

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672

964 SCOMM44: HOUSE POWER ALTERNATIVES STUDY COMM. 1979-80

COOPERATION: The center is directed to cooperate with other state agencies, and the University of Alaska.

DEFINITIONS: Definition of terms used in the foregoing sections and subsections of the bill.

SECTION 4: Center employees are in the exempt category of the State Personnel Act.

SECTION 5: the Center is classified as a "commission or board"

SECTION 6: Projects funded by the legislature are appropriated for the full expected duration of the project; this is to ensure that projects begun with legislative appropriations are not harmed by budget reductions in the future. This provision applies to research, development or demonstration projects under either the operating or capital budgets.

SECTION 7: Alaska Council on Science and Technology is to advise the governor and legislature on priority issues, and recommendations for projects which should be conducted or supported by the energy center.

SECTION 8: First board of directors are staggered according to the following formula: three serving a one-year term; two serving two years, and two serving three years.

SECTION 9: Effective date is immediate, except for Section 7, which takes effect later.

SECTION 10: Effective date for Section 7 is July 1, 1980

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Council
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Location not specified

4.4.80 P1

Energy Center plan reworked

By SUSAN FISHER
News-Miner Bureau

JUNEAU—A bill to set up an independent Alaska Energy Center has been rewritten and signed off by the House Resources Committee.

But it hasn't been reported out of committee yet, as Resource members work on other aspects in a package of energy-related bills.

Originally the bill said the center's main office would be in Fairbanks. That has been removed, leaving location open to the board of directors.

While no major substantive changes have been made to the original House Bill 687, some of the committee's changes are:

- Requiring that three of the seven board members be "nationally recognized" energy experts, and that four be Alaskans.

- Upping the pay to board members from \$200 to \$350 per day during board

meetings, plus per diem and travel costs.

- Reducing the number needed for a board quorum from five to four.

- Requiring the board to meet twice a year with representatives of the Alaska Council on Science and Technology, the Alaska Power Authority, the Alaska Renewable Resources Corp., Department of Commerce's Division of Energy and Power Development, Department of Natural Resources and the University of Alaska.

- Mandating an annual report to the governor and Legislature on all research needs, recommendations on projects under consideration, progress of ongoing research, and the relationship of that research to Alaska's needs and priorities.

Rep. Brian Rogers, D-Fairbanks, said the change in requiring three nationally recognized experts as board members is intended to spur

recognition of the center outside Alaska.

The board would be composed of seven members appointed by the governor and confirmed by the Legislature, plus two non-voting legislative members appointed by the House Speaker and Senate President.

HB 687 initially was sponsored by 25 representatives, and now will appear as a committee substitute.

Reps. Bill Miles, D-Anchorage, and Alvin Osterback, D-Sand Point, co-chairmen, and Reps. Jack Fuller, D-Nome; Chat Chatterton, R-Anchorage, and Sam Cotten, D-Eagle River, signed to pass recommendations on the committee substitute.

But two of the original 25 sponsors, Resource members Rick Halford, R-Chugiack, and Pat Carney, D-Wasilla, signed no recommendation.

The bill has a second committee

referral to the House Finance Committee.

Original purposes of the bill remain the same: create jobs, promote efficient and appropriate technologies based on Alaska's energy resources, reduce energy imports, and make new technologies useful to businesses.

The Resources Committee added a paragraph saying the Legislature intends the center "act to achieve self-reliance at the earliest possible date."

About \$1.4 million in anticipated funding is expected to be contracted to the University of Alaska for research, and the bill says such contracting with the UA shall be done when feasible.

Both the original and revised versions of the bill stipulate that board members are subject to the state's conflict-of-interest laws, shall hold staggered terms, and may employ an executive director and staff.

(See *ENERGY*, page 7)

ENERGY . . .

(Continued from page 1)

The center and board may accept grants, loans and contracts; hold patents, copyrights, trademarks, royalties or other protection on rights; sue and be sued; adopt regulations for its governance, and provide financial and other support to inventors and businesses.



Alaska State Legislature House of Representatives

POUCH V
JUNEAU, ALASKA 99811
OFFICIAL BUSINESS

MEMO: Feb. 29, 1980

TO: Milt Barker
Legislative Finance

FROM: Rep. Terry Gardiner / Speaker
by Bob Speed, A.A. /

RE: Fiscal note: HB 687 creating the Alaska Energy Center

Milt --

attached is a budgetary breakdown anticipated for the first year of operations of an Alaska Energy Center as proposed in HB 687. The center would be semi-autonomous in its relationship with the Administration and Legislature, in that it would be set up as a non-profit corporation (such as ARRC).

There are a couple things to consider as you prepare the fiscal note:

- 1) Salaries are drawn from my own estimates of the amount needed to obtain qualified people from the private sector, or with private-sector experience. However, I ask that you also consider figures now paid, or proposed to be paid under the new state pay bill. The position of executive director of the energy center would be roughly equivalent to that of departmental commissioners, the university president, or trustees of the Alaska Renewable Resources Corp. Staff under the executive director would be stepped in increments analogous to similar positions in other agencies.
- 2) To ensure rapid start-up of the AEC, there has been some discussion of the possibility of putting out bids for a management contract with organizations now involved in similar programs; in that event, adjustment might be needed in the categories having to do with personal services: specifically, there would be a need for more money in subcontracting and consequently less in labor; overhead and fringe budget components would also have to be adjusted in taking that into account. I figure there should be a 20 to 30 percent leeway in the various components to allow for the alternatives of either permanent staff hire or management contracting. I estimate there would be no change in the total for the operating budget of \$5.5 million.

3



Alaska State Legislature House of Representatives

MEMORANDUM

POUCH V
JUNEAU, ALASKA 99811
OFFICIAL BUSINESS

To: Legislative Committees
From: Terry Gardiner
Date: February 29, 1980
Re: HB 687

HB 687 FISCAL NOTE Operating Budget FY 81

Salaries:	<u>1st Qtr</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
Ex Dir	\$20,000	\$20,000	\$20,000	\$20,000
Dep Dir	17,500	17,500	17,500	35,000
Sen Staff	60,000	90,000	120,000	150,000
Staff member	67,500	112,500	157,500	225,000
Tech/Jr. Staff	33,500	57,500	77,000	96,250
Sec	<u>16,500</u>	<u>22,000</u>	<u>27,500</u>	<u>38,500</u>
LABOR				
SUB TOTAL	\$215,000	\$319,500	\$419,500	\$564,750
Fringe & Over- head (80%)	<u>172,000</u>	<u>255,600</u>	<u>335,600</u>	<u>451,800</u>
	\$387,000	\$575,100	\$755,100	\$1,016,550
Travel	\$ 85,000	\$ 60,000	\$ 85,000	\$105,000
Subcontracts	100,000	300,000	400,000	700,000
Equipment	<u>50,000</u>	<u>100,000</u>	<u>200,000</u>	<u>200,000</u>
SUBTOTAL	\$532,000	\$1,035,100	\$1,440,100	\$2,021,500
Gen admin-10%	<u>53,200</u>	<u>103,510</u>	<u>144,010</u>	<u>202,155</u>
TOTAL	\$585,200	\$1,138,610	\$1,584,110	\$2,223,705
NET TOTAL	\$5,513,625.			

II: HB 687 FISCAL NOTE

ORGANIZATIONAL STUDY:	\$65,000	} <i>breakdown of budget total</i>
CONTRACTUAL:	\$45,000	
TRAVEL:	\$10,000	
INCIDENTAL & CONTINGENCY	\$10,000	

TOTAL

III: PROJECTS BUDGET

<u>Project</u>	<u>Duration</u>	<u>Total Cost</u>	<u>State Share</u>
Geothermal	1 yr	\$1,200,000	\$1,200,000
Wind	1 yr	1,100,000	1,200,000
Hydro (micro)	1 yr	500,000	300,000
Feedlot or dairy methane	1 yr	1,500,000	750,000
Electric transportation		500,000	250,000
Diesel transition to coal	2 yr	1,000,000	1,000,000
Hydrogen engine	2 yr	1,500,000	1,500,000
Wood alcohol (barge/SE)	2 yr	4,500,000	3,000,000
Sawmill alcohol (interior)	2 yr	2,500,000	1,500,000



Pacific Northwest Laboratories
P. O. Box 999
Richland, Washington U.S.A. 99352
Telephone (509) 375-3796
Telex 15-2874

December 27, 1979

Mr. Bob Speed
Administrative Assistant
Alaska State Legislature
Pouch V
Juneau, Alaska 99811

Dear Bob:

Thanks again for stopping by Battelle on the 19th and discussing your interests in Alaskan energy development.

As discussed, Battelle's "Delta Biomass Project" has identified several economically attractive options for utilizing the biomass that has resulted from clearing the Delta Agricultural Project. Because of the benefits to be derived by the Ag Project and potential energy use of this material, I feel that it is very important that development work leading to demonstration and/or commercialization be continued in 1980. Although our project was specific to the present 60,000 acre clearing project the information can be used as an integral part of the plans for other land clearing projects as well as for biomass utilization in Alaska in general. Your commitment to achieving energy self-sufficiency on the Delta Ag project is a logical extension of our biomass project and I will continue to explore the potential in more detail with you and others in the coming weeks.

The results of the Delta Biomass project could also benefit the U.S. Department of Energy (DOE). DOE's interests in fuels from biomass include identification of research initiatives leading to demonstration and/or commercialization possibilities. The Delta site could potentially be used as a proving ground for harvesting, transportation, conversion and utilization of biomass resources. Although Battelle can not make a commitment for DOE, we are confident that they would be receptive to ideas for participation if a similar commitment is there from an Alaskan entity. We would be glad to help you pursue this as an extension of our just completed work for the State of Alaska on the Delta Ag Project.

X Mr. Ted E. Divine and I also appreciated the opportunity to discuss Alaska's plans for an energy institute or energy initiatives corporation. As discussed,

Mr. Bob Speed
December 27, 1979
Page 2

Battelle has the capabilities and interests to aid in setting up such an organization based on our institute building experience with the Industrial Technology Research Institute (ITRI) project in Taiwan, the Korean Institute of Science and Technology (KIST) and others. Because of the nature of these projects we are not able to provide you with written detailed information at this time. However, we will send you additional background on these capabilities when it can be released. Please keep us informed of developments on the subject of the energy institute/corporation and certainly include us on the RFP distribution if the state decides to go that route.

I have included some additional information for your reference. I look forward to keeping in touch.

Sincerely,

David E. Eakin

David E. Eakin, P.E.
Senior Development Engineer
Food and Agriculture Section

DEE:gmh

HOUSE JOURNAL SUPPLEMENT

May 2, 1980

Friday

No. 60

FISCAL NOTE

CSHB
125

I. REQUEST

Bill/Resolution No. CS for HB 125 (Page 1 of 2)

Title An act relating to daycare centers and multipurpose youth centers

Requested by House Health, Education & Social Services Comm. Date 4-25-80

II. FISCAL DETAIL

Agency Affected Community and Regional Affairs

Program Category Affected Social Services

BRU, Program, or Subprogram(s) Affected Local Government Assistance

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL	0	0	0	0	0	0

FUNDING (Thousands of Dollars)

GENERAL FUND	0	0	0	0	0	0
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME	0	0	0	0	0	0
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

There will be no fiscal impact until such time as money is appropriated to the grant program established by this bill.

The following breakdown assumes a funding level of \$6,000,000 for FY 81 (per staff of House H&SS Committee):

1 Local Government Specialist IV	Range 19	\$40,735
1 Account Technician I	Range 12	25,006
1 Clerk Typist III	Range 8	19,615

Total Personal Services \$85,356*

Travel	15 Trips @ 500	\$ 7,500
	30 Days per deim @ 65	1,950
	TOTAL	\$ 9,450

IV. DATE 4-25-80

PREPARED BY

AGENCY State Assessor

PHONE 465-4730

Original: Legislative Finance

CSHB
125

Page 2 of 2

Central Office Space 1000 sq. ft. @ 1.50	=	\$18,000
Mag Card @ 300 x 12	=	3,600
Telephone	=	5,000
Postage	=	2,000
Printing	=	5,000
Copier	=	<u>1,500</u>
		\$35,100
Commodities		\$ 3,000
Equipment		<u>\$ 3,500</u>
GRAND TOTAL		\$136,406

*Salaries include 28% for fringe benefits. Equipment includes one time start up costs.

FISCAL NOTE

I. REQUEST

Bill/Resolution No. HOUSE BILL NO. 529Title An Act relating to fish disease control

Requested by _____

Date _____

II. FISCAL DETAIL

Agency Affected Department of Fish and GameProgram Category Affected Natural ResourcesBRU, Program, or Subprogram(s) Affected Division of F.R.E.D.

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES		57.8	62.4	67.4	72.8	78.6
200 TRAVEL		19.0	20.5	22.2	23.9	25.8
300 CONTRACTUAL		5.0	5.4	5.8	6.3	6.8
400 COMMODITIES		18.2	19.7	21.2	22.9	24.8
500 EQUIPMENT		5.0	5.4	5.8	6.3	6.8
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL		105.0	113.4	122.4	132.2	142.8

FUNDING (Thousands of Dollars)

GENERAL FUND		105.0	113.4	122.4	132.2	142.8
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME		2.0	2.0	2.0	2.0	2.0
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

To implement comprehensive fish disease control program which will provide diagnostic screening and prevention programs for twenty (20) scientific/educational Aquaculture permit and fifteen (15) Private Non-Profit (PNP) Aquaculture permits.

100	2 Microbiologists, range 16 @ 28.9 each.	57.8
200	Travel and per diem for 35 annual on-site diagnostic screening visits and additional visits/prevention and control programs.	19.0
300	Private laboratory testing.	5.0
400	Scientific supplies.	18.2
500	Laboratory equipment.	5.0
	Inflation at 8% per year for following years.	

TOTAL: \$105.0

IV. DATE 1/10/80PREPARED BY Russell H. ClarkAGENCY Department of Fish and Game

Original: Legislative Finance

PHONE #465-4120

HE
637FISCAL NOTE

I. REQUEST

Bill/Resolution No. House Bill 637

(Page 1 of 2)

Title "An Act relating to the purchase of services by the state for persons under itsRequested by House ITSSDate 4/16/80

Title cont.

responsibility; and providing for an effective date."

II. FISCAL DETAIL

Department of Health and Social Services

Agency Affected

Program Category Affected Social Services, Justice, HealthBRU, Program, or Subprogram(s) Affected Admin. and Support - Audit

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES		125.8	99.0	111.0	124.0	140.0
200 TRAVEL		20.1	10.0	21.0	23.0	25.0
300 CONTRACTUAL		1.0	1.1	1.3	1.4	1.6
400 COMMODITIES		1.0	.5	.0	1.0	1.1
500 EQUIPMENT		2.5				
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.		1) See Note 1 below				
TOTAL		150.3 *	118.0 *	134.2 *	149.4 *	167.7 *

*Does not include costs in 700 lines as result of cost settling.

FUNDING (Thousands of Dollars)

GENERAL FUND		150.3*	118.0*	134.2*	149.4*	167.7*
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME		3	2	2	2	2
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

Note 1:

During 1978 rate hearings were held for "full-cost-of-care" as required in AS 47.40.70. Inflationary rate increases were established and the costs for the first six months of that year were reviewed. Based on that information rates were believed to be sufficient to pay for the full-cost-of-care. A review of FY 1979 provider costs revealed costs exceeded actual payments by \$352,723.81. It may be reasonable to assume that the FY 81 cost settlement would be at least equal and probably greater.

Assumptions:

1. Actual impact cannot be estimated for expenditures related to costs to be allowed under this bill, as no data base exists. Other line items reflect 7% inflation.

Original: Legislative Finance
cc: Budget and Management
Prime Sponsor (First Legislator Named)

Prepared by: Cedrick B. B. Date: April 16, 1980
Division/Office: PH:
Department of Health & Social Services

Approval DHSS Mgt. & Bdgt John DeLuz Date: 4/16/80Page 1 of 2

2. Costs above reflect increase in administrative expense only.
3. All positions full year budgeted.
4. Salaries reflect current contracts plus 7% increase in calendar year 1982.

Program:

1. Personal Services

- a. Two range 18 Field Auditors
Salary FY 81
2465 increases to 2640 1-1-81

FY 82
2736 increases to 2928 1-1-82
Benefits total 28%

Program:

- b. Social Worker IV Position for FY 81 only.

This position is needed to enable the Department to promulgate regulations this fiscal year, including levels of care and standards of allowable costs. The position would also carry out an implementation plan including developing facility forms, guidelines, and information packets. Finally, the position would provide ongoing expertise in residential child care and develop strategies to enable providers to upgrade the quality of their treatment programs.

2. Program Plan

These additional auditors will be required to perform lengthy and complex fiscal audits to establish and revise rates of reimbursement for contract providers of service.

The complex financial arrangements made by some current providers include holding companies, lease back agreements, donated property and similar complications, all of which preclude an accurate cost estimate.

