: On-road vehicles account for approximately 18% of household energy budgets and a similar proportion of greenhouse gas emissions. Community transportation systems provide accessibility to underserved members of the public, including senior citizens, low income workers, the physically handicapped and students, and facilitate their ability to get to jobs, school, and medical facilities. Alaska currently has 11 land-based community transit systems and is one of only three states that do not invest any general funds in public transit operations.

   In 2008, Anchorage's People Mover transported over 4.2 million riders an average of 4.5 miles per rider, displacing approximately 1 million gallons of gasoline and 20 million pounds of CO_2. Although ridership has increased on People Mover, lack of public transit funds has lead to service cuts. Other local governments (e.g., the Mat-Su Borough and Kenai Peninsula Borough) are also struggling to raise sufficient local matching funds to secure federal funds and have had to leave federal funds on the table.

   Actions: Appropriate up to $3 million annually to help communities match up to $9 million in federal public transit dollars. In addition, create a Community Transportation Trust Fund to provide long-term support for public transit programs and consider SB 152, "An Act relating to municipal transportation systems and to regional transit authorities."

2. **Remove from law limits on the percentage of State Transportation Improvement Program (STIP) funds that can be spent on alternative transportation infrastructure.**

   Discussion: Such decisions should be left to local government and transportation experts, so they have the flexibility to make decisions which will help reduce congestion and save energy. Funding decisions should be made on a case by case basis.

   Action: Draft legislation to modify state law so that State Transportation Improvement Program funds can be spent on alternative transportation infrastructure.

3. **Support legislation that encourages the expanded use of electric cars.**

   Discussion: Electric cars have the potential to reduce energy costs in Alaska communities, in some cases with excess electricity from renewable sources. Electric cars and potentially four-wheelers are well suited for off-highway use and are a natural fit for rural Alaskan communities. Every 1,000 miles driven in a low-speed electric vehicle saves 39 gallons of gasoline, which requires two 55-gallon barrels of crude oil to produce.

   Action: Consider SB 59 "An Act relating to the operation of low-speed vehicles" and consider establishing a grant fund to help local governments to install electric car recharging stations and to incentivize the purchase of electric cars.

4. **Encourage drivers to minimize unnecessary idling through a public education campaign.**

   Discussion: Idling an engine for more than 10 seconds wastes more fuel and produces more carbon dioxide than restarting an engine. Twenty-two states plus the District of Columbia have enacted some form of anti-idling regulations. Idling in temperatures below freezing and of emergency, repair and safety vehicles can be exempted. With technology that is now available, buses can be automatically switched off if left idling for over five minutes.

   Action: Consider initiating a public education campaign to minimize unnecessary vehicle idling when temperatures permit. Investigate adoption of idling regulations for state fleets, buses and heavy equipment.

I. Supporting Emerging Energy Technologies

Alaska is fortunate to have ample energy resources from both renewable sources like hydro, geothermal, and wind as well as nonrenewable sources, including oil, gas, and coal. While the state has been investing in state of the art technology that capitalizes on both types of resources for decades, those investments have tended toward proven, "off-the-shelf" technologies. It is equally important that the state also support and encourage the research and development of emerging and pre-commercial energy technologies.

New energy technologies will be key not only in getting the most out of Alaska's known energy resources, but also in encouraging the discovery and development of new and untapped sources of energy. Liquefaction technologies that turn coal and gas into liquid fuels, gas hydrates trapped beneath the permafrost of the North Slope, electricity generated from the energy potential of ocean tides and waves – each of these new energy technologies could provide promising solutions to some of Alaska's energy challenges.

Alaska, because of its extreme landscapes, varied climates, and, most importantly, because of its high energy costs, has the advantage of being one of the most promising places to develop pre-commercial energy technologies. With many places in the state paying over $1/kWh for electricity and $8/gallon of diesel, research and development projects can prove financially viable here where they would no place else in the United States.

