

**REPORT TO THE GOVERNOR
AND
THE COLORADO GENERAL ASSEMBLY:**

**COLORADO
ENERGY COORDINATING
COUNCIL**



LEGISLATIVE COUNCIL RESEARCH PUBLICATION NO. 247

DECEMBER, 1979

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The Legislative Council, which is composed of six Senators, six Representatives, plus the Speaker of the House and the Majority Leader of the Senate, serves as a continuing research agency for the legislature through the maintenance of a trained staff. Between sessions, research activities are concentrated on the study of relatively broad problems formally proposed by legislators, and the publication and distribution of factual reports to aid in their solution.

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COLORADO ENERGY COORDINATING
" COUNCIL

Report to the
" Governor and the
Colorado General
Assembly

Research Publication No. 247
December, 1979

Letter of Transmittal

Honorable Richard D. Lamm, Governor
Members of the Fifty-second Colorado
General Assembly

Pursuant to the provisions of Senate Bill
498, 1979 Session of the Colorado General
Assembly, the Colorado Energy Coordinating
Council herewith submits its findings and
recommendations.

Respectfully,

/s/ Representative Jim Reeves
Chairman
Colorado Energy Coordinating
Council

JR/mp

FOREWORD

Senate Bill 498, 1979 Session, established a Colorado Energy Coordinating Council for the purpose of recommending a uniform, and compatible energy policy for the orderly development of the state's energy resources.

The General Assembly determined that cooperation and coordination among the executive and legislative branches of government, businesses, industries, and consumers is essential in achieving orderly energy development. To facilitate this goal, SB 498 provides for representation on the council from the executive and legislative departments of this state together with representatives of businesses and industries directly engaged in the energy field and consumers of energy. The bill provided that the council consist of 12 members -- three appointed by the President of the Senate (Senators Bishop, MacManus, and Strickland); three members appointed by the Speaker of the House (Representatives Hilsmeier, Johnson, and Reeves); three members appointed by the Governor (Ms. Paula Herzmark, Mr. Harris Sherman, and Dr. Frank Traylor); and three members appointed jointly by the Governor, President of the Senate, and Speaker of the House (Mr. Charles Henning, Mr. James Larson, and Mr. A. B. "Pete" Slaybaugh). Mr. Henning was designated as the representative of consumers of energy, and Mr. Larson and Mr. Slaybaugh were selected from businesses or industries directly engaged in the energy field.

The council expresses its appreciation to the many persons who testified and provided research materials and other forms of assistance to the council during the interim. In particular, the council acknowledges Mr. Martin Robbins, Director, Colorado Energy Research Institute, and members of his staff; Mr. Buie Seawell, Director, Colorado Office of Energy Conservation, and members of his staff; Mr. Sanders Arnold, Commissioner, Public Utilities Commission; and to staff members of the Departments of Health, Local Affairs, and Natural Resources, who assisted the council with their expertise. The presentations of Mr. John Millhone, former Director, Minnesota Energy Agency; and Mr. Nick Franklin, former Secretary, New Mexico Energy and Minerals Department, are also appreciated.

Gary Davis, Legislative Drafting Office, was responsible for preparing draft legislation prepared for the coun-

cil's consideration. Larry Thompson and Stan Elofson of the Legislative Council staff prepared this report and provided research and other staff assistance during the interim.

December, 1979

Lyle C. Kyle
Director

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COLORADO ENERGY COORDINATING
COUNCIL

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Rep. Stan Johnson	Dr. Frank Traylor

Legislative Council Staff Assigned
to the Council

Stan Elofson
Principal Analyst

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ENERGY COORDINATING COUNCIL

The Energy Coordinating Council was created by the enactment of Senate Bill 498, 1979 Session. The measure gave the council the following duties:

(a) inventory all state agencies and activities which directly or indirectly affect the research, development or implementation of energy policy of this state, including, but not limited to, those state agencies and activities specified in Section 2-3-1102 (2);

(b) develop from such inventory an estimate of the total cost of and number of state employees required for such state agencies and activities;

(c) study and analyze the various energy policies of all state agencies with emphasis toward identifying compatibility or incompatibility of such policies;

(d) evaluate the feasibility of reorganization and consolidation of the various state agencies directly involved in energy activities under a single state agency; and

(e) inventory all federal agencies, programs, and activities in this state which directly or indirectly affect the research, development, or implementation of energy policy of this state.

The primary emphasis of the council's work in its seven meetings held this interim was focused on an inventory of energy-related programs being conducted by agencies of the state government. The council studied several reports and heard testimony concerning the impact of federal energy-related statutes and programs on Colorado's energy policy. Portions of several meetings were devoted to an evaluation of the effectiveness of federal and state agencies in reviewing and acting upon applications for energy development permits. Proposed legislation to revise Colorado's permit and review process was considered, although there are no council recommendations on that subject. To acquire a better perspective on the need, or lack thereof, for the establishment of an energy department in Colorado, information was received regarding the organization and functions of the energy departments in Minnesota and New Mexico.

Two recommendations are submitted for consideration in the 1980 Session of the Colorado General Assembly. The council recommends that the Colorado Office of Energy Conservation be given statutory recognition as a permanent part of

the executive branch. Bill 1, which will allow the Energy Coordinating council to be continued in 1980, is also recommended.

The appendices to this report review the 102 energy-related programs in Colorado state government (Appendix A), and the program funding and FTEs for state energy-related activities (Appendix B). Summaries of major energy enactments of the Colorado General Assembly (1977-1979) are provided in Appendix C.

Inventory of State Government Energy-Related Activities

A major accomplishment of the Energy Coordinating Council was a review of all energy-related activities in state government. This inventory was accomplished by the completion of questionnaires by each of Colorado's twenty executive departments and the Office of Energy Conservation in the Office of the Governor.

Departments with Energy Responsibilities

Results of the energy program questionnaires indicate that fourteen executive departments administer one or more energy-related programs. The department having the greatest number of energy policy making programs is the Department of Natural Resources. It has administrative responsibility for a total of 32 energy-related programs. The Office of Energy Conservation has 15 energy programs. The Department of Highways, which has primary responsibility for many transportation related energy consumption and conservation programs, administers 14 energy-related programs. Other departments having significant energy policy and regulatory roles are the Department of Local Affairs and the Department of Health, each of which are responsible for six energy-related programs.

Departmental Coordination on Energy Policy-Making

Unlike a number of states which have reorganized their state governments to concentrate most energy activities in one agency, Colorado has divided the responsibility for energy policy-making and the consideration of energy supply and demand issues into a number of departments and offices. There are very few statutory mandates requiring these departments and offices to coordinate with one another, although informal coordinating mechanisms are utilized. For example, Governor Lamm has directed an Energy Cabinet which includes the Execu-

tive Directors of the Departments of Natural Resources, Health, Local Affairs, and Regulatory Agencies, (representing energy-related concerns of the Public Utilities Commission), as well as the Director of the Office of Energy Conservation, to meet throughout the year to discuss energy issues of mutual concern.

Although a number of executive departments have energy-related responsibilities, the departments discussed below have the most significant influence in developing energy policy for this state.

Department of Natural Resources (DNR). The DNR is assigned the greatest number of energy supply (development) responsibilities in this state. The department, on supply issues, represents the Governor in his relationships with federal government agencies, the Congress, and other states. The department has specific responsibility for planning and development of water as it relates to the energy industry. DNR administers the Energy Resources Development Plan which will provide information on the resource management, environmental, and socio-economic aspects of energy development. This informational program will be helpful to DNR in coordinating the agencies responsible for various aspects of energy management.

The Oil and Gas Conservation Commission within DNR regulates oil, gas, and geothermal drilling and production through its permitting authority.

The Division of Mines issues public reports on mining activity in Colorado and administers a program which provides for inspection, technical assistance and safety training to producers of coal, uranium, and oil shale. The Mined Land Reclamation Board regulates all mining operations to ensure that reclamation takes place as required by state and federal law.

Leasing of state lands for energy development, including lands for coal, gas, oil, and uranium, is the responsibility of the state Board of Land Commissioners. The Land Board controls and manages approximately 3,000,000 surface acres and 4,000,000 mineral acres.

Department of Health. The Department of Health has responsibility for conducting a variety of environmental programs which are directly related to the development of energy resources in this state. The department has been charged by statute with protecting the public health from the adverse environmental side-effects of energy development.

Regulation of emissions of air pollutants from all sources is a responsibility of the Air Quality Control Division. The division also regulates coal mining and oil shale mining and processing activities, primarily to control emissions of particulate matter. The Air Quality Control Division and Commission have developed two major programs which will attempt to reduce urban air pollution. The State Implementation Plan (SIP) has been developed and includes a number of strategies to either reduce automobile use, while still accommodating travel needs, or to improve the efficiency of traffic flows. The division also administers the Air Quality Control Commission's Regulation No. 9, which mandates that all employers of 100 or more employees encourage the use of means of travel by their employees which will reduce emissions.

Responsibility for controlling all discharges into Colorado's waterways and ground water aquifers has been assigned to the Water Quality Control Division in the Health Department. In connection with that responsibility, the division regulates the activities of oil shale, coal, and uranium mines because they have the potential to be major dischargers of pollutants in water supplies.

The Radiation and Hazardous Materials Control Division is charged with controlling all potential radiation threats to public health. The division has the authority to issue a general license to mine uranium, as well as the regulating, transporting and disposal of nuclear wastes.

Department of Local Affairs. The regulation and administration of programs providing financial resources to areas in Colorado impacted by energy development is the major energy-related function of the Department of Local Affairs (DLA). The department's Mineral Energy Impact Assistance Program provides for the administration of appropriations from the Oil Shale Trust Fund, and the distribution of funds from the Federal Mineral Leasing Act and Colorado's severance tax revenues.

DLA administers a weatherization program which provides assistance to low-income persons to relieve rising energy costs through weatherization, utility bill relief, and consumer education. Over 9,000 Colorado households have been assisted by the weatherization program.

The department also administers the Energy Conservation Building and Renovation Standards Program. This program provides training and technical assistance to counties and municipalities which have building codes, in order to aid in the development of energy-efficient construction and renovation performance standards developed by such local governments.

Department of Regulatory Agencies. The Public Utilities Commission (PUC) in the Department of Regulatory Agencies has the following responsibilities under Section 40-3-102, C.R.S. 1973:

...the power and authority to adopt all necessary rates, charges and regulations to govern and regulate all rates, charges and tariffs of every public utility (gas, electric, and water) of this state...to generally supervise and regulate every public utility in this state; and to do all things...which are necessary or convenient in the exercise of such power, and to enforce the same by the penalties provided in said articles through proper courts having jurisdiction.

Included in the regulatory power of the PUC is the authority to designate the location of public utility facilities as well as their relocation or removal. With the passage of Senate Bill 59, 1979 Session, the PUC was given the additional responsibility of independently reviewing and evaluating energy forecasting methodologies, and projected construction and financial plans of each electric and gas public utility in this state under PUC jurisdiction.

Office of Energy Conservation. The Colorado Office of Energy Conservation (OEC), which was created in 1977 by an Executive Order of Governor Lamm, has most of the energy demand (conservation) responsibilities in state government.

The major functions of OEC are the following:

1. Develop and administer a Colorado energy conservation plan and its supplements.
2. Generate and disseminate information relating to energy conservation and renewable energy resources.
3. Administer the federal requirement for a fuel allocation (for gasoline and diesel fuel) program for Colorado.
4. Coordinate the development of an emergency energy contingency plan to provide an adequate state response to energy curtailments and energy emergencies.
5. Administer and coordinate the sponsorship of federal grants to Colorado for energy conservation.

6. Act as the lead agency in developing Colorado's Residential Conservation Service Plan.
7. Work in cooperation with the Colorado Energy Research Institute and the Office of State Planning and Budgeting on an energy conservation program for state buildings.

Summaries of each of the 102 energy related programs which are administered by state executive departments and agencies are provided on pages 31 through 53 of the Appendix to this report.

Federal v. State Program Funding and Authorization

The financial costs of implementing and administering the state's 102 energy-related activities are substantial. For the past fiscal year, nearly \$56 million dollars was expended in this task. An unexpected finding from the inventory was that the State of Colorado contributed more dollars to the energy-related activities than did the federal government. The Colorado funding contribution was approximately \$27.6 million dollars while federal grants and appropriations totaled approximately \$27.4 million dollars.

