Public Law 93-473

AN ACT

October 26, 1974
[S. 3234]

To authorize a vigorous Federal program of research, development, and demonstration to assure the utilization of solar energy as a viable source for our national energy needs, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Solar Energy Research, Development, and Demonstration Act of 1974".

Solar Energy Research, Development, and Demonstration Act of 1974.
42 USC 5551 note.

DECLARATION OF FINDINGS AND POLICY

42 USC 5551.

SEC. 2. (a) The Congress hereby finds that—

(1) the needs of a viable society depend on an ample supply of energy;

(2) the current imbalance between domestic supply and demand for fuels and energy is likely to persist for some time;

(3) dependence on nonrenewable energy resources cannot be continued indefinitely, particularly at current rates of consumption;

(4) it is in the Nation's interest to expedite the long-term development of renewable and nonpolluting energy resources, such as solar energy;

(5) the various solar energy technologies are today at widely differing stages of development, with some already near the stage of commercial application and others still requiring basic research;

(6) the early development and export of viable equipment utilizing solar energy, consistent with the established preeminence of the United States in the field of high technology products, can make a valuable contribution to our balance of trade;

(7) the mass production and use of equipment utilizing solar energy will help to eliminate the dependence of the United States upon foreign energy sources and promote the national defense;

(8) to date, the national effort in research, development, and demonstration activities relating to the utilization of solar energy has been extremely limited; therefore

(9) the urgency of the Nation's critical energy shortages and the need to make clean and renewable energy alternatives commercially viable require that the Nation undertake an intensive research, development, and demonstration program with an estimated Federal investment which may reach or exceed $1,000,000,000.

(b) The Congress declares that it is the policy of the Federal Government to—

(1) pursue a vigorous and viable program of research and resource assessment of solar energy as a major source of energy for our national needs; and

(2) provide for the development and demonstration of practicable means to employ solar energy on a commercial scale.

DEFINITIONS

42 USC 5552.

SEC. 3. For the purposes of this Act—

(1) the term "solar energy" means energy which has recently originated in the Sun, including direct and indirect solar radiation and intermediate solar energy forms such as wind, sea thermal gradients, products of photosynthetic processes, organic wastes, and others;

AUTHENTICATED U.S. GOVERNMENT INFORMATION GPO

(2) the term "byproducts" includes, with respect to any solar energy technology or process, any solar energy products (including energy forms) other than those associated with or constituting the primary product of such technology or process;

(3) the term "insolation" means the rate at which solar energy is received at the surface of the Earth;

(4) the term "Project" means the Solar Energy Coordination and Management Project; and

(5) the term "Chairman" means the Chairman of the Project.

SOLAR ENERGY COORDINATION AND MANAGEMENT PROJECT

Establishment. 42 USC 5553.

SEC. 4. (a) There is hereby established the Solar Energy Coordination and Management Project.

(b)(1) The Project shall be composed of six members as follows:

(A) an Assistant Director of the National Science Foundation;

(B) an Assistant Secretary of Housing and Urban Development;

(C) a member of the Federal Power Commission;

(D) an Associate Administrator of the National Aeronautics and Space Administration;

(E) the General Manager of the Atomic Energy Commission; and

(F) a member to be designated by the President.

(2) The President shall designate one member of the Project to serve as Chairman of the Project.

(3) If the individual designated under paragraph (1)(F) is an officer or employee of the Federal Government, he shall receive no additional pay on account of his service as a member of the Project. If such individual is not an officer or employee of the Federal Government, he shall be entitled to receive the daily equivalent of the annual rate of basic pay in effect for level IV of the Executive Schedule (5 U.S.C. 5315) for each day (including traveltime) during which he is engaged in the actual performance of duties vested in the Project.

(c) The Project shall have overall responsibility for the provision of effective management and coordination with respect to a national solar energy research, development, and demonstration program, including—

(1) the determination and evaluation of the resource base, including its temporal and geographic characteristics;

(2) research and development on solar energy technologies; and

(3) the demonstration of appropriate solar energy technologies.

(d)(1) The Project shall carry out its responsibilities under this section in cooperation with the following Federal agencies:

(A) the National Science Foundation, the responsibilities of which shall include research;

(B) the National Aeronautics and Space Administration, the responsibilities of which shall include the provision of management capability and the development of technologies;

(C) the Atomic Energy Commission, the responsibilities of which shall include the development of technologies;

(D) the Department of Housing and Urban Development, the responsibilities of which shall include fostering the utilization of solar energy for the heating and cooling of buildings, pursuant to the Solar Heating and Cooling Demonstration Act of 1974 (P.L. 93-409; 88 Stat. 1069); and

42 USC 5501 note.

(E) the Federal Power Commission, the responsibilities of which shall include fostering the utilization of solar energy for

the generation of electricity and for the production of synthetic fuels.