CSHB
653AMENDED
FISCAL NOTE

I. REQUEST

Bill/Resolution No. CSHB 653 #1

Title An Act Establishing a Fuel Emergency Fund & a Bulk Fuel Distribution & Storage ProgramRequested by Mary Holloran, House Resources CommitteeDate 4-21-80

II. FISCAL DETAIL

Agency Affected Department of Commerce and Economic DevelopmentProgram Category Affected DevelopmentBRU, Program, or Subprogram(s) Affected Division of Business Loans

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES	-0-	-0-	-0-	-0-	-0-	-0-
200 TRAVEL	-0-					
300 CONTRACTUAL	-0-					
400 COMMODITIES	-0-					
500 EQUIPMENT	-0-					
600 LAND & STRUCTURES	-0-					
700 GRANTS, CLAIMS, ETC.	1,500.0					
CAPITALIZE LOAN FUND	1,500.0					
TOTAL	3,000.0	-0-	-0-	-0-	-0-	-0-

FUNDING (Thousands of Dollars)

GENERAL FUND	3,000.0	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

This fiscal note is amended to reflect the addition of Sec. 45.87.050 which states that the department shall contract for the administration of the grant and loan programs. It assumes the person or agency who administers the programs will take the contract costs out of the grant or loan appropriation.

If contract costs must be defined and appropriated separately, a new fiscal note will be submitted.

IV. DATE Amended 4-21-80

Original: Legislative Finance

PREPARED BY Sharon R. Traylor, Director
 AGENCY Div. of Business Loans, Dept. of Commerce & Econ.
 PHONE 465-2510

May 2, 1980

HOUSE JOURNAL
SUPPLEMENT

No. 60

CSHB
653FISCAL NOTE

I. REQUEST

Bill/Resolution No. CSHB 653 # 2Title An Act establishing a fuel emergency fund and a bulk fuel distributionRequested by storage program Resources _____ Date 4/21/80

II. FISCAL DETAIL

Agency Affected Office of the GovernorProgram Category Affected Disaster and Emergency Relief FundsBRU, Program, or Subprogram(s) Affected Fuel Emergency Fund

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES						
200 TRAVEL						
300 CONTRACTUAL						
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.	250.0					
TOTAL	250.0					

FUNDING (Thousands of Dollars)

GENERAL FUND	250.0					
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME						
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

The sum of \$250,000 is appropriated from the general fund to the Office of the Governor, Fuel Emergency Fund. The unexpended and unobligated portion of this appropriation does not lapse at the end of the fiscal year.

IV. DATE 4-21-80PREPARED BY House Resources/Halloran

AGENCY _____

Original: Legislative Finance

PHONE 465-3779

HB
653FISCAL NOTE

I. REQUEST

Bill/Resolution No. HB 653 4-3Title An Act making appropriations to the Department of Commerce & Economic Dev.

Requested by _____

Date _____

Title: the Department of Community & Regional Affairs, and the Office of the Governor, for bulk fuel matters; and providing for an effective date.

II. FISCAL DETAIL

Agency Affected Department of Community and Regional AffairsProgram Category Affected Community DevelopmentBRU, Program, or Subprogram(s) Affected Local Government Assistance

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 81	FY 82	FY 83	FY 84	FY 85	FY 86
100 PERSONAL SERVICES	40.7	43.9	47.5	51.3	55.4	59.8
200 TRAVEL	10.6	19.1	31.5	35.2	41.0	45.6
300 CONTRACTUAL	1.8	1.9	2.0	2.2	2.3	2.6
400 COMMODITIES						
500 EQUIPMENT	.7	0	0	0	0	0
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL	53.8	64.9	81.0	88.7	98.7	108.0

FUNDING (Thousands of Dollars)

GENERAL FUND	53.8	64.9	81.0	88.7	98.7	108.0
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME	1	1	1	1	1	1
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

Personal Services: LGS IV (range 19) with special emphasis on business & loan skills. (See Comments for fuller detail)

Travel: FY '81 assumes 15 grants at 1.5 trips per grant; 3 days per diem

FY '82 assumes 15 grants at 1.5 trips per grant; 2 days per diem

15 business setups & loan preparation at 15 trips

3 days per diem

FY '83 assumes 15 grants at 1.5 trips per grant; 2 days per diem

15 business setups & loan preparation at 15 trips

3 days per diem

15 monitor/update at 15 trips per grant 1/2 days per diem

FY '84 same assumption as FY '83 with inflation

FY '85 same assumption as FY '83, with inflation

Contractual: Primarily telephone tolls and cost of advertising for bids.

Equipment: Desk, chair, bookcase, calculator, desk equipment, One time cost

IV. DATE 3/7/80PREPARED BY Ms. LareAGENCY Community & Regional Affairs

Original: Legislative Finance

PHONE (Anchorage) 276-1721 (Juneau) 465-4735

REVISED
FISCAL NOTE

I. REQUEST

Bill/Resolution No. CSHB 653 # 4 (Page 1 of 2)Title An Act relating to fuel and fuel shortages; establishing a fuel emergency fund and
Requested by Mary Halloran, House Resources Committee Date 4-18-80a bulk fuel acquisition and storage program; and providing for
an effective date.

II. FISCAL DETAIL

Agency Affected Department of Commerce and Economic DevelopmentProgram Category Affected DevelopmentBRU, Program, or Subprogram(s) Affected Division of Business Loans(Note: If more than one budget component is affected, separate line-item amounts and funding for each
component in the analysis section.)EXPENDITURES (Thousands of Dollars)

		3 Mos.					
		FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100	PERSONAL SERVICES	22.9	91.5	100.2	110.8	121.9	134.1
200	TRAVEL	2.9	11.3	12.4	13.6	15.0	16.5
300	CONTRACTUAL	3.1	12.4	13.6	15.0	16.5	18.1
400	COMMODITIES	.1	.5	.6	.7	.8	.9
500	EQUIPMENT	6.3	-	-	-	-	-
600	LAND & STRUCTURES	-	-	-	-	-	-
700	GRANTS, CLAIMS, ETC	1,500.0	-	-	-	-	-
	Capitalize Loan Fund	1,500.0	-	-	-	-	-
	TOTAL	3,035.3	115.7	127.3	140.1	154.2	169.6

FUNDING (Thousands of Dollars)

GENERAL FUND	3,035.3	115.7	127.3	140.1	154.2	169.6
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME	3	3	3	3	3	3
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

To increase staff to handle processing, closing and accounting for
bulk fuel revolving loan fund and for bulk fuel storage facilities grant fund.

See attached breakdown of fiscal note figures.

The figures have been revised to reflect the increases in wages and
per diem.This fiscal note assumes grants totaling \$1.5 million and loans totaling
\$1.5 million in the first year.*Sharon R. Traylor*IV. DATE Revised 4-18-80PREPARED BY Sharon R. Traylor, Director
AGENCY Div. of Business Loans, Dept. Comm. & Eco. Dev.
PHONE 465-2510

Original: Legislative Finance

CS
Breakdown of Fiscal Note Figures for HB 653:

Page 2 of 2

	<u>3 Months</u>	<u>12 Months</u>	
100. 1 Loan Examiner III @ \$2,652/mo.	8.0	31.8	
1 Documents Processing Clerk III @ \$1,440/mo.	4.3	17.3	
1 Accounting Technician II @ \$1,850/mo.	<u>5.6</u>	<u>22.2</u>	
Sub-Total	17.9	71.3	
Standard Benefits (Wages x .1529)	2.7	10.9	
Supplemental Benefits (Wages x .0665)	1.2	4.7	
Health Insurance (Man Mos. x 127)	<u>1.1</u>	<u>4.6</u>	91.5
200. Travel to Villages:			
20 Trips @ \$430	2.2	8.6	
40 Days Per Diem @ \$67	<u>.7</u>	<u>2.9</u>	11.3
300. Telephone, Postage, Printing, Advertising	2.5	10.0	
Additional Office Space @ \$200/Mo.	<u>.6</u>	<u>2.4</u>	12.4
400. Office Supplies	<u>.1</u>	<u>.5</u>	
Total Operating Expenses	29.0	115.7	
500. 3 Desks @ \$333	\$ 1.0		
2 Credenzas @ \$390	.8		
1 Typist Extension @ \$350	.4		
2 Secretarial Chairs @ \$137	.3		
1 Executive Chair @ \$180	.2		
2 Side Chairs @ \$125	.3		
4 File Cabinets @ \$247	.9		
2 Typewriters @ \$810	1.6		
3 Calculators @ \$225	.7		
3 Wastebaskets @ \$10, 1 Coat Rack @ \$60	<u>.1</u>	<u>6.3</u>	
TOTAL		35.3	

10% Inflation for Succeeding Years

May 2, 1980

HOUSE JOURNAL
SUPPLEMENT

No. 60

SSHB
800FISCAL NOTE

I. REQUEST

Bill/Resolution No. SS HB 800

(Page 1 of 2)

Title Unitization of Oil and Gas Leases/Oil and Gas ConservationRequested by House Resources CommitteeDate 4/17/80

II. FISCAL DETAIL

Agency Affected Natural Resources/Oil and Gas Conservation CommissionProgram Category Affected NRRECBRU, Program, or Subprogram(s) Affected Management and Administration

(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES		53.0	53.0	143.0		
200 TRAVEL						
300 CONTRACTUAL		40.0				
400 COMMODITIES						
500 EQUIPMENT						
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL		93.0	53.0	143.0		

FUNDING (Thousands of Dollars)

GENERAL FUND		93.0	53.0	143.0		
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME		1	1	3		
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

Within the next year, basic unit agreement forms must be revised and designed to cover net profit share lease accounting under unit agreements, as well as to reflect changes proposed in SS HB 800 and in regulations. Forms that must be revised include the State Unit Agreement Form; the State-Federal Unit Agreement Form; Unit Operating Agreement Form and its exhibits. The \$53,000 proposed for FY 81 would add one position in DNR, an economist, to do policy analysis and research on issues affecting unitization negotiations and approvals and to oversee revisions of the forms. The \$40,000 in contractual money is needed to acquire legal assistance on form revisions and for review of the forms and procedures by an accounting firm. Two additional positions, an accountant and a geologist, would be needed in FY 83 (or possibly earlier or later, depending on the timing of Beaufort Sea [continued on attached sheet])

IV. DATE 4/17/80PREPARED BY Jeff Haynes, deputy commissionerAGENCY Natural ResourcesPHONE 465-2400

Original: Legislative Finance.

cc: Budget and Management

Prime Sponsor (First Legislator Named)

SS HB 800 Page 2 of 2

unitization negotiations) to represent the State in negotiations on the Unit Operating Agreements proposed for Beaufort Sea leases and in other units containing a net profit share lease or leases with more than one royalty rate or provision.

FISCAL NOTE

I. REQUEST

Bill/Resolution No. House Bill No. 981
 Title Authorizing advisory vote re right of state to own & control public
 Requested by Rep. Charles H. Parr Date 4-28-80

II. FISCAL DETAIL

Agency Affected _____
 Program Category Affected _____
 BRU, Program, or Subprogram(s) Affected _____
 (Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES	-0-	-0-	-0-	-0-	-0-	-0-
200 TRAVEL	-0-	-0-	-0-	-0-	-0-	-0-
300 CONTRACTUAL	-0-	-0-	-0-	-0-	-0-	-0-
400 COMMODITIES	-0-	-0-	-0-	-0-	-0-	-0-
500 EQUIPMENT	-0-	-0-	-0-	-0-	-0-	-0-
600 LAND & STRUCTURES	-0-	-0-	-0-	-0-	-0-	-0-
700 GRANTS, CLAIMS, ETC.	-0-	-0-	-0-	-0-	-0-	-0-
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

FUNDING (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS	-0-	-0-	-0-	-0-	-0-	-0-
OTHER (Specify Fund Source)	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS

FULL TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART TIME	-0-	-0-	-0-	-0-	-0-	-0-
TEMPORARY	-0-	-0-	-0-	-0-	-0-	-0-

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

IV. DATE 4-28-80

Original: Legislative Finance

PREPARED BY Rep. Charles H. Parr
 AGENCY House Judiciary Committee
 PHONE 465-3718

CSHB
687REVISED FISCAL NOTE

I. REQUEST
 Bill/Resolution No. Committee substitute for House Bill 687 (Page 1 of 3)
 Title An Act creating the Alaska Energy Center
 Requested by _____ Date _____

II. FISCAL DETAIL
 Agency Affected Department of Administration
 Program Category Affected Development
 Budget Request Unit(s) Affected Alaska Energy Center

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES		1183.6	2733.2	2924.5	3129.2	3348.3
200 TRAVEL		280.0	380.0	406.6	435.1	465.5
300 CONTRACTUAL		1687.6	4761.6	5166.3	5527.9	5914.9
400 COMMODITIES		60.0	160.0	171.2	183.2	196.0
500 EQUIPMENT		350.0	800.0	856.0	915.9	980.0
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.		1445.0	1546.1	1654.4	1770.2	1894.1
PROJECT FUNDING		15000.0	18750.0	20962.5	21466.8	22969.6
TOTAL		20006.2	29130.9	31241.5	33428.3	35766.1

FUNDING (Thousands of Dollars)

GENERAL FUND		10006.2	16880.7	17227.3	14552.5	12456.8
FEDERAL FUNDS		10000.0	12250.0	13107.5	14025.0	15006.8
OTHER (Specify)				906.7	4850.8	8304.5

POSITIONS

FULL TIME		38.0	50.0	50.0	50.0	50.0
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

See attached for expenditure summary.

Assumptions: FY 81 is startup; FY 82 full operations

FY 83, FY 84, FY 85 inflation from FY 82 at 7 per cent

Federal funding \$10 million FY 81; \$12,250 million FY 82;

FY 83, FY 84, FY 85 inflation from FY 82 at 7 per cent
 General funding for non-federal portion of operations 100 per cent in
 FY 81 and FY 82; 95 per cent in FY 83; 75 per cent
 in FY 84; 60 per cent in FY 85; continuing declineOther funds include royalties, private contracts, additional federal
 funds; 5 per cent of non-federal operation in FY 83;
 25 per cent in FY 84; 40 per cent in FY 85Grants and claims includes subcontracts to University of Alaska for
 alternative energy research in FY 81; inflation at
 7 per cent for FY 82, FY 83, FY 84, FY 85.

IV. DATE April 24, 1980 PREPARED BY Terry Anderson
 AGENCY Legislature
 Original: Legislative Finance PHONE 465-5720

ALASKA ENERGY CENTER - CSHB 687

Page 2 of 3

Project Funding - FY 81

Project funding for FY 81 includes \$5 million in general funds and \$10 million in anticipated federal and other receipts. Up to \$2.5 million of the general funds may be used to match other receipts. The Board of Directors of the Energy Center shall submit a plan for expenditure of the remaining \$2.5 million in general funds to the Speaker of the House and the President of the Senate before these funds are encumbered.

Grants & Claims - FY 81

Grants and claims includes \$1,445,000 for the following subcontracts to the University of Alaska Alternative Energy Research Program:

Fuels research program	180,000
Solar technology program	315,000
Heat pump demonstrations	65,000
Biomass fuels research	130,000
Energy economics research	80,000
Coal utilization research	230,000
Wind energy data collection and wind energy atlas	110,000
Waste heat research center	275,000
Fuel cell demonstrations	60,000
	<u>1,445,000</u>

Grants and claims for FY 82 - FY 85 includes continuation of alternative energy research projects by the University of Alaska under contract to the Alaska Energy Center, with specific projects to be determined by the Board of Directors of the Alaska Energy Center. The legislature intends that technology development and demonstration projects currently being conducted by the following agencies be transferred to the Alaska Energy Center in the FY 82 and subsequent budgets:

- University of Alaska
- Division of Energy and Power Development
- Alaska Power Authority
- Department of Transportation and Public Facilities
- all other energy technology development projects

The Board of Directors of the Alaska Energy Center may subcontract to the University of Alaska, other state agencies, or private research firms from the project funding line item for any projects selected by the board.

Appropriations for project funding made to the Alaska Energy Center are for capital projects and are subject to AS 37.25.020.

