

HCR

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FEB 21 2001

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Representative Kevin Meier
Cochair, House Community and Regional Affairs Committee
State Capitol
Juneau, AK 99801

February 16, 2001

Dear Representative Meier,

I wish to provide comments on House Concurrent Resolution 1 re a Task Force on a Statewide Comprehensive Energy Plan. I understand that you have copies of the op-ed articles on an energy policy for Alaska that I wrote and were published in the Anchorage Daily News and Fairbanks News-Miner. In addition to the comment within these articles, I have the following comments:

I strongly support the concept of a task force to consider and develop a comprehensive energy plan and associated policies. Task force efforts should have a broad focus.

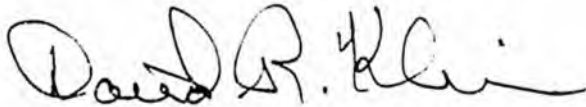
- 1) Emphases should include state reserves of conventional energy resources, their current and potential development, distribution and uses, but also alternative and renewable energy reserves and potentials.
- 2) Efficiency in use of all types of energy is equally important in Alaska as elsewhere and must be a major consideration by the task force, including new technologies rapidly developing in response to the current high fuel costs. These include fuel cells, building design and utilities for efficiency in heating, cooling and electrification.
- 3) New technology for cleaner uses of conventional fuels is important. This should include the possible justification for further investment in completion of the upgrading of the Healy Clean Coal Plant so that it can meet the planned design

transport industry (trucking, the Alaska Railroad, the Marine Highway System, the Trans Alaska Pipeline), commercial fishing, logging, and mining is a dirty fuel that is a major atmospheric pollutant that medical authorities blame for contributing to increasing cancer rates in urban centers throughout the country. Technology is now available to allow our refineries to greatly reduce the sulfur content of diesel and improve its energy conversion efficiency.

- 4) Alternative energy development is advancing rapidly throughout the world and Alaska should be in the forefront of this development. We should invest a significant portion of the revenues we receive from extraction of our nonrenewable energy resources in alternative and renewable energy development. This should be considered as a payback to our children and all future generations for our use and, therefore, draw down of the nonrenewable energy resources of the state. Our coastal frontage on the sea, greater than that of the rest of the United States, offers us the potential for meeting a major share of our future energy needs via the energy of the tides, the waves, and oceanic winds. Electric power generation from wave action, which has been under development in Norway and Scotland for several years, is now finding increasing uses to meet small-scale needs, such as for navigational lighting. The island of Islay off the west coast of Scotland is now provided with electricity from a wave-energized power plant. Hydrogen, the clean burning fuel of the future for automobiles and fuel cells, is now being used in buses in Chicago and Vancouver, B.C. and its market value is increasing exponentially. The tremendous capacity for wind energy generation in the Aleutians and other coastal areas offers the potential for large-scale production of hydrogen, and its liquefaction and shipment to future markets throughout the Pacific Rim.
- 5) Any energy plan for Alaska must be approached from the perspective of our relationship to the rest of the United States, both as an energy consumer, as well as an energy exporter, but also as an energy partner with adjacent Canada and as part of the world community. In this regard, it is noteworthy that there will be a very energy-relevant conference in Whitehorse during March 18-21, 2001 titled, "Climate Change in the Circumpolar North". For details see the conference web page www.taiga.net/nce.
- 6) A state energy plan and policy must be guided by the state's responsibility to support long-term national and international goals of reduction in production of "greenhouse gases" that are contributing to global climate change. The associated detrimental consequences are already being felt in Alaska, such as thawing of permafrost on the North Slope, accelerated beach erosion at arctic coastal communities, decrease in thickness and duration of sea ice in the Bering Sea and Arctic Ocean which limits its use as a platform for subsistence hunting of marine mammals by residents of coastal communities.
- 7) A major benefit from a statewide energy plan should be substantial savings in cost to the state government through increased efficiency of energy transportation and availability to all parts of the state, rural as well as urban. Cost savings in provision of energy to rural communities for electric power generation would lessen the need for current state subsidization, and should be a major goal of a state energy plan.
- 8) The environmental and human health costs of current and proposed production and use of energy within the state should be assessed, whether from renewable or nonrenewable sources, and minimization of these costs should be a guiding principle in the development of a state energy plan and subsequent energy policy.