(2) Upon request of the Chairman, the head of any such agency is authorized to detail or assign, on a reimbursable basis or otherwise, any of the personnel of such agency to the Project to assist it in carrying out its responsibilities under this Act.

(e) The Project shall have exclusive authority with respect to the establishment or approval of programs or projects initiated under this Act, but the agency involved in any particular program or project shall be responsible for the operation and administration of such program or project.

(f) The National Aeronautics and Space Administration is authorized to undertake and carry out those programs assigned to it by the Project.

RESOURCE DETERMINATION AND ASSESSMENT

42 USC 5554.

SEC. 5. (a) The Chairman shall initiate a solar energy resource determination and assessment program with the objective of making a regional and national appraisal of all solar energy resources, including data on insolation, wind, sea thermal gradients, and potentials for photosynthetic conversion. The program shall emphasize identification of promising areas for commercial exploitation and development. The specific goals shall include—

(1) the development of better methods for predicting the availability of all solar energy resources, over long time periods and by geographic location;

(2) the development of advanced meteorological, oceanographic, and other instruments, methodology, and procedures necessary to measure the quality and quantity of all solar resources on periodic bases;

(3) the development of activities, arrangements, and procedures for the collection, evaluation, and dissemination of information and data relating to solar energy resource assessment.

(b) The Chairman, acting through the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, and other appropriate agencies, shall—

Solar energy resources inventory plan.

(1) develop and carry out a general plan for inventorying all forms of solar energy resources associated with Federal lands and (where consistent with property rights) non-Federal lands;

(2) conduct regional surveys based upon such general plan, using innovative meteorological, oceanographic, and space-related techniques, in sufficient numbers to lead to a national inventory of solar energy resources in the United States;

Maps and reports, publication.

(3) publish and make available maps, reports, and other documents developed from such surveys to encourage and facilitate the commercial development of solar energy resources; and

(4) make such recommendations for legislation as may appear to be necessary to establish policies for solar resources involving Federal lands and waters, consistent with known inventories of various resource types, with the state of technologies for solar energy development, and with evaluation of the environmental impacts of such development.

RESEARCH AND DEVELOPMENT

42 USC 5555.

SEC. 6. (a) The Chairman shall initiate a research and development program for the purpose of resolving the major technical problems inhibiting commercial utilization of solar energy in the United States.

(b) In connection with or as a part of such program, the Chairman shall—

(1) conduct, encourage, and promote scientific research and studies to develop effective and economical processes and equipment for the purpose of utilizing solar energy in an acceptable manner for beneficial uses;

(2) carry out systems, economic, social, and environmental studies to provide a basis for research, development and demonstration planning and phasing; and

(3) perform or cause to be performed technology assessments relevant to the utilization of solar energy.

(c) The specific solar energy technologies to be addressed or dealt with in the program shall include—

(1) direct solar heat as a source for industrial processes, including the utilization of low-level heat for process and other industrial purposes;

(2) thermal energy conversion, and other methods, for the generation of electricity and the production of chemical fuels;

(3) the conversion of cellulose and other organic materials (including wastes) to useful energy or fuels;

(4) photovoltaic and other direct conversion processes;

(5) sea thermal gradient conversion;

(6) windpower conversion;

(7) solar heating and cooling of housing and of commercial and public buildings; and

(8) energy storage.

DEMONSTRATION

42 USC 5556.

SEC. 7. (a) The Chairman is authorized to initiate a program to design and construct, in specific solar energy technologies (including, but not limited to, those listed in section (6)(c), facilities or powerplants of sufficient size to demonstrate the technical and economic feasibility of utilizing the various forms of solar energy. The specific goals of such programs shall include—

(1) production of electricity from a number of powerplants, on the order of one to ten megawatts each;

(2) production of synthetic fuels in commercial quantities;

(3) large-scale utilization of solar energy in the form of direct heat;

(4) utilization of thermal and all other byproducts of the solar facilities;

(5) design and development of hybrid systems involving the concomitant utilization of solar and other energy sources; and

(6) the continuous operation of such plants and facilities for a period of time.

(b) For each of the technologies for which a successful and appropriate development program is completed, the Chairman shall make a determination to proceed to demonstration based on criteria including, but not necessarily limited to, the following:

(1) the technological feasibility of the project;

(2) the costs and benefits of the project, as determined by an economic assessment;

(3) the immediate and the potential uses of the solar energy utilized in the project;

(4) long-term national need for the technology;

(5) environmental impact;

(6) potential for technology transfer to other applications; and

(7) the nature and extent of Federal participation, if any, in the project.

(c) In carrying out his responsibilities under this section, the Chairman, acting through the appropriate Federal agencies, may provide for the establishment of one or more demonstration projects utilizing each form of solar energy, which shall include, as appropriate, the specific research, development, pilot plant construction and operation, demonstration plant construction and operation, and other facilities and activities which may be necessary to show commercial viability of the specific solar technology.