1. **Create and fund a grant program targeted toward the development of "pre-commercial" energy technologies that have a reasonable expectation of commercial viability within five years.**

   Discussion: Currently, there is little or no state funding available for the research and development of new energy technologies. Although the state generously funds renewable energy development through the Renewable Energy Fund, projects funded through the Renewable Energy Fund are limited to proven, "off the shelf" technologies. In order to encourage innovation and exploration of new sources of renewable energy, the state should fund a competitive grant program targeted toward emerging energy research and development projects.

   Action: Pass SB 150, "An Act establishing an emerging energy technology fund."

2. **Support efforts to utilize solid waste and landfill products, including landfill gasses and waste paper, cardboard, and other biomass products, to generate electricity and heat.**

   Discussion: Alaskans produce roughly 650,000 tons of garbage annually, most of which is deposited in landfills. Landfills generate methane gas, which can be captured and burned in a boiler to produce heat or in a gas turbine or engine-generator to produce electricity. Capturing and using methane can not only generate heat and/or electricity, but it also helps reduce greenhouse gas emissions caused by landfill off-gassing.

   Waste paper and other combustible waste products can also be used to generate heat and electricity. The Eielson Air Force Base near Fairbanks co-burns densified waste paper with coal to generate up to 1.5% of the base's heat and power and Chena Power plans to build a power plant in Fairbanks that would generate 400 kWh by burning 5,000 tons of waste paper, cardboard, and other landfill waste annually.

   Action: Ask the Alaska Energy Authority to assess Alaska's largest landfills to determine the feasibility of capturing landfill gas and other waste products to generate heat and/or electricity.

3. **Support projects that employ liquefaction technologies, including gas-to-liquids and coal-to-liquids, to convert Alaska's natural gas and coal resources into synthetic fuels.**

   Discussion: Gas-to-liquids (GTL) and coal-to-liquids (CTL) are both proven technologies that could provide an alternative to transportation fuels derived from costly crude oil. However, full commercialization of these technologies has been hampered by high capital and operations costs and by significant environmental concerns. In particular, the commercial viability of GTL technology is limited by the fact that nearly 30-40% of the natural gas feedstock is used in the process of converting natural gas to a synfuel; the viability of CTL is undermined by the amount of greenhouse gas emissions generated during the life cycle of a coal-based synfuel, which is nearly double that of a traditional diesel fuel product.

   However, companies worldwide are engaged in research and development of new technology to reduce the amount of gas consumed in the GTL process and to reduce or sequester emissions produced in the CTL process. Given technological breakthroughs, GTL could prove a valuable option for commercializing North Slope natural gas if the proposed gas pipeline fails to proceed and CTL could play an important role in the development of Alaska's vast coal resources. As such, the state should look for opportunities to support the research and development of improved GTL and CLT technologies.

Action: Pass SB 150, "An Act establishing an emerging energy technology fund."

4. **Support resource assessment, feasibility studies, and the research and development of hydrokinetic and wave energy technologies in order to encourage the development of Alaska's vast in-river, tidal, ocean current, and wave energy resources.**

   Discussion: Hydrokinetic devices generate electricity from the kinetic energy of moving water. They differ from traditional hydropower, which uses a dam or diversion structure to channel water to a turbine to generate power, in that they are placed directly in a river, ocean, or tidal current. Wave energy devices take several different forms, including devices that utilize the ebb and flow of waves to push and pull air out of a cylinder to move an air powered turbine, and devices that use the motion of waves to power a piston attached to a generator.

   Alaska has significant potential for hydrokinetic development in both rivers and tidal basins and wave energy development in offshore ocean basins near coastal communities. Most inland communities in Alaska are situated along navigable rivers that could host hydrokinetic installations, and Alaska, with an estimated 90% of the total U.S. tidal energy resources, has vast potential for tidal energy development. Alaska also has an estimated 60% of the total U.S. potential for ocean wave energy development.

   Action: Pass SB 150, "An Act establishing an emerging energy technology fund."

5. **Support the assessment and study of North Slope gas hydrates and the research and development of gas hydrate extraction technologies.**

   Discussion: Gas hydrates are naturally occurring, ice-like solids in which water molecules trap gas molecules in a lattice-like structure. Although many gases form hydrates in nature, methane hydrate is by far the most common. In 2008, the U.S. Geological Survey (USGS) completed the first assessment of gas hydrate resources on the North Slope of Alaska. The USGS estimates that there are about 85 trillion cubic feet of undiscovered, technically recoverable gas resources within gas hydrates in northern Alaska.

