

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672

966 SCOMM44: HOUSE POWER ALTERNATIVES STUDY COMM. 1979-80 926

need for public information office

(7) appear in behalf of the center before boards, commissions, departments, or other agencies of municipal, state, or federal government;

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

(9) conduct ^{applied} research ^{development & demonstration} and prepare, publish, and distribute technical studies, reports, bulletins and other materials it considers appropriate;

(10) hold patents, copyrights, trademarks, royalties or other evidences of protection or exclusivity issued under the laws of the United States or any state or nation obtained by persons receiving assistance from the center;

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

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

Sec. 45.89.150. DUTIES. The board shall

(1) promote the commercial development of efficient and advanced energy technologies;

(2) subject to the availability of funds,

(A) sponsor energy research projects intended to accomplish the purposes of the center;

(B) conduct ^{applied} research, development, and demonstration projects of energy technologies;

(C) provide financial and other support to inventors and businesses engaged in the development, demonstration, and commercialization of energy technologies;

(3) manage projects for which funding has been appropriated by the legislature; ^{maintain}

(4) consult with the Alaska Council on Science and Technology

☆ — Shall meet at least twice

*Report is meeting
of goals & objectives*

+ DNR UAF Research

(AS 44.19.181 - 44.19.188), Alaska Power Authority (AS 44.56), Alaska Renewable Resources Corporation (AS 37.12), and the division of energy and power development of the Department of Commerce and Economic Development in developing its programs;

(5) consult with other energy research and development organizations.

Sec. 45.89.160. BUDGET AND APPROPRIATIONS. (a) The center is subject to the Executive Budget Act (AS 37.07) except as provided in (b) and (c) of this section.

(b) The budget of the center shall include a description and amount of proposed funding for projects to be conducted or supported by the center. Requests for project funding shall include a statement of the objectives and goals of the project, including, but not limited to, the number of jobs to be created and the number of businesses to be assisted by the project. The amount of the center's operating budget shall be specified separately from proposed project funding ~~and administration.~~ *Discretionary Fund*

(c) An appropriation for a project under AS 45.89.150(2) is valid for the life of the project and the unexpended balance shall be carried forward to subsequent fiscal years.

Sec. 45.89.170. COOPERATION WITH OTHER STATE AGENCIES AND THE UNIVERSITY OF ALASKA. (a) All departments, agencies, and public corporations of the state, including the University of Alaska, shall provide information, services, and facilities to the center on its request. The center shall reimburse the department, agency, or corporation for expenses reasonably incurred on the center's behalf.

(b) When ~~possible~~ *feasible* the center shall contract with the University of Alaska or private organizations for research activities.

Sec. 45.89.200. DEFINITIONS. In this chapter

Include what has been accomplished as well

Add responsibility for cooperation & research

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

3 (2) "energy technology" means technological developments and
4 innovations for

5 (A) efficient recovery and use of fossil fuels;

6 (B) production of energy through the use of renewable
7 and alternative energy sources;

8 (C) energy conservation;

9 (D) development of facilities for the use of waste heat
10 and the cogeneration of electricity and heat;

11 (E) the reduction of dependence on fossil fuels and
12 which are appropriate for use in the state and other northern
13 environments;

14 (3) "center" means the Alaska Energy Center.

15 * Sec. 3. AS 39.25.110 is amended by adding a new paragraph to read:

16 (22) employees of the Alaska Energy Center.

17 * Sec. 4. AS 39.50.200(9) is amended by adding a new subparagraph to
18 read:

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

20 * Sec. 5. This Act takes effect immediately in accordance with AS 01.10.-
21 070(c).

22 *make sure all employees are exempt*

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25 *Sunset after 7 years*
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Energy Center w/ DPDP
+HB687

5/31/80

re: organizational study - will be done by DPDP

understand the failures ~~as~~ as well as the successes

Study - 1) Bd of Directors, staff & (pre. Bd)
2) Management alternatives
eg inhouse v. contracting

I

Call Maria about B Ward gasohol project

ALASKA ENERGY CENTER -- CAPITAL PROJECTS

PROJECT TYPE	DESCRIPTION AND ALLOCATION	APPROPRIATION
(University of Alaska Contract Research)		
<u>FUELS 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 Alaska; 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 wood product combustion and conversion to liquid fuel, fibrous material and animal biomass.	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 replotting.	110,000
<u>WASTE HEAT:</u>	Development of a waste heat use research center. Involves clearing, piping, construction of greenhouse, and evaluation of differing methods of utilizing low temperature water for greenhouse use.	275,000

ENERGY CENTER CAPITAL PROJECTS:

ALASKA ENERGY CENTER
CAPITAL BUDGET
PAGE TWO

PROJECT TYPE	DESCRIPTION & ALLOCATION	APPROPRIATION
<u>GEOTHERMAL:</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 hydroelectric 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 machines in municipal utility systems, to be constructed in areas highly visible to a significant number of state residents, such as in 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
	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 the U. S. Forest Service.	

ALASKA ENERGY CENTER
CAPITAL BUDGET
PAGE THREE

PROJECT TYPE	DESCRIPTION & ALLOCATION	APPROPRIATION
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ELECTRIC TRANSPORTATION:	Battery powered commuter car pool	250,000
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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.

Intent: to determine the feasibility of short-run 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 problems in Fairbanks.

SOLAR CONSERVATION ARCHETECTURE:	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.

DIESEL CONVERSION TO COAL:	Demonstration of technologies to convert diesel engines of varying sizes to coal combustion or to develop same.	150,000
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*TOTAL PROJECT (CAPITAL) BUDGET:

\$ 4,370,000

5/16/80

ENERGY CENTER

Seifert fallback position on 1.4 Million UA contract research.

NEW TOTAL 970.0

	Old	New
Fuels Research	180.0	90.0
Solar Tech	315.0	215.0
Heat Pump	65.0	65.0
Biomass	135.0	85.0
Energy Economics	80.0	00
Coal Utilization	230.0	130.0±?*
Wind Data	110.0	110.0
Waste Heat	275.0	275.0
Fuel Cell Demo	60.0	00
	1450.0	970.0

*Rich says he doesn't know enough about coal utilization to judge properly.



Jay Barton
President

UNIVERSITY OF ALASKA
FAIRBANKS, ALASKA 99701

March 24, 1980

Dear Brian:

For your information I am enclosing a copy of draft federal legislation regarding the development of state energy centers. It is difficult to say whether this legislation will pass given the concern of Congress for cutting the federal budget. However, it had been received with very favorable and strong support. The intent of the bill is to use universities as centers for the development and transfer of appropriate alternative energy technology. This is the classic land-grant concept that I have spoken about so often.

Certainly, the federally established programs which may come on line in a year or two would complement the programs you and your colleagues are planning for Alaska. I think you will find the language of the bill of help to you as you refine and perfect the bill you are presently considering.

Cordially,

A handwritten signature in cursive script, appearing to read "Jay".

Jay Barton
President

JB:dm

cc: Legislators: Gardiner, Anderson, Bettisworth,
Brown, Carney, Malone, Meekins,
Moss, Smith, Hackney

The Honorable Brian Rogers
Alaska State Legislature
Pouch V
Juneau, Alaska

UNIVERSITY OF ALASKA

MEMORANDUM

DATE: March 19, 1980
TO: President Jay Barton
FROM: Donald H. Rosenberg, Director
Alaska Sea Grant Program
SUBJECT: Energy Centers

Long.

rw 3/19/80

Enclosed is the draft of the Land Grant Energy Research and Education Center bill. We should follow this very carefully and support it when necessary.

DHR/brm

cc: H. A. Cutler

Bills - 2/6/80

A BILL

To encourage the establishment of, and to assist State energy research and education centers.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

"SHORT TITLE"

"Sec. 101. This act may be cited as the University Energy Centers Act of 1980.

"POLICY AND PURPOSES"

"Sec. 102. (a) It is the policy of the Congress to develop, manage and maintain the energy resources of the United States. It is also the policy of Congress to ensure an adequate national supply of technical manpower in order to improve the quality of energy research, development, planning and management such that energy supplies and distribution does not adversely impact the United States economy and national security. Historically, university centered basic and applied research, planning, management, education and extension has been an invaluable resource in assisting the federal government to solve national problems.

"(b) The purposes of this act are to stimulate, sponsor, provide for, and supplement existing programs for the conduct, by educational institutions, of basic and applied research, investigations, and experiments relating to energy; to provide for concentrated interdisciplinary study of energy problems of particular importance to the several States and regions of the nation; to provide for the widest dissemination of energy information; to assist in the training of professionals in fields related to energy; and to authorize and

1 direct the Department of Energy to cooperate with the universities
2 of the nation for the purpose of encouraging and assisting them in
3 carrying out comprehensive energy programs having due regard to the
4 varying conditions and needs of the respective states and regions.

5 "(c) This act re-emphasizes the recommendations made in the
6 Department of Energy Organization Act of 1977 (P.L. 95-91) (Section
7 657 (7)) that substantive measures shall be taken by the Department
8 of Energy to stimulate and encourage the development of new manpower
9 resources through the national colleges and universities and to involve
10 these institutions in execution of research and development programs.
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"DEFINITIONS"

Sec. 103. As used in this act--

"(1) The term Secretary means the secretary of the Department of Energy.

"(2) The term 'educational institution' means a public or private institution of higher education, or a consortium of public or private, or public and private institutions of higher education.

"(3) The term 'energy research and education center' means a State energy center established pursuant to this title.

"(4) The term 'other research education and extension facilities' means the research, education and extension facilities of (A) any educational institution in which a State energy center is not located, (B) public or private foundations, agencies and institutions, and (C) private industry.

"(5) The term 'director' means the director of the University Energy Research and Education program within the Department of Energy.

"(6) The term 'State' means any State, the District of Columbia, the Commonwealth of Puerto Rico, or any territory or possession of the United States.

"(7) The term 'State energy research and education center' means an organization which, on a statewide basis, carries out research, education, training, extension, and other functions described in section 108 of this Act related to energy.

1 "(8) The term 'Energy Research and Education Institute' means
2 specially designated energy research and education centers as
3 described in section 109 (c) of this act.

4 "ADMINISTRATION OF ENERGY RESEARCH AND EDUCATION CENTER ACT.

5 "Sec. 104. (a) The Secretary shall maintain within the
6 Department of Energy a program to be known as the University
7 Energy Research and Education program. This program shall
8 consist of the financial assistance and other activities
9 provided for in this Title and such other existing and future
10 activities as the Secretary shall determine. The Secretary shall
11 establish long-range planning guidelines and priorities for, and shall
12 adequately evaluate, this program, with an annual review of the guide-
13 lines and priorities.

14 "(b) (1) The Secretary shall appoint a Director of the University Energy
15 Research and Education program who shall report to the Director of Office
16 of Energy Research and be a qualified individual who has:

17 "(A) Knowledge or expertise in fields related to energy,

18 "(B) Appropriate university and other administrative
19 experience, and

20 "(C) Knowledge or expertise in manpower planning and/or
21 higher education

22 "(2) The Director shall be appointed and compensated,
23 without regard to the provisions of title 5, United States
24 Code, governing appointments in the competitive service, at
25 the rate provided for level V of the Executive Schedule
26 under section 5316 title 5, United States Code.

27 "(c) The Director shall administer the University Energy
28 Research and Education program subject to the supervision of
29 the Secretary. In addition to any other duty prescribed by

1 law or assigned by the Secretary, the Director shall--

2 "(1) apply the long-range planning guidelines and the priorities
3 established by the Secretary under subsection (a);

4 "(2) advise the Secretary and other administrators with
5 respect to the expertise and capabilities which are available
6 within or through the University Energy Research and Education
7 program.

8 "(3) evaluate activities conducted under grants and contracts
9 awarded pursuant to sections 106 and 108 to assure that the
10 objectives set forth in section 102(b) and 102 (c) are implemented;

11 "(4) encourage other Federal departments, agencies, and
12 instrumentalities to use and take advantage of the expertise and
13 capabilities which are available through the University Energy
14 Research and Education program, on a cooperative or other basis;

15 "(5) encourage the formation and growth of energy research
16 and education centers.

17 "(6) Make certain the programs of the centers are coordinated with
18 other university and Federal activities such as the programs of the
19 University Coal Research Labs, the State Mining Institutes, and the
20 Federal Energy Research Centers.

21 "(7) prepare and submit to the Secretary information that
22 will provide a concise assessment of prevailing and projected
23 supply and demand of trained professional manpower with appropriate
24 recommendations to ensure availability of qualified manpower
25 for energy programs.

26 "(d) To carry out the provisions of this act, the Secretary shall

27 "(1) Appoint, assign the duties, transfer, and fix the
28 compensation of such personnel as may be necessary, in accordance
29 with the civil service laws, but the pay rates for such positions

1 . may not exceed the maximun rate for Level V of the General Schedule
2 under section 5316 of title 5, United States Code;

3 "(2) make appointments with respect to temporary and
4 intermittent services to the same extent as is authorized
5 by section 3109 of title 5, United States Code;

6 "(3) publish or arrange for the publication of, and otherwise
7 disseminate, in cooperation with other services, offices, and
8 programs in the Department, any information of research,
9 educational, training, and other value in fields related to
10 energy without regard to section 501 of title 44, United
11 States Code;

12 "(4) enter into contracts, cooperative agreements, and other
13 transactions without regard to section 3709 of the Revised
14 Statutes of the United States (41 U.S.C. 5);

15 "(5) accept donations and voluntary and uncompensated services,
16 notwithstanding section 3679 of the Revised Statues of the
17 United States (31 U.S.C. 665 (b)); and

18 "(6) issue such rules and regulations as may be necessary
19 and appropriate.

20 "DESIGNATION AND APPROVAL OF ENERGY RESEARCH AND EDUCATION CENTERS"
21 "Sec. 105. (a) The Secretary shall provide financial assistance under
22 this act for the purpose of establishing and operating energy
23 research and education centers that meet the following require-
24 ments

25 "(1) such State energy research and education center is, or will be--

26 "(A) located in an educational institution(s) within the State, ar

27 "(B) administered by such educational institution(s);

28 "(2) such education institution(s) is (are) designated by the Secreta
29 to be a state energy research and education center; and

1 "(3) the Secretary determines that such State energy research
2 and education center--

3 "(A) meets, or will meet, the requirements set forth in
4 section 107 of this act; and

5 "(B) has, or will have, the capability to carry out the
6 functions set forth in section 108 of this act.

7 "(b) The Secretary may provide financial assistance under
8 this act for the purpose of enabling two or more institutions administer
9 energy research and education centers assisted under this act,
10 to establish and operate regional cooperative programs on
11 problems of mutual interest

12 "(c) The Secretary shall provide financial assistance under
13 this act to permit periodical assessments of the supply of trained
14 professional manpower and the projections for future demand of such
15 manpower for energy research and development

16 "(d) The Secretary, in designating an educational institution(s)
17 to be a State energy research and education center or to participate
18 in regional cooperative programs, shall consider as candidates those
19 institutions of higher education in the State which, at that time,
20 are carrying out energy related research, training, education and
21 extension programs.

22 "(e) The Secretary shall provide financial assistance under
23 this act for the purpose of enabling each of the centers to
24 administer energy traineeship programs under guidelines developed
25 by the Director.

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"GRANTS AND CONTRACTS"

"Sec. 106. (a) The amount paid pursuant to any such grant or contract for an energy research and education center under this act may equal 66 2/3 percent, or any lesser percent, of the total cost to establish and operate energy research and education centers.