ALASKA ENERGY CENTER - CSHB 687
OPERATING BUDGET - FISCAL YEARS 1981 & 1982

	<u>1st Quarter</u>		<u>2nd Quarter</u>		<u>3d Quarter</u>		<u>4th Quarter</u>		<u>FY 82 Full Operat</u>	
	<u>Expen.</u>	<u>Pos.</u>	<u>Expend.</u>	<u>Pos.</u>	<u>Expend.</u>	<u>Pos.</u>	<u>Expend.</u>	<u>Pos.</u>	<u>Expend.</u>	<u>Posit</u>
<u>PERSONAL SERVICES</u>										
Salaries										
Exec. Director	20.0	1	20.0	1	20.0	1	20.0	1	80.0	1
Dept. Directors			17.5	1	17.5	1	17.5	1	140.0	2
Senior Staff			60.0	4	90.0	6	120.0	8	600.0	10
Professional Staff			67.5	6	112.5	10	157.5	14	900.0	20
Tech/Junior Staff			33.5	4	57.5	6	77.0	8	384.8	10
Secretarial Staff	4.2	1	16.5	4	22.0	5	27.5	6	154.0	7
Total Salaries	<u>24.2</u>	<u>2</u>	<u>215.0</u>	<u>20</u>	<u>319.5</u>	<u>29</u>	<u>419.5</u>	<u>38</u>	<u>2258.8</u>	<u>50</u>
Benefits @ 21%	<u>5.1</u>		<u>45.1</u>		<u>67.1</u>		<u>88.1</u>		<u>474.4</u>	
Total Personal Services	29.3		260.1		386.6		507.6		2733.2	
<u>TRAVEL</u>	50.0		85.0		60.0		85.0		380.0	
<u>CONTRACTUAL</u>										
Rent	48.2		126.8		188.5		247.5		1333.2	
Subcontracts	25.0		100.0		300.0		400.0		2800.0	
Phone/Xerox/Other	<u>10.9</u>		<u>43.2</u>		<u>83.5</u>		<u>114.0</u>		<u>648.4</u>	
Total Contractual	54.9		335.0		572.0		761.5		4761.6	
<u>COMMODITIES</u>			10.0		20.0		30.0		160.0	
<u>EQUIPMENT</u>	<u>==</u>		<u>50.0</u>		<u>100.0</u>		<u>200.0</u>		<u>800.0</u>	
TOTAL OPERATING	134.2		740.1		1138.6		1584.1		8894.8	

May 2, 1980

HOUSE JOURNAL
SUPPLEMENT

No. 60

CSHB
687

To: Rep. Terry Gardiner
Speaker of the House

From: Rep. Bill Miles, Chairman *BW*
House Resources Committee

Date: May 1, 1980

Re: CS HB 687/ Alaska Energy Center
LETTER OF INTENT

The establishment of an Alaska Energy Center is intended to accomplish several major goals, both social and economic. The primary purpose is to use Alaska's energy resources and technology to create jobs in Alaska. A parallel goal is to help solve energy cost and supply problems for Alaskans.

We recognize that energy consumption patterns will undergo dramatic change during the remainder of this century, and into the next. One goal for the Alaska Energy Center is to be a recognized leader in the research and development which will accompany this change, and also which will help conserve the depletable fossil fuels we depend upon, and enhance the economic recoverability of known reserves. This recognized leadership status will be reflected by the number of grants and contracts awarded to the center from government and industry for fossil fuel recovery, development of new energy forms from renewable resources, better use of existing technologies, as well as the practical demonstration of ways to use alternative energy resources economically. In achieving this goal, the energy center shall contribute to the resolution of energy problems faced by Alaskan residents and the communities they live in.

A second major goal recognizes that Alaska has historically been an exporter of raw materials and an importer of finished goods. We believe that while Alaska seeks to resolve its energy price and supply problems over the long term by converting to renewable energy resource use, the opportunity exists to create new industries and employment in the state based on locally available energy resources and the technologies associated with them. Rather than continue to import energy resources and the technology necessary to utilize them, the state should help establish local industries to accomplish the same thing. Direct employment, the "ripple effect" of indirect employment, and recirculation of dollars used to pay for local resources rather than exported to import traditional fuels, will all have profound effects on the economies of Alaskan communities and of the state as a whole. Many of the jobs created will be in demonstration projects carrying some risk of success; but many will be in small businesses spread throughout the state in local resource procurement, hardware assembly and maintenance, plant operations and marketing.

The net result will be new industries and jobs for communities and their residents, as well as greater energy independence for all Alaskans. The Energy Center will help bring about this change through demonstration of economically feasible alternative forms of producing energy and direct technical assistance to local entrepreneurs in creation of local businesses to manufacture, process, harvest or assemble the locally available energy resource or the equipment needed to utilize it. In helping commercialize such ventures, a fundamental role of the center shall be to train inexperienced entrepreneurs in operations and accounting principles needed to make a success of those venture found to be economically feasible; and to work closely with the Alaska Renewable Resources Corp., the Alaska Fisheries and Agriculture Bank, the state business loan programs, private financial institutions and other appropriate funding sources to provide sufficient capital to establish the new business.

A third major goal for the Alaska Energy Center, and one which will provide a check on the success of its activities, is for it to become economically self-sufficient in its operating budget over a maximum period of ten years. We believe this can be accomplished in several ways. First, its research and development activity should be financed from grants and contracts, patent licensing fees and royalties. Although it is probable that the State of Alaska shall continue to be a significant source of contract work, the Legislature expects the Center to initiate from its inception and to maintain a strong ability to compete in the marketplace for an ever-increasing percentage of its operating money. To this end, the Legislature's intent is to capitalize the operational budget with a strong investment in the beginning, and to gradually phase out funding of operations by 1990. Project funding approved by the Legislature is intended to be in advance for full projected costs, to insure that continuity of projects in progress shall not be jeopardized in event of unanticipated budget reductions in succeeding years.

A fourth goal for the energy center recognizes the public service responsibility of the institution. The Alaska Energy Center is established as a private nonprofit corporation to perform an essential service to the People of Alaska. It is to be expected that some of this benefit should be provided as a public service at no cost, to those who request it, while the center is also charged with the responsibility to protect its proprietary interests on which it will depend for an ever-increasing share of its operating and project revenues.

In regard to projects undertaken within Alaska, the energy center shall consider local cultural, social and economic factors, and the aspirations and ways of life of people in existing communities, when determining whether a project or technology is appropriate to local needs. These considerations shall be given equal weight in matching resources and needs.

No corporate structure is established in HB 687. The Legislature recognizes that this vital decision is best left to the board of directors. To that end, the Legislature has appropriated \$100,000 for a comparative study of the organization of similar institutions, public and private, around the country. The first part of that study, to be conducted by the Office of the Governor, shall be to determine the best composition of the board itself, to aid the governor in appointing board members. The second phase, to be directed in part by the board itself, shall be to determine the best management system for the Alaska center.

Although the study remains to be done, and the Legislature lacks the direction which the document will offer when final decisions are made, there are a number of concerns the Legislature intends to be addressed in establishing the enabling legislation in HB 687. These can be broken down into four basic areas of need:

- 1) fossil fuel recovery and related environmental problems
- 2) renewable energy and transportation
- 3) energy conservation and building design
- 4) Innovation Center

The two areas of greatest energy consumption in Alaska are transportation and space heating of buildings, so it follows that these are areas where the Energy Center could provide some of the greatest contributions to energy conservation and replacement of fossil fuels. An "innovation center" would not be limited exclusively to energy but would provide a service to all Alaskan inventors and innovators with marketable ideas. Among the services the Innovation Center would provide would be assistance in determining whether Alaskan inventions are marketable, patent searches and patenting, and business and capital formation if that is the desires of the inventor, or obtaining manufacturing licenses and royalty agreements if the inventor prefers, and marketing.

It is expected that the Innovation Center would perform these services at no initial cost to the client; but that if the product proves commercially successful the Innovation Center would be entitled to a royalty for its services at a standard rate. Wherever feasible, the Center would give preference to manufacture in Alaska.

by Bob Speed

ENERGY INSTITUTE

Realizing that it is felt to be politically impossible, I advocate establishment of a comprehensive development institute, with emphasis on development of private-sector resource industries in Alaska based on our raw resources. Two underlying objectives would be creation of new resource industries appropriate to Alaska, and development of jobs appropriate to the skills of resident Alaskans. This is the underlying philosophy of MERDI, and I think it's one that makes sense. In addition to creation of the industries and jobs, part of the function of the institute would be to coordinate with the high schools, junior and senior college systems and skill centers to develop juvenile and adult training programs appropriate to projects the institute is working on.

Whatever the type of industry or problem, many of the key management and development problems and solutions are the same. As an example, Jack Milnes was able to translate his knowledge of capital formation in the steel industry to fishery development in Alaska; despite dis-similarity of resources, common denominators are such problems to be solved as marketing, transportation systems and corridors, processing capability and construction, and resource harvest or extraction. It may also be true that only by coordinated planning for multiple resource bases will some of these necessary functions prove economic; for example, some of the transportation systems established for seafood products may also be appropriate to timber, minerals, agricultural products or other resources.

It may also be found that there is some connection between the development institute concept and that of the general stock ownership (GSO or AgSOC) concept.

Given those philosophical premises and biases, let's get down to the pragmatic problems and ideas of setting up an Alaska Energy Research and Development Institute (AERDI):

The institute will start out as an energy institute; I think we all agree that it should not be limited to renewable energy, but that emphasis for in-state use should be placed on development of renewable energy resources. Non-renewable energy research should emphasize how to maximize benefit to Alaska for recovery of fossil fuels -- oil & gas, and environmentally sound ways of developing coal resources. It is also to be assumed that the institute would recommend best utilization of these resources; for coal the question might be whether to develop coal for in-state consumption or for sale on the world market, using the revenues to develop appropriate industries (renewable) in Alaska. It is also assumed to be a basic premise that the Institute is intended to benefit the entire nation, not just Alaska, with one objective being to de-fuse the "blue-eyed Arab" stereotype.

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Although the institute starts out as an energy institute, the door should be left open to expand into other sectors of the Alaska economy. Development of biomass fuel resources will result in an immediate interface with some of these sectors, especially agriculture, timber, and possibly fisheries.

I prefer the name Alaska Research and Development Institute (ARDI) for that reason; but realize that the word "Energy" will have to be inserted.

In the event anything comes of the ideas of creating other institutes in Alaska (fisheries, law and humanities, minerals and mining or whatever) any legislation creating any of these should clearly state the legislative intent that it may prove desirable in the future to put some or all administrative functions under one roof, combining to form the Alaska Research and Development Institute.

(NOTE: Battelle Northwest is set up this way; while Battelle's energy programs are concentrated in Richland, Wash., they have close ties with Battelle's humanities foundation based in Seattle. When Battelle reorganized the various institutes in Korea and Taiwan, they worked closely with the humanities foundation to ensure that the human factor was considered in restructuring the academic-economic basis of the countries.)

ORGANIZATION:

- contract with MERDI to help us develop the legislation
- contact and possibly visit other state energy institutes in the country to help us work out the best model possible, and hopefully avoid their mistakes. Although I am impressed with MERDI, I am not willing to say theirs is the best model without looking at others. Let's not reinvent the wheel.
- Leave the legislation open to the possibility of a management-contract by experienced organizations, leading to transition of control to Alaska (MERDI and Battelle would be potential bidders I know of off the top of my head) to get the institute started off on the right track.
- NCSL may have some ideas to offer on how to legislate it, or otherwise be of assistance.

MANAGEMENT:

- one executive director answerable to Board of Directors with legislative oversight
- BOARD of DIRECTORS
 1. Should not be limited to Alaska residents; I don't agree with that type of provincialism, for reasons we all have discussed before: lack of experienced people, narrow outlook, etc.
 2. Board should be predominantly Alaskan, so state has control of it, but with outside expertise available at the highest levels, not just as staff or consultants.

(Board of Directors, continued)

I would like to see organizations of the status of MERDI and Battelle represented on the board; someone from the Wall Street scene (the Sam Plaia's of the world or whoever); and possibly have a major foundation (Ford Foundation, for example) represented. Those are just examples of the type and quality of resources we should draw on for the board of directors if we are to achieve the results we want from the energy institute.

- close ties should be established from the outset with the federal Department of Energy; but at arm's length.
- there should also be very close ties with the Alaska Council on Science and Technology and Alaska Renewable Resources Corp., as well as with any other institutes the Legislature may establish. It may be advisable to have one of the ARRC commissioners and an ACS&T board member on the AERDI board and visa versa (in other words "share" a board member.

LEGISLATION should be written in such a way to allow for later incorporation of other areas of function, in addition to energy; and if other institutes are established that consideration is given to eventual merging of their functions under one coordinated management roof. MERDI was not set up this way, and that is one area where MERDI management feel they made a mistake.

Battelle, being a private, profit-making company, is set up as an integrated and diversified company; they have a non-profit foundation which they can call on to work with the company in regard to social impact.

The energy institute must have the latitude to get involved in agriculture, timber and fisheries to the extent that those sectors of the economy all may have a role in Alaska's energy future in regard to biomass energy forms. Indeed, crops grown for fuels may have greater impact on growth of the Alaska agricultural industry than food crops, and may be an essential factor in whether agriculture can be made to be economic here.

PURPOSE OF AERDI:

1. Stimulation of new resource industry and appropriate jobs for Alaska residents, using energy research and development as the primary catalyst.
2. Solution of Alaska's in-state energy problems in the areas of municipal power, commercial use and conservation, domestic and institutional space heating and conservation, transportation fuels and other energy problems; using appropriate technology and directed primarily at renewable energy sources for in-state use.
3. Research on energy problems which will benefit not only Alaska but the nation and world at large; whether this be in renewable or non-renewable energy resource development.
4. Increase the stature and credibility of Alaska in the eyes of the nation (self-oriented as well as altruistic motives).

13

by Bob Speck

BASIC OUTLINE OF MERDI'S OPERATIONAL AND FINANCIAL STRUCTURE AND COMPARISON OF THAT WITH THE PROPOSED AERDI MODEL.

Montana has no equivalent of the Permanent Fund, and the Montana Legislature did not see fit to develop any permanent source of funding for MERDI when the institute was formed. As a result, founders of MERDI found it necessary to develop an energy project of national importance to hang their hat on, which would provide most of their initial operating capital. Butte, Montana, therefore became the national center for research on a futuristic energy technology called magneto-hydro-dynamics (MHD); since Montana has vast coal deposits already being exploited, and since there is a crucial need to find cleaner ways of burning coal for energy, MHD was deemed an "appropriate" technology which would fortuitously bring in large amounts of federal energy research money.

MHD research currently provides the vast bulk of MERDI's cash flow; using this capital source, MERDI has been able to establish a large and talented core of R&D personnel. This reservoir of talent is also available for the other two key areas of MERDI's operations which are (1) renewable energy development and (2) its Center for Innovation. Thus, using the talent pool established by the MHD program, MERDI is able to develop its renewable energy and CFI programs at a much reduced administrative cost.

MERDI didn't choose renewable energy by accident. In analyzing Montana's basic economic problems MERDI founders determined that the state's dependence on raw resource extraction relegated its young people to a harsh choice: work in the mines the rest of their life or go to college to escape. The problem was that there were few jobs for college graduates in Montana (relative to the number of young people needing them); so that escaping the mines also meant leaving the state to find better work. The result was a brain drain.

They also determined that the type of jobs needed to benefit resident Montanans were ones of moderate skill. The electronics industry would be a bad choice for Montana because it would require importing trained people because Montanans didn't possess the skills; and Montanans would consequently not benefit.

MERDI was already engaged in energy (MHD) research, so energy was a logical focus for providing employment. Renewable energy development filled the bill for helping stimulate job development for resident Alaskans and helping resolve energy problems: renewable energy technology is generally no more complicated than that of an automobile and often more simple; anyone who could be trained to fix a Chevrolet could be trained to build and service wind generators.

I might add that the parallels between Alaska and Montana are striking, in terms of economy (both are raw resource extraction economies with little fabrication industry), climate (severe winters, diverse geography), and population (sparse settlement with a blue-collar dominance); and probably in character and attitude as well -- fierce independence, Yankee ingenuity, etc. I think that close ties with that state might prove that of all the states Montana is among the closest in nature to Alaska.

3



Alaska State Legislature House of Representatives

February 7, 1980

P R E S S R E L E A S E

POUCH V
JUNEAU, ALASKA 99811
OFFICIAL BUSINESS

With bi-partisan support, a bill to create an energy development center in Alaska has been introduced simultaneously in the House and the Senate today.

"This is one of the most significant new ideas introduced to date in Alaska," said House Speaker Terry Gardiner, one of the three original sponsors of the bill in the House. Prime sponsor for the bill in the Senate is Sen. Mike Colletta, R-Anchorage. Other original sponsors on the House side are Rep. Brian Rogers, D-Fairbanks, and Rep. Margaret Branson, R-Cooper Landing.

The institute will have a national role as envisioned by the legislators who conceived the idea, but its focus will be on issues central to Alaska's future -- employment, development of industry appropriate to Alaska using energy problems as its focus, and development of Alaska's renewable and non-renewable energy resources.

The primary focus for in-state use will be directed at the renewable energy resources that can be harnessed in Alaska -- water, wind, wood and other biomass perhaps in the form of alcohol fuels, the sun and the internal heat of the earth. The development center is one key element in a legislative drive to start the transition to a renewable

energy-based society in Alaska, while using that effort to create jobs.

"The principal mission of the energy center," according to Rogers, "is the creation of new energy - related jobs through technological development. It is our hope that we can make progress in both advanced and intermediate technologies."

Another important role of the Center will be to encourage Alaskan inventors in patenting processes and manufacture of marketable products in the State by Alaskan workers. Rep. Branson stated she had long advocated and urged that small industries and manufacturers employing up to 25 or 30 workers be given some of the red carpet treatment and encouragement that the "large industrial developers" receive from Alaskan communities.

