Conservation and Development of Energy Resources

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CONSERVATION AND DEVELOPMENT OF ENERGY RESOURCES

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SUMMARY OF RECOMMENDATIONS

This summary presents the recommendations approved by the Legislative Commission's Subcommittee to Review Present Efforts to Conserve and Develop Energy Resources. The subcommittee recommends that the 68th Session of the Nevada Legislature:

STATE ENERGY POLICY DEVELOPMENT AND IMPLEMENTATION

1. Amend paragraph (e) of subsection 1 of *Nevada Revised Statutes* (NRS) 523.011, "Legislative finding; state policy," to read as follows:

   Government and private enterprise need to accelerate research and development of alternative sources of energy *[*and to*],* improve technology related to the research and development of existing sources of energy *[.] **and maximize the use of indigenous resources to the extent economically feasible.*** (Bill Draft Request [BDR] 46 -- 410)

2. Review and amend Chapter 523 of NRS, "Energy," to acknowledge the State Energy Office (SEO) and its attendant responsibilities. (BDR 46 -- 411)

3. Provide, by appropriation, for funding the SEO with $65,000 from the State General Fund in each year of the next biennium. (BDR 46 -- 411)

4. Support public and private efforts to provide consumer energy education programs throughout Nevada.

5. Create, by statute, an ongoing statutory committee on energy of the Nevada Legislature. Provide the committee with broad powers to review the laws, regulations and State agencies relating to energy policy. Require the SEO to make quarterly reports to the committee regarding energy planning activities, the implementation of energy policies and recommendations for legislation. (BDR 17 - 412)

   The statutory committee should review the following recommendations which were presented to the interim study subcommittee:

a. Appropriating adequate funding for the SEO and providing a stable source of funding for the office;

b. Providing adequate funding to support consumer energy education programs throughout Nevada;

c. Creating, by statute, a "State Renewable Energy Authority" which is authorized to issue revenue bonds for renewable energy projects;

d. Directing the SEO, in cooperation with the Public Service Commission of Nevada (PSCN), to undertake a study of the feasibility and costs of participation by the state's electric utilities in the development of renewable technologies and the interconnection of their transmission systems to further regional development of and access to renewable energy resources;

e. Requiring the PSCN to develop optional "green" tariff provisions for those Nevada customers who, by choice, wish to support renewable resource projects through a specific tariff rate earmarked for those types of projects; and

f. Appointing a statewide task force to study means of reducing carbon dioxide.

DEVELOPMENT AND USE OF RENEWABLE ENERGY RESOURCES

6. Provide, by statute, the following definition relating to renewable energy resources:

"Renewable energy resources" are defined as resources capable of producing electricity from an energy source that is not consumed or combusted and is naturally regenerated, such as wind, solar, geothermal, and hydro. For this purpose, hydro may include pumped storage hydropower if the source of the power used to pump the water is from non-fossil, renewable resources. (BDR 58 -- 413)

7. Require, by statute, that Nevada's investor-owned electric utilities use a certain percentage or set-aside of renewable energy resources as follows:

That over the next 6 years [through the year 2000], 10 percent of new growth shall be provided from renewable resources until utility resource plans reach a level of 10 percent of overall capacity from renewable resources. (BDR 58 -- 413)

8. Amend the statutes to add systems and facilities which utilize "renewable energy resources" to the list of systems and facilities eligible for property tax exemptions. (BDR 32 -- 414)

9. Consider adopting a policy statement finding and declaring that the sustained orderly development of renewable energy resources for use as sources of energy for the state's electric utilities is needed to preserve and improve the environment, to provide resource diversity, and to mitigate the risks associated with the state's continued dependency on electricity generated from fossil fuels.

10. Urge, by resolution, all departments in the Executive Branch of State Government to work with the United States Department of Energy and other federal offices to coordinate efforts and pursue demonstration facility construction and develop a solar strategic plan for southern Nevada. In addition, the resolution should express the Legislature's support for the efforts to develop a "Solar Power Enterprise Zone" in Nevada, and it should note that the state will have the opportunity to lead the Nation in technologies for the solar industry. Furthermore, the resolution should include a statement that it is time for the State to act and speed up production of this environmentally clean power resource (solar energy), as well as economically benefit from the conversion of the Nevada Test Site (NTS) to a solar energy research and development site. (BDR R -- 415)

11. Urge the PSCN to support modular, distributed use of renewable energy. Such use provides electrical energy for those customers at remote locations that would otherwise need costly line extensions or other less desirable generation options.

