

November 22, 1976

T E N T A T I V E A G E N D A

SPECIAL COMMITTEE ON ENERGY AND NATURAL RESOURCES

November 29 and 30, 1976

Room 510-S
State House

November 29, 1976

FILE

- 10:00 a.m. - Proposal No. 17 -
Mrs. P.V. Mitchell, Parkerville, Kansas
- 10:30 a.m. - Committee consideration of reports on
Proposals No. 14, 15, 16, and 63 and
bill drafts on Proposals No. 14 and
16.
- 12:00 p.m. - Lunch.
- 1:30 p.m. - Continuation of consideration of reports
and bill drafts.

November 30, 1976

- 9:00 a.m. - Committee consideration of report and bill
draft on Proposal No. 17.

**NO MINUTES AVAILABLE FOR NOVEMBER 29-30, 1976 MEETING
OF ENERGY & NATURAL RESOURCES COMMITTEE

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COMMITTEE REPORT

TO: Legislative Coordinating Council
FROM: Special Committee on Energy and Natural Resources
SUBJECT: Proposal No. 14 - Monitor Solar Energy Activity in
Kansas

The Committee was directed to survey solar research and commercial activity in Kansas. It was also directed to review the legal implications of the use of solar energy devices and the impact of their use on existing electric utility markets.

Background

In its study of commercial and research activity in solar energy in Kansas, the Committee relied primarily on the Solar Energy Advisory Group (SEAG) for information. SEAG is a recently formed, quasi-official advisory and working group which is now operating under the auspices of the Kansas Energy Office. It was created as a result of a solar energy workshop held at Kansas State University in April, 1976.

SEAG has as its objectives: to provide technical advice to the Kansas Energy Office on solar energy program development; to develop and edit literature and guidelines on solar energy for dissemination to the general public; to conduct workshops addressed to professional groups vital to commercialization of solar energy; and to provide assistance in the development of solar-related legislation and regulations.

SEAG is composed of six members most of whom are involved in research or commercial development of solar energy

devices: Dr. George Pytlinski, Kansas State University, serves as chairman; Bob Riordan, Marymount College, Salina; Ed Martin, Solar Services, Inc., Wichita; Dr. Melvin Snyder, Wichita State University; Charles Carey, Kansas Mechanical Contractors Association, Topeka; and Dr. Thomas Dean, University of Kansas. These members of SEAG and certain other interested persons presented testimony to the Committee. In addition, the Committee traveled to Lawrence and Manhattan to view some residential and non-residential applications of solar energy.

Solar Energy

Solar energy is the energy received by the earth from the sun in the form of electromagnetic radiation. The amount of solar energy that penetrates the atmosphere to any particular point varies from month to month.

Solar radiation is converted to heat when it passes through glass or transparent panels and is trapped because of a change in the wave length of the solar rays. The collection of solar radiation in this manner is accomplished by an array of flat-plate collectors on a south-facing roof. The heat collected on such a surface is transferred to storage or directly to the space to be heated or to a water-heating system. Under ideal conditions, 50 percent of solar radiation can be converted to heat. The most useable insolation (solar radiation) occurs between the hours of 11:00 a.m. and 3:00 p.m.

With the use of solar concentrators, the sun's rays can be focused on a small area and can produce very high temperatures. These high temperatures can be used to heat a boiler system with the steam driving a turbogenerator which produces

electricity. Such uses of solar energy for the generation of electricity are experimental. Black and Veatch in Kansas City has a contract with the Energy Research and Development Administration to participate in development of a model solar energy power plant to produce electricity.

Many types of solar applications are available for residential units, and the advantages and disadvantages of various solar-designed houses were described to the Committee. There are still many problems of reliability of solar energy devices, the Committee was told. Almost all existing solar residential installations require some degree of back-up. It was estimated that with prevailing energy costs, investments in solar units to heat water are economically sound. Investments in solar units to heat space are not yet as cost-effective, however, as other heating devices because of the present low cost of fossil fuels, particularly natural gas.

Uses of wind power also provide possibilities for electrical generation by a non-depletable energy source. There are various types of wind generators. The major problem for wind-generated electricity is storage, and various methods of storage are being examined.

Legislation in Other States

The Committee reviewed solar legislation in other states, including legislation providing for property-tax incentives, income tax incentives, sales tax incentives, state-financed energy research and development of solar technologies, solar energy provisions in state building codes, access to incident solar energy, solar energy informational and promotional activities,

and state-financed buildings using solar energy. A representative of the State Revenue Department described how his agency proposed to write rules and regulations to implement H.B. 2969, the solar tax credit bill which was passed last session.