However, the energy center will also have a national mandate, and that is to use some of Alaska's oil wealth to develop technologies that could be useful in solving both short-term and long-term energy needs of the United States. Although some of the renewable energy technology may provide some innovations useful outside Alaska, the main focus for national attention will be directed toward Alaska's huge reserves of petroleum and coal.

One of the problems Alaska will one day face at Prudhoe Bay and other petroleum reserves, according to Rep. "Chat" Chatterton, R-Anchorage, will be decline in productivity. Chatterton sees the proposed energy center as a place to

focus national attention on technology and techniques to recover more oil from fields in decline. Known as "enhanced recovery," several methods of extracting more oil from the ground are known, but are expensive and uncertain of results. Breakthroughs in enhanced recovery would extend the life of Alaskan wells, and benefit oil technology throughout the nation and the world.

"One of the things we hope to achieve with the energy center is proof to the rest of the country that Alaskans can be responsible with our revenues from oil and gas development," Gardiner said. "There are already people in the Lower '48 referring to Alaskans as 'the blue-eyed Arabs' and we need to show that the Alaska oil resource can benefit all Americans."

Chatterton agreed, explaining that with existing technology only about 40 percent of the oil originally in place will be recovered; the rest will stay in the ground unless ways are developed to recover a greater portion profitably. Any advance in enhanced recovery technology made in Alaska will benefit the entire national energy picture.

Sen. Colletta emphasized that the energy center can also help devise ways to develop Alaska's extensive coal reserves, for both domestic use and overseas sale. Environmentally sound coal mining could make Alaska's coal reserves particularly attractive for the Japanese market because a large part of the coal is much closer to sea transport than Western States' coal. Colletta noted that this could be one time when Alaska's geography would give the state a cost advantage.

"If Alaska's effort would parallel the efforts in Montana," Colletta said, "the new Energy Center will have been responsible for developing Alaska's and one of the nation's most extensive coal reserves. This could provide an uninterrupted source of energy for the next 200 years."

Under current thinking, the energy center would be capitalized at the beginning by the state, with the intent that eventually -- say, within ten years -- the energy center would stand on its own economically, and become self-supporting. The model for this idea is a similar research and development institute in Butte, Montana, set up with the help of former Sen. Mike Mansfield of that state. Senator Mansfield is now ambassador to Japan.

The Montana Energy Research and Development Institute (MERDI) was established with a \$15,000 grant from a private utility in Montana, and has grown by its own efforts to a \$15 million budget in five years. The institute is the national center for development of a sophisticated and futuristic coal technology that may one day produce more energy with less pollution than current combustion methods.

It is envisioned that a state investment over a period of years would enable the energy center to become self-supporting with federal and private contracts, and any royalties from its own innovations. The state would gradually phase out funding.

The energy center would be based on a novel approach begun by MERDI, in which all the center's efforts would be

directed at energy technologies which could produce jobs and new industry appropriate to Alaskan skills, desires of the people and the environment and resources available.

This concept of using "appropriate technology" to solve employment problems as well as energy problems was developed by MERDI's director, Dr. Jeremy Plunkett. Indeed, Plunkett is credited with having popularized the term "appropriate technology" and also founded the National Center for Appropriate Technology, also located in Butte. Using these concepts, Plunkett and MERDI have created some 400 new permanent jobs in Montana while having stabilized the population of Butte, which had been a dying mining town.

If developed after the model, Alaska's would be the second such energy "development institute" in the nation.

Energy development could have any number of spin-off benefits in the industries of timber, agriculture, and light manufacture if the energy center works as well as the MERDI model. MERDI has identified wind and agriculturally derived fuel alcohol as two renewable energy technologies appropriate to Montana, for example. Extrapolating, growing grain or other crops for alcohol fuels could be a way of stimulating agricultural development in the Delta farming project. Alcohol fuels could help offset energy costs on the farm, provide gasohol for regional consumption, and -- using the high-protein "mash" left over after the carbohydrates are converted to alcohol -- perhaps stimulate an in-state cattle market. Each level of this example creates new jobs, new

dollars, and helps decrease the flow of dollars out of the state.

MERDI also reasons that since wind generators are basically less complicated than automobile technology, an industry could be developed building and maintaining wind generators using existing skills and without extensive retraining. Such an industry is also less likely to attract out-of-state workers, because of the small scale of the production.

Legislators who have considered the issues involved have concluded that the same type of approach can work just as well in Alaska, benefiting people who already live here.

^{F6 3-5-80} Energy center plan mostly praised

By JEAN KIZER

Associated Press Writer

JUNEAU—Because Alaska's abundance of potential energy sources makes the state a good laboratory, House lawmakers are proposing a multi-million dollar energy development center they say could help solve the nation's energy crisis.

The proposal, termed "one of the most exciting concepts to come before the state of Alaska in a million years" by Anchorage Democrat Bill Miles, had its first airing Tuesday before the House Resources Committee.

Legislation to establish the center, which would be fueled by an estimated \$100 million in state money over the next few years, was introduced a few weeks ago in the House and Senate with bi-partisan sponsors.

The center, proposed to be headquartered in Fairbanks, would sub-contract for research and would aim at finding the best uses of existing resources while developing alternative energy and renewable resources.

One of the center's chief purposes

would be to help solve the long-term energy needs of the United States, partially through development of Alaska's huge coal and petroleum reserves.

House Speaker Terry Gardiner, D-Ketchikan, told the committee Alaska is a natural laboratory for energy research and development.

Citing a lack of energy research nationwide, Gardiner said Alaska would be a good laboratory to look at potential energy sources such as geothermal, hydroelectric, solar, wind, tidal and others, as well as coal, oil and gas.

Gardiner said Alaska should adopt a "mature attitude" and put some of the state's oil wealth to work to benefit not just Alaska, but the nation.

He said the center probably would attract substantial amounts of private and federal funding, as has been the case with a similar research and development institute in Montana, the model for the Alaskan center.

Rep. Brian Rogers, D-Fairbanks and one of the architects of the proposal, said it would bring about more efficient and advanced energy

technologies, would create jobs, and would show the federal government that Alaska is committed to helping solve the nation's energy problems.

The center "hopefully would be able to attract U.S.-renowned, world-renowned people," said Rep. Chat Chatterton, R-Anchorage.

But Chris Noah, director of the Alaska Council on Science and Technology, told lawmakers the council supports the concept, but some members question the need for a new institution.

He said there might be some overlap in the functions of the center and the University of Alaska. The UA's research arm currently does some energy-related research.

The UA has proposed an Alternative Energy Center as an independent unit within the UA.

Clarissa Quinlan, director of the state Division of Energy and Power Development, said several state agencies are doing energy-related work, but she said there is "no formal coordination" between them.

The legislation, HB 687, establishing the energy center calls for a nine-member board of directors appointed by the governor.



Alaska State Legislature House of Representatives

....DRAFT.....DRAFT....

POUCH V
JUNEAU, ALASKA 99811
OFFICIAL BUSINESS

MEMO: March 21, 1980

TO: Rep. Bill Miles, Chairman
House Resources Committee

FROM: Rep. Terry Gardiner
Rep. Brian Rogers
by Bob Speed, A.A.

RE: HB 687/Draft intent statement
at the request of Committee Counsel

At David Rogers' request, I have prepared the following intent statement for your consideration in respect to HB 687 creating the Alaska Energy Center.

The statement has been seen, revised and authorized by the lead sponsors of the bill, Rep. Gardiner and Rep. Rogers.

It is the intent of the Legislature that the Alaska Energy Center shall conduct and sponsor research, demonstration projects, and development of feasible technologies in such a way as to benefit Alaskans directly, both in terms of realistic solutions to state energy needs and economically. While a key purpose of the Energy Center shall be to conserve fossil fuels and stabilize residential and community energy costs, it is logical to conclude that transition to non-traditional renewable energy resources will result in commercialization of new technologies in the private sector. Jobs will result from this effort. A primary responsibility of the Energy Center shall be to ensure that wherever it can be justified economically, that those technologies which prove to be feasible are commercialized in Alaska, and that the jobs created benefit resident Alaskans.

Historically, Alaska has been a producer of raw resources and a consumer of finished products purchased directly from outside the state. This has resulted in loss of dollars within the Alaska economy. It also has been proven that dollars spent for products and services within Alaska recirculate several times before they leave the state, providing direct and spin-off economies with residual benefit to the Alaska economy.

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It is also fact that Alaskans have a variety of skills and abilities matching those needed by many low-technology renewable energy manufacture and service needs; and that many renewable energy technologies are small in scale and not not of a variety likely to receive widespread publicity or wild imaginings of wealth to be gained. (NOTE: THIS MEANS THAT WE'RE NOT EXPECTING THESE JOBS TO BE ANOTHER PIPELINE PROJECT BRINGING OKIES INTO ALASKA TO WORK FOR A WHILE, AMASS A BANK ACCOUNT AND THEN LEAVE TO SPEND IT OUTSIDE; THERE'S NOTHING ROMANTIC ABOUT WORKING IN A PULP MILL OR SEWAGE TREATMENT PLANT, OR A CAR REPAIR SHOP, BUT THOSE ALL REPRESENT INDUSTRY APPROPRIATE TO ALASKA OR NECESSARY COMMUNITY SERVICES WHICH MUST BE DONE AND PROVIDE LONG-TERM EMPLOYMENT; THE ANALOGY IS, SO WOULD ALCOHOL DISTILLERIES OR A WINDMILL ASSEMBLY PLANT OR A SERVICE INDUSTRY FOR WIND FARMS.) The Energy Center shall wherever possible search for linkages between human and natural resources, logistical and economic problems in the state and its communities, and the desires of resident Alaskans, to provide appropriate solutions to community energy needs that will match the economic and social needs and desires of the communities served.

-- DRAFT.....DRAFT --

that will fit into the existing character and economic base of Alaskan communities.

Brian - For your review Mark

DRAFT

HB 687
intent letter

The legislature intends to have the Energy Center closely coordinate its efforts with the University of Alaska. The University ~~xx~~ has developed a wide range in both the conventional and alternative energy areas. We intend for the Energy Center to draw from and complement that expertise, and to locate its offices to encourage this coordination.

~~The legislation~~ ^{HB 687} states that one of the Energy Center's guiding purposes is the creation of jobs through the development of more efficient technologies. Many of these jobs will be scattered throughout the state, in various small businesses or as part of demonstration projects. The Energy Center itself will also provide a significant number of jobs. To maximize the employment benefits, the legislature intends for the Energy Center to locate its main office in an area of high unemployment, if feasible.

No corporate structure for the Energy Center is set out in HB 687. Although the legislature intends for corporate organization to be determined by the Board of Directors, we would like to make a recommendation. We propose that the Energy Center establish four divisions or sections, corresponding to its assigned functions:

- 1) fossil fuels and transportation
- 2) renewable energy
- 3) conservation and building design
- 4) Innovation Center

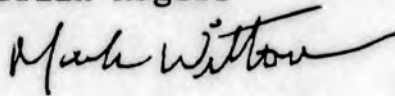
The two areas of largest energy consumption in the state are for transportation and space heating of buildings, while an "Innovation Center" should provide ~~xxx~~ a direct link to the private sector. The actual assignment of staff to these areas will depend on the types of projects authorized by the legislature.

March 3, 1980

MEMORANDUM

To: Representative Brian Rogers

From: Mark Wittow



Re: Critical Comments on HB 687

1. On the Purpose of the Center (Section .020)

In HB 687, the "primary purpose" of the center is declared to be "to create employment opportunities in the state through the development of more efficient and advanced technologies."

We have little evidence to show that the activities of the center can, or will, do this. How will it create more jobs, aside from funding them directly with state revenues? What industries will begin, if more efficient energy technologies are developed? Are they likely to actually operate in Alaska?

In looking at the activities of MERDI, I find no "creation" of jobs, except through government funding. Their Center for Innovation has helped a few products and businesses get started, and can possibly take some credit for job creation. But the energy work of MERDI has created jobs only through its direct funding of research and development projects. Whether or not that work will help initiate activity in the private sector is still open to question.

The real purpose of the center is stated following the primary purpose: "In addition, the center is to (1) promote the most efficient and appropriate technologies for use of the state's energy resources." This purpose directly expresses what the center will actually be doing. It may help create jobs. We should not expect the center to orient its programs around an uncertain goal.

If the center is promoting the use of the best technologies for resource use, ^{that} it can be justified as a redirection of a small

portion of the public's resource wealth to meet a long term public purpose. A great deal of popular support exists for the development of alternative energy technologies. Federal programs in this area, run by the Dept. of Energy, have a variety of failings that have been well documented elsewhere. This state effort may succeed by having a clearer focus, less bureaucracy and more distance from the industrial/military mind dominating much of the national energy program. In Alaska, there are clear mandates -- a cold climate, dispersed population and a more limited number of energy projects.

The work of the center in developing energy technologies fulfills the goals expressed in the legislative findings: to help both Alaskans and those Outside use energy more effectively. By putting money into the center, the legislature is trying to speed up the private sector's development of efficient, effective energy technologies. Because northern markets are small and dispersed, the center may be doing research and development work in ^{an} area deserving of a greater effort than private industry is willing to give -- a technology gap.

If the center is directed to do something amorphous such as "create jobs," it may have problems similar to those of ARRC. It may find that there aren't many jobs ready to be created, just as ARRC is finding that there are not a lot of deserving renewable resource projects that only await financing from ARRC to make them viable. A clear, achievable purpose is necessary.

Another agency to consider is the Alaska Power Authority. The authority has a broad mandate to develop power for the state.

They have all but ignored the most immediate and serious problems of rural power supply in favor of developing several politically popular large hydroelectric projects. Possessing the power to do almost anything, the authority has taken the path of least resistance and left important sections of their mandate unattended. If the legislature tells the center to "create jobs," it may miss the goal of developing efficient energy technologies in favor of pursuing economically ^{unsound} development programs.

2. Constituency

The center needs to have some kind of direct connection with the Alaskan public, if it is to continue to exist. Without public support for its activities, it may be overly sensitive to a variety of special interest pressures. One answer would be to have the center coordinate some badly needed efforts in technical assistance for conservation and renewable energy information. This function is ostensibly being performed by DEPD, with federal funding, but I have not heard a tremendous amount of praise for their efforts. There may be other answers to the constituency problem, but it is a question that should be kept in the forefront.

3. Structure and Budget

Some consideration needs to be given to the concrete structure of the center before a final fiscal note is prepared. If the legislature contracts out the management design, it should provide clear guidelines for the consultants.

One possibility would have an executive director overseeing four sections, each headed by a deputy: fossil fuels, renewable energy, conservation and building design and a center for innova-

tion. Each section would have a small staff to oversee projects within its purview, with shared clerical support. Each project would also have particular staffing requirements, which will be temporary. If project employees are temporary, they will be available for the next phase of work in the areas of their expertise. If they are carried as fulltime employees by the center, they may have to spend too much time thinking up projects to justify their existence.

The individual projects need more backup information than has been provided to date. It would be wise to have a range of projects that legislature could select.

Serious consideration should be given to providing the center with 2.3 million dollars in the "grants" column, for research by the University of Alaska as proposed in their Alternative Energy Research Institute program request. The center would be expected to coordinate these projects (which are the most detailed energy research proposals in the hands of the legislature) with its program.

4. Other points

Direction should be given to ensure that staff positions are filled ^{by} people with northern and professional experience in the area of their work. Competent engineers should fill most of the positions, not leftovers from other departments. A position for a *qualified* economist should be placed under the director. The center needs to have someone capable of analyzing the relative economic merits of various proposals. The lack of such a position in the A.P.A. has seriously hampered their ability to comparatively analyze a range of projects.

A specific prohibition against nuclear energy^{development} activities should be considered.

5. Suggestions from Others

Vic Fischer has proposed that a "northern building design" section exist within the center. He states that a number of architects and planners have told him that a gap exists in research and development work for building design in northern climates, and that such a program would provide a useful technical service. This idea fits in with the center's mandate to work on energy conservation. It is also an area that could provide recognizable public benefits.

Neil Davis points out that many of the personnel of the center may come from the University of Alaska, and that some provision should be made so that these people are not wrenched out of their retirement system and related programs.

Davis and others have pointed out the unwieldiness of the advisory board. They suggest eliminating the advisory board, and placing its more important members directly on the board of directors. More expertise in energy technology (perhaps someone for each of the four program areas) should be required within the board. Davis also had a number of other suggestions that I will not describe, since you have his letter.

3.6.80 They all like energy center idea but . . .

By SUSAN FISHER
News-Miner Bureau

JUNEAU—They love the concept, but beyond that a parade of speakers have diverse opinions about a bill to set up an Alaska Energy Center, and about what role the center should take.

Following two days of hearings before the House Resources Committee, chairman Bill Miles, D-Anchorage, said the committee will rewrite House Bill 687, which sets up the center.