(d) The Chairman, acting through the appropriate Federal agencies, is authorized to investigate and enter into agreements for the cooperative development of facilities to demonstrate solar technologies. The responsible Federal agency may consider—

(1) cooperative agreements with non-Federal entities for construction of facilities and equipment to demonstrate solar energy technologies; and

(2) cooperative agreements with other Federal agencies for the construction of facilities and equipment and operation of facilities to produce energy for direct Federal utilization.

(e) The Chairman, acting through appropriate Federal agencies is authorized to construct and operate demonstration projects without entering into cooperative agreements with respect to such projects, if the Chairman finds that—

(1) the nature of the resource, the geographical location, the scale and engineering design of the facilities, the techniques of production, or any other significant factor of the specific demonstration project offers opportunities to make important contributions to the general knowledge of solar resources, the techniques of its development, or public confidence in the technology; and

(2) there is no opportunity for cooperative agreements with any non-Federal entity willing and able to cooperate in the demonstration project under subsection (d)(1), and there is no opportunity for cooperative agreements with other Federal agencies under subsection (d)(2).

(f) If the estimate of the Federal investment with respect to construction and operation costs of any demonstration project proposed to be established under this section exceeds $20,000,000, no amount may be appropriated for such project except as specifically authorized by legislation hereafter enacted by the Congress.

(g)(1) At the conclusion of any demonstration project established under this section, or as soon thereafter as may be practicable, the responsible Federal agencies shall, by sale, lease, or otherwise, dispose of all Federal property interests which they have acquired pursuant to this section in accordance with existing law and the terms of the cooperative agreements involved.

(2) The agency involved shall, under appropriate agreements or other arrangements, provide for the disposition of electricity, synthetic fuels, and other byproducts of the project administered by such agency.

SOLAR ENERGY TECHNOLOGY UTILIZATION

Solar Energy Information Data Bank. Establishment. 42 USC 5557.

SEC. 8. (a)(1) In carrying out his functions under this Act the Chairman, utilizing the capabilities of the National Science Foundation, the National Aeronautics and Space Administration, the Department of Commerce, the Atomic Energy Commission, and other appropriate Federal agencies to the maximum extent possible, shall

establish and operate a Solar Energy Information Data Bank (hereinafter in this subsection referred to as the "bank") for the purpose of collecting, reviewing, processing, and disseminating information and data in all of the solar energy technologies referred to in section 7(c) in a timely and accurate manner in support of the objectives of this Act.

(2) Information and data compiled in the bank shall include—

(A) technical information (including reports, journal articles, dissertations, monographs, and project descriptions) on solar energy research, development, and applications;

(B) similar technical information on the design, construction, and maintenance of equipment utilizing solar energy;

(C) general information on solar energy applications to be disseminated for popular consumption;

(D) physical and chemical properties of materials required for solar energy activities and equipment; and

(E) engineering performance data on equipment and devices utilizing solar energy.

(3) In accordance with regulations prescribed under section 12, the Chairman shall provide retrieval and dissemination services with respect to the information described under paragraph (2) for—

(A) Federal, State, and local government organizations that are active in the area of energy resources (and their contractors);

(B) universities and colleges in their related research and consulting activities; and

(C) the private sector upon request in appropriate cases.

(4) In carrying out his functions under this subsection, the Chairman shall utilize, when feasible, the existing data base of scientific and technical information in Federal agencies, adding to such data base any information described in paragraph (2) which does not already reside in such base. He shall coordinate or merge this data bank with other Federal energy information data banks as necessary to assure efficient and effective operation.

(b) In carrying out his functions under this Act the Chairman shall perform or cause to be performed studies and research on incentives to promote broader utilization and consumer acceptance of solar energy technologies.

(c) The Chairman shall enter into such arrangements and take such other steps as may be necessary or appropriate to provide for the effective coordination of solar energy technology utilization with all other technology utilization programs within the Federal Government.

SCIENTIFIC AND TECHNICAL EDUCATION

42 USC 5558.

SEC. 9. The Chairman, acting through the National Science Foundation, is authorized and directed to support programs of education in the sciences and engineering to provide the necessary trained personnel to perform the solar energy research, development, and demonstration activities required under this Act. Such support may include fellowships, traineeships, technical training programs, technologist training programs, and summer institute programs.

SOLAR ENERGY RESEARCH INSTITUTE

Establishment.
42 USC 5559.

SEC. 10. (a) There is established a Solar Energy Research Institute, which shall perform such research, development, and related functions as the Chairman may determine to be necessary or appropriate in connection with the Project's activities under this Act or to be otherwise in furtherance of the purpose and objectives of this Act.