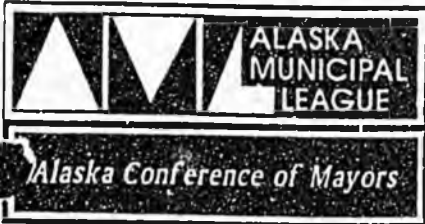
Thank you for the opportunity to comment on this important legislative proposal.

Sincerely,

A handwritten signature in black ink that reads "David R. Klein". The signature is written in a cursive style with a large initial "D" and "K".

David R. Klein
Professor Emeritus
Institute of Arctic Biology
University of Alaska Fairbanks

CC: Representative Ethan Berkowitz



217 Second Street, Suite 200 ■ Juneau, Alaska 99801 ■ Tel (907)586-1325, Fax (907)-463-5481

February 16, 2001

Representative Ethan Berkowitz
State Capitol, Room 404
Juneau, AK 99811

Dear Representative Berkowitz:

We are writing in support of HCR 1 Relating to a Task Force on a Statewide Comprehensive Energy Plan. As stated in the *2001 Alaska Municipal League Policy Statement*, approved November 2000, supports the development of a comprehensive statewide energy plan.

Part IV. Economic Development & Resource Management:

8. Alaska Energy Plan: The League supports the expeditious development of the first statewide Alaska Energy Plan by the State Division of Energy and the federal government coordinated by the Denali Commission, and urges that the process broadly involve all interested citizens in all communities.

The Alaska Municipal League is also working as a member of the Denali Commission, together with the State, to develop a statewide energy plan. It appears that this Task Force could be of benefit in steering the process and ensuring that there is broad public participation.

If you have any questions on this or any other municipal issues, please call me at 586-1325.

Sincerely,

Kevin Ritchie
Executive Director

cc: AML Land Use, Economic Development & Resources Subcommittee

FISCAL NOTE

STATE OF ALASKA
2001 LEGISLATIVE SESSION

Fiscal Note Number: 1
 Bill Version: CSHCR 1(CRA)
 (H) Publish Date: 2/21/01

Revision Date/Time (Note if correction): _____ Dept. Affected: _____
 Title: HCR 1 Statewide Comprehensive Energy BRU: _____
Plan Task Force Component: _____
 Sponsor: Rep. Berkowitz
 Requester: HC&RA Component Number: _____

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES						
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CHANGE IN REVENUES ()						
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type)						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2001) cost: 0.0

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

Prepared by: Lorali Meier, Committee Aide HC&RA

Phone 465-6588

Representative Meyer
Committee Co-Chair

Date 2/16/01



Alaska State Legislature

Please enter into the record my testimony to the Senate HESS
committee name
committee on HCR 1 , dated 4/30/01
bill/subject

AKPIAG wishes to express its strong support for HCR 1. It is a wise, strong step toward an energy future, that will benefit all Alaskans. ~~HCR 1~~ HCR 1 has no fiscal note, thus a plan for the state can be developed with no financial cost to the state. Not planning is costing the state \$15-17 million a year to subsidize diesel generation in places like Kotzebue, where wind generation is in place and producing power at a cheaper rate. AKPIAG wishes to use the technical success from our circumpolar neighbors to generate localized energy production opportunities here in Alaska, ~~the~~ particularly in rural areas where energy is expensive and subsistence needs mandate a clean environment.

More than 100 people signed a petition in support of HCR 1 at our Earth Day Booth. This resolution enjoys bi-partisan support. In southcentral Alaska, consumers are concerned about future natural gas supplies. They don't want to burn coal. They want guaranteed, affordable energy that won't harm our environment.

Signed: Steve Clearx
Testifier

AKPIAG - Alaska Public Interest Research Group
Representing (Optional)

PO Box 10093 Anchorage AK 99510
Address

(907) 278-3661
Phone No.

Alaska State Legislature
House of Representatives
Minority Leader



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Representative Ethan Berkowitz
District 13

SCS for CS for House Concurrent Resolution 1 (STA)

**"Relating to establishing a Task Force on a
Statewide Comprehensive Energy Plan."**

Sponsor Statement

Throughout Alaska we depend on a variety of energy resources - diesel, wind, natural gas, coal, and hydro to name a few - to provide the power Alaskans need. Ensuring that we have sufficient power to fuel economic development and maintain health and safety is critical to Alaska's future.