The dollar contributions made by Colorado frequently are provided for programs which have been mandated by Congressional enactments. Thirty-one energy-related programs have their authorization only from federal statutes, while 21 programs are based on Colorado statutory authorization. One example of Colorado providing funding for federal energy programs can be found in the Department of Health. A total of \$460,000 in state money and only \$120,000 in federal funds has been provided for Department of Health programs. Expenditure of these monies are mandated by the U. S. Clean Air Act Amendments of 1977 (Stationary Sources, Regulation No. 9, State Implementation Plan).

It should be pointed out, however, that a number of energy-related programs in Colorado, some of which have been mandated by the federal government, receive almost 100 percent federal funding. Approximately \$8.5 million of the \$10.3 million funding for Department of Natural Resources energy activities comes through federal grants and appropriations. The federal government annually provides in excess of \$4.2 million to the OEC for its energy conservation programs, while only \$78,600 in state monies has been appropriated to that agency.

Significant state dollar contributions for energy-related programs were identified in the review of the energy programs of the Department of Local Affairs and the Department of Social Services. Over \$17.5 million in state money is channeled into the State Impact Assistance program, which provides impact funding to Colorado communities affected by energy resource development. The Oil Shale Trust Fund and severance taxes are the sources of revenue for that program. The Winter Utilities Allowance program in the Department of Social Services received a General Fund appropriation of over \$3.7 million for the past fiscal year.

A complete review of State and Federal dollars appropriated for Colorado's energy-related programs and the number of FTE (State and Federal) involved in administering these programs is shown on pages 55 through 58 of the Appendix to this report.

Policy questions regarding energy-related programs in Colorado. A substantial amount of information was reviewed and analyzed regarding a variety of energy-related activities in state government. An overview of this data raises a number of energy policy questions which could not be fully discussed or resolved due to the number of tasks assigned to the council. If the council is authorized to continue its study during the 1980 interim, the following questions may be considered:

1. Is more coordination needed between agencies in administering and implementing state energy-related programs and activities? If coordination is necessary, should coordinating mechanisms be mandated by statute or are informal methods of coordination more appropriate?
2. Could Colorado assume a greater amount of control over state energy programs by giving statutory guidance, policy direction, and funding for those programs which are now authorized by Congressional mandates?
3. If additional state funding for energy-related activities is desirable, what funding mechanisms are the most appropriate? Should the General Fund be used for program funding? Should energy developers assume a greater financial responsibility for programs in which they have a direct involvement? Are other methods for state funding preferable?
4. Are there adequate state personnel and are they located in the proper areas to carry out depart-

mental responsibilities for energy permitting and other energy-related statutory requirements?

Impact of Federal Energy Policy on
Colorado State Government

The number of federal laws and regulations designed to cope with energy shortages and also to protect the environment have rapidly increased in the 1970's. There are now at least 60 federal energy-related laws which have an impact on Colorado state government. These laws, and their subsequent regulations, have a substantial effect on options the state has in regard to energy issues. ^{1/} Among the energy-related areas where federal laws and regulations have the greatest impact upon state government are air quality, water quality, hazardous materials and waste, noise, surface mining, reclamation, utility rate-setting, and energy efficient building codes.

Impact of the National Energy Act on Colorado

To gain a more complete understanding of the impact of federal energy laws on state government, the council devoted specific attention to the National Energy Act of 1978, the major energy legislation enacted by the Congress in 1978. The major objective of the NEA was to decrease oil imports by encouraging Americans to conserve oil and gas; by switching to other fuels, such as coal, when possible; and by producing more oil and gas from domestic reserves. The National Energy Act (NEA) is an omnibus act comprised of five separate acts:

1. The Public Utilities Regulatory Policies Act (P.L. 95-617).
2. The Energy Tax Act (P.L. 95-618).
3. The National Energy Conservation Policy Act (P.L. 95-619).
4. The Power Plant and Industrial Fuel Use Act (P.L. 95-620).

^{1/} Colorado Energy Research Institute, Major Federal Energy-Related Legislation Impacting the Colorado State Government, 1979.

5. The Natural Gas Policy Act (P.L. 95-621).

A substantial number of state executive departments are directly affected by the NEA. Those departments are: Education, Health, Higher Education, Institutions, Labor, Law, Local Affairs, Natural Resources, Regulatory Agencies, the Office of State Planning and Budgeting, and the Office of the Governor.

The major purposes of the five acts in the NEA, and an identification of the impacts of each act on Colorado's executive departments, are outlined below:

1. The Public Utilities Regulatory Policies Act (PURPA). PURPA requires state utility commissions, and other regulatory agencies, to consider energy-saving methods in rate-making activities. The methods include pricing electricity lower in off-peak hours, avoiding heavy loads in the middle of the day, and discontinuing discounts for large volume users.

PURPA also sets procedures for cogeneration and consumer representation. A public utilities commission must consider these procedures and determine whether they are appropriate for energy conservation, rate equity, and energy efficiency.

It is estimated that 6.0 FTE will be utilized by the Public Utilities Commission in carrying out PURPA mandates. In addition, 3.0 FTE will be required by the Office of Lieutenant Governor and 1.0 FTE will be required for the Office of Energy Conservation. 2/

2. The Energy Tax Act (ETA). This act offers tax credits to companies for installing energy-saving

2/ Estimates on the number of FTE required to comply with the mandates of the National Energy Act are taken from the Colorado Energy Research Institute report entitled Major Federal Energy-Related Legislation Impacting the Colorado State Government, 1979. The estimates were based on CERI interviews with representative of the executive departments most affected by NEA. In some cases the number of FTE needed by a department might be reduced through reallocation of existing personnel.

devices in their buildings. Tax incentives for companies that produce synthetic fuels from coal or other resources are also provided. ETA also increases excise taxes on "gasguzzling" cars and exempts gasohol from the federal excise tax.

The Energy Tax Act has little impact on Colorado state government. No additional FTE appeared to be required as a result of the act.

3. The National Energy Conservation Policy Act (NECPA). NECPA requires that utilities give customers information about benefits occurring from energy conservation devices, such as insulation and storm windows. Federal grants are provided for the installation of energy-saving equipment in schools and hospitals. In addition, NECPA makes grants and government-backed loans available to low-income families for home energy conservation investments.

The Office of Energy Conservation is the lead agency in Colorado for submitting energy conservation plans for buildings such as schools, hospitals, and buildings owned by units of local government. The PUC is given the authority to develop and implement enforcement procedures for the energy conservation plans. To a lesser degree, other departments (Education, Higher Education, Health, and Institutions, the Office of State Planning and Budgeting, the Office of Attorney General, and the Department of Regulatory Agencies) will have responsibilities for implenting NECPA.

It is estimated that 16.0 FTE for the Office of Energy Conservation and 1.0 FTE for the Public Utilities Commission will be required to carry out mandates of the National Energy Conservation Policy Act.

4. The Power Plant and Industrial Fuel Use Act (PPIFUA). This act requires that new industrial buildings and utility plants be constructed to use coal or a fuel other than oil or gas. Existing utility plants using oil or gas are required to switch to other fuels by 1990, and the U. S. Secretary of Energy could order some industries, on a case-by-case basis, to switch fuels. Exemptions are provided for state or local requirements which conflict with federal regulations and for air pollution requirements administered by the Colorado Department of Health.

The Colorado Air Pollution Control Division is responsible for determining exemptions of power plants and major fuel-burning installations from federal regulations. The Department of Local Affairs has responsibility for verification of data, such as population estimates, required for certain locales impacted by increased coal and uranium development.

The Air Pollution Control Division and the Socio-economic Impact Coordinator's Office in DLA will each require .5 FTE to implement the mandates imposed by PPIFUA.

5. The Natural Gas Policy Act (NGPA). This Act provides that prices of newly discovered natural gas be allowed to rise about ten percent a year until 1985, after which time price controls will be lifted. NGPA allows special pricing categories to be established so that industrial users will pay higher prices until the costs reach a certain level. After this level is attained, residential users will assume more of the cost burden.

NGPA will require the Oil and Gas Commission (in DNR) to determine the classification of natural gas wells for federal pricing regulations. Colorado will be required to document natural gas supply shortages before the President can allocate emergency supplies to this state. The PUC will be required to analyze and make recommendations concerning pass-through requirements, surcharges, and emergency natural gas allocation.

A total of 2.0 FTE for the Oil and Gas Commission and 1.0 FTE for the PUC will be required to carry out the state's responsibilities under the Natural Gas Policy Act.

Impact of Federal Financial Assistance in Colorado

Although the National Energy Act and other recent federal environmental enactments have imposed a number of mandates which have a substantial impact in terms of administrative and program implementation costs, considerable federal dollars are allocated to Colorado to help defer the cost of the federal programs. On pages 55 through 58 in the Appendix, the funding contributions of the federal government are indicated for each of this state's energy-related activities.

For three of the acts outlined in this section, the Congress has appropriated financial assistance. Under the National Energy Conservation Policy Act, approximately \$900 million will be made available nationwide to schools and hospitals to install energy-saving equipment. Weatherization grants of \$4 million for FY 1980 for low-income families are being allocated to the Office of Energy Conservation. Planning grants and land acquisition and development grants are available to areas in this state impacted by increased coal or uranium development under the Power Plant and Industrial Fuel Use Act. The Public Utilities Regulatory Policies Act authorizes Federal funds to assist states in carrying out the mandates of that act.

Although there is substantial federal funding available for a number of energy-related activities, the council received testimony that federal financial assistance for several energy programs is inadequate to provide for energy emergency planning, emergency planning for fuel allocation, and state energy forecasting. A spokesman for Colorado Counties Inc. stated that federal funding for energy impact communities and counties is inadequate in meeting the socio-economic needs of higher-growth energy areas in Colorado and other Western states. Improving the timeliness in delivering federal funds (i.e., providing front end funding rather than financial relief after energy impact problems have occurred) to communities would be useful in meeting and planning for the social and economic problems which occur in "boom towns".

A significant trend in federal funding is evident in reviewing requirements of the National Energy Act. Federal funds made available to the states through three of the acts in the NEA each require significant amounts of state matching monies. For example, federal grants under NECPA, which are made through the state to units of local government and public care institutions will require at least a 50 percent match by this state.

The Energy Management Partnership Act, which is expected to be passed by the Congress this year, may require a 5:1 federal-state match for states to continue to receive federal conservation dollars. This requirement has significance for Colorado since almost 100 percent of the funding for the Office of Energy Conservation has been from the federal government. Total federal funding for OEC programs for the past fiscal year was in excess of \$4 million.

Energy Permit and Review Process

Interest in the development of energy resources in the Western states has risen sharply as domestic reserves of

petroleum and natural gas have declined and as the problems of increasing cost and unreliability of foreign fuel sources have become apparent. As the demand for domestic energy development has increased, state, federal, and local governments have implemented procedures to assure that energy development takes place with a minimum of adverse social, economic, and environmental impact. The concern for environmental protection has resulted in many more permits being required by all levels of government for energy development projects than was the case in the past.

A substantial amount of testimony was given regarding governmental permit procedures by representatives of Colorado energy producers and organizations impacted by energy development projects. An often heard comment from energy resource developers was that permits and other requirements from governmental agencies impose costly delays and unnecessary burdens on project development.

There was general consensus, however, that state agencies are performing satisfactorily in reviewing and acting upon applications for environmental permits, but that federal agencies present much more difficult problems for permit applicants. This situation may result partly from the volume of new federal laws involving regulatory programs and the fact that federal and state agencies have not coordinated their activities on permit applications. These concerns are discussed below.

Federal Permit and Review Processes

The principal problem areas that are apparent in studying federal permit and review procedures are: lack of timely responses by federal agencies to permit applications; redundant requests for information; lack of coordination among federal and state agencies; and difficulties in understanding and keeping up-to-date with federal regulations.

Delay in processing permit applications. Several explanations were given for the delays on the part of federal agencies in reviewing and acting upon permit applications. Excessive permit workloads for federal agencies were cited and testimony indicated that several permits from the same agency would need to be processed for an energy project. The spokesman for the U. S. Environmental Protection Agency indicated that as many as eight permits could be required from the EPA for a given energy project. Representatives of some energy projects suggested that it is the policy of some federal agencies to delay, if possible, the start-up time of energy development. The failure of federal agencies to hold consul-

dated public hearings on energy permit applications also causes unnecessary delays in the process. There was a general consensus on the council that efforts should be made to better coordinate the timing of permit hearings by local, state, and federal governments.