12. Amend NRS 704.741, "Plan to increase supply or decrease demands: Triennial submission required; contents prescribed by regulation." Amend paragraph (b) of subsection 2 of NRS 704.741 as follows:

Determine the best combination of *[*sources of supply*]* ***resources*** to meet *[*or reduce*]* the demands ***with due consideration of economic and environmental impacts*** *[*or the best method to reduce them*]*. (BDR 58 -- 416)

13. Encourage creative public/private partnerships to promote resource development and stability in renewable energy areas.

TRANSPORTATION, ALTERNATIVE FUELS AND AIR QUALITY

14. Urge the State Environmental Commission to make certain that all areas in Nevada meet the federal Environmental Protection Agency standards for carbon monoxide and ozone.

15. Direct, by resolution, the State Environmental Commission to expand Nevada's inspection and maintenance (I/M) program for motor vehicles to include additional areas of the state, particularly Carson City, Incline Village and areas adjacent to the Truckee Meadows area of Washoe County. (BDR R -- 417)

16. Consider the following proposals:

    a. The Legislature and the Budget Division should support adequate funding for the State Motor Pool to construct and operate a fueling station for natural gas or other alternative fuels and a mini-fleet of Original Equipment Manufacturer (OEM) alternative fuel vehicles (AFVs). This fueling station and mini-fleet is to be located at the new State office building near Cashman Field Center in Las Vegas. In addition, the Legislature and the Budget Division should support funding the construction of additional fueling facilities for AFVs in Clark and Washoe Counties to serve the State Motor Pool, other State agencies and other public and private fleets; and

    b. The State Environmental Commission should review and revise its regulations which require the conversion of State and local government fleets to alternative fuels. The commission should be urged to revise its regulations so as to accelerate the schedule for the acquisition of AFVs by State and local governments. Furthermore, the commission

should consider the AFV requirements which have been adopted for public fleets in Arizona and New Mexico.

17. Consider supporting the following:

    a. Development of a State AFV implementation plan to aid transition, similar to the Clark County program;

    b. Establishment, in the future, of a State-administered grant fund within the SEO to assist communities in the construction of public-access fueling facilities for alternative fuels; and

    c. Establishment, in the future, of a State-administered grant fund to assist fleet and individual vehicle owners to reduce the initial cost of conversion to or acquisition of AFVs.

18. Amend the statutes to reduce the State fuel tax on clean alternative fuels for motor vehicles to 20 cents per equivalent gallon. (BDR 32 -- 418)

19. Adopt an energy policy that is "fuel neutral" -- a policy which does not promote the use of one type of clean alternative fuel for motor vehicles over another. In addition, the Legislature should consider supporting efforts at establishing uniform State and local regulations regarding refueling facilities for AFVs.

20. Strengthen, in cooperation with local government planning agencies and regional transportation commissions, the institutional relationships between land use planning and transportation planning.

21. Urge, by resolution, the President and Congress to support federal efforts regarding:

    a. The maglev, high-speed train projects which operate in excess of 180 miles per hour; and

    b. Funding, through grants or otherwise, for national corridor development.

    (BDR R -- 419)

22. Approve, in conjunction with the Budget Division, future funding requests made by the California-Nevada Super Speed Ground Transportation Commission.

23. Consider directing the SEO and the Division of Agriculture to study and report back to the 1997 Legislature on the problem concerning the transportation and sale of substandard motor fuels in Nevada. The report should include recommendations for improving interagency cooperation and communication relating to State enforcement actions.

24. Consider supporting, in conjunction with the Budget Division, the Division of Agriculture's 1995-1997 budget requests in the Gas Pollution budget for additional analyzing equipment for the new Las Vegas laboratory and additional inspectors to increase fuel sampling and analysis.

25. Urge the PSCN and the State Environmental Commission to coordinate State policies and support utility efforts to deal with federal policy agendas, such as global climate change and visibility impairment in the Golden Circle of Parks.

26. Urge, by resolution, the President and Congress to support an improved Corporate Average Fuel Economy (CAFE) standard. (BDR R -- 420)

27. Consider the need for proposing legislation which would support State and local air quality management agency emissions reduction programs which include the purchase of old "gas guzzler" vehicles.