Energy Conservation

In their presentations, various SEAG members tied uses of solar energy to all forms of energy conservation. They emphasized that the most effective way of saving energy at this time is to properly insulate homes because solar energy development is not at a stage where its use can have a major impact on total energy consumption. It makes little sense, the Committee was told, to invest money in a solar system for space heating or cooling unless the structure is thermally efficient.

Federal Activity

The federal government is now active in support of solar energy research and development. Its lead agency in solar energy research, development and demonstration is the Energy Research and Development Administration (ERDA). ERDA is a new agency and is largely an amalgamation of parts of several older agencies. The agency has inherited a number of operations facilities and national laboratories located across the country, several of which have solar responsibilities. Additionally, ERDA has a number of working arrangements in its solar program with other federal agencies -- NASA, Housing and Urban Development, Department of Defense, and Department of Commerce.

ERDA's guidance and authority in solar energy development derives primarily from three federal acts: the Solar Research, Development and Demonstration Act of 1974; the Solar Heating and Cooling Demonstration Act of 1974; and the Federal

Nonnuclear Energy Research and Development Act of 1974. On the basis of directives contained in these acts, ERDA has devised a national solar energy program which is subdivided into four program units:

- I. Direct Thermal Applications
 - Solar Heating and Cooling of Buildings
 - Agricultural and Process Heat Applications
- II. Solar Electric Conversion
 - Wind Energy Conversion
 - Photovoltaic Energy Conversion
 - Solar Thermal Electric Conversion
 - Ocean Thermal Energy Conversion
- III. Fuels from Biomass
 - Terrestrial and Marine Biomass Production and Conversion
 - Agricultural and Forestry Residue Conversion
- IV. Technology Support and Utilization
 - Solar Energy Resource Assessment
 - Solar Energy Research Institute
 - Technology Utilization and Information Dissemination

Research grants and demonstration grants are available for all of the programs.

Several elements of ERDA's solar program have possible applicability in Kansas, particularly with respect to the solar heating and cooling demonstrations, agricultural and process heat applications, wind energy conversion, and possibly biomass fuel utilization.

ERDA's solar budget authority has increased by five-fold during the past three years, from \$42 million in FY 1975 to over \$200 million in FY 1977.

Recommendations

The Committee recommends that energy consumption standards in all new construction and any reconstruction be incorporated

into a state building code if a statewide code is recommended. This recommendation was directed to the Special Committee on Federal and State Affairs which had the proposal of a state building code assigned to it.

Also, the Committee recommends that the state engage in funding a demonstration grant using solar energy in a new construction or in retrofitting a home owned by the state.

COMMITTEE REPORT

TO: Legislative Coordinating Council
FROM: Special Committee on Energy and Natural Resources
SUBJECT: Proposal No. 15 - Monitor Water Pollution Control -
Non-Point Source

The Committee was charged with the review of the planning procedures and schedules of the Division of the Environment of the Department of Health and Environment in implementing Section 208(e) of the Federal Water Quality Control Act.

Background

During the 1976 Session of the Legislature, the Omnibus Appropriation Bill (S.B. 1034) provided \$650,000 in FY 1977 for "Water Pollution Control - Federal Section 208 Planning Funds," to the Division of Environment. These funds are to be used for the initiation of a comprehensive state water quality control plan as a supplement to the more limited plan currently required under Section 106 of the Federal Water Pollution Control Act.

An important part of the 208 planning process is planning for non-point source pollution which involves agricultural run-off. The issue of pollution from agricultural run-off has been of concern to the Legislature which has had before it for the past two years S.B. 12 on soil and sediment control. Because planning for control of non-point source pollution is related to soil and sediment control, it was recommended that interim legislative attention be given to monitoring the procedures which the Division of Environment of the State Department of Health and

Environment intends to use in developing and implementing a state plan. The issue was assigned to this Committee.

To fulfill its charge, this Committee met in June with the director of the Division of Environment of the Department of Health and Environment who reviewed the planning process with the members.

Federal Water Quality Management
Planning Requirements

The 1972 amendments to the Federal Water Pollution Control Act instituted a massive program to eliminate the discharge of pollutants into the nation's waters by 1985. The act is a complicated and comprehensive piece of environmental legislation and is subject to numerous interpretations.*

The act has three sections which specifically refer to water quality management planning -- Sections 201, 208, and 303(e). Section 201 refers to facility or "hardware" planning for publicly-owned waste treatment systems; it provides for the allocation of grants for the construction of publicly-owned treatment works. Section 208 is "for the purpose of encouraging and facilitating the development and implementation of area-wide treatment management plans."