Illustrative of the problems which an energy developer can experience in applying for permits from federal agencies is part of the testimony given by representatives of Colorado-Ute Electric Association Inc:

...Colorado-Ute initially contracted with an environmental consultant to prepare an environmental analysis for the proposal (Lake City to Creede, transmission line) in May, 1974. In June, 1974, the United States Forest Service (USFS) decided that a "Phase I Environmental Analysis Report" was required. A study team consisting of our (Colorado-Ute) contractor and USFS and Bureau of Land Management (BLM) representatives was formed to develop the report. Not until April, 1976, did the USFS get to the stage where it held public meetings...The phase I report was issued in September, 1976, recommending one of several alternate corridors between Lake City and Creede for the line. Additional public meetings were held in November, 1976.

After all this, in January, 1977, the BLM and USFS informed Colorado-Ute that they could not and would not issue permits within the time needed to meet the loads in the San Luis Valley... This 2 and 1/2 year delay has resulted in a critical electric supply problem in the San Luis Valley.

Redundant requests for information and lack of coordination. Government agencies at the state and federal level have often acted independently to require similar and overlapping information for energy development permits. The lack of coordination among agencies, both within the federal government and between federal and state agencies, often lengthens the time required for approval or denial of a permit. The Department of Natural Resources reviewed for the council the numerous procedural steps which must be taken in the permitting of a coal mine. The procedure indicated that little of the permitting process was being done simultaneously. It was suggested that various federal agencies need to attempt whenever possible, to do their permitting work concurrently.

A positive development in coordinating energy activities between federal and state agencies is a recently signed document entitled "Cooperative Agreement Between the State of Colorado and Region VIII of the United States Environmental Protection Agency for the Conduct of Environmental Health Programs in Colorado". This agreement between the EPA and the state Department of Health will establish an integrated and cooperative process in which the state's environmental health priorities are identified in a comprehensive manner and the relationships between the EPA and the Department of Health are made more understandable.

Prior to the cooperative agreement, each of the state's environmental programs developed lengthy individual applications for funding support from the federal sources. This annual application activity was not coordinated among the various state programs and the EPA. As a consequence, there was much time consuming duplication of effort and an uncertain relationship between different environmental programs. With the approval of the cooperative agreement, federally funded environmental program elements will be integrated into one coordinated program. State environmental activities covered by the agreement total about 51 percent of all environmental programs funded for the Department of Health.

Understanding and staying current with federal regulations. Industry also criticized the lack of clarity, and the resulting uncertainty, in regulations promulgated by federal agencies. The vague regulations were seen as a result of laws passed by the Congress which do not have sufficiently clear legislative intent. As a result, considerable latitude is given to federal agencies in developing, implementing, and enforcing their regulations. Regulations are constantly being revised, making it nearly impossible for energy developers to have current knowledge of the requirements of the federal agencies.

State Permit and Review Processes

While there was minimum criticism regarding the performance of most state agencies and departments in their review and action upon environmental permit applications, several identifiable problems were noted.

Representatives of Cotter Corporation, which this summer received the last of the permits required for it to begin its operation of a uranium processing plant near Canon City, reported that, in addition to two federal agencies, the corporation had to deal with 15 state agencies to obtain the necessary permits to start operating. The permitting process consumed four years.

The lead agency for the granting of these permits was the Department of Health. Unlike the federal regulatory authorities, the state agencies which have permitting authority were not accused of arbitrarily or unnecessarily delaying the issuance of needed permits. In cases where there were delays, they were said to be caused by the lack of professional personnel to handle the workload. While several federal agencies were alleged to have been inefficient in responding to permit applications, several state offices, most notably the Radiological Health Division of the Department of Health, were praised for their professionalism and dedication to completing the necessary tasks required to approve the permits essential to the operation.

Recommendations Regarding State Permitting Process

The costs of delays to energy developers in receiving the necessary environmental permits can be substantial. The Cotter uranium mill, which has a construction cost of approximately \$100 million, estimated its losses at \$28,000 per day while it awaited the issuance of a permit from the Radiological Health Division. The need cited by Cotter Corporation and the Department of Health is to provide additional professional staff to that department. The most critical need was said to be in the Radiological Health Division. Without additional staff being made available to several state permitting agencies, it is likely that the backlog of applications for environmental permits will continue to increase. Presently, the Radiological Health Division alone has a backlog of five major uranium mill license applications.

Fees charged by state agencies for environmental permits were viewed as being so low that they do not equal the cost in time and personnel necessary to adequately review and act upon the permit applications. The maximum license fee that was paid by Cotter Corporation to the Department of Health was \$250. A corporation would be willing to pay higher fees to the state if, in return, there would be a more timely response in approving or denying an application for a permit. Council members expressed concern regarding problems of the fee structure, difficulties of some agencies in retaining professional staff personnel, and the workload that, at times, may be placed on a relatively small section within a licensing agency. No formal actions were taken on these matters.

Colorado Joint Review Process. A presentation was given concerning the Colorado "Joint Review Process" for major energy and mineral resource development. The Joint Review Process (JRP) has been made possible by a September, 1978,

grant from the U. S. Department of Energy to the DNR. The staff for the JRP is situated in the Executive Director's office within the Department of Natural Resources. The JRP is intended to be a management system which will increase efficiency in governmental decision-making.

The Joint Review Process is designed to coordinate the regulatory and administrative reviews conducted by federal, state, and local governments of proposed energy developments. The JRP is voluntary for participants and provides proponents of an energy development with an alternative to the usual methods of obtaining required governmental permits.

Several additional benefits to this state were seen as a result of implementation of the Joint Review Process. The general public and interested groups will be afforded additional opportunities to become involved in more phases of energy project planning and review. In addition, the general public, private interest groups, governmental units, and industry representatives will have earlier opportunities to discuss energy project issues.

Legislation regarding permits for energy developments. Consideration was given to a bill draft offered by Senator Ted Strickland concerning permits for energy developments. Advocates of the draft bill pointed to several features helpful in reducing time needed by state agencies in acting on permit applications and in coordinating the decision-making process of government agencies. By reducing the time involved in reviewing and acting upon environmental permit applications, there could be a reduction in costs of energy developers and in the price paid by consumers for energy products.

Major provisions of the bill were:

1. An Energy Development Commission would be created in the Department of Natural Resources. The commission would be required to develop a master application procedure which would speed-up the processing of applications.
2. The master application procedure would be optional for both the applicant and the governmental agencies responsible for the permit. The existing permitting authority of governmental agencies would not be altered, and could be used at the discretion of either the applicant or the affected agencies.
3. If requested by the applicant or any affected agency, all public hearings relating to the issuance of permits could be consolidated.

4. Unless other time frames are specifically provided in statute, the maximum time allowed for a governmental agency to process a permit application would be 180 days.
5. The bill would allow state agencies to contract for services relating to the processing of a permit application. The applicant would be charged full costs of such contracted services, less any fees previously paid to the agency for services already performed.

Council conclusion. Several council members suggested that it is premature to recommend changes in Colorado statutes regarding energy-related permit procedures. Significant progress has been made on the Joint Review Process, and a model on the JRP will be complete in the Spring of 1980. It was argued, primarily by members of the executive branch, that the Joint Review Process should be given a chance to operate before legislation amending current permit procedures is considered.

Proponents of the draft legislation contended that a mechanism to expedite the permit and review process is necessary. The draft legislation was also seen as being useful as part of a state plan for "fast-track" energy development. Consequently, it could enable Colorado to meet, in part, federal regulations which will be issued pursuant to federal legislation creating an Energy Mobilization Board (HR 4985). The Energy Mobilization Board bill could provide for fast-track approval of certain designated energy development projects in spite of objections which might be raised by representatives of state and local governments. The legislation to create the Energy Mobilization Board is expected to become law by the end of 1979.

Since executive branch and legislative branch members did not agree on supporting a recommendation that the energy permit legislation be placed on the Governor's Call for the 1980 Session, no recommendations are submitted on the permit process.

State Energy Departments - Minnesota and New Mexico

The organization and functions of energy departments in Minnesota and New Mexico were outlined for the council in order to gain a fuller understanding of possible advantages in establishing an energy department in this state. Colorado, which can be considered both a producer and consumer of energy, may want to look at issues of both demand (production) and sup-

ply (consumption) needs relating to energy if a reorganization of energy agencies is considered. Minnesota has been generally considered as a consumer of energy, whereas New Mexico is primarily an energy producing state. The organization of energy departments in these states reflects their respective concerns.

The organization and the statutory duties of the Minnesota energy agency reflect the concern of that state with demand related energy activities:

The legislature seeks to encourage thrift in the use of energy and to maximize the use of energy efficient systems, thereby reducing the rate of growth of energy consumption, prudently conserving energy resources and assuring statewide environmental protection consistent with an adequate reliable supply of energy. (Laws of Minnesota, Ch. 116H, Sec. 116H.01)

The Minnesota Energy Agency collects and analyzes energy data, reviews the need for new energy facilities, carries out energy conservation programs, and promotes the development of new energy resources. The divisions within the agency are conservation, data and analysis, alternative energy development, and general support. The activities of each of those divisions are heavily oriented toward energy demand issues.

In New Mexico, the energy supply (production related) responsibilities of a number of state agencies were reassigned in 1977 to the newly created Energy and Minerals Department.^{3/} All laws and functions formerly administered by the Energy Resources Board, Coal Surface Mining Commission, Bureau of Mining and Mineral Resources, Oil Conservation Commission, State Mine Inspector, and the State Geologist were placed in the new department. The department was given specific responsibility for coordinating mining activities and preparing and administering the state energy management program. One other important function of the department is to maintain a general statewide plan for the siting, production, processing, and taxation of fuel and power.

^{3/} The New Mexico Department of Natural Resources, which also was created in 1977, has primary responsibility for renewable resources, including water, wildlife, soil, timber and other plant life. The Energy and Minerals Department is responsible for administering the use and development of extractive resources.

New Mexico's energy department is organized into the following divisions: administrative services, energy conservation and management, energy resource and development, mining and minerals, and oil conservation. The activities and responsibilities of each division, with the exception of the Energy Conservation and Management Division, have a substantial emphasis on energy production issues.

Due to the large number of tasks assigned to the council, there was not sufficient time to discuss the feasibility of reorganizing and consolidating Colorado agencies having energy-related responsibilities into a single Department of Energy. If the council is continued in 1980, a review of possible options and recommendations on the organization of state executive departments in energy can be considered.

Energy Coordinating Council Recommendations

Placement of Office of Energy Conservation in State Government

Several proposals were offered regarding the placement of the Office of Energy Conservation as a permanent agency within the executive branch of state government, but no consensus was reached on the matter of departmental placement of OEC. Several members believe that the OEC should remain in the Office of the Governor; others suggested that the OEC be placed either in the Department of Local Affairs or the Office of State Planning and Budgeting.

Another issue concerning the OEC was the level of state funding which should be committed to the energy conservation activities administered by the OEC. The OEC presently receives almost 100 percent of its funding from federal sources. It is expected that federal law will require that states, by January, 1981, provide matching funds to receive federal conservation dollars.

Although no recommendations are submitted concerning either placement of OEC in one of the state's departments or on the level of state financial support, the council does recommend that the Office of Energy Conservation be given statutory basis and that some General Fund appropriations be made to the OEC. The council requests that the governor's call for the 1980 Session include an item which will allow the General Assembly to consider proposals giving statutory authorization to the Office of Energy Conservation.

Granting statutory authorization to the OEC would allow this state a greater measure of control over energy conservation policy for Colorado. Without statutory guidance, the federal government will continue to dictate most of the ener-

gy conservation programs for this state. In addition, a greater degree of accountability of OEC to the General Assembly could be assured if that office is provided with specific statutory responsibility. Finally, the likelihood of General Fund support being provided to the Office of Energy Conservation is increased if that office performs specific state duties, as opposed to federal functions, in the area of energy conservation.

Continuation of the Energy Coordinating Council

The council recommends Bill 1 which makes the necessary technical changes in Senate Bill 498 to allow the Energy Coordinating Council to be continued in 1980. The composition and method for appointment will be the same for the council in 1980 as in 1979. The council's duties will include an analysis of the effect of federal agencies, programs, and policies on Colorado energy policy. A final report to the General Assembly and the Governor will be required prior to December 31, 1980.

A large task has been assigned to the Energy Coordinating Council. A significant amount of work was accomplished this year in the inventory of energy-related activities in state government and in understanding the impact of federal energy policies and programs on the development of energy policy in this state. There was not sufficient time, however, to discuss and make recommendations regarding possible revision, reorganization, or consolidation of the energy activities of a number of state departments and agencies.