28. Require, by statute, that the purchase of new motor vehicles by the State and local governments must equal or exceed the average fleet fuel efficiency standard established by the Federal Government for that model year. (BDR 27 -- 421)

29. Urge State agencies to: use telecommuting, including initiation of a State telecommuting pilot project; develop State "telework centers" and additional video teleconference facilities; and utilize altered work schedules for State employees, including 9-day/80-hour (over 2 weeks) and 4-day/40-hour work weeks.

30. Urge the Nevada Department of Transportation to consider implementing high occupancy vehicle (HOV) lanes on appropriate sections of State highway prone to traffic congestion in order to reduce travel delays, energy consumption, and air pollutants.

31. Urge the Nevada Department of Transportation to consider developing and implementing a ridesharing (car-pooling) program for State employees who commute to the capital (Carson City) from the Truckee Meadows and the Minden/Gardnerville area. The program may include various employee incentives such as parking pricing and preferential parking.

ENERGY CONSERVATION AND EFFICIENCY

32. Urge all electric utilities in Nevada to adopt creative programs to promote energy efficient buildings. As one option, the utilities might consider implementing a program similar to Boulder City's sliding scale fees for electrical hookups. In Boulder City, the electrical hook-up fees for new construction are reduced based on use of conservation and efficiency design elements in the home.

33. Amend NRS 523.164, "Regulations for conservation of energy in buildings: Adoption by director; exemptions; applicability; public comment and hearing," to require the SEO to consider the most current edition of the Model Energy Code (MEC) and other national standards relating to building energy conservation and efficiency; and allow the SEO to provide for certain exemptions or modifications to accommodate the particular heating or cooling needs of each geographic region in the state. In addition, require the application of the State's minimum standards for building energy conservation in any area in which the local government has not adopted more stringent standards. (BDR 46 -- 411)

34. Urge the SEO to adopt the 1995 MEC for residential construction [three stories and less] and the code version of the *American Society of Heating, Refrigerating, and Air-Conditioning Engineers/Illuminating Engineering Society Standard 90.1* (ASHRAE/IES) (Standard 90.1) [with amendments], for all other construction as well as the National Fenestration Rating Council (NFRC) performance rating requirements.

35. Provide, by statute, that the SEO shall adopt a voluntary home energy rating system (HERS) for new construction and existing homes that is modeled after HERS programs which have been adopted in other states. In addition, amend Chapter 704 of NRS, "Regulation of Public Utilities Generally," to require major utility companies regulated by the PSCN to incorporate the HERS rating criteria in connection with energy efficient and demand side management programs for new construction. (BDR 46 -- 411)

36. Direct the Buildings and Grounds Division, Department of Administration, to "sign on as a partner" in the U.S. Environmental Protection Agency's Green Lights and Energy Star Buildings Programs -- to promote State leadership to local government and the private business sector.

37. Urge city and county managers and local elected officials to support their respective building departments and officials by providing adequate staffing to adequately enforce construction codes and standards. In addition, urge local building code officials to require compliance with "the letter of the code" to ensure adequate enforcement of building and energy codes. A better energy education process for both the building jurisdictions as well as the building industry, in general, should be implemented which would underscore how important attention to quality control is in these matters. The SEO, the utility companies, local building officials and the builders should all cooperate in improving this education process.

38. Support, in conjunction with the SEO, the following:

    a. Linking the enhanced availability of energy efficient mortgages (EEMs) with the use of a HERS;

    b. Improved use of renewable resources as well as thermal factors such as daylighting, overhangs and shading, in structures;

    c. Disseminating training and new technology information to compliance and construction personnel simultaneously;

d. Coordinating the efforts of the heating, ventilating and air conditioning contractors with those of the general building contractors, and improving communications between all the building trades;

e. Assessing, quantifiably, life-cycle costs on all construction;

f. Providing maximum compliance flexibility throughout the building process to encourage innovation in housing and the assimilation of new technical approaches;

g. Stressing, through consumer education, the long-term benefits of buying energy efficient homes, including providing information on lower utility costs and improved lending policies; and

h. Allowing the utilities to become more actively involved in the building code inspection/certification process.

39. Require, by statute, the State Public Works Board to:

a. As part of the process for accepting bids for public works projects, have an independent analysis of energy conservation/efficiency methods and designs performed [either by a private energy consultant or by the appropriate utility, perhaps through a bidding process] on each building project;

b. After accepting bids for each public works project that is a building, determine what energy conservation rebates are available for the particular building project and apply for the available rebates; and

c. Each biennium, designate at least one building project an energy-efficient pilot program.