"(b) (1) The Secretary may make special research and training grants under this subsection to implement the objectives set forth in Sec. 102. The amount of any such grant may equal 100 percent. or any lesser percent, of the total cost of the project involve.

"ELEGIBILITY REQUIREMENTS FOR ENERGY RESEARCH AND EDUCATION CENTERS"
Sec. 107. Each State energy research and education center shall--

"(1) be organized and operated so as to support, augment and implement programs contributing to the solution of the local, State, regional, and national energy problems.

"(2) have a chief administrative officer, as appointed by the chief executive officer(s) of the education institution(s) concerned.

"(3) have a nucleus of administrative, professional, scientific, technical, and other personnel capable of planning, coordinating, and directing interdisciplinary programs related to energy.

"(4) be authorized to employ personnel to carry out appropriate research, development, planning, management, training, extension and education programs;

"(5) be authorized to make contracts and other financial arrangements necessary to implement section 108 (b) of this title; and

"(6) make available to the public all data, publications, studies reports, and other information which result from its programs and activities, except information relating to matters described in section 552 (b) (4) of title 5, United States Code.

1 "FUNCTION OF ENERGY RESEARCH AND EDUCATION CENTERS"

2 "Sec. 108. (a) Each State energy research and education center
3 shall be responsible for the following functions--

4 "(1) the planning and implementing of research, investigations,
5 and experiments relating to the study and resolution of State and
6 regional energy problems and opportunities and to promote and
7 participate in a national effort to develop energy policies.

8 "(2) facilitate the training of energy professionals through such
9 research, investigations, experiments, and traineeship programs the
10 scope of which may include, but is not limited to biological, economic,
11 engineering, environmental, legal, planning, physical, social, and
12 other aspects of energy problems;

13 "(3) the establishment, operation, and maintenance of a compre-
14 hensive energy education program directed at the widest possible
15 segment of the population, which program may include, but is not
16 limited to undergraduate degree programs, graduate programs, non-
17 degree college level course work, professional training, short
18 courses, workshops, and other educational activities directed
19 toward professional training and general education;

20 "(4) the establishment, operation, and maintenance of a state or
21 regional comprehensive energy advisory and extension program res-
22 ponsible for--

23 "(A) dissemination of useful and practical information on
24 subjects relating to energy; and

25 "(B) the establishment and maintenance of a reference
26 service to facilitate the rapid identification, acquisition,
27 retrieval, dissemination and use of such information; and

28 "(C) assistance in the identification of practical research
29 problems that relate to or result from local, State or regional
30 energy needs and opportunities.

1 "(5) the submission, on or before December 1 of each year, of a
2 comprehensive report of its programs and activities during the
3 immediately preceding fiscal year to the chief executive officer
4 of the educational institution, the Governor (s) of the State (s)
5 concerned and the Secretary.

6 "(b) (1) Each State and regional energy research and education
7 center will show evidence of cooperation--

8 "(A) with other State and regional energy research and education
9 centers and with other research, education and extension facilities
10 for the carrying out of any function listed in subsection (a) of
11 this section in order to achieve the most efficient and effective
12 use of institutional, financial, and human resources; and

13 "(B) with other energy related university programs and
14 activities, such as the University Coal Research Labs, the State
15 Mining Institutes and Federal Energy Research Centers.

16 "(C) with all energy extension programs that operate within the
17 State (s) involved with the center. Particularly close cooperation should
18 be established with ongoing or future energy extension projects at the
19 Cooperative Extension Service and/or through the Energy Extension Act.
20 (P.L. 95-39).

21 "(2(Each State energy research and education center may
22 also make grants, contracts, fund matching, or other arrangements
23 with--

24 "(A) other energy research and education centers, educational
25 institutions, research laboratories, the training, experience,
26 and qualifications of which are, in the judgements of the chief
27 administrative officer of the energy research and education
28 center, desirable for the conduct of specific projects to further
29 the purposes of this act, and

1 " (B) local, State, and Federal agencies to undertake research,
2 investigations, and experiments concerning any aspects of energy
3 problems related to the mission of the energy research and education
4 center and the purposes of this act.

5 " (3) Each State energy research and education center may accept
6 support from and enter into cooperative research and educational
7 arrangements with federal agencies, state agencies, private entities,
8 individuals and not-for-profit organizations.

9 " (c) In the carrying out of the functions described in subsection
10 (a) (3) and (4) of this section, the services of private enterprise
11 firms or other publicly supported programs are to be utilized
12 whenever feasible to achieve the most efficient use of public
13 funds invested in the fulfilling of the purposes of this act.

14 " (d) to accomplish the function set forth in this section it is
15 understood that the energy research and education centers will bring
16 to bear the total resources of the institutions (s) involved. The
17 centers role is to act as a focus for the institution (s) efforts in
18 solving energy problems. They will utilize existing research and
19 education programs and personnel whenever possible, and Establish
20 new programs, projects and personnel only when none exists to meet the
21 functions described in this section.

1 "AUTHORIZATION OF APPROPRIATIONS FOR GRANTS"

2 "Sec. 109 (a) There are authorized to be appropriated \$25,000,000
3 for the fiscal year ending September 30, 1981. The appropriated sum
4 shall be disbursed in equal shares to the energy research and
5 education centers by the Director.

6 (b) \$50,000,000 is authorized to be appropriated in FY82. Half
7 of the appropriated sum is to be disbursed as in subsection (a) and
8 half to be disbursed on the basis of merit programs and special
9 projects under guidelines developed by the Director.

10 (c) \$90,000,000 is authorized to be appropriated in FY 83.
11 Two-thirds of the appropriated sum is to be disbursed as in sub-
12 section (b). A few selected centers would be designated by the
13 Secretary, as Energy Research and Education Institutes based on
14 specialization, merit and quality program. With this designation
15 would come the opportunity to apply for the remaining 1/3 of the
16 appropriated funds under guidelines developed by the Director.

17 "ENERGY RESEARCH AND EDUCATION CENTER ADVISORY BOARDS"

18 "Sec. 110 (a) The chief executive officer of the University at
19 which a state energy research and education center is located shall
20 appoint an energy research and education center advisory board
21 which shall--

22 "(1) advise the director of the state energy research and education
23 center with respect to the activities and programs conducted by
24 the center and the coordination of such activities and programs
25 with the activities and programs of Federal, State, and local
26 governments, of other educational institutions (whether or not
27 directly participating in an energy research and education center
28 assisted under this act), and of private industry; and

29 "(2) make such recommendations as it deems appropriate regarding--

1 "(A) the implementation and improvement of research, development,
2 investigations, experiments, training, education, extension, and
3 other activities and programs undertaken by the energy research and
4 education center, and

5 "(B) new activities and programs which the energy research
6 education center could undertake or support.

7 All recommendations made by an advisory board pursuant to clause
8 (2) of this subsection shall be promptly transmitted to the chief
9 administrative officer of the energy research and education center,
10 the chief executive officer of each education institution of the
11 State in which the energy research and education center is located,
12 appropriate State agencies and the Secretary.

13 "(b) (1) Each advisory board appointed pursuant to this section
14 shall consist of representatives of--

15 "(A) the agencies of the State concerned which administer
16 laws relating to energy development, production or management;

17 "(B) the educational institution or institutions in which
18 the energy research and education center is located, and other
19 participating institutions;

20 "(C) the business and industrial community;

21 "(D) not-for-profit organizations the primary objectives
22 of which is the improvement of energy management and other public
23 interest groups; and

24 "(E) municipal and other local governments.

25 The chief administrative officer of the energy research
26 and education center shall be an ex officio member of the advisory
27 board.

28
29 "(2) The term of office of each member appointed to any

1. advisory board shall be for three years; except that of the members
2 initially appointed to any advisory board, the term of office of
3 one-third of the membership shall be for one year, the term of
4 office of one-third of the membership shall be for two years, and
5 the term of office of the remaining members shall be for three years.

6 "(c) All recommendations made by an advisory board pursuant
7 to subsection (a) (2) of this section, and all responses by the
8 chief administrative officer thereto, shall be matters of public
9 record and shall be available to the public at all reasonable times.

10 "(c) Each advisory board appointed pursuant to this section
11 shall meet not less than twice each year.

12 "(e) Funds provided under section 109 of this act may be used
13 to pay the travel and such other related costs, as shall be authorized
14 by the chief administrative officer of the energy research and
15 education center, which are incurred by the members of each advisory
16 board incident to their attendance at meetings of the advisory board;
17 except that the amount of travel and related costs paid under this
18 subsection to any member of an advisory board with respect to his
19 attendance to any meeting of the advisory board may not exceed the
20 amount which would be payable to such member if the law relating
21 to travel expenses for persons intermittently employed in Government
22 service applied to such member.

New agency to help boost technology

Associated Press

Washington — The Carter administration will set up a new office to better use "the nation's sagging inventive genius" and fight "economic anemia," says Commerce Secretary Philip M. Klutznick.

Klutznick said the agency for productivity, technology and innovation will "work with both business and labor to develop precise, strategically significant targets for technological assistance and to provide such assistance."

The announcement was part of a speech Klutznick prepared for delivery to the Chicago Association of Commerce and Industry.

Klutznick noted the move is similar to the recent reorganization of trade programs to spur international trade.

Among its several functions, Klutznick said the new office will:

- Include a center to "actively market federal technology to the private sector."

- Set up technology centers, funded jointly by the government and private industry, to develop "strategic technologies that can have a significant impact on the productivity and competitiveness of a wide range of individual firms and industries."

- Create a mechanism for public input into technological needs.

Klutznick said the new program is part of the administration's efforts to fight inflation.

He said improvement of the nation's productive output and technology would be critical to "our ability to maintain a price and quality competitive with the products of others."

Klutznick admitted the reorganization of the government's international trade functions has not been completed because of "the attention that we have had to give to the Soviet trade embargo since Jan. 4."

Effect of amendments.

The 1977 amendment, effective July 1, 1977, rewrote this section.

Sec. 39.35.380. Early retirement benefits.

Repealed by § 55 ch 128 SLA 1977, effective July 1, 1977.

Editor's note. — The repealed section derived from § 19, ch. 143, SLA 1960; am. § 7, ch. 109, SLA 1970; am. § 8, ch. 159, SLA 1972; am. §§ 11, 12, ch. 205, SLA 1975.

Chapter 205, SLA 1975, which amended this section, was submitted to the voters by referendum and was rejected, effective October 14, 1976.

Sec. 39.35.385. Conditional service retirement benefits. (a) An employee is eligible for a normal retirement benefit at age 55 with at least two years of credited service if the employee also is eligible for a normal retirement salary under the teachers' retirement system (AS 14.25).

(b) An employee is eligible for an early retirement benefit at age 50 with at least two years of credited service if the employee also is eligible for an early retirement salary under the teachers' retirement system (AS 14.25).

(c) Credited service for which contributions were refunded is not creditable under this section unless the refunded contributions have been repaid.

(d) The monthly amount of a normal retirement benefit for a peace officer or fireman is two per cent of the average monthly compensation times the years of service up through 10 years, plus two and one-half per cent of the average monthly compensation times the years of service over 10 years. For all other employees it is two per cent of the average monthly compensation times the number of years of service. An actuarial adjustment of this amount must be made for an early retirement benefit.

(e) Benefits payable under this section accrue from the first day of the month (1) in which the member meets the eligibility requirements of this section, (2) following the date of termination, and (3) following application for retirement, and are payable the last day of the month. If payment is delayed, a retroactive payment shall be made to cover the period of deferment. The last payment shall be made for the month in which the member dies or is no longer eligible for a benefit under this section.

(f) An employee is eligible for a normal retirement benefit at age 55 or an early retirement benefit at age 50 if he has at least 60 days of credited service as a temporary employee of the legislature during each of five legislative sessions. (§ 3 ch 174 SLA 1978; am § 11 ch 82 SLA 1979)

Effect of amendment.
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(c) Credited service for which contributions were refunded is not creditable under this section unless the refunded contributions have been repaid.

(d) The monthly amount of a normal retirement benefit for a peace officer or fireman is two per cent of the average monthly compensation times the years of service up through 10 years, plus two and one-half per cent of the average monthly compensation times the years of service over 10 years. For all other employees it is two per cent of the average monthly compensation times the number of years of service. An actuarial adjustment of this amount must be made for an early retirement benefit.

(e) Benefits payable under this section accrue from the first day of the month (1) in which the member meets the eligibility requirements of this section, (2) following the date of termination, and (3) following application for retirement, and are payable the last day of the month. If payment is delayed, a retroactive payment shall be made to cover the period of deferment. The last payment shall be made for the month in which the member dies or is no longer eligible for a benefit under this section.

(f) An employee is eligible for a normal retirement benefit at age 55 or an early retirement benefit at age 50 if he has at least 60 days of credited service as a temporary employee of the legislature during each

Effect of amendment. — The 1979 amendment, effective July 1, 1979, added subsection (f).

Effective date. — Section 12, ch. 174, SLA 1978, makes this section effective July 1, 1978.

Editor's note. — Section 15, ch. 82, SLA 1979, effective June 2, 1979, provides that

AS 39.35.385 (f) applies to a temporary employee of the Eleventh Legislature, First Session, even though he may not be an employee under the public employee's retirement system on July 1, 1979.

Sec. 39.35.390. Deferred retirement benefit.

Repealed by § 55 ch 128 SLA 1977, effective July 1, 1977.

Editor's note. — The repealed section derived from § 20, ch. 143, SLA 1960; am. § 5, ch. 80, SLA 1964; am. § 8, ch. 155, SLA 1966; am. §§ 6, 7, ch. 235, SLA 1968; am. § 8, ch. 109, SLA 1970; am. § 9, ch. 159, SLA 1972; am. § 3, ch. 81, SLA 1976.

Sec. 39.35.395. Voluntary contribution benefit. The balance of the employee's savings account will be paid in one of the following options as elected by the employee: (1) a lump sum payment; or (2) a life annuity on a full cash refund or term-certain basis; or (3) installments over a designated period of time. (§ 35 ch 128 SLA 1977)

Effective date. — Section 57, ch. 128, SLA 1977, makes this section effective July 1, 1977.

Sec. 39.35.400. Nonoccupational disability pensions. (a) An employee is eligible for a nonoccupational disability pension if his employment is terminated because of a total and apparently permanent nonoccupational disability, as defined in § 680 of this chapter, before his normal retirement date and after five or more years of credited service.

(b) The nonoccupational disability benefits accrue beginning the first day of the month following termination of employment as a result of the disability and are payable the last day of the month. If a final determination granting the benefit is not made in time to pay the benefit when due, a retroactive payment shall be made to cover the period of deferment. Benefits shall be continued after one year from the date of appointment to nonoccupational disability only if the disabled employee fulfills the requirements set out in (e) of this section. The last payment shall be for (1) the month in which the death of the disabled employee occurs, or (2) the month in which the disabled employee recovers from disability, or (3) the month in which the disabled employee ceases to be eligible for disability benefits under the Social Security Act, or (4) the month in which the disabled employee reaches normal retirement age.

REVISED FISCAL NOTE

I. REQUEST

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

II. FISCAL DETAIL

Agency Affected AdministrationProgram Category Affected General GovernmentBRU, 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				

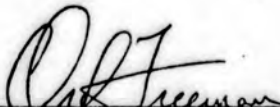
FUNDING (Thousands of Dollars)

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

April 28, 1980

HOUSE JOURNAL
SUPPLEMENT

No. 56

CSHB
687REVISED FISCAL NOTE

I. REQUEST

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

II. FISCAL DETAIL

Agency Affected AdministrationProgram Category Affected General GovernmentBRU, 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.)