House Concurrent Resolution 1 seeks to establish a Task Force that will examine the condition of Alaska's energy resources, identify areas of necessary improvement, and recommend actions to achieve short- and long-term goals.

Task Force members include:

- one member of the Senate appointed by the Senate President
- one member of the House of Representatives appointed by the Speaker
- one member appointed by the Alaska State Chamber from the transportation sector
- one member appointed by the Alaska Village Electric Cooperative
- one member appointed by the Alaska Rural Electric Cooperative Association
- one member appointed by the Alaska Oil & Gas Association
- one member appointed by the Alaska Coal Association
- one member appointed by the Alaska Audubon Society
- one member appointed by the Alaska State AFL-CIO
- one member appointed by the Alaska Public Interest Research Group
- one member appointed by agreement of the co-chairs of the Denali Commission
- one member appointed by the Alaska Industrial Development & Export Authority

In order to move forward and achieve the prosperity and quality of life that is part of Alaska's promise, we must secure reliable, affordable energy. I would appreciate your support.

E-mail: Representative Ethan Berkowitz@house.state.ak.us

SPONSOR STATEMENT

adn.com

Anchorage Daily News

Alaska needs an energy policy

Compass: Points of view from the community*(Published February 12, 2001)*

We depend on energy in many forms, at prices equitable to business, industrial and domestic users. Both major presidential candidates emphasized the need for a national energy policy during the recent campaign. Since taking office, President Bush has reconfirmed his commitment to a national energy policy.

The importance of energy to Alaskans' economy and lifestyles is much greater than in other states. This is because of our energy reserves, both developed and undeveloped; the employment of many Alaskans in the energy industry; the importance of oil revenues to state and local governments; and the need for and difficulty of providing energy at reasonable cost to both urban and rural communities.

Alaska's per-capita consumption of energy is extremely high. Our major industries, including commercial fishing, tourism, transportation, mining and logging, are all heavy energy consumers. High energy costs in Alaska -- whether for home heating, auto fuel, electricity, or industry -- affect our lifestyles, our pocketbooks and our economy.

Just as the nation needs to develop an energy policy to guide and balance its energy dependence, Alaska should develop an energy policy to prepare for the future. Alaska is fortunate to have vast energy reserves and is the major energy exporting state, but because of our large size and remoteness from national and world markets, Alaska is unique among the 50 states in the urgency of its need to develop a state energy policy.

No one source of energy will meet our needs. Alaska and the rest of the United States need to develop several sources to address the local and regional diversity in availability and demand for energy.

Alaska will continue to play a major role in supplying oil, and perhaps natural gas, to the rest of the United States. Our huge North Slope gas reserves, once they become available to Alaska's major population centers and the Lower 48, will contribute substantially to improved air quality and reduced emission of greenhouse gases.

Advances in fuel cell technology are making it possible to convert fossil fuels to available energy with far greater efficiency and much less pollution than through conventional combustion. Natural gas is the fuel of choice for fuel cells. The Postal Service in Anchorage is the first in the nation to install a fuel cell using power for its electronic equipment. Any surplus electricity that is generated enters the Anchorage, Kenai and Railbelt intertie system.

Alaska might develop and use energy from a variety of sources in addition to fossil fuels. Hydropower, for instance, has potential in Southeast Alaska and other Gulf of Alaska coastal communities.

Alaska could be a leader in development and marketing of wind power generation technology, which has seen substantial improvements in recent years. As a result, wind generation of electricity is proving economically feasible in Kotzebue, thanks to a state-supported trial program. In many parts of Western and northwestern Alaska and probably in most coastal communities, wind generation could reduce dependence on diesel fuel currently used in community power plants. This could reduce the high costs of barging fuel during limited freight seasons.

There is a rapidly expanding market for wind power generation throughout the world. Alaska has greater wind power generation potential than any other state and more than most other countries.

Several other energy sources occur around the state. They include local reserves of coal, natural gas and geothermal energy; tidal and wave power; and solar power. These offer potential for seasonal balance with wind generation.