(BDR 28 -- 422)

40. Provide, by statute, that State agencies which implement energy cost savings programs may use any rebates or money from energy savings to invest in other energy conservation and efficiency

programs. When State agencies institute measures which result in energy cost savings, the amounts saved should not reduce the applicable budgets to lower levels if the money is used to invest in other energy savings programs. (BDR S -- 423)

41. Urge the State Public Works Board to:

    a. Establish priorities for the public works project managers in a manner which would limit the removal of high efficiency, low energy consuming or environmentally improving related products from a building project budget which is estimated as over budget before the bids are received; and

    b. Require new facilities to be designed in a manner which results in the least cost for the monthly operation of utilities.

42. Urge the SEO to work with local building officials to establish a centralized "energy hotline" concept, where building officials, architects, engineers and builders could call to determine compliance on items in question.

43. Urge the SEO, the State Public Works Board and local building officials to consider the use of solar orientation in all new construction.

44. Consider enacting legislation similar to California's statutes which provide that no deed conditions, covenants, restrictions, or similar binding agreements regarding real property shall prohibit the installation of solar energy or other renewable energy devices. In addition, consider enacting similar legislation to prohibit local government ordinances which ban homeowners and others from installing such devices.

45. Direct the SEO to work with local building officials in establishing new installation requirements for heating, ventilating and air conditioning systems for homes and commercial buildings, to require:

    a. Stricter compliance with manufacturer's specifications (through testing of the system);

b. Accessibility to equipment for the purpose of cleaning and repair;

c. Joining ducting sections with mastic rather than "duct tape" (which deteriorates and fails over time);

d. Ducted return systems (in place of using building cavities for that purpose);

e. Proper location and sizing of equipment (appropriate to specific building needs); and

f. Increased technician training in installation, maintenance and repair.

46. Approve funding to complete the lighting retrofit program and other energy conservation projects requested under capital improvement projects for the Legislative Building and the Sedway Office Building.

47. Amend Chapter 704 of NRS, "Regulation of Public Utilities Generally," to provide that:

All prudent and reasonable costs associated with utility sponsored measures to improve customer energy efficiency must be recovered from rates charged to utility customers. Such costs shall include but are not limited to expenses associated with energy efficiency programs, investments in energy efficiency programs and a reasonable return thereon, and all lost revenues which result from implementation of energy efficiency measures by an electric utility.

(BDR 58 -- 424)

REPORT TO THE 68TH SESSION OF THE NEVADA LEGISLATURE BY THE LEGISLATIVE COMMISSION'S SUBCOMMITTEE TO REVIEW PRESENT EFFORTS TO CONSERVE AND DEVELOP ENERGY RESOURCES

I. INTRODUCTION

The 67th Session of the Nevada Legislature adopted Senate Concurrent Resolution No. 35 (File No. 182, *Statutes of Nevada 1993, pages 3126-3127)* which directed the Legislative Commission to conduct an interim study of Nevada's current and future energy needs and to formulate a policy regarding the conservation and development of the energy resources in this state. See Appendix A for the text of the resolution. The commission appointed a subcommittee of seven legislators to carry out the provisions of the resolution.

The following legislators served on the S.C.R. 35 Subcommittee:

Senator Dina Titus, Chairman
Assemblywoman Vivian L. Freeman, Vice Chairman
Senator Mike McGinness
Senator Randolph J. Townsend
Assemblyman John M. Bonaventura
Assemblyman Marcia D. de Braga
Assemblyman James A. Gibbons

Legislative Counsel Bureau (LCB) staff services for the subcommittee were provided by Donald O. Williams of the Research Division (principal staff); Timothy M. Chandler and Risa L. Berger of the Legal Division (legal counsel); and Linda Chandler Law of the Research Division (subcommittee secretary).

The subcommittee held six meetings, including work sessions, during the course of the study. Two of the meetings were in Las Vegas and the other four were in Carson City. These public hearings were conducted through simultaneous video teleconferences between meeting rooms at the Legislative Building in Carson City and Cashman Field Center in Las Vegas.

During the course of this interim study, the subcommittee obtained extensive expert and public testimony concerning Nevada's energy needs and policies. The subcommittee reviewed various model energy plans and policies which have been adopted by other states, and it studied information presented by national and regional organizations such as the National Conference of State Legislatures (NCSL) and the Western Interstate Energy Board. It received testimony and correspondence from concerned citizens, energy consultants and representatives of Nevada's utilities, energy-related industries and various interest groups. Federal, State and local officials contributed information and suggestions throughout the study.