House Speaker Terry Gardiner, D-Ketchikan, and 24 co-sponsors are backing the bill.

Its primary purpose is to create jobs through development of more efficient and advanced energy technologies.

Sponsors envision the center's turning alternate energy research and technology into workable forms for business, industry and residences.

But a push from the University of Alaska to have the concept of the center placed within the UA met with legislative resistance.

Sponsors say any necessary research would be contracted to the UA, but they want the center to operate independent of the academic-research arena.

Various persons already in energy fields in Alaska urged the committee to spell out a need to communicate and avoid duplication of efforts.

Other speakers want the center to focus on small-scale projects, helping individuals rather than working solely on projects for commerce and industry.

Gardiner and Rep. Brian Rogers, D-Fairbanks, who are the prime movers behind the Alaska Energy Center concept, prefer to locate the center in Fairbanks, both because of proximity to the UA scientific community and to stimulate jobs.

But several committee members said Wednesday they don't want the location spelled out in the bill.

Among speakers pressing for the center to be within the University of Alaska were UA-Fairbanks Chancellor Howard Cutler and Richard Seifert of the Institute of Water Resources.

Cutler told the committee that the university, with its land-grant system and established Cooperative Extension Service, plus research facilities, is an

(See ENERGY, page 7)

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ENERGY . . .

(Continued from page 1)

already-established system for the energy center.

"I recommend to you the passage of the intent, and suggest to you the best organization you can use is the university land-grant system," Cutler said Wednesday. He told committee members they don't need to "re-invent the wheel."

Cutler said extension agents could be trained to take energy information to communities and individuals.

But asked the cost to employ a single extension agent, Cutler estimated it to be \$75,000 to \$100,000, including pay, travel and secretarial support.

Seifert chaired a UA committee that has drafted a proposal for a UA Alaska Center for Alternative Energy.

In testimony before the committee, Seifert said the UA has 50 employees working in various energy-related fields or projects.

But committee members balked at the idea of putting a center within the UA, thus losing financial and project control.

Rep. Chat Chatterton, R-Anchorage, said the Board of Regents, not the Legislature, would oversee the center if it were within the UA system.

On Tuesday, speakers representing the Council on Science and Technology and the Division of Energy and Power Development urged that the bill spell out precisely what the center will do.

They said it should not duplicate the many energy-related efforts already going on, and added that if the bill is not specific, there will be "turf" battles among state agencies and others.

Fairbanksan Alex Scala of Alaska Federation for Community Self-Reliance, said the center must allow access and information to all citizens, and focus on helping individuals.

"There's a problem with people at the

3.6.80
UA who are doing very valuable research that the local citizenry could use . . . and for some reason they refuse to help me. They say they cannot divulge data to the local citizenry," Scala said.

Denny Mehner, a Fairbanks building contractor, said the center should not be located within the university.

Mehner said that as a former UA researcher, the administration "freaked out" over a Department of Defense contract he had to research LSD.

Mehner supported the energy center concept. "Energy terrorism is going to exist for a few years," he said.

Joe Geldhof, a lobbyist for various environmental and conservation groups, said conservation should be a main thrust of the center, since it is a proven way to quickly reduce consumption and cost.

Alaska House of Representatives



COMMITTEE ON NATURAL RESOURCES

POUCH V • JUNEAU, ALASKA 99811

To: Rep. Terry Gardiner
Speaker of the House

From: Rep. Bill Miles, Chairman *BW*
House Resources Committee

Date: May 1, 1980

Re: CS HB 687/ Alaska Energy Center
LETTER OF INTENT

The establishment of an Alaska Energy Center is intended to accomplish several major goals, both social and economic. The primary purpose is to use Alaska's energy resources and technology to create jobs in Alaska. A parallel goal is to help solve energy cost and supply problems for Alaskans.

We recognize that energy consumption patterns will undergo dramatic change during the remainder of this century, and into the next. One goal for the Alaska Energy Center is to be a recognized leader in the research and development which will accompany this change, and also which will help conserve the depletable fossil fuels we depend upon, and enhance the economic recoverability of known reserves. This recognized leadership status will be reflected by the number of grants and contracts awarded to the center from government and industry for fossil fuel recovery, development of new energy forms from renewable resources, better use of existing technologies, as well as the practical demonstration of ways to use alternative energy resources economically. In achieving this goal, the energy center shall contribute to the resolution of energy problems faced by Alaskan residents and the communities they live in.

A second major goal recognizes that Alaska has historically been an exporter of raw materials and an importer of finished goods. We believe that while Alaska seeks to resolve its energy price and supply problems over the long term by converting to renewable energy resource use, the opportunity exists to create new industries and employment in the state based on locally available energy resources and the technologies associated with them. Rather than continue to import energy resources and the technology necessary to utilize them, the state should help establish local industries

CO-CHAIRMEN

REP. ALVIN OSTERBACK (465-3715) • REP. BILL MILES (465-3779)

VICE-CHAIRMAN

REP. FRED ZHAROFF

REP. PAT CARNEY • REP. C.V. "CHAT" CHATTERTON • REP. SAM COTTEN
REP. DICK ELIASON • REP. JACK FULLER • REP. RICK HALFORD

to accomplish the same thing. Direct employment, the "ripple effect" of indirect employment, and recirculation of dollars used to pay for local resources rather than exported to import traditional fuels, will all have profound effects on the economies of Alaskan communities and of the state as a whole. Many of the jobs created will be in demonstration projects carrying some risk of success; but many will be in small businesses spread throughout the state in local resource procurement, hardware assembly and maintenance, plant operations and marketing.

The net result will be new industries and jobs for communities and their residents, as well as greater energy independence for all Alaskans. The Energy Center will help bring about this change through demonstration of economically feasible alternative forms of producing energy and direct technical assistance to local entrepreneurs in creation of local businesses to manufacture, process, harvest or assemble the locally available energy resource or the equipment needed to utilize it. In helping commercialize such ventures, a fundamental role of the center shall be to train inexperienced entrepreneurs in operations and accounting principles needed to make a success of those venture found to be economically feasible; and to work closely with the Alaska Renewable Resources Corp., the Alaska Fisheries and Agriculture Bank, the state business loan programs, private financial institutions and other appropriate funding sources to provide sufficient capital to establish the new business.

A third major goal for the Alaska Energy Center, and one which will provide a check on the success of its activities, is for it to become economically self-sufficient in its operating budget over a maximum period of ten years. We believe this can be accomplished in several ways. First, its research and development activity should be financed from grants and contracts, patent licensing fees and royalties. Although it is probable that the State of Alaska shall continue to be a significant source of contract work, the Legislature expects the Center to initiate from its inception and to maintain a strong ability to compete in the marketplace for an ever-increasing percentage of its operating money. To this end, the Legislature's intent is to capitalize the operational budget with a strong investment in the beginning, and to gradually phase out funding of operations by 1990. Project funding approved by the Legislature is intended to be in advance for full projected costs, to insure that continuity of projects in progress shall not be jeopardized in event of unanticipated budget reductions in succeeding years.

A fourth goal for the energy center recognizes the public service responsibility of the institution. The Alaska Energy Center is established as a private nonprofit corporation to perform an essential service to the People of

Alaska. It is to be expected that some of this benefit should be provided as a public service at no cost, to those who request it, while the center is also charged with the responsibility to protect its proprietary interests on which it will depend for an ever-increasing share of its operating and project revenues.

In regard to projects undertaken within Alaska, the energy center shall consider local cultural, social and economic factors, and the aspirations and ways of life of people in existing communities, when determining whether a project or technology is appropriate to local needs. These considerations shall be given equal weight in matching resources and needs.

No corporate structure is established in HB 687. The Legislature recognizes that this vital decision is best left to the board of directors. To that end, the Legislature has appropriated \$100,000 for a comparative study of the organization of similar institutions, public and private, around the country. The first part of that study, to be conducted by the Office of the Governor, shall be to determine the best composition of the board itself, to aid the governor in appointing board members. The second phase, to be directed in part by the board itself, shall be to determine the best management system for the Alaska center.

Although the study remains to be done, and the Legislature lacks the direction which the document will offer when final decisions are made, there are a number of concerns the Legislature intends to be addressed in establishing the enabling legislation in HB 687. These can be broken down into four basic areas of need:

- 1) fossil fuel recovery and related environmental problems
- 2) renewable energy and transportation
- 3) energy conservation and building design
- 4) Innovation Center

The two areas of greatest energy consumption in Alaska are transportation and space heating of buildings, so it follows that these are areas where the Energy Center could provide some of the greatest contributions to energy conservation and replacement of fossil fuels. An "innovation center" would not be limited exclusively to energy but would provide a service to all Alaskan inventors and innovators with marketable ideas. Among the services the Innovation Center would provide would be assistance in determining whether Alaskan inventions are marketable, patent searches and patenting, and business and capital formation if that is the desire of the inventor, or obtaining manufacturing licenses and royalty agreements if the inventor prefers, and marketing.

It is expected that the Innovation Center would perform these services at no initial cost to the client; but that if the product proves commercially successful the Innovation Center would be entitled to a royalty for its services at a standard rate. Wherever feasible, the Center would give preference to manufacture in Alaska.

REVISED FISCAL NOTE

I. REQUEST

Bill/Resolution No. Committee substitute for House Bill 687

(Page 1 of 3)

Title An Act creating the Alaska Energy Center

Requested by _____

Date _____

II. FISCAL DETAIL

Agency Affected Department of AdministrationProgram Category Affected DevelopmentBudget Request Unit(s) Affected Alaska Energy CenterEXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES		1183.6	2733.2	2924.5	3129.2	3348.3
200 TRAVEL		280.0	380.0	406.6	435.1	465.5
300 CONTRACTUAL		1687.6	4761.6	5166.3	5527.9	5914.9
400 COMMODITIES		60.0	160.0	171.2	183.2	196.0
500 EQUIPMENT		350.0	800.0	856.0	915.9	980.0
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.		1445.0	1546.1	1654.4	1770.2	1894.1
PROJECT FUNDING		15000.0	18750.0	20062.5	21466.8	22969.6
TOTAL		20006.2	29130.9	31241.5	33428.3	35768.1

FUNDING (Thousands of Dollars)

GENERAL FUND		10006.2	16880.7	17227.3	14552.5	12456.8
FEDERAL FUNDS		10000.0	12250.0	13107.5	14025.0	15006.8
OTHER (Specify)				906.7	4850.8	8304.5

POSITIONS

FULL TIME		38.0	50.0	50.0	50.0	50.0
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

See attached for expenditure summary.

Assumptions: FY 81 is startup; FY 82 full operations

FY 83, FY 84, FY 85 inflation from FY 82 at 7 per cent

Federal funding \$10 million FY 81; \$12.250 million FY 82;

FY 83, FY 84, FY 85 inflation from FY 82 at 7 per cent

General funding for non-federal portion of operations 100 per cent in

FY 81 and FY 82; 95 per cent in FY 83; 75 per cent

in FY 84; 60 per cent in FY 85; continuing decline

Other funds include royalties, private contracts, additional federal

funds; 5 per cent of non-federal operation in FY 83;

25 per cent in FY 84; 40 per cent in FY 85

Grants and claims includes subcontracts to University of Alaska for

alternative energy research in FY 81; inflation at

7 per cent for FY 82, FY 83, FY 84, FY 85.

IV. DATE April 24, 1980PREPARED BY Tony H. AndersonAGENCY LegislaturePHONE 465-5720

Original: Legislative Finance

cc: Budget and Management

Prime Sponsor (First Legislator Named)

Project Funding - FY 81

Project funding for FY 81 includes \$5 million in general funds and \$10 million in anticipated federal and other receipts. Up to \$2.5 million of the general funds may be used to match other receipts. The Board of Directors of the Energy Center shall submit a plan for expenditure of the remaining \$2.5 million in general funds to the Speaker of the House and the President of the Senate before these funds are encumbered.

Grants & Claims - FY 81

Grants and claims includes \$1,445,000 for the following subcontracts to the University of Alaska Alternative Energy Research Program:

Fuels research program	180,000
Solar technology program	315,000
Heat pump demonstrations	65,000
Biomass fuels research	130,000
Energy economics research	80,000
Coal utilization research	230,000
Wind energy data collection and wind energy atlas	110,000
Waste heat research center	275,000
Fuel cell demonstrations	60,000
	<u>1,445,000</u>

Grants and claims for FY 82 - FY 85 includes continuation of alternative energy research projects by the University of Alaska under contract to the Alaska Energy Center, with specific projects to be determined by the Board of Directors of the Alaska Energy Center. The legislature intends that technology development and demonstration projects currently being conducted by the following agencies be transferred to the Alaska Energy Center in the FY 82 and subsequent budgets:

- University of Alaska
- Division of Energy and Power Development
- Alaska Power Authority
- Department of Transportation and Public Facilities
- all other energy technology development projects

The Board of Directors of the Alaska Energy Center may subcontract to the University of Alaska, other state agencies, or private research firms from the project funding line item for any projects selected by the board.

Appropriations for project funding made to the Alaska Energy Center are for capital projects and are subject to AS 37.25.020.

ALASKA ENERGY CENTER - CSHB 687
OPERATING BUDGET - FISCAL YEARS 1981 & 1982

	<u>1st Quarter</u>		<u>2nd Quarter</u>		<u>3d Quarter</u>		<u>4th Quarter</u>		<u>FY 82 Full Ope</u>
	<u>Expen.</u>	<u>Pos.</u>	<u>Expend.</u>	<u>Pos.</u>	<u>Expend.</u>	<u>Pos.</u>	<u>Expend.</u>	<u>Pos.</u>	<u>Expend.</u>
<u>PERSONAL SERVICES</u>									
Salaries									
Exec. Director	20.0	1	20.0	1	20.0	1	20.0	1	80.0
Dept. Directors			17.5	1	17.5	1	17.5	1	140.0
Senior Staff			60.0	4	90.0	6	120.0	8	600.0
Professional Staff			67.5	6	112.5	10	157.5	14	900.0
Tech/Junior Staff			33.5	4	57.5	6	77.0	8	384.8
Secretarial Staff	4.2	1	16.5	4	22.0	5	27.5	6	154.0
Total Salaries	<u>24.2</u>	<u>2</u>	<u>215.0</u>	<u>20</u>	<u>319.5</u>	<u>29</u>	<u>419.5</u>	<u>38</u>	<u>2258.8</u>
Benefits @ 21%	<u>5.1</u>		<u>45.1</u>		<u>67.1</u>		<u>88.1</u>		<u>474.4</u>
Total Personal Services	29.3		260.1		386.6		507.6		2733.2
<u>TRAVEL</u>	50.0		85.0		60.0		85.0		380.0
<u>CONTRACTUAL</u>									
Rent	48.2		126.8		188.5		247.5		1333.2
Subcontracts	25.0		100.0		300.0		400.0		2800.0
Phone/Xerox/Other	<u>10.9</u>		<u>43.2</u>		<u>83.5</u>		<u>114.0</u>		<u>648.4</u>
Total Contractual	54.9		335.0		572.0		761.5		4761.6
<u>COMMODITIES</u>			10.0		20.0		30.0		160.0
<u>EQUIPMENT</u>	<u> </u>		<u>50.0</u>		<u>100.0</u>		<u>200.0</u>		<u>800.0</u>
TOTAL OPERATING	134.2		740.1		1138.6		1584.1		8894.8

I. REQUEST
Bill/Resolution No. CSHB 687
Title "An Act establishing the Alaska Energy Center; and providing for an
Requested by effective date." Date

II. FISCAL DETAIL
Agency Affected Administration
Program Category Affected General Government
BRU, Program, or Subprogram(s) Affected Administrative Services
(Note: If more than one budget component is affected, separate line-item amounts and funding for each component in the analysis section.)
EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES		44.0				
200 TRAVEL		1.0				
300 CONTRACTUAL		1.2				
400 COMMODITIES		.6				
500 EQUIPMENT		-0-				
600 LAND & STRUCTURES						
700 GRANTS, CLAIMS, ETC.						
TOTAL		46.8				

FUNDING (Thousands of Dollars)

GENERAL FUND		46.8	-0-	-0-	-0-	
FEDERAL FUNDS						
OTHER (Specify Fund Source)						

POSITIONS

FULL TIME						
PART TIME						
TEMPORARY		2	-0-	-0-	-0-	

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)


Oral Freeman, Vice Chairman
House Finance Committee
April 24, 1980

IV. DATE PREPARED BY
AGENCY
Original: Legislative Finance PHONE

Original sponsors: Gardiner, Rogers,
Branson, et al

Offered: 4/11/80
Referred: Finance

1 IN THE HOUSE

BY THE RESOURCES COMMITTEE

2 CS FOR HOUSE BILL NO. 687

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act establishing the Alaska Energy Center, amending
7 the Science and Technology Act, and adding fiscal
8 provisions relating to appropriations for the work of
9 the Alaska Energy Center; and providing for an effec-
10 tive date."