Section 303(e) requires that each state have a continuing planning process which results in water quality management plans which: (a) establish affluent limitations and schedules of compliance, (b) incorporate elements of areawide management plans,

* The following material in this report is based primarily on a paper by Donald Smethen and Gerald A. Stoltenberg entitled "Water Quality Management in Kansas," which summarized their presentation to the Committee.

(c) establish total maximum daily pollutant loads as required, (d) establish procedures for revision, (e) provide authority for intergovernmental cooperation, (f) result in the implementation of revised or new water quality standards, (g) controls the disposition of all residual waste from any water treatment processing, and (h) provides an inventory and ranking, in order or priority, of needs for construction of waste treatment works.

Section 208 is applicable to all areas of a state, and the regulations published November 28, 1975, to implement its provisions require: (a) identification of areas having complex water quality management problems, (b) designation of any additional regional Section 208 Water Quality Management Planning Areas, and (c) revision of the State Continuing Planning Process to incorporate the Section 208 planning elements in the State Water Quality Management Plan.

State Water Quality Management
Planning Areas

The Kansas Department of Health and Environment analyzed the pollution problems of the state and determined that the only areas having complex water quality management problems were the metropolitan areas of Kansas City, Topeka, and Wichita. The Kansas City area had been previously designated as a Section 208 Water Quality Management Planning Area. Officials of Topeka and Wichita did not actively pursue the designation issue, and these areas were not designated. Consequently, the Kansas City metropolitan area is the only designated Section 208 planning area in the state. Section 208 water quality management planning for the remainder of the state is the responsibility of the Kansas Department of Health and Environment. The state continuing planning

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process required under Section 303(e) was revised within the specified time frame, and U.S. Environmental Protection Agency approval has been received.

Essential Planning Elements

To satisfactorily incorporate Section 208 into the State Water Quality Management Plan the following elements must be addressed; (a) agricultural non-point source pollution, (b) mine related pollution, (c) construction activity related pollution, (d) salt water intrusions, (e) residual waste disposal, and (f) surface and underground disposal of pollutants. A State Water Quality Management Plan for Kansas must be submitted to the U.S. Environmental Protection Agency by November 1, 1978.

Planning Committees

Because of the complex and comprehensive nature of this planning effort, the state continuing planning process has been specifically designed to ensure a coordinated statewide analysis through an interagency planning committee while permitting regional flexibility in the development of implementation programs and policies. In general, the planning process is designed to: (a) identify water pollution problems, (b) identify a series of alternative solutions to each problem, including the economic and environmental impact, (c) test the political and social feasibility of each alternative, and (d) seek a legislative mandate for implementation of the plan.

Technical Planning Committee. Functional planning will be conducted by a Technical Planning Committee composed of the Advisory Commission on Environment, Department of Health and Environment, Division of State Planning and Research, Division of Water Resources, Kansas Forestry, Fish and Game Commission,

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Kansas Geological Survey, Kansas State University, Kansas Water Resources Board, Kansas University, State Conservation Commission, U.S.D.A. Soil Conservation Service, Kansas Association of Counties, Kansas Association of Regional Planning Commissions, and League of Kansas Municipalities. This committee is responsible for the development of technical solutions.

Planning and Policy Advisory Committee

Policy evaluation and review will be performed by a Planning and Policy Advisory Committee. This committee is composed of two separate units. One unit is made up of representatives of state and federal agencies which administer programs which may be affected by the Water Quality Management Plan. The function of this unit is to see that all programs are properly addressed by the plan.

The membership of the other unit consists of 30 local officials or their representatives. Membership on this committee is being selected through nominations submitted by regional planning commissions throughout the state. The local government unit will be asked to evaluate the political and social feasibility of various alternatives developed throughout the planning period. A significant public participation effort is anticipated in order to inform citizens of the potential impacts of the plan and to promote local policy guidance. This effort will consist of public meetings, hearings, widespread distribution of interim planning outputs, and a periodic newsletter. Overall planning coordination and timing will be provided by an executive committee consisting of the Division of Environment, the Kansas Water Resources Board, and the Division of State Planning and Research.