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	FY 80	FY 81	FY 82	FY 83	FY 84	FY 85
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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 _____

Original: Legislative Finance

AGENCY
PHONE _____

HB 687

fiscal note

Geothermal

Wind

Microhydro

Feedlot Methane

Elec. Transportation

Diesel & coal

Hydrogen Engine

Wood Alcohol

Sawmill alcohol

Fuels Research 180.00

Solar 315.00

Heat Pump 65.00

Cool - + AEC - 230.

Wind - ? ~~25~~

Waste Heat 25

get figures

Biomass ^{fuel research} led. - get figures

Economics

Wind Energy Collection + Atlas

fuel:
Fuel Cells 60.00
Alt. Energy 550.00

Gov. 75 / 475
Single Wire Control Return

Specific AEC projects
→ Coal Utilization

Find out about 250.00
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SCOMM
#44:13

INDUSTRIAL COGENERATION AND SMALL POWER PRODUCTION:
AN OVERVIEW OF CONGRESSIONAL INCENTIVES TO ENCOURAGE
THEIR DEVELOPMENT.

By: D. Jane Drennan*

The energy crises of the 70's have prompted intense discussion of new or previously little-used energy sources. Unfortunately, among the major obstacles to the development of alternative energy sources have been an understandable reluctance on the part of private companies to invest money in new and uncertain ventures and the existence of restrictive government regulations. However, in recent legislation, Congress has attempted to lower both of these barriers to alternative energy development by simplifying the regulatory burden on concerns interested in seeking innovative solutions to their energy problems and creating financial assistance programs. Two possibilities for alternative power generation which have become more attractive due to recent legislation are cogeneration and small power production.

Technically speaking, "industrial cogeneration" is the use of fuel to generate both useful thermal energy and electricity in a sequential process. In the usual case, installation of a cogeneration facility at an existing industrial plant will permit the plant to harness the excess heat generated in connection with its industrial process and

* Ms. Drennan is a partner in the firm of McDermott, Will & Emery.

to use that heat to produce electricity which can then be used and/or sold to a local utility. "Small power production", on the other hand, involves the use of organic matter ("biomass"), waste, and/or renewable resources to produce electric energy. It is of course theoretically possible for a single facility to be both a cogenerator and small power producer. However, because the tax and market incentives provided for the two programs are basically identical, it is generally understood that the cogeneration program is aimed at facilities fueled by oil or gas, which facilities would not qualify as small power production facilities.

Neither cogeneration nor small power production is a new concept. Existing technologies and equipment can enable an industrial plant to become a cogenerator or small power producer without great difficulty. However, in the past, the risk of subjection to complex state and federal electric utility regulations and the unwillingness of electric utilities to purchase generated power or to sell backup power to these facilities at reasonable rates combined to limit interest in this area of power generation. Congress has attempted to remove regulatory and economic obstacles and to encourage industries to implement available technologies in a series of energy enactments: Title II of the Public Utility Regulatory Policies Act of 1978 ("PURPA") 1/ establishes guidelines for qualifying facilities and insures the

sale and purchase of their electrical power; section 206(c)(3) of the Natural Gas Policy Act of 1978 2/ exempts from incremental pricing part of the natural gas used by qualifying cogeneration facilities which meet certain additional criteria; the Energy Tax Act of 1978 and the Crude Oil Windfall Profit Tax Act of 1980 3/ provide energy investment tax credits to small power production and cogeneration facilities under certain conditions; and Title II of the Energy Security Act of 1980 4/ provides financial assistance for the construction of certain facilities producing energy from biomass.

QUALIFYING UNDER PURPA

The Federal Energy Regulatory Commission ("FERC"), which is entrusted with administering PURPA, has adopted standards for cogeneration facilities qualifying under the Act. FERC has made it clear that it is only to the extent that both electricity and useful thermal energy are produced in sequential process that cogeneration actually exists; merely using half of the steam produced to generate electricity and the other half in an industrial process does not constitute cogeneration. 5/

FERC has attempted to discourage the establishment of token cogeneration facilities which produce negligible amounts of electric power or useful thermal energy, by adopting operating and efficiency standards for two distinct modes of cogeneration: a "topping-cycle" and a "bottoming-cycle" facility. A "topping-cycle" cogeneration facility is

one which first produces electricity and then, from the reject heat from power production, produces useful thermal energy. 6/ The useful thermal energy output of the topping-cycle facility must not be less than 5% of its total energy output in any calendar year under the FERC operating standard. 7/ If the facility uses natural gas or oil, and was installed on or after March 13, 1980, 8/ it must meet the following efficiency standard: the aggregate of the useful electric power output plus one-half the useful thermal energy output in any calendar year must be no less than 45% of the total energy input of natural gas and oil. 9/

A "bottoming-cycle" facility reverses the process used in topping-cycle facilities, producing useful thermal energy first and then, from the reject heat emerging therefrom, electric power. 10/ Bottoming-cycle facilities are not subject to an operating standard, since FERC reasons that tokenism for such facilities will be discouraged by the fact that incremental pricing exemptions, discussed below, will be available only to the extent that reject heat is actually used to produce electricity. 11/ An energy efficiency standard applies to bottoming-cycle facilities only if installation began on or after March 13, 1980, and if natural gas or oil is used in supplementary firing (i.e., in the electric-generation phase of the process). When applicable,

the standard requires the facility to produce useful electric power output of no less than 45% of the natural gas and oil used for supplementary firing. 12/

In addition to the operating and efficiency standards, PURPA provides that a qualifying cogeneration facility may not be owned by a concern "primarily engaged in the generation or sale of electric power (other than electric power solely from cogeneration facilities or small power production facilities)." 13/ Where more than 50% of the equity interest in a cogeneration facility is held by an electric utility, an electric utility holding company, or any combination thereof (with subsidiaries' interests attributed to their parents), the facility cannot qualify. 14/

Small power production installations must satisfy several criteria established by FERC to qualify under PURPA. A qualifying facility must have as its primary energy source(s) biomass, waste, and/or renewable resources (e.g., water, wind, and solar power). An energy source(s) is considered primary when it provides more than 75% of the total energy input in any calendar year. 15/ Fossil fuels may be used as long as they do not exceed 25% of the total energy input in a year. 16/ The power production capacity of a small power production facility, together with the capacity of all other facilities using the same energy source and owned by the same concern, may not exceed 80 megawatts in order to qualify. 17/ Facilities with electrical

generation plants within one mile of each other are deemed to be located at the same site. 18/ Small power production facilities are subject to the same ownership restrictions as discussed above for cogeneration facilities. 19/

BENEFITS PROVIDED BY PURPA

PURPA mandates that FERC prescribe rules which "require electric utilities to offer to -- (1) sell electric energy to qualifying cogeneration facilities and qualifying small power production facilities and (2) purchase electric energy from such facilities." 20/ The rates for purchases from qualifying facilities are required to be just, reasonable, and nondiscriminatory, but may not exceed "the incremental cost to the electric utility of alternative electric energy" (the buyer's avoidance cost). 21/ The task of implementing FERC regulations regarding rates is placed upon the appropriate state authorities. 22/

Every electric utility has an obligation to purchase any energy available either directly or indirectly from a qualifying facility. 23/ However, such purchases are not required in any period in which they would result in costs greater than those the utility would incur if it generated an equivalent amount of energy itself, 24/ or during a system emergency where such purchases would contribute to the emergency. 25/

Because of differences between the avoidance costs of different utilities, a cogenerator or small power producer may find it more profitable to sell its output to a utility

other than the one with which it is directly interconnected. If the qualifying facility and the intermediate utility agree, the purchase obligation of the first utility may be shifted to the second utility. 26/

Electric utilities also have an obligation to sell power to qualifying facilities at fair and nondiscriminatory rates. 27/ Supplementary, back-up, maintenance, and interruptible power must be provided as well unless doing so would impair the utility's ability to render adequate service to its customers. 28/

Pursuant to its authority under PURPA, FERC has exempted qualifying cogeneration facilities and qualifying small power production facilities with a production capacity not exceeding 30 megawatts from all provisions of the Federal Power Act, except those dealing with wheeling, interconnection (with reference to qualifying facilities as applicants for interconnection), emergency authority, the filing of statements by directors of public utilities, and enforcement. 29/ Cogenerators, small power producers with a production capacity not exceeding 30 megawatts, and small power producers with a larger production capacity generated solely by energy input of which 50% or more is biomass, will not be subject to the Public Utilities Holding Company Act of 1935, 30/ or to state laws or regulations regarding rates (except to implement FERC rules under Title II of PURPA) or financial and organization requirements pertaining to electric utilities. 31/

EXEMPTIONS FROM INCREMENTAL PRICING

Section 206(c)(3) of the Natural Gas Policy Act exempts cogeneration facilities from incremental pricing. Before a facility can claim exemption, it must qualify under PURPA and also meet certain additional operating and efficiency criteria. Topping-cycle facilities must meet PURPA standards or, alternatively, if they were in existence on November 1, 1979 and used natural gas on or prior to that date, must have an overall energy efficiency of not less than 55% and an internal energy efficiency of at least 70% 32/ as computed under FERC definitions. 33/

Bottoming-cycle facilities qualify for the exemption to the extent that reject heat is actually used in producing electric power. Although natural gas used solely for supplementary firing is not ordinarily exempt, FERC has exempted it to the extent that qualifying facilities generate electricity which is sold to a utility. 34/

A separate exemption from the incremental pricing provisions of the NGFA is available for qualifying mechanical cogenerators which meet certain efficiency standards.

INVESTMENT TAX CREDIT

The Crude Oil Windfall Profit Tax Act of 1980 amended the Energy Tax Act of 1978 to allow a 10% energy credit from January 1, 1980, through December 31, 1982, for certain investments in cogeneration equipment. 35/ Cogeneration equipment does not qualify if the facility uses oil or natural gas for any purposes other than start-up, flame control, or back-up, or if more than 70% of its total fuel input in any taxable year consists of oil or natural gas. 36/

The Treasury Department has not yet published any regulations on this subject.

Pursuant to the Energy Tax Act of 1978, as amended by the Crude Oil Windfall Price Tax Act, boilers which primarily use biomass as a fuel are eligible for a 10% tax credit up to December 31, 1985. 37/

FEDERAL FINANCIAL ASSISTANCE

Title II of the Energy Security Act establishes a program of financial assistance for the construction of biomass energy facilities. This program is to be administered jointly by the Secretaries of Agriculture and Energy. The Act defines an eligible "biomass energy project" to be "any facility (or portion of a facility) located in the United States which is primarily for . . . the combustion of biomass for the purpose of generating industrial process heat, mechanical power, or electricity (including cogeneration)." 38/

Assistance provided under the Act can include loan guarantees, 39/ price guarantees, 40/ purchase agreements, 41/ and, for the construction of small scale facilities, 42/ loans. 43/ For the two year period beginning October 1, 1980, Congress has appropriated \$1.45 billion for the biomass energy program; no additional grants of financial assistance can be made after September 30, 1984, although funds already committed may be paid after that date. 44/

PRACTICAL EFFECTS

Cogeneration and small power production offer several attractions to companies interested in reducing their electric energy costs and/or obtaining greater security of supply. The technologies necessary are already available. Both cogeneration and small power production utilize energy or material that would otherwise go unused. Furthermore, Congress has passed a battery of provisions with the intention of stimulating private development. However, a decision to invest in cogeneration or small power production must still be made carefully and with full consideration of the engineering, legal, and economic aspects of these alternative energy sources.

Companies considering cogeneration must study not only the technical feasibility of harnessing the otherwise wasted heat in a manner which satisfies FERC requirements (especially the "sequential" test), but also other regulatory standards, the initial capital investment required, the cost of operation, the potential savings from self-produced electricity, and the potential revenues from the sale of energy.

A recent report by the General Accounting Office to Congress indicates that, because the amount of reject heat from an individual process is usually insufficient to generate electricity, topping-cycle facilities are more apt to be technologically feasible than bottoming-cycle facilities. ^{45/} The report also suggests that capital outlay can run into millions of dollars ^{46/} and that, since cogeneration requires

using more fuel than required only to raise process steam, increased operating expenses will necessarily be incurred with cogeneration.

The GAO report concludes that cost savings from cogeneration will depend upon the extent to which the cogeneration capacity is used, the cost of fuel, and the cost of electricity from other sources. 47/ Cogeneration may make economic sense to a particular company only if the capacity is used to its full design load as continuously as possible, the extra fuel required is both available and reasonably priced, and a significant savings and/or revenue is realized by the facility's energy production.

Similar considerations apply to small power production, which appears to have good potential for industrial plants which have combustible waste materials on hand that can be safely and efficiently used to fuel energy production.

In calculating potential revenue, companies must remember that a qualifying facility has no guarantee that it can sell its electricity at a rate reflecting its costs or providing a given return on its investment, since the maximum rate established by the regulations depends upon the imputed cost to the buyer of securing alternate energy and not the cost to the seller in generating it.

Both cogeneration and small power production have the potential to benefit not only the companies which will generate and market electric power, but also the electric utilities which will purchase it. Whether this potential

benefit can be translated into economic advantages outweighing the necessary expenditures depends upon the efficiencies that can be achieved and the costs of energy input. It remains to be seen whether the new incentives created by Congress are adequate to stimulate speedy and effective development of cogeneration and small power production capability.

FOOTNOTES

- 1/ 16 U.S.C. § 824a3.
- 2/ 15 U.S.C. § 3301 et seq.
- 3/ P.L. 96223.
- 4/ P.L. 96294.
- 5/ FERC Order No. 70, at 912 (March 13, 1980).
- 6/ 18 C.F.R. § 292.202(d).
- 7/ 18 C.F.R. § 292.205(a)(1).
- 8/ 18 C.F.R. § 292.205(a)(2)(i).
- 9/ 18 C.F.R. § 292.205(a)(2)(i)(B). If the useful thermal energy output is 15% or more of the total output, the 45% requirement is lowered to 42.5%.
18 C.F.R. § 292.205(a)(2)(i)(A).
- 10/ 18 C.F.R. § 292.202(e).
- 11/ Order No. 70, at 44; 18 C.F.R. § 292.205(c)(2).
- 12/ 18 C.F.R. § 292.205(b), (f).
- 13/ 18 C.F.R. § 292.206(a).
- 14/ 18 C.F.R. § 202.206(b), as amended, FERC Order Granting in Part and Denying in Part Rehearing of Order No. 70, and Amending Regulations (August 4, 1980).
- 15/ 18 C.F.R. § 292.204(b)(1)(i).
- 16/ 18 C.F.R. § 292.204(b)(2).
- 17/ 18 C.F.R. § 292.204(a)(1).
- 18/ 18 C.F.R. § 292.204(a)(2). In the case of waterpower facilities, if water from the same impoundment is used to generate power, the facilities are considered located at the same site.
- 19/ 18 C.F.R. § 292.206.
- 20/ 16 U.S.C. § 824a-3(a).
- 21/ 16 U.S.C. § 824a-3(b).