At its final meeting and work session, the subcommittee adopted 47 recommendations, including 15 bill draft requests (BDRs), for consideration by the 1995 Legislature. The recommendations address the following major topics:

- State energy policy development and implementation;
- Development and use of renewable energy resources;
- Transportation, alternative fuels and air quality; and
- Energy conservation and efficiency.

See Appendix B for the subcommittee's suggested legislation (BDRs).

This report contains background information on energy use and development in Nevada. In addition, it presents an overview of Federal and State energy policies and programs. The report also contains a discussion of the topics under which the subcommittee made its recommendations.

In this document, the subcommittee has attempted to present its findings and recommendations in a concise form. A great amount of data was gathered during this study, and much of the information was provided in exhibits that became part of the minutes of the subcommittee's meetings. All supporting documents and minutes of meetings are on file with the Research Library of the LCB.

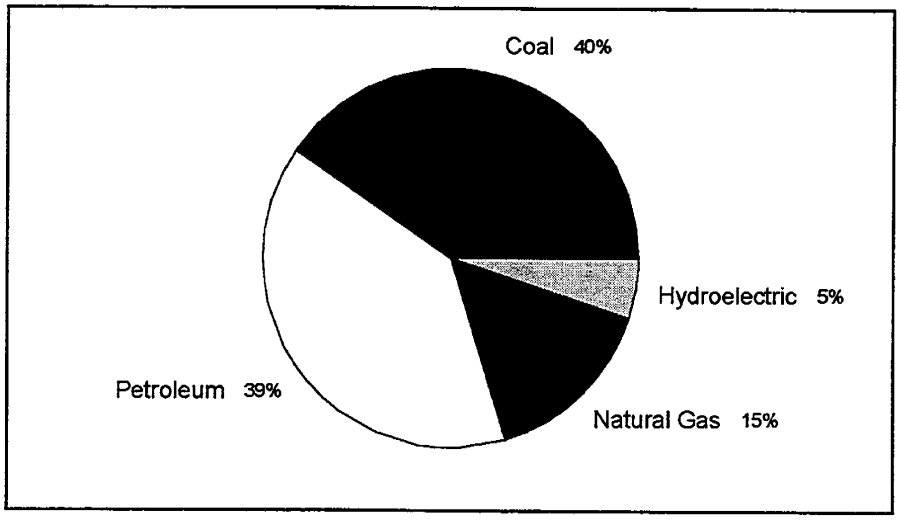
II. ENERGY USE AND DEVELOPMENT IN NEVADA[1]

Nevada imports over 95 percent of its energy, and it annually spends over $2.4 billion on energy, with much of that money going to energy suppliers outside the state.

According to Nevada's State Energy Office (SEO), the major fuel sources for the energy consumed in the state in 1991 included:

- Coal (40 percent)
- Petroleum (39 percent)
- Natural Gas (15 percent)
- Hydroelectric (5 percent).[2]

NEVADA'S MAJOR FUEL SOURCES
(1991)



[1]Most of the information in this section was taken from the 1994 edition of the Nevada State Energy Office's annual report, *Energy for Nevada--Report to the Legislature on the Status of Energy in Nevada.*

[2]State Energy Office, 1994, p. 45.

Oil in this state is produced only in Nye and Eureka counties. Nevada's oil consumption during 1991 was 31.9 million barrels, and its oil production that year was 3.4 million barrels (about 11 percent of its consumption). The oil produced here is refined into products such as kerosene, diesel fuel and asphalt. Small amounts of **natural gas** are produced in association with Nevada's oil production but is not sold commercially. On the other hand, Nevadans consume a large amount of natural gas--65 billion cubic feet in 1991.

Nevada produces no **coal**, but the state consumed 8.1 million short tons of this energy source in 1991 (up 8.7 percent from 1990). A short ton weighs 2,000 pounds.

Nevada ranks second to California in the development and use of its **geothermal** resources for producing electricity. In 1992, there were 10 geothermal plants operating in the state with total rated capacity of 191.7 megawatts (MW), an increase of 31 percent over 1991. A **megawatt** is one million watts or one thousand **kilowatts** (1,000 watts). Four new geothermal plants began production since 1992.

