sources 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;

(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.

(Pub. L. 93–473, § 5, Oct. 26, 1974, 88 Stat. 1433.)

§ 5555. Research and development program

(a) Purpose

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) Implementation

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) Scope

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.

(Pub. L. 93–473, § 6, Oct. 26, 1974, 88 Stat. 1433.)

§ 5556. Solar energy demonstration facilities program

(a) Authorization for design and construction of facilities; objectives

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 5555(c) of this title,[1] 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 by-products 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) Criteria for determination to proceed from development program to demonstration

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) Establishment of one or more projects utilizing each form of solar energy

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) Investigation and agreements for cooperative development of demonstration facilities

The Chairman, acting through the appropriate Federal agencies, is authorized to investigate

[1] So in original. Probably should be preceded by a closing parenthesis.