- 22/ 16 U.S.C. § 824a3(f).
- 23/ 18 C.F.R. § 292.303(a).
- 24/ 18 C.F.R. § 292.304(f). The utility must notify the qualifying facility in time for it to cease delivery of energy to the utility, in accordance with applicable state law.
- 25/ 18 C.F.R. § 292.307(b)(1).
- 26/ 18 C.F.R. § 292.303(d).
- 27/ 16 U.S.C. § 824a-3(b).
- 28/ 18 C.F.R. § 292.305(b).
- 29/ 18 C.F.R. § 292.601.
- 30/ 18 C.F.R. § 292.602(a), (b).
- 31/ 18 C.F.R. § 292.602(a), (c).
- 32/ 18 C.F.R. §§ 292.205(c)(1)(ii), 292.502(c).
- 33/ 18 C.F.R. § 292.502(b)(5), (6), (7).
- 34/ FERC Order No. 49-A (December 27, 1979).
- 35/ 26 U.S.C. §§ 46(a)(2), 48(l)(2).
- 36/ 26 U.S.C. § 48(l)(14)(c).
- 37/ 26 U.S.C. § 46(a)(2)(c).
- 38/ P.L. 96-294, Section 203(5).
- 39/ Section 214.
- 40/ Section 215.
- 41/ Section 216.
- 42/ Small scale biomass energy projects are defined as those with an anticipated annual production capacity which is the energy equivalent of not more than 1,000,000 gallons of ethanol. Section 203(19). The Secretary of Energy is responsible for determining energy equivalency and has determined that a gallon of ethanol contains 84,400 Btu's. 45 Fed. Reg. 52,911 (August 8, 1980).

43/ Section 213.

44/ Sections 204, 221.

45/ Comptroller General's Report to the Congress: Industrial Cogeneration -- What It Is, How It Works, Its Potential,
Doc. No. EMD-80-7, at 6-7 (April 29, 1980).

46/ Id., at 48-49.

47/ Id., at 49.

WHILE IN SESSION:
POUCH V
JUNEAU, ALASKA 99811
(907) 465-4925

REPRESENTATIVE
BRIAN ROGERS
Alaska State Legislature

NOME
BOX K - COLLEGE
FAIRBANKS, ALASKA 99708
(907) 456-2037

23 January 1981

Clarissa Quinlan
Division of Energy & Power Development
338 Denali Street
Anchorage, Alaska 99501

Dear Clarissa,

Rep. Rogers has asked that you provide us with a complete analysis of expenditures under the Residential Energy Conservation Program enacted in 1980. The analysis should show expenditures by category (audit, training, publicity, administration, refund and loan), number of dwellings improved, location of the residences and the month by month breakdown of expenditures since July 1980, projected to the end of FY 1981. You should include ~~only~~ planned requests for supplemental appropriations.

We would also appreciate any comments you care to offer on the energy conservation program before we begin work on legislation to improve it. One of our main concerns is the large amounts of money required for the audit, at the expense of funding for physical improvements to the residences. Any immediate actions you can take to prevent the audit efforts from draining improvement funds, such as allowing refunds without an audit, are recommended by Rep. Rogers.

Please let me know if you have any questions.

Sincerely,

Mark Wittow

Mark Wittow
907-465-3711/3799

MW/vb

cc: Representative Sam Cotten (att: Lisa Parker)
Representative Terry Gardiner
Representative Hugh Malone (att: Paul Quesnel)



Raising A Fleet Of Rabbits

By Amory Lovins

I'd like to give you a few little numbers about how to save oil, because that is indeed a very urgent thing to do, and if you want to save a lot of oil quickly in this country there are only two important ways to do it. It's a distressingly simple prescription:

Stop living in sieves, and
stop driving petrol pigs.

Now we know that a basic weatherization program in this country just over the next 10 years would save us upwards of 2½ million barrels a day, which, by the way, is two-fifths of our present rate of oil imports. That's a big number.

What about the other three-fifths of our imports? We could do that with one simple fast payback measure . . . namely, turn over the car stock faster. Any of you who have tried to trade in a gas-guzzler lately will know that its trade-in value has dropped pretty close to zero. So those gas-guzzlers have been trickling down to the poor people who can least afford to run them or replace them.

But we have a lot more options than gas-guzzlers. Our average car now gets 15 or 16 miles per gallon. The average U.S.-made car sold last year did about 19 mpg. The average import, however, did 32 mpg. A diesel Rabbit does about 42 mpg. The turbo-charged diesel Rabbit with a slightly down-sized engine so it gives the same performance as the present diesel Rabbit does about 64 mpg. Volkswagen has already tested a four-door, four-passenger car, bigger than the Rabbit, with a composite rating between 70 and 80 mpg. That's an advanced diesel. They've also taken a big, heavy car and stuck into it, using off-the-shelf components, a diesel electric hybrid-drive. That one did 83 mpg the first time they turned it on. We know that it's really pretty straightforward, without losing either comfort or performance, to get in the 70 to 100 mpg range, and if we really put together the best technologies we have, we can push it a lot further than that.

Now a fleet of, say, 60 mpg, that is about the same as the non-down-sized turbo-charged diesel Rabbit—20 extra horses in your Rabbit (that's difficult to visualize . . . very small horses . . .) would save us nearly 4 million barrels a day. More than we get from the Gulf; about two-thirds of our present rate of net oil imports; several pre-embargo Irans; 80 big synfuel plants; 2½ North

Slopes. It's a big number.

Well, how can we achieve that sort of fleet? I was figuring that rather than building synfuel plants, it would be much cheaper and quicker to save oil by using the same money to pay somewhere between half and all of the cost of giving you a free diesel Rabbit or Honda Civic, or an equivalent American car if Detroit would make one, provided, however, that you will scrap your automobile and get it off the road. It's no good to trade it in or sell it because then somebody else might drive it. You've got to get rid of it, recycle it. If you get rid of it and don't replace it, you ought to get a bounty based on its inefficiency and residual lifetime. Another way to do it would be that for each mile per gallon that your new car improves over the car you scrap, you should get a cash grant of about \$200. That would give us an average 5-year payback against synfuels.

Now you might suppose that it's really kind of hard for Detroit to make this sort of switch, even though the latest word we get is that the 70 to 80 mpg VW may be on the market as early as '84. That may speed things up a bit. Around 1940 Detroit apparently switched over to making tanks and jeeps and other completely different products in 6 or 8 months, having first said it was impossible. Now that is undoubtedly expensive to do. Detroit is already planning to spend around 50 billion dollars in this decade for re-tooling on two rather timid new generations of cars, but suppose instead they retooled in one giant leap-frog, straight to state-of-the-art hybrids at 100 mpg. And suppose that the additional cost . . . to do that was as high as 100 billion dollars. I don't think that's a plausible number. That's almost enough to rebuild Detroit from the bottom up. But if it were that much, and if we spread that 100 billion dollars extra cost over a complete new fleet, 100 million new cars and 30 million new trucks, that's \$770 per vehicle and the pay-back time is one year against the present gasoline price!

If only we had a government that was economically conservative, rather than either muddled or reactionary. . . .

—From Amory's address to the Passive Solar '81 conference in Amherst, Massachusetts, October 1980.

1/24

Brian -

CQuinton called me Friday afternoon. She will be here Mon. - Wed. next week, and would like to talk w/you, if possible. I will meet w/ her first - I'm sure you'll see her at Energy Center meetings.

We talked again about audit v. grant \$. She feels that they are establishing a skilled group of people & short-term small business enterprises, some of which will grow & develop on their own, through the audit procedure. This would be a benefit, if the audit is providing people with information equal to the subsidy paid by the state. If little information is conveyed, it's wasted money, ~~even~~ a make-work program at the expense of actual energy conservation improvements. CQ feels that the SB 438 design - audit before grant - is a good one.

The only way to find out if the ^{audit part of the} program is worth the cost is to talk with a cross-section of people who have had the audits - we can't just hear from random comments or complaints. I propose to do a random check by phone or mail of 20-40 households that have had the audit, to get a cross-section of opinion. If you can think of a better way to get the same information, let me know.

What do you think?

MW

PS - The NCSL Renewable Energy Profile is the first good piece of work from them - several ideas worth pursuing, & a good review of existing projects & programs.

cannot afford to repay a portion of interest on a loan, and makes a determination in writing, he may reduce or eliminate the interest rate applicable to the loan.

(c) Repayments of the principal on a loan from the bulk fuel revolving loan fund shall be paid by the commissioner of commerce and economic development into the bulk fuel revolving loan fund. (§ 41 of 83 SLA 1980)

Sec. 45.87.030. Contracting authority. The department may contract for the administration of the bulk fuel loan program established in this chapter. (§ 41 ch'83 SLA 1980)

Sec. 45.87.500. Definitions. In this chapter

(1) "bulk fuel storage facility" means a storage tank capable of holding at least 10,000 gallons of petroleum fuels;

(2) "community" means an organized municipality or an unincorporated village which is a social unit, with a population under 2,000;

(3) "department" means the Department of Commerce and Economic Development. (§ 41 ch 83 SLA 1980)

Chapter 88. Alternative Technology and Power
Resource Revolving Loan Fund.

Section	Section
10. Fund established [Terminates June 30, 1984]	30. Loan terms [Terminates June 30, 1984]
20. Powers and duties of the department in administering the fund [Terminates June 30, 1984]	40. Sale or transfer of mortgages and notes
	500. Definition

Editor's note. — The chapter heading was changed by the revisor to read "Alternative Technology and Power Resource Revolving Loan Fund." It formerly read "Alternative Power Resource Revolving Loan Fund."

Sec. 45.88.010. Fund established [Terminates June 30, 1984]
There is established in the Department of Commerce and Economic Development the alternative technology and energy revolving loan fund to carry out the purposes of this chapter. Loans made under this chapter may be used

(1) to develop means of energy production utilizing energy sources other than fossil or nuclear fuel, including, but not limited to, windmills, water and solar energy devices; and

(2) to develop and implement methods of energy production, waste disposal, recycling, food production, transportation, building design, and industrial enterprise which may be more efficient, less costly, and

...energy intensive the
...appropriate to the A
...56 SLA 1979; an

Effect of amendments. -
 Amendment inserted "techno-
 logical" in sentence, substituting
 "are to be used" in
 sentence, added the provision
 "and" and substituting
 "other purpose"
 in sentence.

amendment
for "power resource
loan fund" near the
concluding paragraph, the
first sentence to contain present
tense, by dividing the second
sentence "may be used" and changed
at the end of the second
sentence the word "devices" to
and inserting "and" following
substituted energy
preceding "revolving
the end of the first sentence
concluding paragraph,
for "power" preceding
the end of paragraph (1).
loans made under

Sec. 45.88.020. Power
administering the fund

1. make loans for the alternative energy sector;
2. implementation of more appropriate technologies;
3. promulgate regulations;
4. chapter.

* The department,
Science and Technology
made under this chapter
and terms, (§ 1 ch 29 S
* SLA 1980)

Effect of amendments.—The amendment added the language "and for the development of a 'management' to the end of subsection (a) and in connection with the Alaska Science and Technology" in subsection (b). The 1980 amendment added the words "power systems" for "power" and "the installation of alternative" for "the" in paragraph (b). The amendment added the words "and for the development of a 'management' to the end of subsection (a) and in connection with the Alaska Science and Technology" in subsection (b).

energy intensive than those methods presently utilized and which are appropriate to the Alaska environment. (§ 1 ch 29 SLA 1978; am § 6 SLA 1979; am § 28 ch 83 SLA 1980)

History of amendments. — The 1979 amendment inserted "technology and" in the sentence, substituted "may be used" for "are to be used" in the second sentence, and substituted "other" for "other purpose" in the third sentence. The 1980 amendment substituted "power resource" preceding "revolving loan fund" near the middle of the first paragraph, restructured the second paragraph by dividing the second sentence into two sentences and changing the word "the" at the end of the second sentence to "a" and inserting "and" following the word "power" preceding "power resource" preceding "revolving loan fund" at the end of the first sentence in the second paragraph, substituted "power" for "power resource" preceding "devices" at the end of paragraph (1), deleted "In addition, loans made under this chapter

may be used" at the beginning of present paragraph (2), and deleted the former last sentence, which read: "The fund may be used for no other purposes."

Editor's note. — Section 1, ch. 56, SLA 1979, provides: "FINDINGS. The legislature finds that there is a need for development of small-scale and low-cost alternatives for Alaskans in regard to building design, food production, recycling, transportation, energy generation, waste disposal, and small-scale residential and industrial enterprise. Therefore, the legislature finds that the development and wider use of low-cost and small-scale technologies appropriate to Alaska should be encouraged."

Section 8, ch. 56, SLA 1979, provides for the termination of the act relating to northern technology on June 30, 1984. As part of that act, the additions made to this section by ch. 56, SLA 1979, will terminate on June 30, 1984.

Sec. 45.88.020. Powers and duties of the department in administering the fund. (a) The department may

make loans for the purchase, construction, and installation of alternative energy systems and for the development and implementation of more efficient, less costly, less energy intensive, and more appropriate technologies;

promulgate regulations necessary to carry out the provisions of this chapter.

The department, in coordination with the Alaska Council on Science and Technology, shall develop eligibility standards for loans made under this chapter and adopt guidelines for the determination of terms. (§ 1 ch 29 SLA 1978; am § 6 ch 56 SLA 1979; am § 29 ch 83 SLA 1980)

History of amendments. — The 1979 amendment added the language beginning "for the development and implementation" to the end of paragraph (a) and inserted "in coordination with the Alaska Council on Science and Technology" in subsection (b). The 1980 amendment substituted "systems" for "power resources" in the phrase "development and implementation of alternative" near the beginning of paragraph (1) in

Editor's note. — Section 1, ch. 56, SLA 1979 provides: "FINDINGS. The legislature finds that there is a need for development of small-scale and low-cost alternatives for Alaskans in regard to building design, food production, recycling, transportation, energy generation, waste disposal, and small-scale residential and industrial enterprise. Therefore, the legislature finds that the development and wider use of low-cost and small-scale technologies

appropriate to Alaska should be encouraged."

Section 8, ch. 56, SLA 1979, provides for the termination of the act relating to

northern technology on June 30, 1984. As part of that act, the additions made to this section by ch. 56, SLA 1979, will terminate on June 30, 1984.

Sec. 45.88.030. Loan terms. (a) A loan for the development of an alternative energy system or for the development or implementation of a northern technology under this chapter may not exceed \$10,000.

(b) The duration for repayment of the loan may not exceed 20 years.

(c) Loans made under this chapter may be used to finance

(1) the cost of purchase, construction, and installation of an alternative energy system which is likely to result in energy conservation or energy cost savings; or

(2) the development and implementation of methods of waste disposal, recycling, food production, transportation, building design, and industrial enterprise which may be more efficient, less costly, and less energy intensive than those methods presently utilized and which are appropriate to the Alaska environment.

(d) All principal and interest payments on loans made under this chapter shall be paid into the alternative technology and energy revolving loan fund.

(e) The rate of interest

(1) for a loan, other than a loan described in (2) of this subsection, may not exceed nine and one-half percent a year on the unpaid balance of the loan;

(2) for a loan the proceeds of which are used for an alternative energy system

(A) is five percent, if the loan is made before January 1, 1984;

(B) equals the percentage of the average weekly yield of municipal bonds for the 12 months preceding the loan, as determined by the commissioner of commerce and economic development from municipal bond yield rates reported in the 30-year revenue index of the Weekly Bond Buyer, for a loan made after December 31, 1983. (§ 1 ch 29 SLA 1978; am § 7 ch 56 SLA 1979; am § 21 ch 72 SLA 1979; am §§ 30 - 33 ch 83 SLA 1980)

Effect of amendments. — The first 1979 amendment inserted "or for the development or implementation of a northern technology" in subsection (a), substituted "50 per cent" for "30 per cent" following the former language "no more than" in subsection (c), added the language beginning "or the development and implementation" to the end of subsection (c), inserted "technology and" in subsection (d), and substituted "nine and one-half per cent" for "eight per cent" in subsection (e).

The second 1979 amendment

substituted "nine and one-half per cent" for "eight per cent" in present paragraph (1) of subsection (e).