It is important that the council discuss and evaluate energy policies which can be developed by this state to better assure more state, rather than federal, control over Colorado's energy future. Also, the issue of the authority of local governments as compared to the state on the planning and siting of energy development projects could only be briefly discussed. Further deliberations are needed on that problem. Finally, additional discussions are needed to resolve difficulties which occur when the preferences of a county regarding energy development are in conflict with state aspirations for resource development.

Council members believe that legislative and executive branch oversight, with citizen input, regarding energy activities in the various executive departments is necessary. The Energy Coordinating Council is a useful instrument for legislative and executive branch supervision of Colorado's energy programs and activities. The Energy Coordinating Council is

also a valuable forum for ensuring continued cooperation between the executive and legislative branches in the development of energy policy for this state. For all these reasons, the council recommends its continuation during the 1980 legislative session and interim.

BILL 1

A BILL FOR AN ACT

1 CONCERNING THE COLORADO ENERGY COORDINATING COUNCIL.

Bill Summary

(Note: This summary applies to this bill as introduced and does not necessarily reflect any amendments which may be subsequently adopted.)

Reestablishes the Colorado energy coordinating council, which was repealed December 31, 1979, to function until December 31, 1980, and provides for funding of the council out of appropriations to the Colorado energy research institute. Provides for a report to the governor and general assembly by December 31, 1980.

Changes the provision concerning federal agencies to include a study and analysis of federal agencies, programs, activities, and policies affecting energy policy in Colorado.

2 Be it enacted by the General Assembly of the State of Colorado:

3 SECTION 1. Part 11 of article 3 of title 2, Colorado
4 Revised Statutes 1973, is RECREATED AND REENACTED, WITH
5 AMENDMENTS, to read:

6 PART 11

7 COLORADO ENERGY COORDINATING COUNCIL

8 2-3-1101. Legislative declaration. (1) The general
9 assembly hereby finds and declares that:

1 (a) No single factor today is more crucial to maintaining
2 the United States as a world power and to meeting the living
3 standards and aspirations of its citizens than a reliable and
4 adequate supply of multiple forms of energy.

5 (b) The state of Colorado has an abundance of undeveloped
6 energy resources, both renewable (solar, geothermal, fission, and
7 wind) and nonrenewable (oil, gas, nuclear, synthetic, and fossil
8 fuel).

9 (c) At the present time, the state of Colorado is
10 fragmented by the lack of any planned or organized methods of
11 dealing with energy and energy-related activities in many
12 different departments of state government, and the state of
13 Colorado does not have a unified method of inventorying,
14 evaluating, and coordinating state agencies dealing with energy.

15 (d) In the best interests of the citizens of this state, it
16 is important that the general assembly recognize the need for
17 improved organization of state government energy activities, and
18 awareness and understanding of the energy supply and demand in
19 Colorado.

20 (e) It is essential that cooperation and coordination among
21 federal, state, and local governments, businesses, industries,
22 and consumers be established in order to achieve orderly energy
23 development.

24 (f) The general assembly is enacting this part 11 to
25 establish a Colorado energy coordinating council, which
26 represents the executive and legislative departments of this

1 state, those businesses and industries directly engaged in the
2 energy field, and consumers of energy, to recommend uniform,
3 wise, and compatible energy policies for the orderly development
4 of this state's energy resources, which would encourage the wise
5 use of existing energy and preserve and restore the environment
6 as much as possible.

7 2-3-1102. Definitions. As used in this part 11, unless the
8 context otherwise requires:

9 (1) "Council" means the Colorado energy coordinating
10 council, established in section 2-3-1103.

11 (2) "State agencies and activities" includes, but is not
12 limited to, the following:

13 (a) Energy-related programs and functions of state
14 institutions of higher education;

15 (b) The department of natural resources;

16 (c) The department of local affairs;

17 (d) The Colorado land use commission;

18 (e) The public utilities commission;

19 (f) Any other project, function, program, or agency or
20 board which directly or indirectly affects the research,
21 development, or implementation of energy policy of this state
22 which is funded, in whole or in part, by state moneys.

23 2-3-1103. Colorado energy coordinating council -
24 established. (1) There is hereby established the Colorado energy
25 coordinating council. The council shall be composed of twelve
26 members, who shall be appointed as follows:

1 (a) Three members shall be appointed by the president of
2 the senate from the senate members of the general assembly, two
3 of whom shall be of the majority party and one of whom shall be
4 of the minority party. Such members shall serve at the pleasure
5 of the president of the senate.

6 (b) Three members shall be appointed by the speaker of the
7 house of representatives from the members of the house of
8 representatives, two of whom shall be of the majority party and
9 one of whom shall be of the minority party. Such members shall
10 serve at the pleasure of the speaker of the house of
11 representatives.

12 (c) Three members shall be appointed by the governor, and
13 such members shall serve at the pleasure of the governor.

14 (d) Two members, who represent businesses or industries
15 directly engaged in the energy field, shall be jointly appointed
16 by the governor, president of the senate, and speaker of the
17 house of representatives. Such members shall serve at the
18 pleasure of their joint appointive authority.

19 (e) One member, who represents consumers of energy in this
20 state and who is knowledgeable in the field of energy
21 consumption, shall be jointly appointed by the governor,
22 president of the senate, and speaker of the house of
23 representatives. Such member shall serve at the pleasure of his
24 joint appointive authority.

25 (2) Any vacancies in the council shall be filled in the
26 same manner as original appointments.

1 (3) The council shall select from among its members a
2 chairman and a vice-chairman. The council may meet as often as
3 necessary to perform its duties, but it shall meet at least once
4 each month. All appointments to the council shall be made not
5 later than June 15, 1980, and the first organizational meeting of
6 the council shall be held not less than fifteen days after all
7 the appointments have been made, or after June 15, 1980,
8 whichever date is sooner. In the event not all appointments are
9 made by June 15, 1980, the council shall still hold its first
10 organizational meeting not later than June 30, 1980, provided a
11 majority of the appointments have been made by June 15, 1980.

12 (4) Nonlegislative members of the council shall be
13 reimbursed for necessary expenses incurred in the performance of
14 their duties, and the legislative members of the council shall be
15 paid the same per diem compensation as provided by law for
16 members of interim legislative committees for each day, of
17 attendance.

18 2-3-1104. Staff assistance. In carrying out its duties
19 under this part 11, the council may request staff assistance from
20 the legislative council and the various agencies to which its
21 duties under this part 11 relate. The legislative council shall
22 provide necessary secretarial and clerical assistance.

23 2-3-1105. Duties of council. (1) The council shall have
24 the following duties, which duties shall not be deemed exclusive
25 of other functions appropriate for the purposes of the council in
26 accordance with section 2-3-1101:

1 (a) To inventory all state agencies and activities which
2 directly or indirectly affect the research, development, or
3 implementation of energy policy of this state, including, but not
4 limited to, those state agencies and activities specified in
5 section 2-3-1102 (2);

6 (b) To develop from such inventory an estimate of the total
7 cost of and number of state employees required for such state
8 agencies and activities;

9 (c) To study and analyze the various energy policies of all
10 state agencies with emphasis toward identifying compatibility or
11 incompatibility of such policies;

12 (d) To evaluate the feasibility of reorganization and
13 consolidation of the various state agencies directly involved in
14 energy activities under a single state agency;

15 (e) To inventory, study, and analyze all federal agencies,
16 programs, activities, and policies in this state which directly
17 or indirectly affect the research, development, or implementation
18 of energy policy of this state.

19 2-3-1106. Report to governor and general assembly. The
20 council shall issue a written report setting forth the
21 information required in section 2-3-1105 and its specific
22 recommendations, findings, and comments concerning the
23 coordination, reorganization, and consolidation of the various
24 state agencies and activities which directly or indirectly affect
25 the research, development, or implementation of energy policy of
26 this state. The council shall submit copies of its report to the

1 governor and each member of the general assembly by December 31,
2 1980.

3 2-3-1107. Funds for council. Of the appropriation made to
4 the Colorado energy research institute for state research for the
5 fiscal year commencing July 1, 1980, ten thousand dollars shall
6 be transferred to the council for the implementation of this part
7 11.

8 2-3-1108. Repeal. This part 11 is repealed effective
9 December 31, 1980.

10 SECTION 2. Safety clause. The general assembly hereby
11 finds, determines, and declares that this act is necessary for
12 the immediate preservation of the public peace, health, and
13 safety.

APPENDIX A

ENERGY-RELATED PROGRAMS IN COLORADO
STATE GOVERNMENT

Department of Administration

- 1) Program Title: Electric Vehicle Incentives
Description: The purpose of this program is to research appropriate incentives, including tax benefits, to stimulate the utilization of electric vehicles.
- 2) Program Title: Remodelling and Retrofitting for Energy Conservation and Energy Audits
Description: The Department of Administration will implement remodel/retrofit capital construction projects for the purpose of energy conservation in selected state buildings. Projects will be selected on the basis of highest investment opportunities. Energy audits will be conducted for selected buildings to analyze the energy investment opportunities. The program is to satisfy the Federal Institutions Building Grants Program to qualify for federal matching funds.
- 3) Program Title: Life Cycle Cost Formula for Vehicle Purchasing
Description: This program requires the Division of Purchasing to take into consideration fuel economy and long-term costs of operation and maintenance of motor vehicles as factors in the purchase of automobiles for state use.
- 4) Program Title: Energy Conservation in Purchasing
Description: A program description was not provided.
- 5) Program Title: Energy Conservation in State Buildings in the Capitol Complex
Description: The Department of Administration Policy Manual Section 2501 and 2500 sets out

the direction the capitol buildings section is to take in reducing energy consumption in buildings assigned to the Capitol Complex. To support this policy, the department has initiated a preventive maintenance program to correct deficiencies in operation of various pieces of heating, ventilating, and air conditioning equipment used in the Capitol.

6) Program Title: Fuel-Economy of Methanol in State Cars

Description: The purpose of the study is to determine if economies can be obtained from the use of methanol in state owned cars.

Colorado Department of Agriculture

1) Program Title: Colorado Gasohol Promotion Committee

Description: The following are the primary objectives of the program:

- a) Research -- identify and provide for necessary scientific research and special studies.
- b) Information -- assemble, analyze, and disseminate information to the legislature, local and state government agencies, developers, farm organizations and the general public.
- c) Legislation -- study state and federal legislation with respect to gasohol and alcohol and related industrial hydrocarbons derived from Colorado farm and forest products.
- d) Coordination -- cooperate with local, state, or national organizations and governmental agencies engaged in similar activities.

2) Program Title: Fuel Allocation Referral Management

Description: This is a program to provide informa-

tion and assistance to agriculture concerning fuel supplies.

3) Program Title: Solar Energy Malt House Study

Description: The primary purpose of this study is to examine alternative energy sources for malting and to evaluate the economic and technical feasibility of each alternative.

Department of Education

1) Program Title: Facilities and Energy Conservation

Description: The following are primary objectives of the Facilities and Energy Conservation Program:

- a) technical assistance to school districts in planning for more economical energy usage;
- b) liaison with state and federal agencies having jurisdiction over fuel usage by local education agencies; and
- c) technical assistance in school transportation including fuel economy and route planning.

Department of Health

1) Program Title: Radiation Control

Description: This program regulates uses of radiation and radioactive material (uranium milling).

2) Program Title: Solid and Hazardous Waste Management

Description: The Solid and Hazardous Waste Management Program regulates solid waste disposal including energy resource development-related wastes. The program also develops and implements a program for control of hazardous wastes and resource recovery.

3) Program Title: Stationary Sources

Description: The Stationary Source Program enforces state regulations directly as well as through contracted authorities in local government.

4) Program Title: Regulation No. 9

Description: The reduction of automotive air pollution in the Denver Region through the encouragement of travel to and from work by public transit, ridesharing, and other emissions-reducing travel modes, is the purpose of Regulation No. 9.

5) Program Title: State Implementation Plan (SIP)

Description: This is the state's air quality plan to attain and maintain healthful air quality levels. The SIP contains elements for new and existing source emission control and includes measures to reduce vehicle use in the urbanized areas of the state.

6) Program Title: Water Quality Protection

Description: The primary objective of the program is the protection of the beneficial uses of state waters.

Department of Higher Education

1) Program Title: Energy Careers Incentives

Description: The program's purpose is to provide incentives for Colorado residents to pursue energy-related careers in the state.

2) Program Title: Public Education

Description: The program provides public education programs that will help create energy awareness and improve the capability of Colorado citizens, elected officials, and community leaders to deal with issues related to energy development, use, and conservation.