It is clear that Alaska needs to prepare for its energy future through development of an energy policy that goes beyond but also includes the current focus on a gas pipeline. An energy policy must be based on an accounting of our current and anticipated energy needs, consideration of present and projected energy transmission systems, an assessment of our known and potential energy resources, potentials for energy conservation in building design and efficiency, and assessment of environmental costs of energy options.

I urge Gov. Knowles and the Legislature to jointly develop an energy policy for Alaska.

David R. Klein is professor emeritus with the Institute of Arctic Biology at the University of Alaska Fairbanks.

Close Window

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Legislative Research Services

Alaska State Legislature
Legislative Affairs Agency
Division of Legal and Research Services

State Capitol
Juneau, AK 99801
Phone: 907-465-3991
Fax: 907-465-3908

January 10, 2001

JAN 10 2001

Memorandum

TO: Representative Ethan Berkowitz

FROM: Cherie Nienhuis *CN*
Legislative Analyst

RE: Bibliography of Statewide Energy Studies, 1990 to Present
Research Request 01.045

You asked for a bibliography of all statewide energy studies that have been done for the state of Alaska from 1990 to present. We contacted the Alaska State Library, the Alaska Industrial Development and Export Authority and the Alaska Energy Authority within that agency, the University of Alaska Anchorage Institute of Social and Economic Research, and the Alaska Housing Finance Corporation. We also conducted a search of our own Legislative Research library database.

The results of our inquiries are shown below. If you desire a copy of any of the studies listed, please do not hesitate to contact us.

Available from the Alaska State Library

"Power Cost Equalization Program Manual," by the Alaska Public Utilities Commission, Alaska Energy Authority, 1990.

"Power Cost Equalization Program: Cost Reduction Options to the Legislature," by the Alaska Public Utilities Commission, Alaska Energy Authority, 1992.

"Alaska Energy Authority Strategic Plan," by R.W. Beck & Associates, 1993.

"Alaska Energy Strategy," by the Alaska Dept. of Community & Regional Affairs, Division of Energy, 1994.

"Alaska Rural Energy Initiative," by the Alaska Dept. of Community & Regional Affairs, Division of Energy, 1995.

"Division of Energy Mission and Programs," by the Alaska Dept. of Community & Regional Affairs, Division of Energy, 1997.

"Energy Update," by the Alaska Dept. of Community & Regional Affairs, Division of Energy, 1997 and 1998.

Available from the Legislative Research Library

"Alaska State Energy Corporation (An Overview of the Restructuring Plan for the Alaska Energy Authority), by the Office of the Governor, 1992.

"Alaska Energy Plan - Rural (Draft)", by the Alaska Industrial Development and Export Authority, Denali Commission, and U.S. Dept. of Agriculture, 1999.

Available from the Institute of Social and Economic Research

"The Economic Significance of the Power Cost Equalization Program," by the Institute of Social and Economic Research, 1998.

"Rural Energy Plan," by the Alaska Dept. of Community & Regional Affairs, Division of Energy, 1999.

"Energy and Recommendations of the Governor's Energy Task Force," by the Alaska Dept. of Community & Regional Affairs, Division of Energy, 1999.

At our request, the Alaska State Library conducted a search of their library holdings, and a search of the "WorldCat" database, which accesses library holdings nationwide. We spoke with Richard Erneman at AIDEA and Steve Colt at ISER, both of whom have a long history of working with Alaska energy issues. We found that there were many energy reports produced in the 1970s and 1980s, but that this activity dropped off significantly in the 1990s.

SCREENING REPORT FOR ALASKA RURAL ENERGY PLAN

DRAFT

Prepared for the

**Alaska Industrial Development
and Export Authority**

November 2000

Prepared by

In association with
**Electric Power Systems, Inc.
The Financial Engineering Company
nDR Alaska, Inc.
Precision Power, LLC
URS/Dames & Moore**

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INC.

Executive Summary

This report has been prepared for the Alaska Industrial Development and Export Authority (AIDEA), U.S. Department of Agriculture Rural Development, and the Denali Commission, and is one component of Phase 2 of the Alaska Rural Energy Plan. The report presents a screening analysis conducted to develop a short list of strategies and technologies that hold the most promise for reducing the cost or improving the reliability in rural Alaska. The selected strategies and technologies will be evaluated in more detail as Phase 2 progresses.