The 1980 amendment substituted "energy system" for "power resource" following "alternative" in subsection (c), restructured subsection (c) by deleting "no more than 50 percent of" following "finance" at the end of the present introductory paragraph and dividing the remainder of the section into two paragraphs and designating them paragraphs (1) and (2), substituted "an alternative energy system which is likely

to result in energy conservation or energy savings, or for "the alternative power" or "at the end of present" preceding "waste disposal" preceding "energy" for "power" preceding "revolving loan fund" preceding "near the" and inserted "of this subsection" preceding "of subsection (e), and added" preceding "of subsection (e)."
Editor's note. — Section 1, ch. 56, SLA 1979, provides: "FINDINGS. The legislature finds that there is a need for development of small-scale and low-cost

Sec. 45.88.040. Sale or transfer of commissioner may sell or transfer at least to any bank or other private lender the mortgages and not commerce and Economic Development under this chapter.

Repealed by § 14 ch 122 SLA 1979; am § 14 ch 122 SLA 1979

Effect of amendments. — The 1979 amendment in the second sentence of subsection (b), substituted "may" for "shall" and "all of these mortgages" and "following the Department of Commerce and Economic Development a fee of one per cent service fee" from "one per cent service fee".

The 1980 amendment repealed

Sec. 45.88.500. Definition. In this section

"means a source of thermal, mechanical, or electrical energy dependent on oil or gas or a nuclear space heating and cooling, refrigeration, or mechanical power, or the heat" includes

(1) an alternative energy property under the Internal Revenue Code (26 U.S.C.)

(2) a method of architectural design for the collection, storage, and

(3) any other device approved by the commissioner of economic development under AS 45.88.030

result in energy conservation or energy services or for "the alternative power source" at the end of present subsection (c)(1), deleted "energy generation" preceding "waste disposal" at the beginning of present paragraph and substituted "energy" for "power" preceding "revolving loan fund" at the end of subsection (d), and inserted "or a loan, other than a loan described in 2 of this subsection "near the beginning of subsection (e), and added subsection 2 of subsection (e).

Trans. note. — Section 1, ch. 56, SLA 1979 provides: "FINDINGS. The legislature finds that there is a need for development of small-scale and low-cost

alternatives for Alaskans in regard to building design, food production, recycling, transportation, energy generation, waste disposal, and small-scale residential and industrial enterprise. Therefore, the legislature finds that the development and wider use of low-cost and small-scale technologies appropriate to Alaska should be encouraged."

Section 8, ch. 56, SLA 1979, provides for the termination of the act relating to northern technology on June 30, 1984. As part of that act, the additions made to this section by ch. 56, SLA 1979, will terminate on June 30, 1984.

Sec. 45.88.040. Sale or transfer of mortgages and notes. (a) The commissioner may sell or transfer at par value or at a premium or discount to any bank or other private purchaser for cash or other consideration the mortgages and notes held by the Department of Commerce and Economic Development as security for loans made under this chapter.

Repealed by § 14 ch 122 SLA 1980. (§ 1 ch 29 SLA 1978; am § 22 SLA 1979; am § 14, ch 122 SLA 1980)

Effect of amendments. — The 1979 amendment in the second sentence of subsection (b), substituted "may purchase the mortgages" for "shall purchase all of these mortgages" and added "allowing the Department of Commerce and Economic Development a fee of one per cent service fee" from the 1980 amendment repealed

subsection (b), which read: "The commissioner may sell or transfer at par value to the Department of Revenue the mortgages and notes held by the Department of Commerce and Economic Development as security for loans made under this chapter. The Department of Revenue may purchase the mortgages and notes offered."

Sec. 45.88.500. Definition. In this chapter, "alternative energy" means

a source of thermal, mechanical or electrical energy which is dependent on oil or gas or a nuclear fuel for the supply of energy for heating and cooling, refrigeration and cold storage, electrical or mechanical power, or the heating of water;

includes

an alternative energy property as defined by sec. 48(1)(3)(A) of Internal Revenue Code (26 U.S.C. sec. 48(1)(3)(A));

a method of architectural design and construction which provides for the collection, storage and use of direct radiation from the sun;

any other device approved by the commissioner of commerce and economic development under AS 44.33.040(12). (§ 34 ch 83 SLA 1980)

Welfare and Institutions
Title 47

Water
Title 46

1/28
Jim Brewer
Common

Audits - other audits can be

prof. rate - $2\frac{1}{2}$ hr. audit + overhead
travel time

Contract for _____ # of audits
most terminate in March

periodic invoices
auditors - own advertising or central #

① basic questionnaire sent

② Audit

③ Go ~~at~~ over measures & explain payback
| booklet
- seminar

④ Application for refund ^{for} grant

- summary sheet for audit must be attached
7 receipt, or estimate for grant
check is made out for specific items
to vendor

Check to see that grants + loans weren't for same items
no contracts with vendors

In-house regional allocation for audits

Fla - extra heavy demand, over-constructed
Met-In

If you pass the test, contract possible

Utah - audit as setup for robbery - references needed
3 training sessions Fla

3
2

"
"

Anch.

Valley - Comm Coll. - plan for future
Kodiak, Ketchikan, Bethel, Kenai, Barrow, Valdez
Nome?

Tremendous demand for training
35 people in Kodiak, Ketchikan
seen as business opportunity

Grants coming less quickly - will pick up this month
50 through Dec.

auditors want additional contracts

7000 audits for money in fiscal note.

Contracted w/ Int Hk Dwelling Council - non-profit
did bldg inspection
Fry DeZinski
broad-based board

Steve Shannon - Dept. of Comm. - The

Discussion of prof. auditors assoc.
need to establish self-licensing

Publicity - only done some
Arch - mail-stuff in utility bills

Demand has jumped

Training & have been priority - until CC's take over

Loans - check w/ Dir of Bus. Loans

Audits currently only for duplex
duplex w/ central heating

⇒ Draft reg for comm. bldgs - leg. teleconference hearing
- looking for people to register for audits
⇒ RP 500K - grants to audits

CC's concern - quality of audit after rough training job
should work out to release / reeducation

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED
AS A UNIT IN THE ORIGINAL DOCUMENT.

1981 Appropriate Technology

**SMALL GRANTS PROGRAM
ALASKA**



***Conserve Energy Today
Innovate for Tomorrow***



**U.S. DEPARTMENT OF ENERGY
Alaska Division of Energy and Power Development**

**PROGRAM SOLICITATION &
GRANT APPLICATION FORM**

**U.S. DEPARTMENT OF ENERGY, REGION X, and
ALASKA DIVISION OF ENERGY AND POWER DEVELOPMENT**

**1981 Appropriate Technology
SMALL GRANTS PROGRAM
For Alaska**

PROGRAM SOLICITATION

PROPOSALS MAY BE SUBMITTED ON: February 16, 1981

PROPOSALS MUST BE RECEIVED BY: April 20, 1981

PRINCIPAL PROGRAM OBJECTIVE:

The principal program objective is to support and stimulate the further development, demonstration, and promotion of energy-related Appropriate Technology, as authorized by Public Law 95-39 and Part 470 of Title 10 of the Code of Federal Regulations.

STATE PROGRAM MANAGER

Alaska Division of Energy and Power Development
Attn: Norman Bair
Appropriate Technology
8th Floor, MacKay Building
338 Denali Street
Anchorage, AK 99501
(907) 276-0508

REGIONAL PROGRAM MANAGER:

U.S. Department of Energy (DOE)
Region X
Attn: Frank Brown,
Appropriate Technology
Room 1910, Federal Building
915 Second Avenue
Seattle, WA 98174
(206) 442-1746 or (FTS) 399-1746

HOW MUCH MONEY WILL BE AVAILABLE?

In the 1981 Appropriate Technology Small Grants Program, grant funds will be divided among the ten Federal Regions based on (1) each Region's share of the nation's population, and (2) the number of proposals received per 100,000 Regional residents. Therefore, the precise amount of funds available for Region X (Alaska, Idaho, Oregon and Washington) grants will not be known until after the solicitation period has closed and the applications have been counted. The Regional Program Manager believes that approximately \$1,400,000 in DOE funds will be available for Region X grants in 1981. However, because Region X will receive most of its funds from the "number of proposals received per 100,000 residents" part of the national funding formula, this estimate can only be a rough estimate at this time. Actual Region X funding could range from \$500,000 to \$2,000,000. In addition, up to \$400,000 in matching grant funds may be provided by the State of Alaska for Alaskan recipients of DOE grants. Most Alaskan grants will likely be composed of 50 percent DOE funds and 50 percent State funds.

INTRODUCTION:

Congress has authorized the U.S. Department of Energy (DOE) to establish a small grants program for the purpose of encouraging the promotion, development, and demonstration of small-scale, energy-related systems and technology referred to as Appropriate Technology because they are "appropriate to" and match local needs, skills, and available energy resources. This Program Solicitation describes the general characteristics of the Appropriate Technology Small Grants Program; the eligibility requirements and time schedule; application, evaluation, and selection procedures; and the general terms and conditions associated with Appropriate Technology Small Grants.

WHAT IS ENERGY-RELATED APPROPRIATE TECHNOLOGY?

In terms of energy resources, Appropriate Technology is any process, application, system, or device which makes the best use of available renewable or nonrenewable energy resources, and conserves nonrenewable energy resources. Appropriate Technology is small scale; simple to install, operate, use, and maintain; low cost; safe; environmentally sound; and durable. Generally, Appropriate Technology projects use existing technology in unusual situations or for novel uses, or develop new ideas, devices, or products. Perhaps the key point is that Appropriate Technology should serve the needs of local communities and lead to an increase in community energy self-reliance through use of the available energy resources.

For the Alaska Appropriate Technology Program

- **Renewable energy resources** include solar radiation, sunlight, the movement of the wind, moving water, geothermal and hydrothermal heat, municipal and urban wastes, agricultural and forest products and wastes, wood, waste heat, temperature differences in air and water, and others.
- **Nonrenewable energy resources** include natural gas, all crude oil-based products, coal, peat, oil shale, tar sands, and nuclear fuels.
- **Community** will be thought of in both a social and geographic sense. For example, a community could be a group of people of any size that live in a certain location, share government, have many common characteristics, and are somewhat distinct from the larger society in which they live. In this sense, a community could be a neighborhood, village, town, small city, island, portion of a rural borough, or valley, etc. A community may also be a social group which shares common interests or occupations. For example, an Appropriate Technology project could serve the energy needs of "Alaskan canneries," "Anchorage commuters," "rural Alaskans," or "wood stove users."

In other words, energy-related Appropriate Technology includes energy-conserving, small scale, simple, environmentally sound, safe, low cost, locally useful ideas, concepts, approaches, procedures, products, devices, systems, technologies, and/or activities that are "appropriate to" and match a community's cultural, economic, geographic, climatic, and social conditions and energy needs by using the community's skills and the available energy resources.

EXAMPLES OF ENERGY-RELATED APPROPRIATE TECHNOLOGY:

Examples of energy-related Appropriate Technology projects include...

- Wind energy systems and devices
- Use of wood, wood wastes, charcoal, coal, or peat in small stoves or boilers, etc.
- Small water power systems
- Solar water heaters or space heaters
- Solar crop dryers, dehydrators, etc.
- Small scale uses of geothermal or hydrothermal energy
- Energy storage systems
- Methane production using digesters and organic wastes, etc.
- Electric vehicle improvements, demonstrations and/or use
- Use of pollutants for beneficial purposes
- Urban waste use and/or reuse through recycling
- Underground homes or homes built using unusual energy-conserving materials or processes
- Improved window systems, shutters, blinds, storm windows, etc.
- Films, slide shows, video projects, etc., that educate others about energy-related appropriate technology
- Hydrogen systems and demonstrations
- Improved, simple, low cost heat exchangers, Balch tubes, heat pipes, etc.
- Urban farming, cooperative farms
- Battery improvements
- Improved engines, pumps, motors, burners, boilers, heaters, etc.
- Solar-powered irrigation pumps

- Alternatives to energy-intensive wastewater treatment systems
- Improved forest management practices that lead to energy conservation
- Use of energy control systems to conserve energy
- Pelletizing, chipping, or other devices that make it easier to use biomass
- Life-style demonstrations; e.g., living simply, living lightly, etc.
- Solar-powered distilleries
- Photovoltaic systems and devices
- Small scale tidal, ocean current, or wave-powered systems and devices
- Passive solar systems and devices
- Aquacultural systems that produce valuable food or other valuable products using little energy
- Waste heat recovery systems
- Production of alcohol for fuel use
- Production and use of fermentation byproducts
- Use of bicycles
- Energy-farming; e.g., growing plants for their energy value
- Novel uses of steam
- Composting, sludge recycling
- Establishment of appropriate technology libraries, etc., to inform others of energy-related appropriate technology
- Use of communication systems as alternatives to transportation
- Waste oil reuse
- Alternatives to herbicide, pesticide, and/or fertilizer use
- Carpool, vanpool, mass transit projects
- Greenhouse use for crop production and/or space heating
- Water conservation devices
- Integrated self-reliance oriented home or farm demonstrations
- Educational, outreach, publicity, or other activities that encourage others to use appropriate technology
- Improved lighting, ventilation, appliance, refrigeration, or other systems that conserve energy
- Energy conserving farming practices (draft animal use, new types of tools, new types of frost control, etc.)
- Activities that can assist small appropriate technology businesses
- Dog sled use

ELIGIBLE PROJECT TYPES:

Each Appropriate Technology project proposal must fall into one or more of the three following categories—it must be an Idea Development Project, a Device Development Project, or a Demonstration Project.

Idea Development Projects develop ideas, concepts, or investigative findings. Idea Development Projects could describe new energy-related concepts or how to utilize old systems or existing technologies for new or unusual uses. Idea Development Projects usually result in feasibility studies, reports, or technical papers. Idea Development grants cannot exceed \$10,000 for any program participant, including affiliates.

Device Development Projects involve studies, investigations, models, hardware development, experimental tests, or operational tests that use or apply investigative findings and/or theories and produce or improve useful products or devices. A Device Development Project should focus on a specific energy-related problem and develop and test a solution under controlled laboratory or other experimental conditions. Device Development grants cannot exceed \$50,000 for any program participant, including affiliates.

Demonstration Projects involve the testing, use or promotion of Appropriate Technology under actual operating conditions to show that commercial application and/or the widespread utilization of the technology is technically, economically, and environmentally feasible. Demonstration Projects may involve the commercial manufacturing and production engineering associated with a business entering the Appropriate Technology field. Most educational, outreach, library, and similar types of projects are Demonstration Projects. Demonstration grants cannot exceed \$50,000 for any program participant, including affiliates.

FUNDING LIMITS:

A program participant may receive financial assistance for continuation of a previously funded Appropriate Technology project or initial assistance for a new project, as long as the total amount of financial assistance made available to any program participant, including affiliates, does not exceed \$50,000 of Appropriate Technology Program funds for specific project support, during any two-year period; and, as long as the funding limits for each type of project, noted above, are not exceeded.

Affiliates are concerns which, either directly or indirectly, control or have the power to control another concern, are controlled by or are within the power of control by another concern or, together with another concern, are controlled by or within the power of control of a third party, taking into consideration all appropriate factors, including common ownership, common management, and contractual relationships.

Concerns are any business entities organized for profit, even if ownership is in the hands of a nonprofit entity, with their principal place of business located in the United States. "Concerns" include, but are not limited to, individuals, partnerships, corporations, joint ventures, associations, and/or cooperatives. For the purpose of making affiliation decisions, any business entity, whether organized for profit or not, and any foreign business entity (i.e., a business entity located outside of the United States) will be included.