- 3) Program Title: New Technology
- Description: The New Technology Program includes research projects directly responsive to clearly identified technological opportunities in the state and projects to help develop energy-related scientific and technological capabilities in state colleges and universities in order to prepare for long-range development.
- 4) Program Title: Energy Impact Analysis and Mitigation
- Description: Research to help minimize adverse environmental, economic, and social impacts of energy resource development in Colorado is the goal of the Energy Impact Analysis and Mitigation Program.
- 5) Program Title: Energy Development and Supply
- Description: Studies in this program deal with the relationship between energy development and water use; an assessment of the use of geothermal energy as a source of process heat; transportation of coal and/or coal-derived energy out of the state; and oil shale development criteria.
- 6) Program Title: Conservation Policies and Technologies
- Description: The Conservation Policies and Technologies Program provides for specific studies of the impact of alternative conservation policies and consumption of energy used in transportation.
- 7) Program Title: Energy Information Systems
- Description: The purpose of the Energy Information Systems Program is to conduct research to develop and improve the availability of accurate information on: (1) present and future supply and demand for all energy resources consumed in Colorado; and
- (2) present and future supply and demand for Colorado-based energy resources by the nation.

Commission on Higher Education staff represent the Department of Higher Education in various energy related activities and serves as the liaison between the institutions and the other state agencies.

Department of Highways

1) Program Title: Carpool and Vanpool Program

Description: Program objectives and accomplishments are as follows:

- a) promotion of carpooling and vanpooling on a statewide basis;
- b) monitoring of ridesharing activities around the state;
- c) formulation of a contract with the Chrysler Corp. to put 30-50 vanpools in operation in the Denver area in the coming year primarily for government employees.

2) Program Title: Recycling of Paper

Description: This program is designed to provide storage bins for depositing good quality paper to be used for recycling. The storage bins are collected at a central location for delivery of paper to a recycling plant.

3) Program Title: Experimental Features on Highway Projects

Description: The programs are designed to incorporate energy conservation activities into highway construction and use as well as save natural resources and funds by recycling rubber and asphalt.

4) Program Title: 55 MPH Enforcement and Compliance Assessment

Description: Through funds provided by the Division of Highway Safety, the department has designed and is currently field testing a pilot 55 mph enforcement program in

selected areas of the state. In addition, the department is monitoring speeds on designated road segments throughout the state to determine the impact of enforcement.

- 5) Program Title: Colorado State Rail Plan and Updates to the State Rail Plan

Description: Developing and updating the State Rail Plan are primary objectives of this program. Rail related information and activities are coordinated through this program at the state level.

- 6) Program Title: Energy Impact Advisory Committee

Description: The Department of Highways is participating in an advisory capacity to carry out the committee function of determining who will be recipients of the allocations from the Impact Assistance Fund.

- 7) Program Title: Air Pollution Control for DOH Vehicles

Description: Department of Highway's vehicles are inspected every year for emission control. Maintenance and/or repair is done on vehicles that do not meet emission standards.

- 8) Program Title: State Bikeway Program

Description: The Department of Highways is currently planning to construct bikeways in conjunction with construction on the federal-aid highway system. The department, in cooperation with the Division of Outdoor Recreation, Colorado Department of Natural Resources, the Metropolitan Planning Organizations and other regional and local agencies, will coordinate the development of incidental, demonstration, and independent bikeways into a connected statewide bike system.

- 9) Program Title: Building Regulation and Maintenance of DOH Complex
- Description: The department has accomplished the following pursuant to this program: a reduction in the use of building lights; use of thermostat controls for heating and cooling; removal of an asbestos ceiling which results in a decrease of air space for cooling and heating; a decrease in the temperature of domestic hot water; and formulation of energy consumption forecasts for budgetary purposes.
- 10) Program Title: Study of Energy Resource Development Impact in Northwest Colorado
- Description: Planning and Management Region 11 is developing a transportation plan in light of the inevitable energy resource development in the area. The DOH has reviewed a transportation demand model in preparation for the development of a transportation plan.
- 11) Program Title: Monitor State Energy Conservation Plan
- Description: The Department of Highways is monitoring and reporting statewide activities and achievements of transit improvements, carpool and vanpool programs, and bikeways to evaluate the progress of the State Energy Conservation Plan.
- 12) Program Title: Ski Pool Feasibility Study
- Description: This program will be designed to encourage high vehicle occupancy travel between the Denver area and ski areas.
- 13) Program Title: Plan to Reduce Motor Vehicle Fuel Consumption
- Description: The plan will monitor fuel usage and mileage driven by department employees. Strategies to reduce mileage and fuel will be implemented.

14) Program Title: Computer Analysis of Energy Usage in Highway Construction Projects

Description: The program objective is to incorporate energy considerations in highway planning.

Department of Labor and Employment

1) Program Title: Balance of State CETA - Weatherization

Description: The Balance of State CETA Program provides employment and training services to economically disadvantaged, unemployed residents of the 54 rural counties of Colorado. Weatherization efforts are focused on the weatherization and winterization of low income households by economically disadvantaged CETA participants.

2) Program Title: Balance of State CETA - Solar Energy

Description: In this Balance of State CETA Program, solar energy efforts are directed toward the training of workers to retrofit residences with solar energy collection systems.

3) Program Title: Balance of State CETA - Energy Industry Training

Description: The Balance of State CETA program refers CETA participants to existing classes or sets up class size training projects to train CETA participants in demand occupations, particularly those occupations in private sector, energy-related industries.

4) Program Title: Rocky Mountain Energy and Environmental Technology Center

Description: The program objective is to create strategies and systems that will provide employment opportunities to economically disadvantaged Coloradoans as well as enhance economic development in specific areas of the state.

Department of Local Affairs

- 1) Program Title: Residential Buildings Energy Conservation Standards Project

Description: The Division of Housing provides counties and municipalities which have building codes with training and technical assistance in the development of energy-efficiency construction and renovation performance standards.

The objectives of the program are:

- a) to provide minimum statewide insulation standards for energy conservation in residential buildings;
- b) to minimize adverse impacts on lifestyles by recognizing the need for life cycle cost-effectiveness and technological improvements; and
- c) to encourage use of alternative energy sources and renovation of existing buildings to conserve energy.

- 2) Program Title: State Impact Assistance Program

Description: The program administers the state's impact assistance, including distribution of the mineral lease and severance tax revenues, and appropriations from the Oil Shale Trust Fund.

- 3) Program Title: Emergency Energy Conservation and Weatherization Assistance

Description: The program provides assistance to low-income persons in mitigating rising energy costs through weatherization and utility bill relief. The program also undertakes demonstration projects in alternative energy and transportation. Grants are made to the state. The state, in turn, contracts with 26 local agencies for program implementation.

4) Program Title: State Clearinghouse

Description: The State Clearinghouse is the central point for receipt of proposals involving federal assistance, and proposed federal actions (e.g., leasing and energy development). The clearinghouse receives and disseminates proposals for review and comment by state agencies and responds on behalf of the state to decision-making agencies. The primary objective of the clearinghouse is to see that state responses and recommendations are made in accord with official state policies.

5) Program Title: Cartographic Services

Description: The primary objectives of the program include:

- a) development of the program for geo-based information system for data management;
- b) exploration of the use of LANDSAT imagery for land-use classification, monitoring, and mapping, and development of an automated 1980 census program;
- c) utilization of the program as the State Data Center; and
- d) provision of liaison, coordination and technical assistance relating to mapping and cartography

6) Program Title: Demographic

Description: The Demographic program has the following primary objectives:

- a) gathering demographic and economic data for the preparation of population estimates and projections;
- b) disseminating population estimates and projects to local governments and state agencies for their program planning and decision-making; and

- c) developing models and methodologies for population estimates and projections.

Department of Military Affairs

- 1) Program Title: Conservation of Energy
Description: This program is an in-house emphasis on energy conservation (utilities and motor fuels). The program compares the current consumption level against the same period for the previous year. The objective is realizing a decrease of energy usage during the current year.

Department of Natural Resources

- 1) Program Title: Mined Land Reclamation
Description: The regulations of all mining operations to insure that reclamation takes place as required by state and federal law is the purpose of this program.
- 2) Program Title: National Uranium Resource Evaluation
Description: The program provides for detailed geological, geophysical, and geochemical investigations in the Leadville (Colorado) 1° x 2° NTMS Quadrangle to determine the potential of finding uranium deposits within that area. This basic research will be delivered to the Department of Energy (DOE) for dissemination to state, federal, and local governments, as well as private industry, developers, and planners.
- 3) Program Title: Low Temperature Geothermal Resource Assessment Program
Description: Detailed geophysical, geological, and hydrogeological investigations in and around Alamosa and Canon City, and other areas and estimates of magnitude and location of more than 56 identified Colorado geothermal resource areas are major program elements.

- 4) Program Title: Regional Geothermal Project
- Description: This program matches estimated energy needs with available geothermal energy to discover development potential. Program objectives include identification of constraints and development of recommendations for policy.
- 5) Program Title: Evaluate Methane Potential of Unmined Coalbeds
- Description: The purpose of this program is the evaluation of the methane potential of unmined or unminable coalbeds in Colorado.
- 6) Program Title: Conservation of Methane from Minable Gaseous Coalbeds
- Description: The purposes of the program are to: conserve and use methane gas being vented to the atmosphere; improve coal mine productivity; and improve coal mine safety.
- 7) Program Title: Evaluating Coking Coal Deposits
- Description: The program's objective is to chemically, physically, and petrographically characterize Colorado coking coals within the San Juan region.
- 8) Program Title: Calculate Coal Reserve Base in Colorado
- Description: The program's objectives are to collect data on coal by coal bed and county; collect data now not available within the state; and be able to calculate remaining coal reserves.
- 9) Program Title: Environmental Impact of Energy Resource Development in Denver Basin
- Description: This program studies coal, oil and gas, uranium, and aluminum in addition to water and evaluates the environmental impact of development of any one or all of these resources.

- 10) Program Title: Coal Drilling and Coring Program
Description: The objectives of the program include the mapping of the coal resources of the Denver East Quad from existing information, and a drilling and coring program.
- 11) Program Title: Collection of Coal Resource Data
Description: The primary objective of the program is to collect coal samples from various drill holes and mines for analysis for statewide information.
- 12) Program Title: Mineral Fuels Program
Description: The program assesses the impact on the state of the development of coal, oil shale, oil and gas, methane and other mineral fuels as well as implementation of federal grants in these areas.
- 13) Program Title: Technical Assistance to Local Governments
Description: This Geological Survey program provides and interprets geotechnical advice to state agencies and local governments, with emphasis on energy-project impacted communities and environmental impacts of proposed projects on public safety and land and water resources.
- 14) Program Title: Mining Inspection, Technical Assistance and Safety Training
Description: This program provides for inspection, technical assistance, and safety training to producers of prime energy source materials, coal, uranium, and oil shale.
- 15) Program Title: Ogallala - High Plains Six State Study
Description: The study is to determine the economic impact of declining water levels and energy sources in the Ogallala High Plains area of Colorado, Nebraska, Kansas, Oklahoma, New Mexico, and Texas and to recommend alternative development strategies, including possible

importation of water, to offset these impacts.

- 16) Program Title: State Soil and Water Conservation
Description: The program objective is to teach and encourage farmers and ranchers to apply the best management practices to the land to conserve soil and water.
- 17) Program Title: Solar Utilization in New Buildings
Description: This program encourages the research, planning, and development of solar systems for water and room heat in park and recreation buildings at Barr Lake and the Pueblo State Park and Recreation Area.
- 18) Program Title: Conservation of Oil, Gas, and Geothermal Resources
Description: A primary objective of the program is to secure the maximum amount of oil, gas, and geothermal resources from underground reservoirs. The program's objective is also to prevent wasteful practices in production and utilization of these resources by enforcement of regulations and orders of the Oil and Gas Conservation Commission.
- 19) Program Title: Energy Resources Development Plan
Description: A primary objective of this effort is to develop an enhanced information base to support the management of three major energy resources, oil shale, coal, and uranium.
- 20) Program Title: Leasing of State Lands
Description: In addition to maximizing the income for schools and trusts through land lease programs, the State Board of Land Commissioners' responsibility includes implementation of the multiple use concept of surface land and the development and extraction of oil, gas, and other minerals.