   However, gas hydrates are a traditionally unconventional resource with no confirmed production history. In order to learn more about this potentially promising resource, the State of Alaska should support further assessment and study of North Slope gas hydrates and, should they prove a viable resource, encourage the research and development of technologies to extract and utilize gas hydrates.

Action: Pass SB 150, "An Act establishing an emerging energy technology fund."

6. **Develop and maintain baseline data needed for conducting applied energy research**.

Discussion: Collection of baseline data enables policy makers to assess current energy needs, identify potential strategies to meet those needs, and evaluate retrospectively whether a particular strategy has achieved its objective. This type of data collection and analysis are necessary to ensure that Alaska uses its limited financial resources optimally to meet Alaskans' energy needs.

Action: Request the Alaska Energy Authority to work with the Alaska Center for Energy and Power, the Institute for Social and Economic Research and others to identify baseline data needs as well as data gathering and storage protocols.

J. Providing Jobs for Alaskans

Maintaining a steady supply of energy for Alaskans requires a skilled and well-trained workforce. While there are numerous job training programs around the state that support energy-related resource development and energy system operations, many are grant-funded and subject to the whims of granting agencies. In addition, funding provided by the Denali Commission for energy training programs is declining, leaving Alaska at risk of losing programs that are helping to ensure that Alaskans are qualified for high-paying jobs and prepared to meet the needs of industry and utilities for skilled labor.

1. **Ensure adequate, on-going funding for energy-related job training programs.**

   Discussion: The Alaska Vocational Technical Center (AVTEC) is one of many centers around the state that offer energy-related training programs. Courses in Diesel/Heavy Equipment Technologies, Welding, Industrial Electricity, Renewable Energy, Bulk Fuel, and Power Plant Operations are helping to build a skilled workforce, capable of supporting energy systems throughout the state. Funding for these programs needs to be sustained at a consistent and adequate level.

   Action: Ask the Department of Labor to review training program budgets and funding sources and report back to the legislature by February 2010.

2. **Encourage the University of Alaska to strengthen energy-related education programs to help train a skilled workforce.**

   Discussion: Achieving energy independence will require a trained workforce and will generate high-paying jobs for Alaskans in the process. The University can play an important role in teaching Alaskans the skills they will need to get jobs in energy resource development and operations, renewable energy and energy efficiency.

   Action: Ask the University to assess its programs and report back to the legislature by February 2010.

K. Safeguarding Our Environment

1. **Address and mitigate the root causes of global climate change.**

   Discussion: Alaska is warming at more than twice the rate of the rest of the United States. Average annual temperatures rose by 3.4 degrees Fahrenheit in the past 50 years, while winter temperatures increased by 6.3 degrees. Precipitation also increased by 30% between 1988 and 1990 over much of the state. These changes have led to thawing of permafrost, causing damage to roads, buildings, and other infrastructure. Warming has also caused thinning of sea ice, exposing Alaska's coastal communities to more severe storm surges and coastal erosion. Three communities (Shishmaref, Kivalina and Newtok) have already initiated costly relocation efforts. Thinning of sea ice and changes in ocean temperature also threaten populations of ice-dependent marine mammals, such as walrus and polar bears, subsistence activities, and the state's billion-dollar commercial fisheries. In the Interior, warming has increased the risk of wild fires and destructive insect infestations, such as the spruce bark beetle.

   Action: Schedule legislative hearings to consider the recommendations of the Alaska Climate Change Sub-Cabinet and related recommendations.

2. **Ensure that Alaska's interests are fully considered in energy and climate change legislation being debated by Congress.**

   Discussion: In June, the U.S. House of Representatives passed the Waxman–Markey climate change bill, which includes a cap-and-trade program designed to curb global warming by imposing strict limits on the emission of six greenhouse gases. This bill requires emitters to acquire federally created permits (or "allowances") for each ton of greenhouse gas emitted, particularly CO_2. Because Alaska relies on energy production for a significant share of its revenues and for thousands of high-paying jobs, climate change legislation needs to be closely monitored to ensure that it does not have an adverse effect on our economy. Well-crafted legislation could enhance prospects for construction of a natural gas pipeline
   , while poorly drafted legislation could harm the state's interests.