WHERE MUST PROJECTS BE PERFORMED?

Projects receiving assistance under this Program Solicitation must be performed and/or located in the State of Alaska. Program applicants must be U.S. citizens but do not have to be residents of Alaska. Proposals will be evaluated by the Alaska State reviewers, regardless of where the applicant may live or do business.

If you receive this Program Solicitation and wish to perform an Appropriate Technology project outside of Alaska, please contact the Regional or State Program Manager and request the appropriate non-Alaskan Program Solicitation.

WHO MAY APPLY?

Appropriate Technology Small Grants may be made to:

- **Individuals.**
- **Local nonprofit organizations and institutions**, including corporations, trusts, foundations, trade associations, or other institutions which are (1) entitled to an exemption under section 501(c)(3) of the Internal Revenue Code, or (2) not organized for profit and no part of the net earnings of the organization or institution benefiting any private shareholder or individual.
- **State agencies** or instrumentalities, or **interstate organizations.**
- **Local government agencies** or instrumentalities, including county, borough, municipality, city, town, village, township, local public authority, public utility district, special district, council of governments, local public school district, intrastate district or commission, regional or intrastate government entities, or other similar local unit of government agencies.
- **Indian tribes**, including any tribal band, nation, or other organized group or community of Indians which are (1) recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians, or (2) located on, or in proximity to, a Federal or State reservation, and act through that reservation's tribal organization.
- **Alaska native villages or regional or village corporations**, as defined in or established pursuant to the Alaska Native Claims Settlement Act.
- **Small businesses**, which are concerns, including affiliates, which are organized for profit, independently owned and operated, and are not nationally dominant in the field of operation associated with their Appropriate Technology project, and which have 100 employees or less.

HOW TO APPLY:

Enclosed in this Program Solicitation are one or more fourteen-page Grant Application Forms. To apply for 1981 Appropriate Technology Small Grants, you must use the 1981 Grant Application Form. If you applied for a 1979 or 1980 Appropriate Technology Grant, you must complete the "Basic Information" introductory portion of the 1981 Grant Application Form, and then you may, if you wish, attach a copy of your 1979 or 1980 application (with appropriate references and revisions noted in the 1981 Grant Application Form) instead of completely filling out a 1981 application form.

Use one Grant Application Form for each project you propose. If you run out of application forms, you may request additional forms from the State Program Manager. Or, you may make a copy (either handwritten or typed, or copied on a copying machine) of the official Grant Application Form and submit the copied form.

Identical Appropriate Technology project proposals may be submitted by more than one applicant, using different "applicant type" categories, or for more than one project site or requested amount of financial assistance. Only one applicant type, one project site, and one grant request amount should be associated with each application form.

The State of Alaska is using a three-part-NCR Grant Application Form to eliminate the need to make file copies of the applications and to provide each applicant with a copy of his/her proposal. When you complete an application, you should tear off the **bottom sheet** of each page of the Grant Application Form, and turn in the other sheet and the original of each page. In this way, you will have a copy of your application for your personal or business records, and the review and evaluation process will not be delayed while copies are made of each application. Also, by reducing the amount of government copying, administrative labor costs are reduced, allowing more Program funds to be used for grants.

There is a hazard in using self-copying forms, however. **They can be messy and it is not possible to erase information from the sheets.** Therefore, we strongly encourage you to set the actual Grant Application Forms aside for a time, and organize your thoughts using scratch paper. We also strongly encourage you to complete your reading of this Program Solicitation and to read all questions on the Grant Application Form before starting to prepare a proposal. You should pay particularly close attention to the description of the Technical Evaluation and State Review criteria, against which your project proposal will be judged.

DEADLINE FOR RECEIVING APPLICATIONS:

Grant Application Forms may be submitted at any time during the Solicitation Period, which opened at 9:00 a.m., Alaska Standard Time, on Monday, February 16, 1981, and **will close at 4:30 p.m., Alaska Standard Time, on Monday, April 20, 1981.** You can help speed the 1981 Program along by turning your proposal in early, so that the proposal processing workload can start before April 20th.

LATE PROPOSALS:

A proposal arriving at a designated submittal site after 4:30 p.m., Alaska Standard Time, April 20, 1981, will not be considered unless the proposal was mailed not later than April 15, 1981.

The only proof of the date of mailing of a late proposal will be the date of the U.S. Postal Service postmark on the envelope or wrapper and on any original certified or registered mail receipt retained by the Postal Service. If a postmark is not legible and the proposal is received after April 20, 1981, it will be assumed that the proposal was mailed late (i.e., after April 15, 1981). If you are concerned about submitting a potentially late proposal, ask the postal clerk to hand cancel your proposal's envelope or wrapper with a "bulls-eye" style postmark to make sure that your proposal postmark is legible and mail your proposal using certified or registered mail.

MODIFYING PROPOSALS:

You may modify a proposal submitted in the early weeks of the Solicitation Period by submitting the modifications by 4:30 p.m., Alaska Standard Time, Monday, April 20, 1981, or by mailing the modifications by registered mail or certified mail not later than April 15, 1981, as noted above. You are **not** encouraged to modify a proposal once it has been submitted.

WITHDRAWING PROPOSALS:

Proposals may be withdrawn by written request to the State or Regional Program Manager at any time prior to the selection of applicants for financial assistance. Proposals may also be withdrawn in person by the applicant or the applicant's authorized representative, if sufficient identification is provided and the person signs a receipt.

WHERE TO SUBMIT PROPOSALS:

In order to make program participation more convenient for Alaskans and reduce mailing, travel, and time burdens, Alaska will utilize a number of designated proposal submittal sites throughout the State. The Alaska Division of Energy and Power Development would prefer that Alaskan proposals that are mailed **be mailed directly to their Anchorage Office**. However, all of the following sites are available for you to use to hand-deliver proposals.

The State of Alaska
Division of Energy and Power Development
Eighth Floor, MacKay Building
338 Denali Street
Anchorage, AK 99501

The Office of the Governor
Room 213
Eskimo Building
Kotzebue, AK 99752

The Office of the Governor
Room 3
The Nugget Inn
Nome, AK 99762

The Cooperative Extension Service Office
Room 19
Kuskokwim Office Building
Bethel, AK 99559

The Bristol Bay Native Association Office
Dillingham, AK 99576

The A. Holmes Memorial Library
Kodiak, AK 99615

The Cooperative Extension Service Office
Wadell Building
Homer, AK 99603

The Cooperative Extension Service Office
Kenai Community College
Library Building
Soldotna, AK 99669

The State of Alaska
Department of Commerce and
Economic Development
Ninth Floor, State Office Building
Juneau, AK 99801

The Ketchikan Public Utilities Co.
334 Front Street
Ketchikan, AK 99901

Cordova Public Library
Box 1170
Cordova, AK 99574

Fairbanks North Star Borough
Administrative Offices
Community Research Center
520 5th Ave.
P.O. Box 1267
Fairbanks, AK 99707

Kettleson Memorial Library
Box 518
Sitka, AK

Valdez Public Library
Box 609
Valdez, AK 99686

Office of Legislative Affairs
P.O. Box 1470
Wasilla, AK 99687

THE EVALUATION AND REVIEW PROCESS AND CRITERIA:

Proposals submitted in Alaska will be initially processed by the Alaska Division of Energy and Power Development. Proposals will move through a three-step evaluation and review process after being received.

1. **Prescreening**—First, proposals will be prescreened to ensure that each proposal is properly signed and contains enough information to allow it to be evaluated and reviewed. In addition, during prescreening, each proposal will receive a unique proposal number, and an acknowledgment-of-receipt card will be mailed to each applicant, informing the applicant that the proposal was received.

If a proposal fails to meet the basic program standards, a letter will be promptly sent to the applicant, informing the applicant of the reason(s) why the proposal cannot be accepted for the 1981 Appropriate Technology Small Grants Program. If the solicitation period is still open (i.e., it is prior to April 20, 1981), this letter will encourage the applicant to resubmit a modified proposal by the deadline. If the solicitation period has closed, the applicant will be informed that he/she cannot reapply for the 1981 Program.

Therefore, each applicant should make certain:

1. That the proposed project will be performed in Alaska,
2. That the applicant is an eligible program participant,
3. That the proposed project fits into one of the three project types,
4. That the grant request fits within the dollar limits for the project type selected,
5. That all sections of the Grant Application Form are completed with enough information to allow evaluators and reviewers to perform evaluations and reviews, and
6. That the application is signed by the applicant on page 2 at question 5f.

To assist applicants and minimize the number of applications not surviving the Prescreening step, **page 14** of the Grant Application Form provides a checklist which you should use to make sure that you do not overlook something that may cause your application to be rejected during Prescreening. We encourage all applicants to use this checklist after completing each application.

2. **Technical Evaluation**—The second step in the evaluation and review process is the technical evaluation of each proposal. Alaskan citizens, recognized for their expertise in energy-related Appropriate Technology, will perform the technical evaluations of all proposals. Each Alaskan proposal will be judged against the following **Technical Evaluation Criteria** by at least one technical evaluator:

1. Does the proposed project involve appropriate technology?
2. Is the proposed project technically feasible?
3. Are the expected project results capable of being measured?
4. Does the proposed project have any potential adverse environmental, health, and/or safety impacts?
5. Can the proposed project be carried out with the funds being requested?

The State Review—The third step in the evaluation and review process will be the State Review. The Alaska Division of Energy and Power Development will establish a group of at least seven Alaskans to perform a review of the Alaskan proposals. The State Reviewers will represent a cross-section of Alaska's economic, social, geographic, and cultural interests. The proposals within a given technology category or categories with the highest technical evaluation ratings will be considered by the State Reviewers. The remaining 1981 applications will be screened by an independent group of Division employees and members of the public. They will send additional applications that may be low cost or appear highly promising to the State Reviewers.

The State Reviewers will judge by the following criteria:

1. Does the proposed project involve appropriate technology (is it simple to install, implement, operate, use, and maintain; is it environmentally sound; is it durable; does it chiefly utilize local resources, material, and labor; is it small scale; etc.)?
2. Does the proposed project serve local or Statewide energy needs? Would the energy savings or energy production impact be important?
3. Would the proposed project be innovative?
4. Are there institutional barriers that may adversely affect project implementation? Could the proposed project overcome the barriers?
5. Is the proposed project likely to lead to extensive commercialization or more widespread utilization of the associated technology?
6. Is the proposed project period and budget reasonable to carry out the project?

Because of the expected large number of technically feasible proposals to be received by the Alaska Division of Energy and Power Development relative to the amount of funding that will be available to the Department of Energy and State of Alaska for grants, the Division has identified certain considerations that it will require its State Reviewers to take particular note of when reviewing the Alaskan proposals. Emphasis will be placed on the following considerations, in addition to the six general State Review Criteria presented above.

1. The degree to which the applicant is willing to contribute time and labor to the proposed project. Proposals involving applicant or other contributions of time and labor will receive special emphasis, especially when compared against proposals requesting considerable funds for high salaries and overhead.
2. The visibility of projects and/or the willingness of the applicant to disseminate the results of his/her project to the public. Proposals which express a willingness on the part of the applicant to work with the Alaska Division of Energy and Power Development, the Alaska Energy Extension Service, Western SUN, local newspapers, or other appropriate sources of information dissemination will generally be more highly rated than those which do not express such a willingness.
3. The degree of near and/or mid-term potential for transfer of project activities or results to other Alaskan situations. Proposed projects that show great potential for near-term replication will generally be more highly rated by Alaskan State Reviewers than those projects which require many years of further development.

After the State Reviewers have completed their review of their assigned proposals, they will meet as a group over a period of two to seven days to discuss their findings, and reach conclusions regarding which Alaskan proposals should be recommended to the Alaska Division of Energy and Power Development. The individual State Reviewer findings and comments will be assessed and compared against one another and eventually, proposals will be rank-ordered, in a prioritized manner, up to a certain total monetary limit cooperatively established by the Regional and State Program Managers.

The State Reviewers will also reach agreement as to the appropriate grant award that they believe should be associated with each rank-ordered proposal. Their rank-ordered State List, with any supplemental special comments and recommendations, will be forwarded to the Alaska Division of Energy and Power Development upon completion of their meeting.

Applicants should take special note that the State Reviewers have a responsibility to produce a "balanced" State List that includes proposals from all parts of Alaska; proposals involving a diversity of technology types and project types (demonstration projects, idea development projects, etc.); and proposals submitted by a diversity of applicants and eligible applicant categories. Creating a State List that is "balanced" will be the main task confronting the State Reviewers. Sometimes, this leads to proposals being highly ranked by the State Review that are not necessarily the "best" proposal in that

subject, but instead, fulfill a perceived "gap" in the State List distribution. For example, a Fairbanks nonprofit group's wind system proposal may be ranked high on the State List because the State Reviewers determine that a wind project should be on the list, that a Fairbanks area project should be on the list, and that a nonprofit group's project should be on the list (even though there may be a slightly more highly-rated wind system proposal in Seward, a slightly more highly-rated nonprofit group proposal in Homer, or a few more high-rated Fairbanks area proposals in other subject areas).

Finally, please note that in order to provide a consistent nationwide and Regional standard for evaluating and reviewing Appropriate Technology Program proposals, no proposal can be selected for financial assistance which has not been subjected to the full range of criteria described in this Program Solicitation. Applicants cannot selectively request that their proposal be compared against only some of the Technical Evaluation or State Review Criteria. In addition, because of the nature of the review and ranking process, applicants cannot be considered who request that only the DOE be authorized to evaluate their proposals.

THE SELECTION PROCESS:

Proposals ranked on the State List by the State Reviewers will move through a three-step selection process.

1. **Alaska Division of Energy and Power Development Review**—The State Reviewers will jointly transmit their State List to the Division Director. The Division may, at its discretion, review the State Reviewer recommendations, rankings, comments, ratings, and other information, and may make minor adjustments to the State List to reflect the Division's energy program priorities.

The Division will also assess the State Reviewer recommendations regarding the appropriate funding levels for each listed proposal and may make changes deemed necessary and appropriate. The Division will then finalize Alaska's Approved State List and formally transmit that list, together with the State Reviewer's recommendations and lists, and a written explanation of any changes deemed necessary, to Region X DOE as Alaska's recommendation for 1981 Appropriate Technology Program selections.

2. **Region X DOE Selection Panel**—The Regional Program Manager will select a five- to seven-member DOE Selection Panel, composed of technically qualified and appropriate technology-conscious employees of DOE Offices, Laboratories, Administrations, or other field offices within Region X. The Selection Panel Chairperson will receive each State's Approved State List, convene the Selection Panel, and, together with the Selection Panel, combine each State's ranked projects into a Regional List of projects. The Selection Panel members will then review the Regional List to ensure that the Regional List of projects would, if selected for grants, appear to result in:

1. A balanced Regional distribution of projects, with projects performed in a variety of geographic, population density, and climatic conditions;
2. A diversity of projects, activities, and technologies being performed;
3. Participation by a diverse group of grant applicants, including at least one grant applicant of each eligible grant applicant category; and
4. The best overall use of 1981 Appropriate Technology Program funds.

To achieve these objectives, it may be necessary for the DOE Selection Panel to make minor adjustments to the Approved State Lists. For example, it is possible that the Alaska and Idaho State Lists might both be dominated by wind system proposals, in which case the Regional List could have too great an emphasis on wind systems. To solve this distribution problem, some of the lower-ranked wind system proposals on the Alaska and Idaho Approved State Lists could be eliminated by the DOE Selection Panel and replaced by the next most highly-ranked non-wind system proposals on those Approved State Lists. Such adjustments would not be expected to be extensive.