- 21) Program Title: Mileage Reduction
- Description: The Division of Wildlife is operating two vanpool vehicles and has requisitioned two additional twelve-passenger vans, pursuant to SB 1 adopted by the 1979 General Assembly. Twenty-one passengers use the two vans. A mileage reporting system for the 560 motor vehicles in use throughout Colorado is also operated by division personnel.
- 22) Program Title: Public Information
- Description: The Public Information program requires all operators to file monthly production reports on all oil and gas produced and sold. It also requires the filing of records on all wells drilled and the maintenance of accurate well records and production histories on all wells drilled in the state.
- 23) Program Title: Regulation of Oil, Gas and Geothermal Drilling and Production
- Description: The program requires an approved permit prior to drilling and filing well records after drilling is completed. Other program objectives are: to prevent the drilling of unnecessary wells; to prevent wasteful production practices; and to protect the correlative rights of all owners in a field.
- 24) Program Title: Assess Water Availability for Oil Shale and Coal Gasification Development
- Description: This program is a highly technical hydrology and engineering study designed to determine availability and cost of water for oil shale and coal gasification.
- 25) Program Title: Colorado Water Study
- Description: The main program objectives are to address two issues: 1) what benefits and costs will the present water rights system yield? and 2) if other benefits are desired, how might they be attained, and at what cost?

- 26) Program Title: Geothermal Permit Applications
- Description: The state engineer is required to review permits to construct wells for geothermal resources. If he finds that production will not materially injure a vested water right he is to recommend approval. The basis for such a determination is geologic and hydrologic information.
- 27) Program Title: Oil Shale Steering Committee
- Description: The committee's objective is to provide guidance and direction to the oil shale industry from the federal, state, and private sector.
- 28) Program Title: Consideration of Plans and Specifications for Dam Structures
- Description: The department is responsible under this program for a safety review of all dam structures above a certain size. No plans are approved until the state engineer determines that structure, outlet works, and spillways are adequate for anticipated use and location; and delivery of water to the dam structure will occur when the decree has priority.
- 29) Program Title: Retrofitting of Small Low Head Structures for Power Generation
- Description: The Department's responsibility in this program is to assist those groups considering retrofitting of low level dam structures for small power generation.
- 30) Program Title: Technology Assessment of Western Energy Resource Development
- Description: This study is part of the Federal Inter-agency Energy Environment Research and Development Agency Program. Funding is provided through the Environmental Protection Agency (EPA) to the University of Oklahoma which is consultant in this case. The Department of Natural Resources is on the advisory committee for this particular study.

31) Program Title: Natural Areas Inventory

Description: The purpose of the inventory is to collect and coordinate all available information relating to Colorado's elements of natural diversity, i.e., native plant communities, aquatic systems, soil types, geologic, features and landforms, plants, and animals of special biological concern and the location of their habitats. This information will fulfill Congressional mandates to the Bureau of Land Management, United States Forest Service, and Office of Surface Mining to inventory lands under their jurisdiction. It will also be available to all agencies of state government concerned with resource development and land use planning and to the private sector. Information will be in manuals and computer files.

32) Program Title: Colorado Joint Review Process

Description: The primary objective of the Colorado Joint Review Process is to improve the permitting process. This process allows for joint intergovernment reviews with a resulting avoidance of duplication and delay. The review process will improve the participation of the public at an early planning stage.

Department of Regulatory Agencies

1) Program Title: No Specific Program Listed

Description: The PUC program function is to provide gas and electric energy, and water (if used for energy or other purposes) to consumers at the lowest available cost commensurate with provision of adequate service, and considering such other factors as efficiency, safety, health, comfort, convenience and the broad public interest.

Department of Revenue

- 1) Program Title: Publicize Energy Conservation
Description: This program is an on-going, low-key effort to publicize the need to conserve energy. Energy saving posters have been displayed in various state facilities. Also some energy articles have been published in agency newsletters.
- 2) Program Title: Reduction in Mileage for Official Business
Description: Based on the Executive Order dated May 18, 1979, miles driven in state or private vehicles used for state business will be reduced by five percent.
- 3) Program Title: Car Pooling
Description: The program objective is to reduce the number of cars used by employees of the Department of Revenue.
- 4) Program Title: Solar Heated Port of Entry
Description: The primary objective of this program is to demonstrate the state's concern for energy conservation by use of a highly visible public building. The program functions, in priority order, are: a) research and development for future state projects; b) information generation and dissemination to the general public and to other state departments; and c) policy formation and analyses for future procedures and design applications.

Department of Social Services

- 1) Program Title: Winter Utilities Allowance
Description: The Winter Utilities Allowance Program provides additional resources for winter utilities bills for public assistance recipients.

Office of State Planning and Budgeting

- 1) Program Title: Fiscal Notes and Revenue Estimation on Energy Legislation

Description: The Office of State Planning and Budgeting prepares fiscal notes for the General Assembly in each legislative session on the state revenue and expenditure impact of energy-related legislation.

Governor's Office - Office of Energy Conservation

- 1) Program Title: Public Utilities Commission Program

Description: The primary objectives of the program are to develop intergovernmental relationships with local, state, and federal executive and legislative agencies; to review plans and submit energy conservation and renewable resource comments and suggestions; to review legislation; to take part in the legislative process; and to participate as party intervenor in PUC hearings.

- 2) Program Title: Legislative Program

Description: This program concerns work with OEC divisions, other state agencies, the General Assembly, and the public in developing legislative proposals, tracking legislative developments in other states and the federal government having relevance to Colorado programs, and coordinating office responses to legislative requests.

- 3) Program Title: Fuel Allocation Program

Description: The Fuel Allocation Program administers the emergency and hardship set-aside fuel allocated to the Governor.

- 4) Program Title: Residential Conservation Service

Description: The Residential Conservation Service Program requires regulated utilities to offer audits and retrofit services to their residential customers according

to standards and procedures set forth in state plans developed by the state or the federal government.

- 5) Program Title: Energy Conservation and Land Use Study and Demonstration Project

Description: The program will: develop state of the art energy conservation considerations relating to land use planning; refine and quantify these mechanisms through local demonstration projects; and disseminate informational results. The primary object of the program is to provide guidance for planning more energy efficient use of land.

- 6) Program Title: Energy Policy Analysis Center

Description: The purpose of the center is to strengthen the capacity of state government to plan for and manage the long range critical energy supply and demand problems facing Colorado. The primary function is policy planning and analysis of proposed state energy policy. Continuing functions include: development of contingency plans for energy emergencies; evaluation of conservation programs; and technical analysis for public information on critical energy demand issues.

- 7) Program Title: Public Information Program

Description: The primary objective of the Public Information Program is to provide the general public with information on energy conservation and renewable energy resources.

- 8) Program Title: Institutional Buildings Grants Programs

Description: The Institutional Building Grants Program is a federal program created by the National Energy Act which is administered by the Department of Energy. The intent of the program is to provide financial assistance in the form of fifty percent matching federal grant funds

to eligible buildings for the purpose of reducing the consumption of conventional energy resources by such buildings. Any of the following buildings are eligible if constructed prior to April 20, 1977: public and private nonprofit schools, hospitals, and public care institutions (nursing homes, residential child care centers, facilities for long-term care, rehabilitation centers, and public health centers) and buildings owned by municipalities, counties, and Indian tribes.

9) Program Title: Community Center Program

Description: The Community Center Program assists in the design and implementation of energy conservation and renewable resource information programs at the state and local level. Typical activities would include workshops and seminars, energy fairs, displays, print materials, media work, and referral services.

10) Program Title: Energy Conservation Center for Business and Industry

Description: The Energy Conservation Center is responsible for delivering information and audits to business interests in Colorado. This is accomplished through the use of demonstration audits, workshops, individual counseling, and creation of an extensive library system.

11) Program Title: Technical Resource Center

Description: The Technical Resource Center provides technical expertise to a variety of energy conservation efforts, including a state program for residential and nonresidential building standards, weatherization, institutional buildings, renewable resource and public affairs divisions of OEC. Expertise includes general technical assistance, training sessions and materials, and assistance in policy and program planning.

- 12) Program Title: Energy Conservation in Government Purchasing
- Description: The Division of Purchasing is to develop the "energy cost" of all products purchased by the state so government purchasing agents can buy the most energy efficient products possible.
- 13) Program Title: Administration Program
- Description: The function of the Administration Division in OEC is:
- a) to act as the state focal point for energy conservation and as principal liaison with the major participants in Colorado's energy conservation process;
 - b) to oversee and coordinate the day-to-day implementation of both the Base and Supplemental Plans; and
 - c) to keep abreast of all technical and political developments in the area of energy conservation and alternative renewable resources.
- 14) Program Title: Solar and Renewable Energy Resources Program
- Description: The primary objectives of the program are to increase and accelerate the use of renewable energy resources in Colorado's public and private sectors; remove legislative and institutional barriers; support educational programs; provide public information; and provide technical assistance to communities.
- 15) Program Title: Energy Extension Service Monitoring and Development Program
- Description: Beginning January 1, 1980, this program is to monitor ten states with pilot energy extension service (EES) programs for use in developing the Colorado EES program. This program will be an expansion of current community center and public information programs. The monitoring grant has been used to supplement these two programs already.

APPENDIX B

Program Funding and FTEs for State Energy Related Programs

Name of Department and Program	Federal Funded FTE	State Funded FTE	State Funding			Federal Funding	Local- County Funding	Private Funding	Total Funding
			General Fund	Cash Fund	Restricted Fund				
Department of Administration									
Electric Vehicle Incentives	--	--	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --
Remodel-Retrofit-Energy Conservation	--	--	1,250,000	--	--	1,250,000	--	--	1,250,000
Life Cycle Cost - Purchasing	-----Respondent Stated FTE and Funding cannot be estimated, but are minimal-----								
Energy Conservation - Purchasing	2.0	--	--	--	--	35,140	--	--	35,140
Energy Conservation - Capitol Complex	--	--	--	--	--	--	--	--	--
Fuel Economy - Methanol	-----Not applicable-----								
Department Totals	2.0	--	1,250,000	--	--	1,250,000	35,140	--	1,285,140
Department of Agriculture									
Gasohol Promotion Committee	--	1.0	81,750	--	--	81,750	--	--	156,750
Fuel Allocation Management	--	.25	4,500	--	--	4,500	--	75,000	4,500
Solar Energy Study	--	--	28,585	--	--	28,585	39,000	--	67,585
Department Totals	--	1.25	114,835	--	--	114,835	39,000	75,000	228,835
Department of Education									
Facilities Energy Conservation	1.0	--	--	--	--	40,000	--	--	40,000
Department Totals	1.0	--	--	--	--	40,000	--	--	40,000
Department of Health									
Radiation Control	--	3.0	75,000	--	--	75,000	--	--	75,000
Hazardous Waste Management	--	2.0	50,000	--	--	50,000	--	--	50,000
Stationary Sources	2.0	14.5	195,000	152,000	34,000	381,000	46,000	--	427,000
Regulation No. 9	--	1.0	16,000	--	--	16,000	--	--	16,000
State Implementation Plan	3.0	2.5	64,000	--	--	64,000	74,000	--	138,000
Water Quality Protection	2.7	1.75	44,000	5,000	--	49,000	74,000	--	123,000
Department Totals	7.7	24.75	444,000	157,000	34,000	635,000	194,000	--	829,000
Department of Higher Education ^{1/}									
Energy Career Incentives	--	.5	220,000	--	--	220,000	--	--	220,000
Public Education	--	.5	68,000	--	--	68,000	--	--	68,000
New Technology	--	1.0	135,000	--	--	135,000	100,000	--	235,000
Energy Impact Analysis	--	1.25	115,000	--	--	115,000	--	--	115,000
Energy Development and Supply	--	2.5	180,000	--	--	180,000	100,000	--	280,000
Conservation Policies and Technologies	--	2.5	156,500	--	--	156,500	--	--	156,500
Energy Information Systems	--	1.25	111,500	--	--	111,500	--	--	111,500
Department Totals	--	9.5	986,000	--	--	986,000	200,000	--	1,186,000

^{1/} According to responses received to this date, Department of Higher Education energy programs are all administered by the Colorado Energy Research Institute.