   Action: Actively monitor the status of federal climate change legislation and coordinate with Alaska's congressional delegation to ensure Alaska's interests are fully considered.

3. **Establish policies and measures to reduce industrial greenhouse gas emissions.**

   Discussion: Alaska industries with the highest greenhouse gas emission estimates are those engaged in the energy production and delivery business, accounting for approximately 36% of greenhouse gas air emissions. The Governor's Sub-Cabinet for Climate Change identified several steps that could be taken by the oil and gas industry to minimize its potential impact on climate change. They include reducing fugitive methane emissions; electrifying oil and gas operations; improving the efficiency of fuel-burning equipment; using renewable energy; and capturing and sequestering carbon (http://www.akclimatechange.us/ewebeditpro/items/O97F21715.pdf).

   Action: Work with the Sub-Cabinet for Climate Change to prioritize and implement its recommendations.

4. **Encourage recycling and reduction of garbage to landfills.**

   Discussion: Recycling reduces the need for energy intensive manufacturing processes. The Environmental Protection Agency reports that in 2005 recycling in the U.S. saved 900 quadrillion BTUs which would have been used in manufacturing products from raw materials. This is enough to power nearly 11 million homes for a year. The energy saved from recycling just one aluminum can provides enough electricity to run a 100-watt bulb for 3.5 hours, and recycling one pound of steel saves enough energy to light a 60-watt bulb for more than 26 hours. Likewise, recycling paper cuts manufacturing energy costs by 50 percent and recycling a ton of glass saves the equivalent of nine gallons of fuel oil.

   Action: Initiate a public education campaign to encourage recycling and re-use. Assist local governments with recycling programs and demonstrate leadership and commitment at the state-level to recycling.

5. **Encourage use of sawmill residues, logging debris and beetle-killed timber for space heating and electricity generation to help mitigate impacts from bark beetle infestation**.

   Discussion: The spruce bark beetle outbreak in Southcentral Alaska has affected 2 to 3 million acres in the past 10 years. In heavily affected stands, often all spruce trees greater than 10 cm are killed. The area affected by tree death is one of the largest ever documented from an insect outbreak in North America. Using this biomass for energy will reduce fire danger while restoring damaged forests and lowering energy costs.

Action: Support pilot projects to use waste wood to generate heat and power. Encourage the Alaska departments of Natural Resources and Fish and Game to coordinate with the U.S. Forest Service and U.S. Fish and Wildlife Service to inventory and make readily available spruce bark beetle killed timber for use in biomass projects.

L. Ensuring a Bright Energy Future for Alaska

Ensuring that these recommendations are thoroughly considered and those with merit are implemented will require great focus and dedication. The state has many needs; energy is just one. If we hope to move forward as a state and improve our quality of life as well as our economic health and competitiveness, we will have to hold our feet to the fire, make hard decisions, and invest considerable sums in energy infrastructure. The pay off promises to be great, but the costs will be as well. Creating the governance structures needed to carry these recommendations forward will be critical. Collaboration between both houses of the legislature and the Administration will be essential.

1. **Evaluate the administration of state energy programs and the desirability of centralizing energy offices to increase efficiency and sharpen the focus on meeting the state's energy needs.**

   Discussion: State energy programs and duties are currently distributed among a number of state and quasi-state entities, including the Alaska Energy Authority, the Alaska Housing Finance Corporation, the Department of Natural Resources, the Alaska Natural Gas Development Authority, and the University of Alaska, among others. In order to minimize duplication of efforts, increase efficiencies and the sharing of information, reduce the burden to businesses, and improve public access to information and programs, the state should consider options for centralization of energy offices and programs, including creating a Department of Energy.

   Actions: Consider HB 218, SB 185 and related proposals. Ensure that there are adequate staff within the Alaska Energy Authority to effectively fulfill its mission and responsibilities.