(b) The Institute may be located (as designated by the Chairman)

at any new or existing Federal laboratory (including a non-Federal laboratory performing functions under a contract entered into with the Project or with any of the agencies represented in the Project as well as a laboratory whose personnel are Federal employees).

INTERNATIONAL COOPERATION

SEC. 11. (a) The Chairman, in furtherance of the objectives of this Act, is authorized to cooperate and participate jointly with other nations, especially those with agreements for scientific cooperation with the United States, in the following activities: 42 USC 5560.

(1) interinstitutional, bilateral, or multilateral research projects in the field of solar energy; and

(2) agreements and programs which will facilitate the exchange of information and data relating to solar energy resource assessment and solar energy technologies.

(b) The National Science Foundation is authorized to encourage, to the maximum extent practicable and consistent with the other objectives of this Act, international participation and cooperation in the development and maintenance of programs of education to carry out the policy set forth in section 9.

REGULATIONS

SEC. 12. The Chairman, in consultation with the heads of the Federal agencies having functions under this Act and with other appropriate officers and agencies, shall prescribe such regulations as may be necessary or appropriate to carry out this Act promptly and efficiently. Each such officer or agency, in consultation with the Chairman, may prescribe such regulations as may be necessary or appropriate to carry out his or its particular functions under this Act promptly and efficiently. 42 USC 5561.

ANNUAL REPORTS

SEC. 13. The Chairman shall report, on an annual basis, to the President and the Congress all actions taken under the provisions of this Act, all action planned for the ensuing year, and, to the extent practical, a projection of activities and funding requirements, for the ensuing five years. The Chairman also shall recommend, as he deems appropriate, any legislation or reorganization which might further the purposes of this Act. Report to President and Congress. 42 USC 5562.

INFORMATION TO CONGRESS

SEC. 14. Notwithstanding any other provision of law, the Chairman (or the head of any agency which assumes the functions of the Project pursuant to section 16) shall keep the appropriate committees of the House of Representatives and the Senate fully and currently informed with respect to all activities under this Act. 42 USC 5563.

COMPREHENSIVE PROGRAM DEFINITION

SEC. 15. (a) The Chairman is authorized and directed to prepare a comprehensive program definition of an integrated effort and commitment for effectively developing solar energy resources. The Chairman, in preparing such program definition, shall utilize and consult with the appropriate Federal agencies, State and local government agencies, and private organizations. 42 USC 5564.

(b) The Chairman shall transmit such comprehensive program definition to the President and to each House of the Congress. An Transmittal to President and Congress.

interim report shall be transmitted not later than March 1, 1975. The comprehensive program definition shall be transmitted as soon as possible thereafter, but in any case not later than June 30, 1975.

TRANSFER OF FUNCTIONS

42 USC 5565.

SEC. 16. Within sixty days after the effective date of the law creating a permanent Federal organization or agency having jurisdiction over the energy research and development functions of the United States (or within sixty days after the date of the enactment of this Act if the effective date of such law occurs prior to the date of the enactment of this Act), all of the authorities of the Project and all of the research and development functions (and other functions except those related to scientific and technical education) vested in Federal agencies under this Act along with related records, documents, personnel, obligations, and other items, to the extent necessary or appropriate, shall, in accordance with regulations prescribed by the Office of Management and Budget, be transferred to and vested in such organization or agency.

AUTHORIZATION OF APPROPRIATIONS

42 USC 5566.

SEC. 17. To carry out the provisions of this Act, there are authorized to be appropriated—

(1) for the fiscal year ending June 30, 1976, $75,000,000;

(2) for subsequent fiscal years, only such sums as the Congress hereafter may authorize by law;

(3) such amounts as may be authorized for the construction of demonstrations pursuant to section 7(f) of this Act; and

(4) to the National Science Foundation for the fiscal year ending June 30, 1975, not to exceed $2,000,000 to be made available for use in the preparation of the comprehensive program definition under section 15.

Approved October 26, 1974.

Public Law 93-474

October 26, 1974
[S. 628]

AN ACT

To amend chapter 83 of title 5, United States Code, to eliminate the annuity reduction made, in order to provide a surviving spouse with an annuity, during periods when the annuitant is not married.

Civil service retirement.
Survivor annuity reduction, elimination.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 8339(j) of title 5, United States Code, is amended by adding at the end thereof the following: "An annuity which is reduced under this subsection or any similar prior provision of law shall, for each full month during which a retired employee or Member is not married, be recomputed and paid as if the annuity had not been so reduced. Upon remarriage of the retired employee or Member, the annuity shall be reduced by the same percentage reductions which were in effect at the time of retirement.".

5 USC 8339 note.

SEC. 2. The amendment made by this Act shall apply to annuities which commence before, on, or after the date of enactment of this Act, but no increase in annuity shall be paid for any period prior to the first day of the first month which begins on or after the date of enactment of this Act.

Approved October 26, 1974.