Name of Department and Program	Federal Funded FTE	State Funded FTE	State Funding				Federal Funding	Local- County Funding	Private Funding	Total Funding
			General Fund	Cash Fund	Restricted Fund	Total				
Department of Highways										
Carpool and Vanpool	0.8	0.2	\$ --	\$ 24,000	\$ --	\$ 24,000	\$ 96,000	\$ --	\$ --	\$ 120,000
Recycling of Paper			-----Respondent stated FTE and funding cost data is not available-----							
Experimental Features - Hwy Projects	0.5	--	--	--	--	--	10,000	--	--	10,000
55 MPH Enforcement	1.0	45.0	--	--	--	--	85,826	--	--	85,826
Colorado Rail Plan	--	1.0	--	30,378	--	30,378	121,513	--	--	151,891
Energy Impact Committee	--	--	--	--	2,400	2,400	--	--	--	2,400
Pollution Control - Dept Vehicles			-----Respondent stated FTE and funding cost data is not available-----							
Bikeway Program	--	2.0	--	--	10,000	10,000	40,000	--	--	50,000
Building Maintenance			-----Respondent stated FTE and funding cost data is not available-----							
Energy Resource Development Impact	--	--	--	400	--	400	1,600	--	--	2,000
Energy Conservation Plan	--	--	--	400	--	400	--	--	--	400
Ski Pool Feasibility Study	--	1.0	--	700	--	700	3,300	--	--	4,000
Reduce Vehicle Fuel Consumption	0.33	--	--	510	--	510	2,490	--	--	3,000
Estimate Energy Consumed-Alternate Highway Projects	--	--2/	--	215	--	215	1,285	--	--	1,500
Department Totals	2.63	49.2	--	56,603	12,400	69,003	362,014	--	--	431,017
Department of Labor and Employment										
CETA Weatherization	4.0	--	--	--	--	--	300,400	--	--	300,400
CETA Solar Energy	3.0	--	--	--	--	--	160,000	--	--	160,000
CETA Energy Industry Training	18.0	--	--	--	--	--	2,000,000	--	--	2,000,000
Energy Technology Center	12.0	--	--	--	--	--	5,810,000	399,500	45,000	6,254,500
Department Totals	37.0	--	--	--	--	--	8,270,400	399,500	45,000	8,714,900
Department of Local Affairs										
Residential Buildings Conserva- tion Standards	2.25	--	--	--	--	--	37,499	--	--	37,499
State Impact Assistance	--	5.0	--	17,526,500	--	17,526,500	--	--	--	17,526,500
Weatherization Assistance	7.0	--	--	--	--	--	4,017,000	--	--	4,017,000
State Clearinghouse	3.0	--	39,769	--	--	39,769	50,929	--	--	90,698
Cartographic Services	2.0	1.0	16,154	5,000	175,489	196,643	32,312	--	--	228,955
Demographic Program	3.0	--	43,601	--	--	43,601	31,095	--	--	74,696
Department Totals	17.25	6.0	99,524	17,531,500	175,489	17,806,513	4,168,835	--	--	21,975,348
Department of Military Affairs										
Conservation of Energy			-----No funding or FTEs for this program-----							
Department Totals	--	--	--	--	--	--	--	--	--	--

2/ The respondent for the Department of Highways stated that there is 0.085 FTE utilized in this program. That figure is not included in calculating department FTEs for energy related programs.

Name of Department and Program	Federal Funded FTE	State Funded FTE	State Funding				Federal Funding	Local-County Funding	Private Funding	Total Funding
			General Fund	Cash Fund	Restricted Fund	Total				
Department of Natural Resources										
Mineral Land Reclamation	8.0	17.0	\$ 360,963	\$ --	\$ --	\$ 360,963	\$ 202,569	\$ --	\$ --	\$ 563,532
Uranium Resource Evaluation	2.0	--	--	--	--	--	191,000	--	--	191,000
Geothermal Resource Assessment	3.5	--	--	--	--	--	200,000	--	--	200,000
Regional Geothermal Project	--	--	--	--	--	--	52,277	--	--	52,277
Methane Potential-Unmined Coalbeds	1.5	--	--	--	--	--	57,685	--	--	57,685
Conservation of Methane	--	1.0	45,000	--	--	45,000	--	--	--	45,000
Evaluate Coking Coal Deposits	1.0	--	--	--	--	--	41,436	--	--	41,436
Calculate Coal Reserves	1.0	--	--	--	--	--	28,630	--	--	28,630
Environmental Impact-Resource Development	1.0	--	--	--	--	--	44,309	--	--	44,309
Coal Drilling Program	1.0	--	--	--	--	--	187,995	--	--	187,995
Collect Coal Resource Data	1.0	--	--	--	--	--	50,159	--	--	50,159
Mineral Fuels	1.0	--	--	--	--	--	33,784	--	--	33,784
Technical Assistance - Local Gov.	--	2.0	50,000	--	--	50,000	--	--	--	50,000
Mining Inspection - Safety Training	5.0	21.0	515,831	--	--	515,831	307,533	--	--	823,384
Ogallala - High Plains Study	--	--	--	--	--	--	6,000,000	--	--	6,000,000
Soil - Water Conservation	6.0	4.2	240,358	--	--	240,358	288,000	--	--	528,358
Utilize Solar - New Buildings	-----Respondent stated FTE and funding cost data is not available-----									
Conserve Oil, Gas Resources	--	14.0	--	441,866	--	441,866	--	--	--	441,866
Energy Resource Development	1.0	--	--	--	--	--	200,000	--	--	200,000
Leasing State Lands	-----Respondent stated this program requires no FTEs or funding-----									
Mileage Reduction	--	--	--	24,000	--	24,000	--	--	--	24,000
Public Information	--	--	--	--	--	--	--	--	--	--
Regulate Oil and Gas Drilling	--	--	--	--	--	--	--	--	--	--
Assess Water Availability for Resource Development	3-73/	--	--	--	--	--	285,000 ^{4/}	--	--	285,000
Colorado Water Study	3-55/	--	--	--	100,000	100,000	178,000 ^{6/}	--	--	278,000
Geothermal Permit Applications	--	--	--	--	--	--	--	--	--	--
Oil Shale Steering Committee	--	--	--	--	--	--	--	--	--	--
Plans for Dam Structures	--	--	--	--	--	--	--	--	--	--
Retrofitting - Power Generation	--	--	--	--	--	--	--	--	--	--
Technology Assessment - Resource Development	--	--	--	--	--	--	--	--	--	--
Natural Areas	--	1.5	20,409	--	--	20,409	19,596	--	--	40,005
Joint Review Process	2.0	--	--	--	--	--	108,000	--	--	108,000
Department Totals	44.0	60.7	1,232,561	465,866	100,000	1,798,427	8,475,993	--	--	10,274,420

3/ The number of FTE utilized for this energy related program varied from 3.0 to 7.0. For purposes of calculating total department FTE utilized for energy related programs, the number of FTE for this program is considered to be five.

4/ Funding for this program is for the period of December 1, 1977 through August 31, 1979.

5/ The number of FTE utilized for this program varied from 3.0 to 5.0. For purposes of calculating total department FTE utilized for energy related programs, the number of FTE for this program is considered to be four.

6/ Funding for this program is for the period of July 1, 1976 through June 30, 1980.

Name of Department and Program	Federal Funded FTE	State Funded FTE	State Funding				Federal Funding	Local- County Funding	Private Funding	Total Funding
			General Fund	Cash Fund	Restricted Fund	Total				
Department of Regulatory Agencies										
PUC Energy Programs	--	67.0	\$ --	\$ 894,777	\$ --	\$ 894,777	\$ --	\$ --	\$ 894,777	
Department Totals	--	67.0	--	894,777	--	894,777	--	--	894,777	
Department of Revenue										
Publicize Energy Conservation	--	--	--	--	--	--	--	--	--	
Reduce Vehicle Mileage for Dept.	--	--	--	--	--	5,000	--	--	5,000	
Carpooling	--	--	--	--	--	--	--	--	--	
Solar Heated Ports of Entry	--	--	--	155,000	--	155,000	--	--	155,000	
Department Totals	--	--	--	155,000	--	155,000	5,000	--	160,000	
Department of Social Services										
Winter Utilities Allowance	--Not available--	--	3,770,310	--	--	3,770,310	1,369,658	532,342	5,672,310	
Department Totals	--	--	3,770,310	--	--	3,770,310	1,369,658	532,342	5,672,310	
Office of State Planning and Budgeting										
Department Totals	--	2/	650	--	--	650	--	--	650	
Department Totals	--	--	650	--	--	650	--	--	650	
Other Energy Related Programs										
Office of Governor - Office of Energy Conservation										
PUC Program	1.0	--	--	--	--	--	27,780	--	27,780	
Legislative	2.0	--	--	--	--	--	42,927	--	42,927	
Fuel Allocation	--	4.0	50,000	--	--	50,000	10,705	--	60,705	
Residential Conservation Service	-----No FTE or funding for this program; it has not been started-----									
Land Use Study Project	1.0	--	--	--	--	--	49,050	--	49,050	
Energy Policy Analysis Center	1.0	--	--	--	--	--	26,721	--	26,721	
Public Information	2.25	--	--	--	--	--	119,485	--	119,485	
Institutional Building Grants	3.0	--	28,600	--	--	28,600	3,400,000	--	3,428,600	
Community Center	1.75	--	--	--	--	--	61,068	--	61,068	
Energy Conservation Center	3.0	--	--	--	--	--	139,211	--	139,211	
Technical Resource Center	3.5	--	--	--	--	--	104,322	--	104,322	
Energy Conservation - Purchasing	1.5	--	--	--	--	--	40,000	--	40,000	
Administrative	4.0	--	--	--	--	--	91,035	--	91,035	
Solar Energy Resources	2.5	--	--	--	--	--	56,842	--	56,842	
Energy Extension Service	1.75	--	--	--	--	--	45,000	--	45,000	
Office Totals	28.25	4.0	78,600	--	--	78,600	4,214,146	--	4,292,746	
Grand Totals	139.83	222.40	\$7,976,480	\$19,260,746	\$321,889	\$27,559,115	\$27,374,186	\$931,842	\$120,000	\$55,985,143

2/ The respondent for the Office of State Planning and Budgeting stated that there is .025 FTE utilized for energy programs in that Department. That figure is not included in calculating State FTE in this table.

APPENDIX C

Major Energy Enactments of Colorado General Assembly

Summaries are provided below, by topic, of the major energy bills enacted by the Colorado General Assembly in the 1977 through 1979 legislative sessions.

Promotion and Use of Solar Energy and Alternative Energy Devices

House Bill 1055 (1977). House Bill 1055 authorizes the Adjutant General and the Governor, assisted by the Attorney General, to convey to the federal government, without compensation, certain state real property located in Jefferson County for purposes of a Solar Energy Research Institute.

House Bill 1519 (1977). House Bill 1519 creates a deduction from a taxpayer's Colorado adjusted gross income for purposes of the state income tax equal to the cost of causing the installation, construction, reconstruction, remodeling, or acquisition of an alternative energy device in any building owned by said taxpayer.

House Bill 1019 (1978). The act clarifies provisions of HB 1519 (1977), providing for a tax deduction for the installation of alternative energy devices on buildings owned by the taxpayer. All resident individuals, pursuant to the act, may claim a modification of their Colorado adjusted gross income for alternative energy devices installed in Colorado buildings owned by them.

Senate Bill 20 (1979). Senate Bill 20 requires that state agencies compare three energy consumption system alternatives when doing a life-cycle cost analysis of a state-owned or assisted facility and that at least one of such alternatives shall be a natural or mechanical solar energy system.

Senate Bill 133 (1979). Senate Bill 133 specifically defines a "solar easement" and "solar energy device", and imposes additional requirements for contents of an instrument creating a solar easement. The act also prohibits unreasonable restrictions on solar energy devices. After the effective date of SB 133, any covenant, restriction, or condition contained in any deed, contract, security instrument, or other instrument affecting the transfer or sale of, or any interest in, real property solely on the basis of aesthetic considerations which effectively prohibits or restricts the installation or use of a solar energy device, is void and unenforceable.

Senate Bill 150 (1979). Cities and counties are authorized by SB 150 to regulate uses of land through their planning efforts and through their zoning and subdivision regulations to protect and assure access to direct sunlight for solar energy devices. The act provides that such regulations may provide for the protection and assurance of access to sunlight for solar energy devices by considering the use of restrictive covenants or solar easements, height restrictions, side yard and setback requirements, street orientation and width requirements, or other permissible forms of land use controls.

Senate Bill 316 (1979). The addition of an "alternative energy device" shall not increase the valuation for assessment for property tax purposes for the years 1980 to 1989, pursuant to SB 316. Previously, similar devices were taxed at five percent of assessed value.

Senate Bill 321 (1979). Senate Bill 321 redefines "alternative energy device" to mean any system or mechanism or device which uses natural cooling or heating opportunities from solar energy or wind, geothermal, or renewable biomass resources. "Alternative energy device" also includes any active or passive solar structural design feature of a structure which is an integral part of such a system, mechanism, or device.