11 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

12 * Section 1. FINDINGS. The legislature finds that the State of Alaska is
13 currently receiving substantial revenues from the sale of nonrenewable energy
14 resources to consumers in other states of the nation. The legislature recog-
15 nizes that bringing more efficient and advanced energy technologies to the
16 stage of commercial development may result in lower energy costs to consumers
17 throughout the state and the nation. The legislature believes Alaska has a
18 responsibility to use part of its nonrenewable energy resource revenues to
19 help accomplish this goal. The legislature finds that an independent energy
20 resource development center, initially established under the direction of the
21 state, can best accomplish the aid to individuals and businesses necessary to
22 develop and implement advanced energy technologies. The legislature further
23 finds that the work of the center will provide significant employment
24 benefits to the citizens of the state and will stimulate the development of
25 the state's energy resources.

26 * Sec. 2. INTENT. In establishing an Alaska Energy Center and providing
27 money for its operation, it is the intent of the legislature that the center
28 act to achieve self-reliance at the earliest possible date.

29 * Sec. 3. AS 45 is amended by adding a new chapter to read:

1 CHAPTER 89. ALASKA ENERGY CENTER.

2 Sec. 45.89.010. ALASKA ENERGY CENTER ESTABLISHED. There is estab-
3 lished the Alaska Energy Center. The center is a public corporation of
4 the state. It is an instrumentality of the state in the Department of
5 Administration, but has a legal existence independent of and separate
6 from the state. Exercise by the center of the powers conferred by this
7 chapter is an essential governmental function of the state.

8 Sec. 45.89.020. PURPOSE. The primary purpose of the center is to
9 create employment opportunities and other benefits in the state through
10 the development and use of more efficient technologies. The center
11 shall

- 12 (1) promote the most efficient and appropriate technologies
13 for the use and conservation of the state's energy resources;
14 (2) provide economic benefits to state citizens;
15 (3) promote the effective use of the state's resources;
16 (4) promote diversification of employment opportunities;
17 (5) reduce state energy imports; and
18 (6) bring existing and new technologies to a stage of com-
19 mercial feasibility.

20 Sec. 45.89.030. BOARD OF DIRECTORS. A board of directors of the
21 center is established as its governing body.

22 Sec. 45.89.040. COMPOSITION OF BOARD OF DIRECTORS. (a) The board
23 of directors consists of nine members as follows:

- 24 (1) seven members appointed by the governor and confirmed by
25 a majority of the members of the legislature in joint session;
26 (2) two members of the legislature jointly appointed by the
27 president of the senate and the speaker of the house of representatives
28 at the beginning of each legislature.

29 (b) The board shall elect a chairman and other necessary officers

1 from among its members.

2 Sec. 45.89.050. TERM OF OFFICE. (a) The members of the legisla-
3 ture appointed to the board serve ex officio as nonvoting members of the
4 board for the duration of the legislature during which they were ap-
5 pointed.

6 (b) The members of the board appointed by the governor serve
7 three-year terms and may be reappointed. Terms shall be staggered.

8 (c) The officers of the board elected under AS 45.89.040(b) serve
9 a term of three years.

10 Sec. 45.89.060. REMOVAL AND VACANCIES. (a) The governor may
11 remove from office a board member appointed under AS 45.89.040(a)(1)
12 with the consent of a majority of the members of the legislature in
13 joint session. A removal by the governor shall be in writing and state
14 the reason for removal. If the legislature is not in session, the
15 governor may suspend a member of the board. After suspension, a board
16 member may not participate in board business and may not be counted for
17 the purpose of establishing a quorum. The joint session shall be held
18 within 10 days from the date of removal, if the removal occurs while the
19 legislature is in session, or within 30 days of convening of the next
20 regular session of the legislature, if the legislature is not in session.
21 If the legislature refuses to consent to removal, the suspension of the
22 board member is terminated and the member shall be reinstated to the
23 office by the governor.

24 (b) A vacancy on the board among the members appointed under
25 AS 45.89.040(a)(1) shall be filled by appointment by the governor and
26 confirmation by a majority of members of the legislature in joint ses-
27 sion. An appointee to fill a vacancy shall hold office for the balance
28 of the term for which his predecessor on the board was appointed. If a
29 vacancy arises on the board while the legislature is not in session, the

1 governor may appoint an interim member, until the legislature has the
2 opportunity to confirm the appointment.

3 (c) A vacancy on the board among the members appointed under
4 AS 45.89.040(a)(2) shall be filled by appointment by the presiding
5 officer of the house of the legislature to which the vacating board
6 member belonged.

7 (d) A vacancy on the board does not impair the authority of a
8 quorum of the board to exercise all the powers and perform all the
9 duties of the board.

10 Sec. 45.89.070. QUALIFICATIONS OF BOARD MEMBERS. (a) At least
11 four of the board members appointed under AS 45.89.040(a)(1) shall be
12 residents of the state and shall have had experience in energy tech-
13 nology or energy development.

14 (b) At least three of the board members appointed under AS 45.89.-
15 040(a)(1) shall be nationally recognized experts in energy technology or
16 energy development.

17 Sec. 45.89.080. QUORUM. Four members of the board appointed under
18 AS 45.89.040(a)(1) constitute a quorum for the transaction of business
19 and the exercise of the powers and duties of the board.

20 Sec. 45.89.090. COMPENSATION OF BOARD MEMBERS. (a) Board members
21 appointed under AS 45.89.040(a)(1) receive \$350 per day while in attend-
22 ance at and traveling to and from meetings of the board.

23 (b) Board members may receive a per diem allowance and trans-
24 portation expenses in carrying out the duties under this chapter.

25 Sec. 45.89.100. CONFLICTS OF INTEREST. Members of the board are
26 subject to AS 39.50.

27 Sec. 45.89.110. EMPLOYMENT OF PERSONNEL. The board shall employ
28 and determine the salary of an executive director. The executive direc-
29 tor may, with the approval of the board, select and employ additional

1 staff as necessary. The executive director and all employees of the
2 board are in the exempt service under AS 39.25.

3 Sec. 45.89.120. POWERS. In carrying out the powers of the center,
4 the board may

5 (1) adopt, alter, and use a corporate seal;
6 (2) prescribe, adopt, amend, and repeal bylaws;
7 (3) sue and be sued in the name of the center;
8 (4) enter into any agreements necessary to the exercise of
9 its powers and functions;

10 (5) accept grants from and contract with the federal govern-
11 ment and the state or its political subdivisions and to that end comply
12 with the provisions of federal, state, or local programs when necessary,
13 except that it may not enter into any agreements whereby a permanent
14 state or local government position is financed or partially financed in
15 connection with a project;

16 (6) accept grants and loans from and contract with sources
17 other than those in (5) of this section for the purposes of the work of
18 the center;

19 (7) appear in behalf of the center before boards, commis-
20 sions, departments, or other agencies of municipal, state, or federal
21 government;

22 (8) acquire, hold, use, lease, sell, or otherwise dispose of
23 property of any kind, real, personal, or mixed, or an interest in it;

24 (9) conduct or sponsor applied research, development and
25 demonstration projects, and prepare, publish, and distribute technical
26 studies, reports, bulletins and other materials it considers appro-
27 priate;

28 (10) hold patents, copyrights, trademarks, royalties or other
29 evidences of protection or exclusivity issued under the laws of the

1 United States or any state or nation obtained by persons receiving
2 assistance from the center;

3 (11) adopt regulations governing the exercise of its powers;

4 (12) do everything necessary or desirable to carry out the
5 purposes of the center.

6 Sec. 45.89.130. DUTIES. The board shall

7 (1) promote the commercial development and use of more effi-
8 cient energy technologies;

9 (2) subject to the availability of money,

10 (A) sponsor energy research projects intended to accom-
11 plish the purposes of the center;

12 (B) conduct and sponsor applied research, development,
13 and demonstration projects of energy technologies;

14 (C) provide financial and other support to inventors and
15 businesses engaged in the development, demonstration, and commer-
16 cialization of energy technologies;

17 (3) manage projects for which financing has been appropriated
18 by the legislature;

19 (4) in developing its programs, consult with the Alaska Council
20 on Science and Technology, the Alaska Power Authority, the Alaska Renew-
21 able Resources Corporation, the division of energy and power development
22 of the Department of Commerce and Economic Development, the Department
23 of Natural Resources, and the University of Alaska; the board shall meet
24 with responsible officials and representatives of these organizations
25 and agencies at least twice each year;

26 (5) consult with other energy research and development or-
27 ganizations.

28 Sec. 45.89.140. BUDGET AND APPROPRIATIONS. (a) The center is
29 subject to the Executive Budget Act (AS 37.07), except as provided in

1 (b) of this section and in AS 37.25.030.

2 (b) The budget of the center shall include a description of and
3 amount of proposed financing for projects to be conducted or supported
4 by the center. Requests in the budget for project financing shall
5 include a statement of the objectives and goals of the project, includ-
6 ing, but not limited to, the number of jobs to be created and the number
7 of businesses to be assisted by the project. The amount of the center's
8 operating budget shall be specified separately from proposed project
9 financing.

10 Sec. 45.89.150. ANNUAL REPORT. The board shall prepare an annual
11 report of its activities and submit a copy of the report to the legisla-
12 ture. The annual report shall be transmitted to the legislature at the
13 beginning of each regular session. The report shall include a descrip-
14 tion of the work conducted or supported by the center, the number of
15 jobs which have been created, the number of businesses which have been
16 assisted, and any other information which the board determines should be
17 included to describe the work of the center.

18 Sec. 45.89.160. COOPERATION WITH OTHER STATE AGENCIES AND THE
19 UNIVERSITY OF ALASKA. (a) All departments, agencies, and public cor-
20 porations of the state, including the University of Alaska, shall pro-
21 vide information, services, and facilities to the center on its request.
22 The center shall reimburse the department, agency, or corporation for
23 expenses reasonably incurred on the center's behalf.

24 (b) When feasible, the center shall contract with the University
25 of Alaska or an organization which is based in Alaska for research.

26 Sec. 45.89.200. DEFINITIONS. In this chapter

27 (1) "board" means the Board of Directors of the Alaska Energy
28 Center;

29 (2) "center" means the Alaska Energy Center;

1 (3) "energy technology" means technological developments and
2 innovations which are appropriate for

3 (A) production of energy through the use of renewable
4 and alternative energy sources;

5 (B) energy conservation;

6 (C) development of facilities for the use of waste heat
7 and the cogeneration of electricity and heat;

8 (D) the reduction of dependence on fossil fuels;

9 (E) efficient recovery and use of fossil fuels.

10 * Sec. 4. AS 39.25.110 is amended by adding a new paragraph to read:

11 (22) employees of the Alaska Energy Center.

12 * Sec. 5. AS 39.50.200(9) is amended by adding a new subparagraph to
13 read:

14 (SS) Alaska Energy Center (AS 45.89).

15 * Sec. 6. AS 37.25 is amended by adding a new section to read:

16 Sec. 37.25.030. APPROPRIATIONS FOR PROJECTS OF THE ALASKA ENERGY
17 CENTER. An appropriation to the Alaska Energy Center for a research,
18 development, or demonstration project under AS 45.89.130(2) is valid for
19 the duration of the project and the unexpended balance for the project
20 shall be carried forward to subsequent fiscal years.

21 * Sec. 7. AS 44.46.080(c)(3) is amended to read:

22 (3) annually submit to the governor and the legislature the
23 findings of the council, including

24 (A) a listing, description, ranking, and justification
25 of research needs; [, AND]

26 (B) its recommendations for projects which should be con-
27 ducted or supported by the Alaska Energy Center;

28 (C) a commentary on significant research activities of
29 the preceding year funded by the state; and [INCLUDING]

1 (D) the relationship of that research to the state's
2 needs and priorities;

3 * Sec. 8. APPOINTMENT OF FIRST BOARD OF DIRECTORS OF ALASKA ENERGY CEN-
4 TER. The governor shall designate the terms of the members of the Board of
5 Directors of the Alaska Energy Center first appointed under AS 45.89.-
6 040(a)(1). Of the seven members first appointed

- 7 (1) three shall serve a term of one year;
8 (2) two shall serve a term of two years; and
9 (3) two shall serve a term of three years.

10 * Sec. 9. Sections 1 - 6 and 8 of this Act take effect immediately in
11 accordance with AS 01.10.070(c).

12 * Sec. 10. Section 7 of this Act takes effect July 1, 1980.

HOUSE RESEARCH AGENCY
Pouch Y - State Capitol
Juneau, Alaska 99811
465-3991

MEMORANDUM

March 12, 1980

TO: Representative Terry Gardiner
ATTN: Bob Speed

FROM: Duncan L. Read, Director *D&R*

RE: Organizational Study for Alaska Energy Center
Research Request No. 105

In this memorandum, a request for proposals for an organizational study for an Alaska Energy Center, as provided for in HB 687, is outlined. Included are the components, time frames, and cost estimates of a contractual study. In addition, appropriate procedures for competitive bidding are briefly discussed.

The major components of the proposed study are:

- Phase I identification of the functions of a board of directors; its relationships to the executive and legislative branches of State government, the State university system, and the private sector; and criteria for the selection of directors and persons residing outside Alaska who may meet those criteria.
- Phase II analysis of alternative means of start-up, including a management contract with an existing research and development organization.
- Phase III preparation of a job description with appropriate salary ranges and benefits for the Center's executive director with a follow-up executive search effort.
- Phase IV development of a three to five-year work program with budgets.

In performing each of the above tasks, the organization and practices of other similar research and development institutions including public non-profit, private and university entities will be investigated.

The contract will be administered through the Office of the Governor. Oversight will be provided by a small group of legislative and executive policymakers. Five to ten national management consulting firms will be

Representative Terry Gardiner
March 12, 1980
Page 2

invited to submit bid proposals. Firms will be chosen based on prior experience with existing research and development institutions comparable to the proposed Alaska Energy Center. A formal request for proposals will be sent to each of the firms identified, and proposals will be formally evaluated by a committee according to pre-set, weighted criteria. [The House Research Agency will be available to assist in the development of a request for proposal (RFP) and the evaluation of bids.]

It is assumed that authority for the study will be granted in mid-March and that a request for proposals can be designed and transmitted to selected firms by April 7. Allowing three weeks for response and two weeks for evaluation of bids and a contract award, work could commence as early as May 12. Phase I and the general investigative work on other research and development institutions could be completed by early June.

Succeeding phases (Phases II and III), if enabling legislation is passed, would best be undertaken after directors had been appointed and could be performed in consultation with them. If directors were appointed immediately after passage of enabling legislation and began serving in July, the second and third phases could be completed by September 1. Preferably, the executive director should be involved in the work program development and budget preparation called for in Phase IV. Assuming that an executive director was hired and on board by October 1, Phase IV work could be performed during that month on-site in Alaska. A final, complete product could be available by November 1. A composite time frame is attached.

The contract should have provisions specifying frequent on-site consultation with related travel to Alaska. Estimated costs of the contract range from \$75,000 to \$100,000.

DLR/dp



Alaska State Legislature

House of Representatives

MEMORANDUM

5:05 P.M.

316180

assigned to
Read

Official Business

Pouch V
State Capitol
Juneau, Alaska 99811

To: Duncan Read
Director, House Research Agency

From: Rep. Terry Gardiner *T.G.*
by Bob Speed, A.A.

Date: March 6, 1980

Re: Feasibility study for Alaska Energy Center
ref: HB 687

Duncan

I have Terry's concurrence that a feasibility study is needed in regard to establishment of the proposed Alaska Energy Center. The idea of the study would be to investigate what the internal organization of a proposed center could be, based on existing institutes of a similar nature in other states; and of the relationship between such a center and the state government.

As perceived by us, the energy center would be a public, nonprofit institution with the primary goals of solution of state energy problems through use of "appropriate technology," with emphasis on renewable energy development for the non-renewable energy resources existing in the state which would have application in, but also beyond, Alaska. Examples would be wind or geothermal or biomass energy systems in-state, and enhanced recovery of petroleum and appropriate technologies of coal development for in-state and export use. The second goal, which should not be considered secondary, would be development of permanent jobs, industries and economies of scale in Alaska based on these energy technologies, which would develop as a natural by-product of resource development, or which could be put into place as a link of commercialization, creating local markets and transportation linkages, etc.

The institute therefore is to be considered primarily as a development institute to promote energy systems and industrial development that will benefit resident Alaskans without major disruption of their lives and communities. Research needs will be contracted out, largely to the university it is assumed, and to other Alaska-based businesses.

It is also to be considered a "world-class" institution which could be in a position to hire top-flight people capable of major contributions to science and engineering, as well as development of private-sector economies within Alaska.

Our need in the proposed organizational/feasibility study would be to investigate other research and development institutions, of which there are three basic models of which I give the following examples:

- university research institute model (MIT, Stanford institutes, U. of Alaska)
- public non-profit institute model (Montana Energy Research and Development Institute (MERDI) and the New York State Energy Research and Development Authority (NYSERDA)).
- private research and development institutions (Battelle Northwest, a profit-making model, and Battelle institute models established as privately endowed not-for-profit institutional models).