According to estimates from the U.S. Geological Survey, over 2,000 MW of geothermal resource potentially lies beneath Nevada (which represents four times the output of the Sierra Pacific Power Company (SPPCo) Valmy [Nevada] coal-fired power plant). Even if 1,000 MW is closer to the real potential, that amount of power would replace the need for a significant amount of power from fossil fuel plants or electricity imported from other states. Geothermal production comes on-line far more incrementally than traditional sources of power: blocks of 15 to 40 MW are added with each new facility. Nevada's 14 geothermal power plants have a total capacity of approximately 200 MW. Capital investment in these operations is nearly $500 million.[3]

Wind potential, from resources which could be developed using existing technology, is estimated at 5,740 MW in Nevada. In terms of fossil-fuel displacement equivalency, the wind energy potential is 355 trillion British Thermal Units (Btus) or 89 percent of the total energy consumed in Nevada. A **Btu** is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit.

Nevada is considered to be one of the best areas in the United States for the potential use of **solar** energy. Relatively clear skies, a high number of sunny days, latitude and high altitude contribute to the high quality, year-round solar

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[3]Fields, 1994, pp. 1-2.

resource. Implementation of several cost effective solar technologies (active and passive solar space heating, passive cooling, solar hot water heating, photovoltaics and utility scale solar power generation) could meet much of Nevada's energy needs.

Although Nevada does have **biomass** resources (piñon pine, crop residuals, manure, municipal waste, waste wood and other material), difficulties in transporting the basic feedstocks to major processing facilities have impeded their use.

The primary **hydroelectric** resources in this state are under the federal allocation of power produced from the Colorado River system in southern Nevada (Hoover Dam, Parker and Davis Dams, and the Salt Lake City Area Integrated Projects). The power produced (total capacity of 417.1 MW) is purchased by Nevada Power Company (NPC) and other southern Nevada utilities. In addition, a small amount of hydroelectric resources (total capacity of 11.4 MW), owned or purchased under contract by SPPCo, are available in various areas of northern Nevada, including the Truckee River, Lake Lahonton, Elko County and Carson Valley.[4]

Nevada's residential customers pay relatively low electrical rates, but their bills tend to be higher than the average in the 13 western states. The higher bills are a result of a high consumption level. According to the Edison Electric Institute, the average annual residential bill for electricity in the state was $703.37 or $16.46 higher than the average bill in the 13 western states ($686.89). However, the average Nevada bill was over 9 percent less than the national average bill of $769.65.

In 1992, the average annual bill for natural gas in Reno was $324.31 (612 therms at 53 cents per therm), while the average annual gas bill for a Las Vegas resident was $339.31 (614 therms at 55 cents per therm). A **therm** represents 100,000 Btus.

Energy used in transportation accounts for approximately 34 percent of the total energy used in Nevada, and it accounts for 45 percent of the total dollar expenditure for energy. In 1991, the state transportation fuel bill was $1.08 billion for 25.3 million barrels of oil. Most of this fuel is imported and results in a large portion of fuel expenditures leaving the state.

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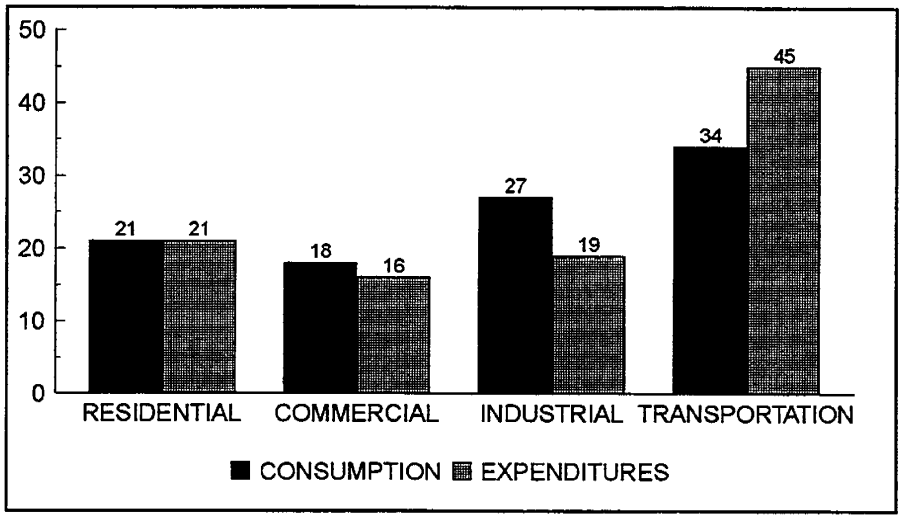
[4]State Energy Office, 1994, pp. 17-22.