3. **DOE Selection Official Action**—The DOE Selection Panel will forward the Regional List, with specified grant award amounts noted for each proposal on the List, to the Region X Regional Representative of the Secretary of Energy, who will perform a final review of the recommended proposals and the distribution effects of selecting those proposals for financial assistance. Once satisfied that a particular Regional List would best achieve the Appropriate Technology Program Goals, the Regional Representative will officially select proposals to receive financial assistance.

THE TIME SCHEDULE FOR ACTION ON PROPOSALS:

1. **Prescreening** is scheduled to be completed during May, 1981.
2. **Technical Evaluations** are scheduled to be completed in June, 1981.
3. **The State Review** is scheduled to be completed by mid-June, 1981, with Alaska's Approved State List scheduled to be completed and submitted to Region X DOE by July, 1981.
4. **Region X DOE Selection** actions are scheduled to be completed during July, 1981.
5. **Public Announcements** of selected applicants are scheduled to be made during September or October, 1981.
6. Applicants selected to receive financial assistance should be notified during August. Formal grant offers are expected to be mailed out to selected applicants during September and October. Grantees may expect to receive grant funds within 2-4 weeks of their return of signed grant documents to DOE (i.e., in November or December, 1981).

HOW TO GET HELP IN PREPARING YOUR APPLICATION:

The Alaska Division of Energy and Power Development will staff a phone line which Alaskan applicants may use to have Program-related questions answered (907-276-0508). Applicants may also come to the Division Office in Anchorage (Eighth Floor, MacKay Bldg., 338 Denali Street) during working hours for direct assistance.

In addition to Alaska Division of Energy and Power Office in Anchorage, each of the local offices where applications may be submitted will offer limited assistance in terms of answering requests for additional application forms and discussing eligibility requirements.

The State of Alaska will sponsor a number of grant applicant "proposal writing" workshops throughout the State. At this time, workshops are planned for Anchorage, Dillingham (during the Beaver Roundup), Fairbanks, Kenai, Kodiak and Palmer. Others may also be scheduled. These workshops will take place in February and March. For specific dates, times, and locations, please contact the Division of Energy and Power Development. Also watch your local newspaper for details and listen to your local radio stations. The workshops will be well-publicized.

IF YOU ARE NOT SELECTED:

Because of the high number of grant applications expected and the relatively limited funding available, the Appropriate Technology Program selection process is expected to be very competitive—only seven to twelve percent of all proposals submitted are likely to be selected to receive financial assistance. Therefore, many good projects may not receive assistance under this Program.

In an effort to encourage continued interest in small scale energy conserving projects and activities, all unselected applicants may request debriefings. Such debriefings may help to make the unselected applicant's project more competitive in any future cycle of the Appropriate Technology Program or in other Programs offered by DOE, other Federal agencies, or State or local agencies. Unselected applicants will have 30 days to submit written requests for debriefings after receipt of their notification that their proposal was eliminated from funding consideration. Written debriefings will be sent by the State Program Manager at the earliest feasible time after receipt of debriefing requests.

IF YOU ARE SELECTED:

Method of Payment—Region X DOE intends to make one lump sum advance payment to grantees, unless the grant is large (in excess of \$10,000) and the grantee's project would be carried out over a period in excess of six months.

Preaward Costs—In general, no costs or expenditures can be charged to a grant prior to its effective date (the date it is issued by DOE and sent to the potential grantee) unless special permission is received from DOE. Because Region X intends to assemble grant documents rapidly in this 1981 Program, it is expected that the authorizing of preaward costs will be very limited (i.e., the time between selection and the effective date of the grant should be quite short). However, if you have **special circumstances** that make it essential to your project's success to start making project expenditures as rapidly as possible (e.g., getting supplies on a barge to Alaska by August, short construction season, consultant availability, etc.), you should make special note of these circumstances in your Grant Application Form. This program is **not** designed to provide funding for the 1981 construction season.

Visitation Rights—As an Appropriate Technology Program grantee, you will be required to provide public visibility of your project, including allowing reasonable access to your project site during the Project Period. You will, however, remain "in control" of such visits because all official visits can only occur with your prior permission and you do not have to allow visits that would interfere with the normal use of your project site (e.g., if you are a small family farmer, you could disallow visits during most of the busy harvest season). DOE may also enter into an agreement with you to allow some limited degree of project visitation rights to continue after the Project Period has ended. These post-Project Period visitation agreements will be entered into on a case-by-case basis.

Project Monitoring and Reports—Appropriate Technology grantees have the primary monitoring responsibilities to assure that project milestones and activities are being achieved. You will have the responsibility to manage the day-to-day operation of your project. However, Region X will require periodic brief Project Performance Reports and a Final Project Report which inform the Region X and Division of Energy and Power Development staff of your achievements and the status of your project. In addition, the Division will perform field monitoring of the Alaskan Appropriate Technology projects for the DOE. Grantees should expect one or two monitoring site visits each year.

Project Income—Income earned from activities or projects carried out in whole or in part with Appropriate Technology grant funds may generally be retained by grantees, if the first increment of income—up to the amount of the grant—is utilized to further Appropriate Technology Program goals of promoting, developing, and demonstrating energy-related Appropriate Technology. Income earned from grant-assisted projects can be a complex issue, however, and must often be dealt with on a case-by-case basis.

Property Ownership—Property ownership relationships in the Appropriate Technology Program can be complex and must generally be dealt with on a case-by-case basis. In general, if a grantee is a unit of local, regional, or State government; a local nonprofit organization or institution; Indian Tribe; Alaskan Native corporation or village; a community college; or institution of higher education; all property acquired using Appropriate Technology funds may be kept by the grantee, if the grantee continues to use the property for other Federal grant programs, or for the purpose of encouraging, developing, or demonstrating energy-related Appropriate Technology. These types of grantees receive title to acquired property at the time of purchase during the Project Period and retain title after the Project Period ends, if the conditions noted above are satisfied.

It is possible that, if a grantee is an individual or small business, all real property and equipment costing more than \$300 per item with a useful life of more than one year may become the property of the DOE and may not be retained by the grantee. The National Office of the DOE is presently examining the legal basis for allowing individuals and small businesses to obtain title to real property and expensive equipment at the time it is purchased and to retain title after the Project Period has ended, provided that the property continues to be used for Appropriate Technology Program purposes. It is hoped that this issue will be resolved in favor of individual and small business grantees by the time the 1981 selections are made. Individuals and small businesses who apply should know that the DOE has never taken possession of any real property or equipment purchased with Appropriate Technology funds, nor has it any current plans to do so.

Sharing Information—Because a major goal of the Appropriate Technology Program is the sharing and distributing of information developed by Program grantees, your Project Performance Reports and project results will be made a matter of public record, unless private and confidential information is presented in a Performance Report. In addition, you may expect TV, radio, or newspaper reporters to visit you to obtain information about your project. Many of the 1979 and 1980 grantees have had their projects and names presented in magazines such as TIME, FORTUNE, Popular Science, etc., in newspaper stories, and on TV shows and radio interviews, etc. Other 1979 and 1980 grantees have been invited to be special speakers at meetings of technical associations or at Statewide solar energy conferences, etc. As an Appropriate Technology grantee, you will be asked to be a participant in such public activities.

Please note that detailed information concerning DOE financial assistance policies, procedures, and relationships with grantees are contained in the DOE Assistance Regulations (Part 600 of Title 10 of the Code of Federal Regulations), which are available from the Regional Program Manager. These regulations present specific information regarding access to and retention of records, budget revisions, contracting requirements, use of and separation of grant funds, bookkeeping and accounting requirements, use of income earned as part of an Appropriate Technology project, etc. In addition, copies of "A Summary of Your Grant Relationship with the DOE," which explains the relationship between Appropriate Technology grantees and the Region X Office, are available from the Regional Program Manager. The State Program Manager can provide details regarding the State of Alaska requirements for those grantees receiving DOE and State of Alaska funds.

OTHER SPECIAL INFORMATION:

PROPOSAL PREPARATION COSTS: The DOE and Alaska Division of Energy and Power Development assume no responsibility for any costs associated with the preparation of proposals submitted under this Program Solicitation.

SELECTION RESERVATION: The DOE and Alaska Division of Energy and Power Development reserve the right to select for financial assistance, in whole or in part, any, all, or none of the proposals received in response to this Program Solicitation.

COST SHARING AND JOINT FUNDING PROJECTS: Applicants are encouraged to offer to share in the costs of performing their proposed projects, either through an offer of in-kind contributions (donated labor, donated materials, provision of project sites, etc.) or through direct monetary contributions, or to arrange that other agencies, groups, organizations, businesses, etc., provide some degree of cost sharing. State Reviewers and the members of the DOE Selection Panel will be encouraged to be alert for cost sharing opportunities as they reach their decision regarding the appropriate grant award amount for each recommended project proposal.

In addition to seeking cost sharing relationships, the Regional Program Manager is authorized to participate in joint funding relationships with other Federal agencies if such relationships are in the best interest of all participating agencies' programs. Such joint funding may include more than one type of financial assistance relationship.

NON-ENGLISH PROPOSALS:

Applications under this Program Solicitation may be submitted in any written or spoken language, including Aleut, Yupik, Sugpiq, Inupik, Tlingit, and Athabaskan. Application Form questions may be rewritten into these or other non-English languages to facilitate non-English applications. For languages which are only spoken, tape-recorded verbal proposals will be accepted.

PRIVACY OF THE INFORMATION IN YOUR PROPOSAL:

It is DOE policy to use information contained in proposals only for evaluation and review purposes, except when such information is generally available to the public, is already Government property, or is available to the Government without restriction from any source, or the applicant has authorized the DOE to release proposal information for specified non-evaluation purposes (see **page 1** of the Grant Application Form). If you are selected for a grant, DOE and the Division of Energy and Power Development will have the right to use, duplicate, or disclose any non-confidential or non-proprietary information contained in your proposal.

CONFIDENTIALITY AND CONFLICT OF INTEREST:

All individuals involved in the proposal evaluation and review process, including the Technical Evaluation reviewers, State Reviewers, Alaska Division of Energy and Power Development staff, Region X DOE staff, and others, must sign non-disclosure of information agreements prior to handling any proposal. Under no circumstances may any individual utilize any privileged or proprietary or other information contained in any proposal for personal gain or other improper purpose. In addition, all evaluators and reviewers will be required to sign agreements stating that they will not evaluate or review any proposal which, in their judgment, could not be impartially and fairly reviewed due to the presence of an actual or potential conflict of interest that would prevent them from objectively evaluating the proposal. The DOE and Alaska Division will go to great lengths to ensure that the entire evaluation, review, and selection process is performed in an objective and fair manner and that proposals are rated strictly on their comparative merit and their individual merit when compared against the Technical Evaluation and State Review Criteria.

If a proposal includes confidential information, trade secrets, and/or privileged or confidential commercial, business, or financial information which an applicant wishes to fully protect, the applicant should complete the Confidentiality Notice on the **first page** of the Grant Application Form by listing the pages of the Grant Application Form which contain the confidential information. Every effort will then be made to protect this information from any disclosure or use beyond the proposal evaluation and review period. All information contained in each proposal will be handled in accordance with the policies and procedures set forth in the DOE Assistance Regulations and Procurement Regulations, and disclosed only in accordance with the Federal Freedom of Information Act.

INVENTIONS AND PATENTS:

DOE is required by law to take title to inventions conceived or first put into practice under a DOE grant. However, applicants under this Program Solicitation may request that title to inventions be given back to them. When DOE gives back to a grantee the rights, title in, and interests in inventions, this is called a "waiver." In this Program, a waiver will be given to any applicant if it is requested at **question 18 on page 12** of the Grant Application Form and if:

1. The applicant is an individual or small business, or
2. The applicant is other than an individual or small business and satisfies DOE at some time prior to entering into a grant agreement that the applicant would intend to and has a reasonable plan to market or commercialize the invention(s) or technologies that are being developed. This commercialization plan or statement should be included in the Grant Application Form or provided to DOE after notification of being selected for an Appropriate Technology Small Grant.

Note that if the Government does give title to an invention back to an applicant, there will be some conditions attached. These conditions will take into account the public interest, the rights of the grantee, and the rights of the Government to use the resulting patent for its own purposes. If you wish to receive further details on the patents issue, contact the Regional Program Manager.

THE ACKNOWLEDGMENT CARD (on Back Cover):

Complete one Acknowledgment Card for **each** application which you are submitting. Send in one Acknowledgment Card with each Grant Application Form. Remember that each proposal will receive a separate Proposal Number and that the use of the Acknowledgment Card is the most practical means for you to be informed of your application's Proposal Number. If you do not receive your Card(s) back (with your Proposal Number on it) within three weeks after proposal submittal, contact the State Program Manager.

APPLICATION FORM INSTRUCTIONS:

OVERALL INSTRUCTIONS:

Remember that you will **not** be able to erase errors: if you make an error, **just cross out the mistake** and continue with your text. Remember to **read all questions first** before preparing your actual proposal. Also, you are strongly encouraged to **clearly print or use a typewriter**. In the 1979 and 1980 Programs, many proposals could hardly be read by evaluators and reviewers, and it is likely that the ability to read and understand proposals had some effect on the selection decisions. It can only work to the advantage of an applicant to have a neat and easy-to-read application.

Also, **DO NOT USE** a magic marker or felt-tip pen when completing the Grant Application Form pages. Felt-tip pens will not always leave a clear impression on the bottom sheet of each page of the Form. **Use only ballpoint pens, sharp pencils, or a typewriter**, etc. Unstaple the Application Form pages before filling out an application and **fill out each page separately** (don't fill out page 3 while page 3 is resting on top of page 4).

PAGE 1:

The only item to complete on Page 1 is the Confidentiality Notice, which was described on Page 13 of this Program Solicitation.

PAGE 2 (the Proposal Information page):

Question 1—Provide a short descriptive title of your project, such as "Use of a Small Wind Machine for Electricity in Coastal Alaska."

Question 2—List the location where your project would be performed or located.

Question 3—Projects in the Small Grants Program must be either idea development, device development or demonstration projects. If you feel your project falls into more than one category, then choose the one that best describes the INNOVATIVE characteristics of your project. For example, if you are first developing a device, then demonstrating it, list your project as a device development project.

Question 4—Enter the total amount of money you are requesting from the Small Grants Program. This amount must agree with the total listed on the Budget Summary page (page 10), and, it must not exceed the limits for the project type checked in question 3. Round your request to the nearest dollar.

There is a funding limit of \$50,000 in DOE funds per program participant per each two-year period. You cannot, for example, ask for \$60,000 for a combined Idea Development-Device Development project.

Question 5. PRINT or TYPE your name on line 5a. If you are not submitting this application as an individual (see Question 6) enter the name of the organization, agency, small business or group that is sponsoring the project on line 5b.

Enter the address, city, State and ZIP CODE of where you wish to receive mail concerning your project on lines 5c and 5d.

Provide a phone number where you can be reached on line 5e. Be sure to include the area code. If you cannot be reached at this number during normal working hours (8 a.m. to 5 p.m.) provide the hours when you can be reached at the number listed.

Sign the application on line 5f. The signature on line 5f **must** be the same as the name printed on line 5a.

If the name of an organization, small business, agency or group was entered on line 5b, then a person within that organization, business, agency, or group authorized to contract for the organization, **MUST** sign the application on line 5g.