There are also federal models, such as the Solar Energy Research Institute (SERI), but we are less interested in those because of the lack of success of the federal models.

The proposed organizational/feasibility study should consist of a contract for investigative services including a travel budget big enough to allow travel to various institutions around the country found to be worth more than cursory investigation. I estimate total cost of such a study to be in the neighborhood of \$100,000.

The study should be directed at the following issues, but also need to expand this first cut:

- organizational structure of a board of directors: what relationships should they have to the state administration, the Legislature, the University system, the private sector both in-state and nationally, and to other similar institutions. Points we want to keep in mind are the expressed desire to keep the board relatively small so as not to be unwieldy; having a board consisting of a majority of Alaska residents, but with the out-of-state members being dynamic leaders with a proven track record.
- The qualification we should look for in someone to be executive director of the institute plus an idea of how much we should expect to pay for such a person.

- an organizational model for start-up of the organization:
There are basically two ways the center could be started up:

- 1) appoint board of directors who hire executive director who hires his staff
- 2) fast track: management contract with existing R&D organization on bid basis to start organization off for first one to three years.

The energy center will have the following responsibilities:

1. renewable energy resource research, development, demonstration and the linkages leading to commercialization of a given industry based on demonstrated need and technical/economic feasibility. It would be assumed that the center would aid entrepreneurs through the process of business development to the point that the businessman could apply to the Renewable Resources Corporation or private-sector financiers and get venture capital to compete on the private market.
2. research into oil, coal and other energy technologies that could provide breakthroughs which would have national/international import as well as application here in Alaska. This would be part of an expressed commitment on the part of the State of Alaska to use part of our resource wealth for the benefit of the world at large.
3. an innovation center, designed to help Alaska residents with development, demonstration, promotion, legal work such as patents and copyrights, accounting and business formation, including licensing of products or processes for commercial production. This aspect of the energy center operation would not necessarily be energy related but could apply to any type of idea or invention found to be feasible. A model for this is the innovation center connected with MERDI.

Attached is a first draft of a proposed fiscal note, based on a hypothetical first-year operation of the operation of the proposed energy center. This document is very rough and is to be considered confidential and not necessarily an accurate representation of how the organization might develop.

Also attached is a copy of the annual report of NYSERDA, which should be helpful in getting a grasp of the intent behind the energy center.

Bob Speed will be available to work with you on this project.

We are looking for a rough estimate of the cost of such a study, and potential methods of conducting it in time for a meeting with the Governor's Office staff and the Lieutenant Governor on Thursday, March 13, at 2:30 p.m. Please let me know if this is possible.

TG/mh

May 2, 1980

HOUSE JOURNAL
SUPPLEMENT

No. 60

CSHB
687

To: Rep. Terry Gardiner
Speaker of the House

From: Rep. Bill Miles, Chairman *BM*
House Resources Committee

Date: May 1, 1980

Re: CS HB 687/ Alaska Energy Center
LETTER OF INTENT

The establishment of an Alaska Energy Center is intended to accomplish several major goals, both social and economic. The primary purpose is to use Alaska's energy resources and technology to create jobs in Alaska. A parallel goal is to help solve energy cost and supply problems for Alaskans.

We recognize that energy consumption patterns will undergo dramatic change during the remainder of this century, and into the next. One goal for the Alaska Energy Center is to be a recognized leader in the research and development which will accompany this change, and also which will help conserve the depletable fossil fuels we depend upon, and enhance the economic recoverability of known reserves. This recognized leadership status will be reflected by the number of grants and contracts awarded to the center from government and industry for fossil fuel recovery, development of new energy forms from renewable resources, better use of existing technologies, as well as the practical demonstration of ways to use alternative energy resources economically. In achieving this goal, the energy center shall contribute to the resolution of energy problems faced by Alaskan residents and the communities they live in.

A second major goal recognizes that Alaska has historically been an exporter of raw materials and an importer of finished goods. We believe that while Alaska seeks to resolve its energy price and supply problems over the long term by converting to renewable energy resource use, the opportunity exists to create new industries and employment in the state based on locally available energy resources and the technologies associated with them. Rather than continue to import energy resources and the technology necessary to utilize them, the state should help establish local industries to accomplish the same thing. Direct employment, the "ripple effect" of indirect employment, and recirculation of dollars used to pay for local resources rather than exported to import traditional fuels, will all have profound effects on the economies of Alaskan communities and of the state as a whole. Many of the jobs created will be in demonstration projects carrying some risk of success; but many will be in small businesses spread throughout the state in local resource procurement, hardware assembly and maintenance, plant operations and marketing.

The net result will be new industries and jobs for communities and their residents, as well as greater energy independence for all Alaskans. The Energy Center will help bring about this change through demonstration of economically feasible alternative forms of producing energy and direct technical assistance to local entrepreneurs in creation of local businesses to manufacture, process, harvest or assemble the locally available energy resource or the equipment needed to utilize it. In helping commercialize such ventures, a fundamental role of the center shall be to train inexperienced entrepreneurs in operations and accounting principles needed to make a success of those venture found to be economically feasible; and to work closely with the Alaska Renewable Resources Corp., the Alaska Fisheries and Agriculture Bank, the state business loan programs, private financial institutions and other appropriate funding sources to provide sufficient capital to establish the new business.

A third major goal for the Alaska Energy Center, and one which will provide a check on the success of its activities, is for it to become economically self-sufficient in its operating budget over a maximum period of ten years. We believe this can be accomplished in several ways. First, its research and development activity should be financed from grants and contracts, patent licensing fees and royalties. Although it is probable that the State of Alaska shall continue to be a significant source of contract work, the Legislature expects the Center to initiate from its inception and to maintain a strong ability to compete in the marketplace for an ever-increasing percentage of its operating money. To this end, the Legislature's intent is to capitalize the operational budget with a strong investment in the beginning, and to gradually phase out funding of operations by 1990. Project funding approved by the Legislature is intended to be in advance for full projected costs, to insure that continuity of projects in progress shall not be jeopardized in event of unanticipated budget reductions in succeeding years.

A fourth goal for the energy center recognizes the public service responsibility of the institution. The Alaska Energy Center is established as a private nonprofit corporation to perform an essential service to the People of Alaska. It is to be expected that some of this benefit should be provided as a public service at no cost, to those who request it, while the center is also charged with the responsibility to protect its proprietary interests on which it will depend for an ever-increasing share of its operating and project revenues.

In regard to projects undertaken within Alaska, the energy center shall consider local cultural, social and economic factors, and the aspirations and ways of life of people in existing communities, when determining whether a project or technology is appropriate to local needs. These considerations shall be given equal weight in matching resources and needs.

No corporate structure is established in HB 687. The Legislature recognizes that this vital decision is best left to the board of directors. To that end, the Legislature has appropriated \$100,000 for a comparative study of the organization of similar institutions, public and private, around the country. The first part of that study, to be conducted by the Office of the Governor, shall be to determine the best composition of the board itself, to aid the governor in appointing board members. The second phase, to be directed in part by the board itself, shall be to determine the best management system for the Alaska Center.

Although the study remains to be done, and the Legislature lacks the direction which the document will offer when final decisions are made, there are a number of concerns the Legislature intends to be addressed in establishing the enabling legislation in HB 687. These can be broken down into four basic areas of need:

- 1) fossil fuel recovery and related environmental problems
- 2) renewable energy and transportation
- 3) energy conservation and building design
- 4) Innovation Center

The two areas of greatest energy consumption in Alaska are transportation and space heating of buildings, so it follows that these are areas where the Energy Center could provide some of the greatest contributions to energy conservation and replacement of fossil fuels. An "innovation center" would not be limited exclusively to energy but would provide a service to all Alaskan inventors and innovators with marketable ideas. Among the services the Innovation Center would provide would be assistance in determining whether Alaskan inventions are marketable, patent searches and patenting, and business and capital formation if that is the desire of the inventor, or obtaining manufacturing licenses and royalty agreements if the inventor prefers, and marketing.

It is expected that the Innovation Center would perform these services at no initial cost to the client; but that if the product proves commercially successful, the innovation Center would be entitled to a royalty for its services at a standard rate. Wherever feasible, the Center would give preference to manufacture in Alaska.

responsibility to protect its proprietary interest in which it will depend for an ever-increasing share of its operating and project revenues.

In regard to projects undertaken within Alaska, the Energy Center shall consider local, cultural, social and economic factors, and the applications and ways of life of people in existing communities, when determining whether a project or technology is appropriate to local needs. These considerations shall be given equal weight in matching resources and needs.

No. 60

CSHB
687HOUSE JOURNAL
SUPPLEMENT

May 2, 1980

REVISED FISCAL NOTE

I. REQUEST
 Bill/Resolution No. Committee substitute for House Bill 687 (Page 1 of 3)
 Title An Act creating the Alaska Energy Center
 Requested by _____ Date _____

II. FISCAL DETAIL
 Agency Affected Department of Administration
 Program Category Affected Development
 Budget Request Unit(s) Affected Alaska Energy Center

EXPENDITURES (Thousands of Dollars)

	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
100 PERSONAL SERVICES	1183.6	2733.2	2924.5	3129.2	3348.3	
200 TRAVEL	280.0	380.0	406.6	435.1	465.5	
300 CONTRACTUAL	1687.6	4761.6	5166.3	5527.9	5914.9	
400 COMMODITIES	60.0	160.0	171.2	183.2	196.0	
500 EQUIPMENT	350.0	800.0	856.0	913.9	980.0	
600 LAND & STRUCTURES						
700 GRANTS CLAIMS ETC.	1445.0	1546.1	1654.4	1770.2	1894.1	
PROJECT FUNDING	15000.0	18750.0	20362.3	21466.8	22969.6	
TOTAL	20006.2	29130.9	31241.5	33428.3	35768.1	

FUNDING (Thousands of Dollars)

GENERAL FUND	10006.2	16880.7	17227.3	16552.5	12456.8	
FEDERAL FUNDS	10000.0	12250.0	13107.5	14025.0	15006.8	
OTHER (Specify)		906.7		4850.8	8304.5	

POSITIONS

FULL TIME	38.0	50.0	50.0	50.0	50.0	
PART TIME						
TEMPORARY						

III. ANALYSIS (See Fiscal Note Preparation Instructions, Section III)

See attached for expenditure summary.

Assumptions: FY 81 is startup; FY 82 full operations
 FY 83, FY 84, FY 85 inflation from FY 82 at 7 per cent
 Federal funding \$10 million FY 81; \$12.250 million FY 82;
 FY 83, FY 84, FY 85 inflation from FY 82 at 7 per cent
 General funding for non-federal portion of operations 100 per cent in
 FY 81 and FY 82; 95 per cent in FY 83; 75 per cent
 in FY 84; 60 per cent in FY 85; continuing decline
 Other funds include royalties, private contracts, additional federal
 funds; 5 per cent of non-federal operation in FY 83;
 25 per cent in FY 84; 40 per cent in FY 85
 Grants and claims includes subcontracts to University of Alaska for
 alternative energy research in FY 81; inflation at
 7 per cent for FY 82, FY 83, FY 84, FY 85.

IV. DATE April 24, 1980

PREPARED BY Stacy DavidsonAGENCY LegislativeOriginal: Legislative Finance PHONE 465-1720

No. 60 May 2, 1980

HOUSE JOURNAL May 2, 1980

No. 60

CSHB
687CSHB
687

REVISED FISCAL NOTE

REQUEST

Bill/Resolution No.

ALASKA ENERGY CENTER - CSHB 687

(Page 1 of 3)

Page 2 of 3

Title

Requesting by

Project Funding - FY 81

- II. FISCAL DATA: Project funding for FY 81 includes \$5 million in general funds and \$10 million in anticipated federal and other receipts. Agency Affected: Up to \$2.5 million of the general funds may be used to match other receipts. Program Category: The Board of Directors of the Energy Center shall submit a plan for expenditure of the remaining \$2.5 million in general funds to the Speaker of the House and the President of the Senate before these funds are encumbered. Budget Request: EXHIBIT

Grants & Claims - FY 81

Grants and claims includes \$1,445,000 for the following subcontracts to the University of Alaska Alternative Energy Research Program:

Fuels research program	180,000
Solar technology program	315,000
Heat pump demonstrations	65,000
Biomass fuels research	130,000
Energy economics research	80,000
Coal utilization research	230,000
Wind energy data collection and wind energy atlas	110,000
Waste heat research center	275,000
Fuel cell demonstrations	60,000
TOTAL	1,445,000

Grants and claims for FY 82 - FY 85 includes continuation of alternative energy research projects by the University of Alaska under contract to the Alaska Energy Center, with specific projects to be determined by the Board of Directors of the Alaska Energy Center. The legislature intends that technology development and demonstration projects currently being conducted by the following agencies be transferred to the Alaska Energy Center in the FY 82 and subsequent budgets:

- See attached for details:
 University of Alaska
 Division of Energy and Power Development
 Alaska Power Authority
 Department of Transportation and Public Facilities
 Federal all other energy technology development projects

The Board of Directors of the Alaska Energy Center may subcontract to the University of Alaska, other state agencies, or private research firms from the project funding line item for any projects selected by the board.

Appropriations for project funding made to the Alaska Energy Center are for capital projects and are subject to AS 37.25.020.

IV. DATE: April 24, 1980

PREPARED BY

Original Legislative Packet

AGENCY

FUNDING

May 2, 1980

HOUSE JOURNAL
SUPPLEMENT

No. 60

CSHB
687ALASKA ENERGY CENTER - CSHB 687
OPERATING BUDGET - FISCAL YEARS 1981 & 1982

	1st Quarter		2nd Quarter		3d Quarter		4th Quarter		FY 82 Full Operat	
	Expen.	Pos.	Expend.	Pos.	Expend.	Pos.	Expend.	Pos.	Expend.	Posit
<u>PERSONAL SERVICES</u>										
Salaries									80.0	1
Exec. Director	20.0	1	20.0	1	20.0	1	20.0	1	140.0	2
Dept. Directors			17.5	1	17.5	1	17.5	1	600.0	10
Senior Staff			60.0	4	90.0	6	120.0	8	900.0	20
Professional Staff			67.5	6	112.5	10	157.5	14	384.8	10
Tech/Junior Staff			33.5	4	57.5	6	77.0	8	154.0	7
Secretarial Staff	4.2	1	16.5	4	22.0	5	27.5	6	2258.8	30
Total Salaries	24.2	2	215.0	20	319.5	29	419.5	38		
Benefits @ 21%	5.1		45.1		67.1		88.1		474.4	
Total Personal Services	29.3		260.1		386.6		507.6		2733.2	
<u>TRAVEL</u>	50.0		85.0		60.0		85.0		380.0	
<u>CONTRACTUAL</u>									1333.2	
Rent	48.2		126.8		188.5		247.5		2800.0	
Subcontracts	25.0		100.0		300.0		400.0		648.4	
Phone/Xerox/Other	10.9		43.2		83.5		114.0			
Total Contractual	54.9		335.0		572.0		761.5		4761.6	
<u>COMMODITIES</u>			10.0		20.0		30.0		160.0	
<u>EQUIPMENT</u>			50.0		100.0		200.0		800.0	
TOTAL OPERATING	134.2		740.1		1138.6		1584.1		8894.8	

ALASKA ENERGY CENTER - CSHB 687

OPERATING BUDGET - FISCAL YEARS 1981 & 1982

	<u>1st QTR</u>		<u>2nd QTR</u>		<u>3rd QTR</u>		<u>4th QTR</u>		<u>FY 82 TOTAL</u>	
<u>PERSONAL SERVICES</u>	Expen.	Pos.	Expen.	Pos.	Expen.	Pos.	Expen.	Pos.	Expen.	Pos.
<u>Salaries</u>										
Exec. Director	20.0	1	20.0	1	20.0	1	20.0	1	80.0	1
Dep. Director			17.5	1	17.5	1	17.5	1	70.1	1
Senior Director			15.0	1	30.0	2	45.0	3	240.0	4
Professional Staff			22.5	2	22.5	2	33.75	3	180.0	4
Technical Staff			16.75	2	16.75	2	50.25	6	268.0	8
Secretarial	4.125	1	8.25	2	8.0	2	12.375	3	66.0	4
	-----		-----		-----		-----		-----	
Total Salaries	\$24.125	2	100.0	9	115.0	10	178.875	17	904.0	22
Benefits @ 21%	5.1		21.0		24.2		37.65		190.0	
Total Personal Serv.	29.225		121.0		139.2		216.475		1,094.0	
<u>TRAVEL</u>	25.0		40.0		50.0		50.0		200.0	
<u>CONTRACTUAL</u>										
Rent	25.0		75.0		80.0		130.0		520.0	
Subcontracts	50.0		50.0		100.0		200.0		800.0	
Phone/Xerox/Other	10.0		30.0		35.0		65.0		260.0	
	-----		-----		-----		-----		-----	
Total Contractual	85.0		155.0		215.0		395.0		1,580.0	
<u>COMMODITIES</u>	5		10.0		15.0		20.0		80.0	
<u>EQUIPMENT</u>			15		20.0		30.0		120.0	
	-----		-----		-----		-----		-----	
<u>TOTAL</u>	144.225		341.0		439.2		71.475		3,074.0	
TOTAL OPERATING BUDGET, FY 81:			\$1,635,900							
TOTAL CAPITAL BUDGET, FY 81:			3,700,000							
*TOTAL BUDGET REQUEST, CSHB 687:			\$5,335,900							
University of Alaska research:			1,500,000							
TOTAL ENERGY R&D PROGRAM:			\$6,835,900							