Planning Goals and Timetable

The overall planning effort will be oriented more toward identification of implementation mechanisms than identification of detailed technical solutions. One major goal of the effort will be to examine all water quality management areas in light of existing regulatory structures to determine areas of need for policy, regulatory, or legislative changes. Significant areas of concern include erosion control, groundwater protection, water and waste-water aspects of suburban development, and hazardous wastes. The identification of needed long-term management and funding mechanisms for environmental protection will also be given consideration. Spinoff benefits from the 208 planning program may include the establishment of a common data base for state resource management planning and an interagency framework for policy coordination.

In order to provide for final implementation of programs, the Water Quality Management Plan will be oriented toward presentation to the Governor and Legislature. The planning effort will seek to identify water quality goals and standards which are attainable under the foreseeable water and land resource constraints in Kansas. Reasonable alternatives will be presented for regulatory and management structures which the Legislature can use to select a course for final implementation schemes. Policy alternatives will be developed through the Policy Advisory Committee and through meetings with local officials to test the feasibility of implementation.

The plan documents will be submitted to the U.S. Environmental Protection Agency on or before November 1, 1978, and will

subsequently be presented to the Legislature during the 1979 Session. If administratively feasible and desirable, portions of the plan may be encompassed as a water quality management segment of the existing State Water Plan, the official water resources planning document for the state. An alternative strategy would be to develop the plan as a part of a parallel document which might become a State Environmental Plan. Under either approach, pertinent information for establishment of implementation programs would be available for legislative review annually.

While the Water Quality Management Plan is the result of a federal mandate, certain benefits to the state can be realized. If properly approached, this planning effort can result in the strengthening of state and local government authority and responsibility for environmental management. It is believed that the planning process as designed will permit and facilitate the implementation of environmental management programs tailored to the needs of our state as opposed to the implementation of programs designed and mandated by the U.S. Environmental Protection Agency.

COMMITTEE REPORT

TO: Legislative Coordinating Council
FROM: Special Committee on Energy and Natural Resources
SUBJECT: Proposal No. 16 - Conservation Easements

The Committee was directed to study the uses made of conservation easements in states having these laws and to consider whether Kansas should adopt legislation providing for conservation easements.

Background

An easement is a right given to the holder by a landowner to prevent certain uses of the land or to use the land for specified purposes without conveying the title or right of possession of the land. The landowner retains all of the rights and privileges of ownership not transferred by the easement. The landowner may use, enjoy, sell, lease, or otherwise convey the land subject to the express terms and conditions of the easement.

The conservation easement is a relatively new device in the area of land preservation. Because it prohibits the owner from exercising an otherwise legal right to develop his or her land, it is considered negative in nature and difficult to enforce, unless statutory authority provides for its validity and enforceability. Conservation easements, also referred to as scenic or preservation easements or conservation or scenic restrictions, can be used as a land management technique to preserve property having natural scenic beauty or historical value and to prevent its development or destruction.

The idea behind conservation easements is that the property owner must voluntarily agree to the granting or selling of the easement on his or her property. State legislation merely provides the legal framework whereby a landowner can sell or donate a conservation easement, the nature of which would be specified in the easement document. A conservation easement is flexible and can be written to include almost any kind of restricted use agreed to by the owner and the easement holder.

Conservation easements are granted to governmental bodies or certain non-profit organizations. As easement holders they have a right to enforce the restrictions in the easement document. The easement document, however, does not give the easement holder the right to do any of the things which the landowner has prohibited from being done to the land. The easement document provides whether the easement would be for a term of years or in perpetuity. It can provide that the land be left completely in its natural state; it can provide that various activities can be carried on, such as farming, hunting, fishing, or grazing; or it can even provide for limited development such as the construction of a few houses or other structures which do not destroy the aesthetic or ecological values of the land.

An incentive for granting conservation easements is the right to use the reduced value of the land resulting from a conservation easement as a charitable contribution deduction on a person's federal income tax. The charitable contribution by a donor is based upon the value of the gift at the time it is made. To value a conservation easement a competent real estate

appraiser looks at the land and the restriction imposed on it. The appraiser will determine the value of the land without the easement and subtract from this the value of the land with the easement. The difference would be the amount allowed for the charitable contribution.

Committee Deliberations and Recommendations

In its review of this proposal, the Committee heard testimony from representatives of the Bureau of Outdoor Recreation of the U.S. Department of Interior, the State Park and Resources Authority, the Historic Sites Survey of the State Historical Society, the Kansas Canoe Association, Oblinger-Smith Corporation of Wichita, the Greater Kansas City Resources Foundation and the Historic Kansas City Foundation, the Santa Fe Trail Foundation, and interested citizens.