If you are submitting this application jointly with a second individual or business or organization, then Co-applicant information must be completed in the space provided. Note that the individual or organization listed as "applicant" will usually become the actual legal DOE and State grantee for proposals which are submitted jointly. DOE and the State of Alaska will not usually make joint grants.

Question 6—There are seven applicant categories in the Small Grants Program. You must choose ONE of these categories. If you wish to submit this application under two different categories, then you must submit two separate applications. (For example, you may submit a project as an individual and as a non-profit organization. In that case, you should submit one proposal as an individual and one proposal as a nonprofit organization.) If submitting two or more applications to the program, be sure to indicate this on page 13.

Question 7—Below are listed 47 type categories. Your application will be assigned for technology review based upon the primary technology type category you provided on line 7a. You should read all the categories carefully before making a choice. Choose the ONE category that best describes the INNOVATIVE characteristics of your proposed project. Remember that you must list only ONE category as the primary technology type category.

If you feel that your project has other special innovative characteristics, you may list up to three additional technology type categories on line 7b.

TECHNOLOGY TYPE CATEGORIES (for use in completing page 2):

Solar projects

01. Earth sheltered buildings
02. Active space heating or cooling
03. Domestic hot water systems, swimming pool heating
04. Greenhouse systems (either attached or detached)
05. Passive systems (roof ponds, trombe walls, shading, etc.)
06. Process heat applications (crop drying, lumber drying, etc.)
07. Photovoltaic systems
08. Mechanical power or heat engines

Biomass projects

09. Alcohol fuels (production and utilization)
10. Methane or other gaseous fuels (production and utilization)
11. Wood, coal, peat or other direct combustion technologies
12. Food, biomass or protein production systems
13. Municipal/industrial bio-waste utilization
14. Studies assessing biomass utilization potential

Wind projects

15. Electricity production
16. Mechanical energy or heat production
17. Studies assessing wind resource potential

Geothermal projects

18. Space or water heating/cooling
19. Industrial or commercial process heat
20. Electricity production
21. Studies assessing the utilization potential of geothermal resources

Water related projects

22. Wave, tidal, ocean current or ocean thermal conversion
23. Hydroelectric projects
24. Hydraulic rams, etc.
25. Studies assessing the energy potential of water resources

Energy Storage and Transfer projects

26. Chemical storage systems (batteries, salts, etc.)
27. Inert Mass storage systems (rock beds, water columns, etc.)
28. Mechanical storage systems (flywheels, etc.)
29. Heat exchangers and modifications to heat pumps
30. Soil or ground water used as either an energy source or heat sink

Energy Conservation projects

31. Innovations in building design and construction methods
32. Building products and materials
33. Building retrofit innovations
34. Lighting improvements
35. Waste heat recovery
36. Appliances—related projects
37. Combustion engine efficiency improvements
38. Air or water-based transportation
39. Land based transportation
40. Energy monitoring or management
41. Solid waste recycling, or resource or water reclamation or reuse
42. Commercial and industrial conservation (including co-generation)
43. Agricultural projects (irrigation pump testing, draft animal use, etc.)

Education and Technology Transfer projects

44. Curriculum development and training aids
45. Publications, manuals, films, etc.
46. Workshops, networking, outreach activities
47. Resource centers (libraries, tool banks, etc.)

Question 8—Five general sectors of public benefit are listed in Question 8. Check the one which your project would effect the most. If your project would have an impact in more than one sector, mark the box of the sector receiving the GREATEST potential benefit.

Question 9—Four general types of energy impact are listed in Question 9. Check the ONE type which would be most affected by your project. If you believe that your project would have an impact of more than one type, indicate the GREATEST type of impact your project would have.

Question 10—Check the box that indicates how you **first** learned about the 1981 Small Grants Program. Check only **one** box.

PAGE 3 (The Project Summary Page):

This page is self-explanatory.

PAGE 4 (The Detailed Project Description):

This is where you should describe the details of your proposed project. It is most important that you provide information that addresses the **Technical Evaluation Criteria** presented on Page 7 of this Program Solicitation.

If you are resubmitting an unselected proposal (or a continuation proposal) from the 1979 or 1980 Program, you may use the technical description from that prior application as the technical description for your 1981 application by referencing it in the 1981 form and attaching the existing technical description to the 1981 form. The DOE and Division of Energy and Power Development would prefer that attachments to the 1981 form be limited and that any blueprints, drawings, photographs, and other descriptive materials be folded or reduced to an 8½" x 11" size. All attachments will become the property of the Government, though DOE intends to return attachments to proposers upon their request.

PAGES 5 and 6 (BLANK PAGES):

Note that there are three blank pages in the Grant Application Form package (the pages numbered 5, 6, and 12). Applicants **may use these pages wherever they are needed**. For example, if your Detailed Project Description requires only one page (Page 4), but you run out of space on the Project Personnel page (Page 7); you could use one of the blank pages to complete your Project Personnel description, and insert the blank page after the Page 7 Project Personnel page. **If you shift the blank pages to new positions in your Grant Application Form, please cross-out the existing page numbers and re-number the**

Grant Application Form pages correctly (of course, Pages 1 through 4 will never need re-numbering). Please use the blank pages provided before attaching additional pages of descriptive information on new blank pages of your own stationery. Note that you **do not** have to submit a 14-page Grant Application Form—if your Detailed Project Description can fit on Page 4, and the Public Benefits can be described on Page 11, and all other subjects can be described on one page, you should only submit a 12-page Grant Application. Don't submit the blank pages if you don't use them.

PAGE 7 (The Project Personnel Page):

This page is self-explanatory.

PAGE 8 (The Project Schedule):

Only list the major activities associated with your project (e.g., equipment purchases, start of construction, completion of important tests, etc.). List the activities in the column on the left. Put a dot in the box for the month when you would start that activity, a dot in the month box for the month when the activity would be completed, and then connect the dots with a line. If your project would take until after October 1983 to be completed, please develop and attach a continuation sheet.

PAGE 9 (The Budget Support Sheet):

This important sheet describes how your grant request amount was computed. You may need more pages to complete a thorough Budget Support Description, especially if your project is complex or involves many individuals or supplies/equipment.

First, identify the **personnel/skills/positions** needed to carry out your project (e.g., Joan Williams - solar designer; a skilled carpenter; a bulldozer operator). Then, identify the wage rate or salary associated with these key personnel and the hours or months of their employment on your project. For each person/skill/position compute your monetary needs and list these amounts in the proper column on the right side of the form. If the labor is donated, enter the value of the labor in the "Other Contributions" column and write "donated" in the space where the calculations are displayed. If another agency is paying for the personnel costs, in whole or in part, place the value of the other agency's contributions in the proper column and name the agency in the space where the calculations are displayed. **For all wages/salaries/labor costs, place a "1" in the column titled "Cost Category Number."**

Then, determine any **fringe benefits** associated with the employment of personnel to carry out your project. Include any necessary Social Security, Workers Compensation, Unemployment Insurance, health/life insurance costs, etc. Either enter each fringe benefit category or write "Fringe Benefits at XXXX Percent," and enter the percent affecting your particular situation. **Fringe Benefits Are Cost Category "2."**

Next, list the **equipment** needed to perform your project (e.g., typewriters, pumps, monitoring devices, trailers, solar collectors, boilers, tanks, roto-tillers, pigs, wind electric generators, desks). Equipment is considered to be all non-consumable items (things that don't get used up as you carry out your project) with a life expectancy of one year or more. For each piece or group of equipment, list their estimated cost/value in the proper column according to whether DOE funds would be used to acquire the equipment and **place a "3" in the Cost Category Number column.**

Materials and Supplies should be listed next. Materials and Supplies include items like pencils and paper, film, postage, and accounting record books, and items that are needed to prepare, perform, or carry out the project, such as lumber, wire, nails, chemicals, pipe and plumbing materials, mounts, brackets, and other hardware, feed for animals, fertilizers for an urban farm, etc. **Mark "4" in the Cost Category column for each group of materials and supplies required.**

Cost Category "5" is Travel. List the travel costs associated with the performance of your project. Local travel costs should be computed at a rate not to exceed 22½ cents per mile. Out-of-town travel costs should be computed using "coach" or "economy" or similar rates. Include any needed per diem, meal, motel, etc., costs in this category.

List your project's **consultant and subcontractor** requirements next as **Cost Category "6."** List only major subcontractors here. Please attempt to limit the fees of experts, consultants, and required spe-

cialists to \$200.00 per day. Proposals will **not** be eliminated from funding consideration if consultant fees exceed these guidelines; however, excessive consultant fees will be closely examined.

Finally, determine any **other costs** associated with your proposed project. For example, there may be telephone, report printing, space acquisition, lease or rental agreement, storage, liability insurance or bonding, permit, audit, advertising, bookkeeping, administrative overhead, clerical or similar costs associated with the performance of your project. **Other Costs should be identified as Cost Category "7."**

PAGE 10 (The Budget Summary):

To complete page 10, total the Cost Category entries on the Budget Support Sheet (round-off all entries to the nearest dollar) and transfer them to the Budget Summary. Make sure that the total amount requested on the Budget Summary matches the amount presented at question 4 on page 2 of the application form.

PAGE 11 (Community/Public Benefits):

Use this section of the Grant Application Form to describe how the public would benefit from your proposed project. Do not use this section to repeat the description of the technical features and characteristics of your project. Be sure to address the **State Review Criteria** presented on pages 7 and 8 of this Program Solicitation.

PAGE 12 (Patent Waiver Request):

If you want the Federal Government to give title to inventions back to you, please check the appropriate box. In the case of box "b," please also briefly present your plans for marketing any inventions. You should state your plans to manufacture or have manufactured for sale the invention, your plans to obtain investment funds, your plans to license others to use the invention, or any other plans related to a commercialization effort. For additional information, please refer to the Inventions and Patents section of this Program Solicitation.

PAGE 13 (Funding Limitation, Information Release, Etc.):

Question 21—This is the section of the Grant Application Form where you should inform the DOE and the Alaska Division of Energy and Power Development of any actions on your part to have this project funded by other agencies or other DOE Programs. If you have submitted this project proposal to other agencies or programs, you should list the agencies, the date you submitted your proposal, and the current status of your application to these other agencies or programs.

Questions 22, 23, and 24—Region X has had some success in interesting other agencies in funding highly-rated but unselected Appropriate Technology project proposals. Answering "Yes" to these questions allows the Region X staff some flexibility in seeking out alternative funding or technical assistance if your application is not selected for an Appropriate Technology grant.

PAGE 14 and FINAL INSTRUCTIONS:

1. Be sure to **use the Page 14 Check List** and leave it in your grant application form.
2. Be sure that each proposal submitted is for a different project (e.g., if you propose a solar project for Big Delta, and for Circle, each should be submitted as a separate application. Or, if you propose a \$30,000 methane digester project and a \$15,000 scaled-down version of the same project, prepare each as a separate application. Don't turn in a "\$15,000 to \$30,000" proposal on one grant application form.
3. Be sure to **submit one Acknowledgment Card with each separate application.**
4. **Deliver the original and one copy** of your Grant Application, including all attachments, by 4:30 p.m., Alaska Standard Time, on **April 20, 1981**, to a designated submittal site; or, get your Grant Application in the **mail** (use certified mail, if possible) by 5:00 p.m., Alaska Standard Time, on **April 15, 1981**. Keep the third copy of your proposal for your use.



FOR DOE AND DIVISION USE ONLY

Date Received: _____

Proposal Number: **181-**_____

**U.S. DEPARTMENT OF ENERGY, REGION X and
ALASKA DIVISION OF ENERGY AND POWER DEVELOPMENT****1981 Appropriate Technology
SMALL GRANTS PROGRAM
For Alaskan Projects**

GRANT APPLICATION FORM

NOTICE FOR HANDLING PROPOSALS

This proposal shall be used or duplicated only for Department of Energy (DOE) Appropriate Technology (A.T.) Program evaluation and review purposes, and this notice shall be affixed to any reproduction or abstract thereof. This proposal shall not be shown or provided to anyone not directly involved in the A.T. Program evaluation and review process unless permission is obtained from DOE. The restrictions contained in this notice do not apply to any data or commercial or financial information contained in this proposal if it is already generally available to the public, is already available to the Government on an unrestricted basis, is already the property of the Government, or is or becomes available from any source, including the proposer, without restriction. Submitted copies of this proposal become the property of the Federal Government. The DOE cannot guarantee the return of your proposal.

CONFIDENTIALITY NOTICE

This Notice is to be completed **BY THE APPLICANT**
if confidential data are contained in the proposal.

The data contained on page(s): _____ of this application have been submitted in confidence and contain trade secrets and/or privileged or confidential commercial or financial information, and such data shall be used or disclosed only for evaluation purposes, provided that if a grant is awarded to this applicant as a result of or in connection with the submission of this application, the Government shall have the right to use or disclose the data herein to the extent provided in the grant. This restriction does not limit the Government's right to use or disclose the data obtained without restriction from any source, including the applicant.

Proposal Number: 181-

- 2



PROJECT SUMMARY

Proposal Number: 181-

11. Provide a brief, non-technical, descriptive summary of your proposed energy-related project. What are you trying to accomplish or achieve with your project? What is the purpose of your project? What special energy-saving devices, systems or information will exist when your project ends? How will others use what you have developed or learned? Limit your summary to this page.



DETAILED PROJECT DESCRIPTION

Proposal Number: 181 -

12. Provide a complete and reasonably detailed **technical description** of your project. Explain exactly what you are going to do and how you are going to do it. Use additional pages, if needed. Provide photos, blueprints, drawings, and any supporting information you believe necessary. Be sure that your description describes how your project will meet the **Technical Evaluation Criteria** listed in the Program Solicitation. Clearly indicate any confidential information or data as described in the Program Solicitation.



Proposal Number: 181 -



Proposal Number: 181 -



KEY PROJECT PERSONNEL

Proposal Number: 181-

13. Identify the key personnel, consultants and subcontractors, including yourself, who will contribute most to the performance of your proposed project. Describe the role of each participant in the project and the number of hours each person will devote to the project. List or attach only those qualifications which relate to the project. (Qualifications may include education, job-related skills, practical skills, hobbies, etc.)

Proposal Number: 181 -

- MONTHS AFTER GRANT AWARD (SEPTEMBER 1981)

FINAL REPORT
SUBMITTED TO DOE

Proposal Number: 181 –

15. Complete this sheet per the instructions in the Program Solicitation.

9

BUDGET SUMMARY

Proposal Number: 181-

16. Complete this page per the instructions in the Program Solicitation.

AMOUNT REQUESTED FROM DOE

Cost Category Number	Cost Category	Total from the Budget Support Sheet
1.	SALARIES and WAGES	\$
2.	FRINGE BENEFITS	
3.	EQUIPMENT	
4.	MATERIALS/SUPPLIES	
5.	TRAVEL	
6.	CONSULTANTS/SUBCONTRACTS	
7.	OTHER COSTS—RENTALS, OVERHEAD, SPACE COSTS, ETC.	
TOTAL AMOUNT REQUESTED FROM DOE		\$

COST SHARING SUMMARY (IF APPLICABLE)

NON-DOE SOURCE OF SUPPORT OR FINANCIAL ASSISTANCE	AMOUNT OR VALUE
	\$
TOTAL AMOUNT CONTRIBUTED BY OTHERS	\$

COMMUNITY/PUBLIC BENEFITS

Proposal Number: 181 -

17. Describe the social and economic benefits your project will provide to your community, Alaska, the region, etc. DO NOT include technical details. Refer to the State Review Criteria on Page 8 of the Program Solicitation. Be certain to highlight any special qualities your proposal offers. Use the top of the next page, if needed.