Severe air pollution conditions in Nevada's urban areas are caused largely by vehicle emissions. Combustion of gasoline and oil produces large amounts of carbon monoxide, hydrocarbons, particulate emissions and nitrogen oxides. These conditions cause serious health problems for residents. In Washoe County, it is estimated that 78 percent of winter carbon monoxide emissions are from motor vehicles. In Clark County, 96 percent of the carbon monoxide levels are attributed to such vehicles.

The residential sector consumes 21 percent of the state's energy and represents the same percentage of expenditures for energy. The commercial sector consumes 18 percent of the energy and requires 16 percent of the related expenditures. Industrial consumption represents 27 percent of Nevada's total energy use but only 19 percent of the energy expenditures.[5]

NEVADA'S 1991
ENERGY CONSUMPTION AND EXPENDITURES
(IN PERCENT)



[5]State Energy Office, 1994, pp. 46-47.

NEVADA'S NATIONAL RANKINGS ON SELECTED ENERGY INDICES (RECENT ANNUAL RANK AMONG THE 50 STATES)[6]

Climate

- 31st in normal mean temperature (50.8 degrees Fahrenheit)
- 2nd in percent of days that are sunny (79%)

Renewable Energy

- 18th in percent of all energy derived from renewable resources (9.8%)
- 14th in percent of electricity derived from renewable resources (16.6%)

Energy Consumption, Cost and Expenditures

- 23rd for per capita energy consumption (325.7 million Btus)
- 19th for energy prices ($8.79 per million Btus)
- 39th for total energy expenditures ($2,405 billion)
- 26th for energy expenditures per capita ($1,875)
- 32nd for expenditures for coal ($247 million)
- 38th for expenditures on electricity ($880 million)
- 38th for expenditures on natural gas ($243 million)

Transportation

- 39th in vehicle miles of travel (10.51 billion miles)
- 40th in vehicle miles of travel per capita (8,192 miles)
- 38th in gasoline used (659.3 million gallons)
- 39th for expenditures on motor gasoline ($710 million)
- 14th for gasohol as percent of highway use gasoline (10.4 percent)
- 34th in percent of commuters driving alone to work (73.4 percent)
- 7th in percent of commuters in carpools (15.5 percent)

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[6]The information in the state rankings was compiled primarily from tables in either *States in Profile--The State Policy Reference Book 1993* or *State Rankings 1993--A Statistical View of the 50 United States*. Most of the tables in these publications are based on 1989, 1990 or 1991 data from various departments or agencies of the Federal Government. These documents are available in the Research Library of the Legislative Counsel Bureau. Additional information was obtained from the Western Interstate Energy Board's *Western Energy Update*, October 22, 1993.

III. FEDERAL AND STATE ENERGY POLICIES

A. Federal Energy Policy

The Energy Policy Act of 1992 (Public Law 102-486) was signed into law by President George Bush on October 24, 1992. This federal legislation, commonly known as EPACT, establishes the national energy policy for the remainder of the 20th Century and the beginning of the 21st Century. The purpose of the act is to decrease the reliance on oil imported from foreign countries by increasing domestic energy production and energy efficiency.

With a focus on electrical power, renewable energy and energy conservation, EPACT contains provisions which:

- Provide tax incentives to promote energy conservation, renewable energy and domestic energy production;
- Reform the Public Utility Holding Company Act to increase electricity sales competition at the wholesale level;
- Require the use of alternatively fueled vehicles in government and private fleets;
- Expand the use of renewable energy, including solar, wind and geothermal resources;
- Improve energy efficiency;
- Develop a one-step nuclear power plant licensing program;
- Require specific regulations for the Yucca Mountain, Nevada, high-level waste repository, and creating a uranium enrichment corporation;
- Expand research, development and demonstration programs for numerous energy technologies;
- Expand the Strategic Petroleum Reserve; and

- Improve research, development and demonstration programs for clean coal technologies.[7]

Some of the more significant provisions of EPACT promote energy planning by electric utilities. Integrated Resource Planning (IRP), also known as Least-cost Planning (LCP), is the process where utility companies examine both energy conservation programs and energy-production options (new power plants) to optimize resources and minimize consumer costs (economic, environmental and health costs). Although the act requires all states to consider adopting IRP/LCP for electric and gas utilities, Nevada is among the many states which have already established such procedures.