Strategies and technologies considered in this screening analysis are divided into six categories:

- Diesel efficiencies
- End-use conservation
- Space and water heating
- Fuel price strategies
- Alternative technologies
- Bulk fuel storage

Specific strategies within each of these topic areas were identified in Phase 1 of the Rural Energy Plan, which was prepared in 1999, or by the consultant team for this screening analysis. Strategies and technologies related to diesel efficiencies, fuel price strategies, end-use conservation, and alternative technologies were evaluated for their potential to significantly reduce the cost of electricity. Strategies related to space and water heating, including waste heat recovery systems and biomass systems, were evaluated for their potential to reduce the cost of heating. Strategies related to construction and financing of bulk fuel storage facilities were evaluated for their potential to reduce the cost of such facilities or to reduce reliance on public funding for such facilities.

Table ES-1 shows the strategies and technologies selected for further study.

Table ES-1. Short List of Strategies and Technologies Recommended for Further Study

Topic Area	Category	Strategy or Technology
High Cost of Electricity	Diesel Efficiencies	Switchgear Improvements Microprocessor-Based Engine Controls
	End-Use Conservation	Lighting Appliance Upgrades
	Alternative Technologies	Wind Power
Reliability		Microprocessor-Based Protective Relays
Space and Water Heating		Insulation and Weatherization Heater Upgrades Waste Heat Recovery Systems
		Water Conservation Devices
Bulk Fuel Storage		Local Contributions to Tank Farm Financing ^a

^a Several other strategies related to the construction of bulk fuel storage facilities are recommended for field testing, but not for further study to assess their potential.

The only alternatives included on the short list are those projected to result in significant benefit to a significant number of people and communities in the near term, assuming that the approach is implemented aggressively. For alternatives intended to address the high cost of electricity, benefits must be projected in the absence of government grants or low interest loans, since virtually any alternative can provide benefits to consumers if a large enough subsidy is provided.

To help identify strategies or technologies that should be considered for further study, AIDEA suggested as a general guideline that, to warrant inclusion on the short list (Table ES-1), any measure to reduce the cost of electricity should be able to lower rates by at least \$0.01 per kilowatt-hour in at least 5 communities within a 5-year period. It is not the intent of AIDEA or the consultant team to rule out alternatives that do not meet these criteria from further consideration or support. The intent is to focus on those alternatives that meet these criteria and to give them priority consideration.

End-use conservation is the only category in which a majority of considered strategies are recommended for further study. Most of the diesel efficiency strategies considered did not meet the criteria for further study. In alternative technologies, only one strategy (wind) of the 12 considered met the criteria. However, more study is recommended for specific issues related to interties.¹ In fuel price strategies, no strategies met the criteria for further study. (While these strategies would be useful and should be considered by all utilities in the course of regular business practices, none appears to have the potential to reduce the cost of electricity by \$0.01 per kilowatt-hour (kWh) for a large number of communities.)

Strategies and technologies considered in the reliability and space and water heating categories were recommended for further study if they were economically viable and would produce obvious benefits in the near future. Six strategies met these criteria. For example, the strategy recommended for further research to improve reliability of electricity in rural Alaska (installation of microprocessor-based relays) was found to be economically justifiable based solely on savings associated with lower costs for distribution system equipment and maintenance. The benefits from improved system reliability associated with these relays could be significant and could be enjoyed by residents of rural Alaska at little or no cost (the cost is offset by other savings).

Because limited funds were available for this analysis, each alternative was examined only to the point that a conclusion could be reached about its potential to meet the screening criteria. As soon as it became unlikely that an alternative would pass the test, the analysis of that alternative was discontinued. For many alternatives, therefore, the analysis is very brief.

Analyses were based on data from the State of Alaska Power Cost Equalization Program, existing literature on energy systems in Alaska, public programs and agencies such as the Rebuild America Program and Alaska Community Development Corporation, the Alaska Energy Authority Circuit Rider Program, equipment manufacturers. The analyses also incorporate information from interviews with specialists and utility personnel throughout the state.

¹ Limited additional research is recommended to determine whether the costs and benefits of single wire ground return transmission lines and direct current cables might make interties viable in more locations.