SCS CSHB 687

ALASKA ENERGY CENTER

OPERATING & CAPITAL BUDGET

FISCAL YEARS 1981 & 1982

<u>BUDGET COMPONENT</u>	<u>FY 81</u>	<u>FY 82</u>
<u>PERSONAL SERVICES</u>		
Salaries	\$418,000	\$904,000
Benefits @ 21%	<u>88,000</u>	<u>190,000</u>
Total Personal Services	\$506,000	\$1,094,000
<u>TRAVEL</u>	165,000	200,000
<u>CONTRACTUAL</u>		
Rent	310,000	520,000
Subcontracts	394,000	1,100,000
Phone/Xerox/Other	<u>140,000</u>	<u>800,000</u>
Total Contractual	844,000	260,000
<u>COMMODITIES</u>	50,000	80,000
<u>EQUIPMENT</u>	65,000	120,000

TOTAL OPERATING BUDGET	\$1,630,000	\$3,074,000
TOTAL CAPITAL BUDGET	4,370,000	\$8,000,000
** TOTAL FISCAL NOTE (BUDGET)	\$6,000,000	\$11,074,000

ALASKA ENERGY CENTER - CSHB 687

OPERATING BUDGET - FISCAL YEARS 1981 & 1982

	<u>1st QRTR</u>		<u>2nd QRTR</u>		<u>3rd QRTR</u>		<u>4th QRTR</u>		<u>FY 82 TOTAL</u>	
<u>PERSONAL SERVICES</u>	Expen.	Pos.	Expen.	Pos.	Expen.	Pos.	Expen.	Pos.	Expen.	Pos.
<u>Salaries</u>										
Exec. Director	20.0	1	20.0	1	20.0	1	20.0	1	80.0	1
Dep. Director			17.5	1	17.5	1	17.5	1	70.1	1
Senior Director			15.0	1	30.0	2	45.0	3	240.0	4
Professional Staff			22.5	2	22.5	2	33.75	3	180.0	4
Technical Staff			16.75	2	16.75	2	50.25	6	268.0	8
Secretarial	4.125	1	8.25	2	8.0	2	12.375	3	66.0	4
	-----		-----		-----		-----		-----	
Total Salaries	\$24.125	2	100.0	9	115.0	10	178.875	17	904.0	22
Benefits @ 21%	5.1		21.0		24.2		37.65		190.0	
Total Personal Serv.	29.225		121.0		139.2		216.475		1,094.0	
<u>TRAVEL</u>	25.0		40.0		50.0		50.0		200.0	
<u>CONTRACTUAL</u>										
Rent	25.0		75.0		80.0		130.0		520.0	
Subcontracts	50.0		50.0		100.0		200.0		800.0	
Phone/Xerox/Other	10.0		30.0		35.0		65.0		260.0	
	-----		-----		-----		-----		-----	
Total Contractual	85.0		155.0		215.0		395.0		1,580.0	
<u>COMMODITIES</u>	5		10.0		15.0		20.0		80.0	
<u>EQUIPMENT</u>			15		20.0		30.0		120.0	
	-----		-----		-----		-----		-----	
<u>TOTAL</u>	144.225		341.0		439.2		71.475		3,074.0	

TOTAL OPERATING BUDGET, FY 81: \$1,635,900
TOTAL CAPITAL BUDGET, FY 81: 3,700,000

*TOTAL BUDGET REQUEST, CSHB 687: \$5,335,900

University of Alaska research: 1,500,000

TOTAL ENERGY R&D PROGRAM: \$6,835,900

ALASKA ENERGY CENTER
CAPITAL BUDGET
PAGE 1

PROJECT TYPE	DESCRIPTION & ALLOCATION	APPROPRIATION
<u>GEOHERMAL:</u>	Pilgrim Hot Springs deep drilling	\$250,000
<u>MICRO-HYDRO:</u>	Hydroelectric projects less than 1.5 MegaWatt	300,000
	1. Grant to Seward General Hospital to install a hydroelectric power generation facility: (\$102,000)	
	2. Village micro-hydro demonstration project(s) (198,000)	
	Intent: To include analysis of cost payback period, compared to other alternative power supply resources, including but not limited to diesel, coal, larger hydro-electric plants and other renewable energy alternatives.	
<u>WIND, PHOTOVOLTAICS AND HYDROGEN PROJECTS:</u>		900,000
	1. Village-scale demonstration project for use of solar electric energy as a primary or back-up domestic or utility energy source (250,000)	
	2. Utility-scale wind energy demonstration (25KW to 40KW wind machine in municipal utility systems, to be constructed in areas highly visible to a significant number of state residents, such as a view of roadways. (450,000)	
	3. Wind-solar electric-hydrogen electrolysis demonstration project to develop a hybrid renewable energy system directed at solving problems of energy storage. (200,000)	
	Intent: These three projects may be combined in any manner deemed feasible, with cost savings to be reinvested in additional equipment or solution of related problems, or kept for later reallocation.	
<u>AGRICULTURAL FUEL ALCOHOL:</u>	Use of agricultural products or by-products to generate fuel alcohol, in conjunction with feedlot operating using high-protein process residues as cattle feed.	100,000
<u>INTERIOR SAWMILL FUEL ALCOHOL:</u>	Use of wood and wood wastes from sawmill operation or other sources, to generate fuel alcohol.	350,000
<u>SOUTHEASTERN BARGE-BASED FUEL ALCOHOL:</u>	Use of wood and wood wastes from existing logging operations to generate fuel alcohol, develop a barge-based system and method of fuel transport; including procurement of barges and development of wood chippers adapted to barge operation.	800,000

ALASKA ENERGY CENTER
CAPITAL BUDGET
PAGE 2

PROJECT TYPE	DESCRIPTION & ALLOCATION	APPROPRIATION
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Intent: All alcohol projects are to be considered matching funds for use with any money procured from federal or other sources. The Southeastern operation may be done in conjunction with, or supplanted by, wood gasification and is to be done in cooperation with U.S. Forest Service.

<u>ELECTRIC TRANSPORTATION:</u>	Battery powered commuter car pool vehicles at two cities in Alaska, one a cold dry climate (Fairbanks) and the other a wet climate (Juneau). As many vehicles as possible should be tested in each area. Vehicle owners/operators will be expected to contribute useful data in return for use of the vehicles.	250,000
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Intent: To determine the feasibility of short-term electric transportation in Alaska climates, both technologically and economically, and to determine the potential of electric transportation in terms of consumer acceptance in Alaska, the potential for electric transportation to use excess generating capacity in Juneau, and to reduce air pollution in Fairbanks.

<u>SOLAR CONSERVATION ARCHETECTURE:</u>	Development of passive solar and energy-conserving (super-insulated) architectural styles and methods, and land-use patterns, adapted to northern latitudes and varying Alaska climates; equal consideration is to be given to urban designs adaptable to subdivision needs of municipalities, and to rural housing sensitive to cultural needs.	300,000
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Intent: Rural housing design should take into consideration options accommodating energy conserving greenhouses for food production as an integral part of housing design, and should recognize the goal of resolution of three crucial Bush problems: housing, energy and nutritional quality.

The architectural project is to include actual construction of passive solar residences in Southeastern and Interior Alaskan municipalities, and of residences or community buildings in one or more Bush villages, depending on funds available. Except for the Bush construction, homes constructed may be sold at fair market value to recoup construction and related project expenses. The amount recouped may be used to fund design and engineering of an energy-conserving permanent facility to be the headquarters of the Alaska Energy Center.

<u>DIESEL CONVERSION TO COAL:</u>	Demonstration of technologies to convert diesel engines of varying sizes to coal combustion or to develop same.	150,000
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ALASKA ENERGY CENTER
CAPITAL BUDGET
PAGE 3

PROJECT TYPE	DESCRIPTION & ALLOCATION	APPROPRIATION
(University of Alaska Contract Research)		
<u>FUEL RESEARCH:</u>	Basic research on encapsulation of hydrogen and natural gas in Alaska zeolites, storage of hydrogen, methane and ethanol with zeolite applications.	90,000
<u>SOLAR TECHNOLOGY:</u>	Testing of different collector types, investigation of seasonal storage technologies, solar grain drying and test plot heating. Obtain reliable data set for direct and indirect solar radiation, photovoltaic research if additional funding is available.	215,000
<u>HEAT PUMP DEMONSTRATION:</u>	Development of electric and non-electric heat pump systems suited for urban and rural monitoring and performance evaluation, publication of results.	65,000
<u>BIOMASS REDUCTION PROGRAM:</u>	Investigations to determine most technologically and economically appropriate reduction technologies for Alaska's climate. Includes research on wood product combustion and conversion of fibrous material and animal biomass (animal waste) to liquid fuels.	85,000
<u>ARCTIC COAL UTILIZATION:</u>	Investigation and demonstration of local coal use on the North Slope. By Naval Arctic Research Laboratory.	130,000
<u>WIND DATA:</u>	Revision of wind atlas data in regional format; expansion of data base and reporting of results.	110,000
<u>WASTE HEAT:</u>	Development of a waste heat use research center. Involves clearing, piping construction of greenhouses, and evaluation of differing methods of utilizing low temperature water for greenhouse use.	275,000
		<u>\$4,370,000</u>

UNIVERSITY OF ALASKA

MEMORANDUM

TO: Drs. Barton, Cutler and Mather

FROM: Rich Seifert, Chairman *Rich Seifert*
Energy Center Proposal Development Committee
Institute of Water Resources

SUBJECT: Clarification and explanatory notes concerning attached
proposal draft for Alaska Center for Alternative Energy

DATE: January 10, 1980

Gentlemen:

Attached you will find the draft proposal for the Alaska Center for Alternative Energy. This proposal culminates a series of events begun in September, 1979. President Jay Barton outlined an alternative energy center at the University as his second priority for development of the University in a memo to the Board of Regents. This memo prompted a Chancellor's faculty luncheon with President Barton and nine faculty members from the Fairbanks campus on October 19. After this meeting, with the support of President Barton, a brainstorming session on the idea was organized by Richard Seifert of the Institute of Water Resources. Approximately 25 staff members from the University attended this session and indicated strong interest in the establishment of an alternative energy center. In addition, legislators Brian Rogers and Russ Meekins expressed great interest and support of the establishment of an alternative energy organization within the University system. As result Dr. Keith Mather appointed Richard Seifert to chair a committee to develop a proposal for such an organization. The names of appointed committee members and their affiliations follow:

Richard Seifert, Chairman	Institute of Water Resources
Charles Hartman	School of Agriculture
Daniel Hawkins	Geosciences
Carol Lewis	School of Agriculture
Belle Mickleson	Agricultural Experiment Station
Tunis Wentink	Geophysical Institute
John Zarling	School of Engineering
<u>Donald Turner</u>	<u>Geophysical Institute</u>

The attached proposal is the result of this committee's efforts.

A few further explanatory comments are necessary. In many cases on policy matters we simply left final statements of intent up to legislative action. In others we respectfully solicit your oversight. What is presented here is a working paper and draft which you may consider a statement of our priorities. Further, it contains a suggested organizational structure well suited to our mission statement for the Center.

Drs. Barton, Cutler, and Mather
Page 2
January 10, 1980

Note that the word "renewable" does not specifically appear in the name. It was clearly the intent of this committee to focus on a center for renewable energy resources, but it was also the consensus of the committee to make the first sentence of the mission statement read "including but not limited to solar, geothermal, wind, tidal, biomass and hydro-electric. . ." This was considered very important because the committee felt strongly that technological demonstrations should include fuel technologies, for example. Most present research within the state and university system is resource-oriented, not technology-oriented, and we felt that a fuel research system was within the auspices of our center proposal. This is especially important since the energy use in Alaska is presently about 90% liquid fuels, and that is one of our critical problems.

A special item of concern expressed by some committee members is item b under the Director's responsibilities heading, in the section on Administration and Organization. It involves the question as to whether the center will entertain proposals only from within the University or will receive proposals from other entities within the state. As the proposal now states, the center is open to all proposers within the state. It was the consensus of the committee that it be so, and not be kept only within the University system.

The establishment of the Alaska Center for Alternative Energy presents a unique opportunity to the University and the state to maintain a focal position in the wise, efficient, and appropriate use of the natural resources and technological expertise of Alaska. Alternative energy will be a critical element in the ultimate survival of Alaska in the post-petroleum era. It is not too early to consider the value of alternative energy technologies now and continue our search for a quality way of life.

mh

A PROPOSAL
TO THE LEGISLATURE
OF THE STATE OF ALASKA

TO ESTABLISH
THE ALASKA CENTER FOR ALTERNATIVE ENERGY
WITHIN THE UNIVERSITY OF ALASKA
STATEWIDE SYSTEM

JANUARY, 1980

Contents

A.	WHY WE NEED AN ALASKA CENTER FOR ALTERNATIVE ENERGY.	1
B.	ESTABLISHMENT OF THE ALASKA CENTER FOR ALTERNATIVE ENERGY.	2
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A. WHY WE NEED AN ALASKA CENTER FOR ALTERNATIVE ENERGY

Alaska's climate, scattered population, and physical remoteness from the political and commercial centers of the United States have led to one of the highest per capita rates of energy consumption in the world--perhaps the highest. Although energy crises confront the entire nation, the physical, economic, and social differences between Alaska and its sister states often mean that those solutions found elsewhere are not adequate for Alaska. Alaskan solutions cannot be expected to emerge from any other state but our own. As the nation has slowly mobilized to solve its energy problems, it focussed on the needs of the continental U.S. To those who have followed these efforts since 1973, it becomes eminently clear that most of the federal research and development has not been appropriate to Alaska's needs.

It is incumbent upon Alaska to solve its own energy problems, if this State is to outlive its petroleum resources. Alaska cannot wait passively for energy answers which may never come. The State must invest in its own future energy security and begin to clear a path through the complex, but opportune, set of energy alternatives it has. The most critical element in this process is the technological link between the resource base and the energy consumer. What is required is a development scheme directed toward the technology needed to use Alaskan resources in Alaska for Alaskans. This proposal describes one element of that scheme, an organization within the University of Alaska statewide system called the Alaska Center for Alternative Energy.

B. ESTABLISHMENT OF THE ALASKA CENTER FOR ALTERNATIVE ENERGY

The establishment of the Alaska Center for Alternative Energy is hereby proposed, to respond to the pressing need to develop an appropriate Alaska-oriented base of energy technology. The Center will function as an independent unit within the University of Alaska statewide system, unaffiliated with any present division of the University.

The creation of the Center within the University's statewide system will match the largest base of technical expertise in the State of Alaska with the problems, demonstrations, development projects, and research which will fill the technological gap now existing between identified alternative energy resources and their beneficial use by the citizens of Alaska. The availability of the human resources within the University and State, working through the Alaska Center for Alternative Energy, constitutes a major opportunity for Alaska to achieve further reliance on in-state energy resources.

C. MISSION STATEMENT

The Alaska Center for Alternative Energy will be administered to achieve the following objectives and provide the following services to the people of Alaska:

1. Establish the structure and priorities for appropriate development, demonstration, testing and research projects in alternative energy technologies, including but not limited to, fuel alternatives, solar, wind, geothermal, tidal, biomass, hydro-electric, energy storage and conservation (suggested appropriate programs are further outlined in Appendix I).
2. Provide a mechanism for citizen participation in determining the energy technology needs of Alaskans.
3. Provide an objective review process for proposals to achieve the highest quality and performance levels possible in all of the technological endeavors of the Center.
4. Provide an active interface with the University's educational efforts, as well as all community educational systems statewide, to allow the work and developments of the Center to be understood by, and communicated and useful to, Alaska's citizens.
5. Determine through development, demonstration, testing and research those technologies which are most appropriate for application on a regional and local basis in Alaska.
6. Develop and make available a data base for energy development efforts.
7. Disperse funds from State, Federal, or other appropriate funding sources to accomplish items 1 through 6.

D. AFFILIATION WITHIN THE UNIVERSITY OF ALASKA STATEWIDE SYSTEM

The Center will function best as an entity of the University of Alaska statewide system, unaffiliated with any present division of the University. It will be located in Fairbanks to take best advantage of the largest base of technical and scientific expertise within the state and to facilitate the interdisciplinary work required to fill the technological gap between the identified alternative energy resources and their beneficial use by the citizens of Alaska.

A list of University staff members with alternative energy expertise and interest is given in Appendix 2.