Conservation of Energy in Buildings

Senate Bill 159 (1977). Minimum uniform statewide insulation standards for energy conservation in the construction and renovation of residential buildings are provided by SB 159. No building permit is to be issued for the construction or renovation of any residential building unless such construction or renovation will conform to the minimum standards. Deviations from these standards are allowed if the total energy required in a residential building equals or is less than the total energy required if the building is constructed according to the minimum standards. The act directs the Division of Housing to provide training and technical assistance to counties and municipalities in the promulgation of standards.

Senate Bill 432 (1977). Senate Bill 432 creates the Board for Energy Efficient Nonresidential Building Standards as a section of the Office of State Planning and Budgeting. The Board is required to establish model energy efficiency construction and renovation standards for nonresidential buildings to serve as guidelines for the adoption of no less stringent standards by counties and municipalities as part

of their building codes. The act requires the adoption of such standards by counties and municipalities by July 1, 1978. The Office of State Planning and Budgeting is required to provide assistance to counties and municipalities in the implementation of such standards.

Senate Bill 292 (1979). Senate Bill 292 amends the "Residential Building Energy Conservation Act of 1977" to add definitions concerning "heating degree day", "overall thermal transmittance", "thermal transmittance", and "value". The act amends the present definitions of "local government", "municipality", "renovation", "residential building", and "R-value".

Present exemptions from minimum insulation standards for residential buildings apply to the design and construction or renovation of private garages, carports, sheds, agricultural buildings, tanks, factory-constructed housing, and towers. The exemptions are expanded to include those buildings which have been designated as historic. The insulation and thermal performance standards and energy conserving alternatives are rewritten by the act.

Promotion of Gasohol

House Bill 1135 (1978). House Bill 1135 provides for a reduction by five cents a gallon of the excise tax on motor fuel blended with ten percent alcohol. The bill requires the alcohol mixture to be manufactured in Colorado and derived from agricultural and forest products. The blended fuel will be sold in counties with populations of 200,000 or more.

Senate Bill 80 (1978). Senate Bill 80 establishes in the Department of Agriculture a gasohol promotion committee. The committee is responsible for the promotion of production, development, and utilization of gasohol and alcohol and related industrial hydrocarbons derived from Colorado agricultural and forest products.

House Bill 1463 (1979). House Bill 1463 establishes the Gasohol Promotion Fund in the state treasury. Contributions to the fund come from users of motor fuel in agricultural equipment who authorize payment of their excise tax refunds into the fund. Property used in production of alcohol for use in motor fuel is given a reduced valuation for assessment for property tax purposes in the years of plants which initially produce 2 1/2 million gallons or less annually.

House Bill 1607 (1979). For the taxable years 1980 through 1984, a reduction is granted in the property tax to facilities used for the production of alcohol for use in motor fuel and derived from hydrocarbon or carbon-containing byproducts or waste products with a purity of at least 95 percent, pursuant to HB 1607. The valuation for assessment of such property shall be two percent of actual value in the first year of assessment, nine percent in the second year, 16 percent in the third year, 23 percent in the fourth year, and 30 percent thereafter.

Mineral Taxation

House Bill 1076 (1977). House Bill 1076 provides for a state severance tax to be levied upon the extraction of certain minerals and mineral fuels in this state as follows:

For metallic minerals, the Act imposes such a tax at a rate of 2.25% of all gross income in excess of \$11,000,000. House Bill 1076 authorizes a credit against such tax for property taxes of up to 50% of the severance tax liability.

For molybdenum ore, the Act imposes such a tax at a rate of 15 cents per ton of molybdenum ore.

For oil and gas, a tax upon gross income at varying percentages is as follows:

under \$25,000	2%
\$ 25,000 and under \$100,000	3%
\$100,000 and under \$300,000	4%
\$300,000 and over	5%

A credit against such tax for 87 1/2% of property taxes on oil and gas leaseholds and royalties and interests therein is authorized.

For coal, a tax at a rate of 60 cents per ton of coal produced from surface mining operations and at a rate of 30 cents per ton of coal produced from underground mining operations is imposed. The first 8,000 tons of coal produced each quarter is exempted from taxes.

For oil shale, HB 1076 imposes a tax on commercial oil shale facilities 90 days after the facility reaches a daily average of 50% of its design capacity at a rate of 1% of gross proceeds for the first year, 2% for the second, 3% for the third, and 4% for the fourth and each succeeding year.

Exempted from such a tax are the first 15,000 tons per day of oil shale or 10,000 barrels per day of shale oil, whichever is greater.

House Bill 1076 creates a local government severance tax fund in the Department of Local Affairs to provide impact assistance to local governments. The act also creates a severance tax trust fund in the office of the State Treasurer. The fund is to be perpetual and held in trust as a replacement for depleted natural resources.

Senate Bill 35 (1977). Senate Bill 35 changes the purposes for which federal mineral leasing moneys may be used to conform to federal changes. The bill provides that all moneys derived from federal mineral leases shall be deposited in the Mineral Leasing Fund, to be used for public purposes with priority given to those areas socially or economically impacted by energy development and mineral production.

House Bill 1523 (1979). The act allows, as a credit against the severance tax on minerals or mineral fuels from a new operation from which first severance occurs subsequent to June 30, 1979, an amount equal to the value of approved contributions by the taxpayer made prior to the first severance. Approved contributions include the donation of property or payments to units of local government for use in planning or construction of public facilities (roads, schools, water facilities, sewage facilities, police and fire facilities, and hospitals) which are necessitated by the initiation of the new operation. Certification of eligibility for credit of a contribution of a specified value must be made by the Executive Director of the Department of Local Affairs, to the Executive Director of the Department of Revenue, the unit of local government and the taxpayer.

Senate Bill 168 (1979). Senate Bill 168 changes the reference point for variations in the amount of the tax on the severance of coal from the "index of wholesale prices" to the "index of producers prices" for the commodities index prepared by the Bureau of Labor Statistics of the U.S. Department of Labor. For every three points changed in the index, the tax rates shall be increased or decreased one percent.

Regulation of Oil and Gas Development

House Bill 1491 (1977). The Oil and Gas Commission is required to obtain reasonable security from lessees of land for oil and gas well drilling if the surface owner is not guaranteed from unreasonable crop losses or land damage by the lessee.

Senate Bill 518 (1977). The director of the Division of Labor is given the added responsibility of inspection of oil wells pursuant to SB 518.

Senate Bill 323 (1979). The Oil and Gas Conservation Commission is designated by SB 323 as the state agency to exercise such powers and authorities (relating to the price and allocation of natural gas and crude oil) as may be delegated to it by the laws or regulations of the United States.

Mined Land Reclamation

House Bill 1223 (1979). House Bill 1223 establishes the "Colorado Surface Mining Reclamation Act" which provides for the regulation of the surface effects of coal mining operations in Colorado. The new act replaces Colorado's previous reclamation statutes but only with respect to coal mining operations.

The new "Colorado Surface Mining Reclamation Act" establishes a permit system, requires the submission of a reclamation plan, establishes performance standards, and subjects operators to penalties for violations. The act is to be administered by the Division of Mined Land Reclamation and the Mined Land Reclamation Board in the Department of Natural Resources.

House Bill 1223 states that any person who wishes to operate a "surface coal mining operation" must obtain a reclamation permit no later than eight months after the date the Colorado program is approved by the Secretary of the Interior. Colorado must submit its program application no later than August 3, 1979, according to the federal act. The secretary must approve or disapprove the application within six months after its submission. During the interim period between the passage of the federal act and implementation of the state program, operators are subject to several interim federal performance standards, as well as those previously imposed by Colorado's reclamation act.

Permits issued pursuant to the final state program are valid for five years. The operator must, however, begin operations within three years after the issuance in order that the permit not terminate. The permit may be extended upon a showing of mitigating circumstances beyond the control of the applicant. Renewals of the permits are authorized and procedures are specified.

The applicant must include a reclamation plan which is intended to demonstrate the manner in which the area disturbed will be reclaimed. This plan must include a description of

the condition of the land prior to any coal mining activities and the uses which are proposed to be made of the land following reclamation. The engineering techniques to be used on the surface area must also be included.

Upon the submission of an applicant for permit, the applicant must publish notice of such filings in a newspaper circulated in the locality of the operation. Federal, state and local governments, as well as persons having an interest in the matter may file written comments with the division. Such agency or person may also request that an informal conference regarding the matter be held.

The division shall issue a proposed decision, granting or denying the permit application no later than 60 days after the conference. If no conference is requested, the division is to issue a proposed decision within 120 days of filing the application. A request for a formal hearing to appeal the proposed decision may be submitted to the board for its consideration. The board's decision on this appeal must be made within 30 days after the hearing.

Upon approval of the application, but before a permit is issued, the applicant must file a performance bond with the division. The amount of the bond must be sufficient to assume completion of the reclamation plan, but in no case is the bond to be less than \$10,000. The permit requires the operator to meet a number of specified general performance standards.

In order to enforce a permit issued under the provisions of the act, the board is to require the operator to maintain such records as are deemed necessary to monitor the operation. The board or the division also is authorized to inspect the mine site and mine records. These inspections are to average not less than one partial inspection per month and one complete inspection per calendar quarter. Persons who may be adversely affected by a particular operation may request an inspection for violations.

The act also specifies the divisions's enforcement powers in the event of a violation of the terms of a permit or the provisions of the act.

When the division determines that a pattern of violations has existed and that such violations are caused by the unwarranted failure of the permittee to comply with the act, the division shall issue an order to show cause why the permit should not be revoked.

Civil and criminal penalties for violations are specified in the act. Civil penalties may not exceed \$5,000 for

each violation. Each day of violation is deemed a separate violation.

Operators who willfully and knowingly violate a permit or refuse to comply with an order or final decision of the board may be punished by a fine of not more than \$10,000 or imprisonment for not more than one year or both. Further, the board may request the Attorney General to institute actions for a permanent or temporary injunction, restraining order, or other appropriate action. Any notice of violations or cessation orders may upon request be reviewed by the board within 90 days after its issuance.

Energy Responsibilities of Public Utilities Commission

House Bill 1008 (1977). The Public Utilities Commission is required, pursuant to HB 1008, to conduct a continuing review of specified criteria affecting electric power consumption and rates, and to formulate criteria for evaluating such rates.

Senate Bill 59 (1979). The PUC is required by SB 59 to perform a review and evaluation of all Colorado natural gas and electric utilities energy forecasts, forecasting methodologies, and construction plans, and submit a report every two years on the review and evaluation to the Governor and the General Assembly. The purpose of the report is to identify trends relating to energy supply, demand, and conservation in order to assist the Commission, the Governor, and the General Assembly in taking appropriate action to efficiently and economically meet the state's energy requirements.

Miscellaneous Energy Enactments

Senate Bill 277 (1977). The Colorado Energy Research Institute is required by SB 277 to provide data and background material to the executive and legislative branches of government, to administer energy-related programs for students and the public, and to make annual reports to the Governor and the General Assembly.

Senate Bill 498 (1979). Senate Bill 498 creates a Colorado Energy Coordinating Council for the purpose of recommending a uniform and compatible energy policy for the orderly development of the state's energy resources. The council consists of 12 members -- 3 to be appointed by the President of the Senate; 3 members to be appointed by the Speaker of the House; 3 members to be appointed by the Governor; 2 members to be appointed jointly by the Governor, President of the Senate, and Speaker of the House; and one member, who represents con-

sumers of energy, to be appointed jointly by the Governor, President of the Senate, and the Speaker of the House.

Senate Bill 528 (1979). The Governor is authorized by SB 528 to proclaim that an energy emergency exists after he has determined that there is a reasonable apprehension that such an emergency is imminent and after he has consulted with the Fuel Conservation Policy Council (a 15 member group consisting of 14 members of the General Assembly and the Governor). Emergency powers granted to the Governor terminate 45 days after the proclamation of an emergency is made, unless extended by the General Assembly, and only one such proclamation may be declared.

During an energy emergency, the Governor, after consultation with the council, is empowered to issue executive orders, rules and regulations to:

- (1) implement programs necessary for the conservation of fuels;
- (2) implement programs to encourage increased production of fuel products;
- (3) implement programs, controls, standards, priorities and quotas for the allocation, conservation and consumption of fuel; and
- (4) suspend or modify standards and requirements affecting the use of fuel (i.e., air pollution control standards), including the hours of commercial and industrial operations.