Several provisions in EPACT require compliance by the states. For example, states must meet the requirements for purchasing a certain percentage of new vehicles as alternatively fueled vehicles. The states are also required to implement the commercial building code established in the legislation, and they must consider the need to adopt new federal requirements for residential building energy codes. Because the act provides various federal grants and tax incentives for renewable energy production and use, the states may want to take advantage of these financial opportunities to develop their indigenous renewable energy resources.

President Bill Clinton's administration released the Climate Change Action Plan (CCAP) in October of 1993. The CCAP, a voluntary program directed at industry, has a goal of reducing carbon dioxide "greenhouse gas" emissions in the United States to 1990 levels by the year 2000. This plan complements EPACT by providing new and redirected federal funding to programs of the U.S. Department of Energy (DOE), the Environmental Protection Agency (EPA) and other federal agencies. The Federal Government may provide nearly $2 billion to CCAP between 1994 and the year 2000, much of it earmarked for the states. According to NCSL, the plan will assist in improving the energy efficiency of buildings; increasing industrial energy efficiency; stimulating greater development of renewable energy resources; and reducing emissions from utilities and industry.[8]

Two other recent federal laws which affect energy policy in the U.S. and complement EPACT are the Clean Air Act Amendments of 1990 (CAAAs) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).

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[7]Burmeister and Sikkema, 1992, p. 1.

[8]Staff of the Energy, Science and Natural Resources Program Energy Project, 1994, p. 1.

The EPA has established "non-attainment areas" for air quality and classified cities according to their level of ozone, carbon monoxide and particulate pollution. Beginning in 1990, cities have between three and 20 years to meet federal air quality standards. The CAAAs will assist in meeting the federal standards by imposing the following mandatory programs in various locations, depending on the severity of air pollution in the area:

- New automobile inspection and maintenance (I/M) programs to test the emissions level of automobiles;
- New operating permit programs to identify substances being released into the air;
- Stage II vapor recovery canisters at gas stations to catch the vapor emissions from the pump;
- Employer trip reduction programs;
- Reformulated gasoline; or
- Transportation controls to reduce automobile travel.

The CAAAs emphasize the need for automobile owners and industry to assist in improving air quality by using energy resources more efficiently.

In the past, federal highway funding bills indirectly increased automobile traffic by providing money for states to build more highways. ISTEA, in contrast, provides states with federal money to implement alternate transportation projects in addition to highways. The act has 14 separate funds which can be used to promote programs that reduce automobile use. These funds allow the states to choose transportation alternatives such as bike lanes, high occupancy vehicle (HOV) lanes and mass transit.[9]

B. State Energy Policy

The *Nevada Revised Statutes* (NRS) include numerous provisions governing energy conservation and the use and development of various energy resources. Some of the most important provisions are found in NRS Chapter 523, entitled "Energy," and NRS Chapter 704, entitled "Regulation of Public Utilities Generally."

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[9]Cummins and Sikkema, 1993, pp. 1-5.

Nevada's State energy policy is stated in NRS 523.011, which reads as follows:

1. The legislature finds that:

   a. Energy is essential to the economy of the state and to the health, safety and welfare of the people of the state.

   b. The state has a responsibility to encourage the maintenance of a reliable and economical supply of energy at a level which is consistent with the protection of environmental quality.

   c. The state has a responsibility to encourage the utilization of a wide range of measures which reduce wasteful uses of energy resources.

   d. Planning for energy conservation and future energy requirements should include consideration of state, regional and local plans for land use, urban expansion, transportation systems, environmental protection and economic development.

   e. Government and private enterprise need to accelerate research and development of alternative sources of energy and to improve technology related to the research and development of existing sources of energy.

   f. Prevention of delays and interruptions in providing energy, protecting environmental values and conserving energy require expanded authority and capability within state government.

2. It is the policy of this state to encourage participation with all levels of government and private enterprise in cooperative state, regional and national programs to assure adequate supplies of energy resources and markets for such energy resources.

3. It is the policy of this state to assign the responsibility for managing and conserving energy and its sources to agencies whose other programs are similar, to avoid duplication of effort in developing policies and programs for energy.

Chapter 523 of NRS contains provisions which require the Department of Business and Industry (B&I) to:

- ☐ Develop a State Energy Conservation Plan (NRS 523.141);
- ☐ Prepare plans for the allocation and rationing of petroleum and administer federal programs for fuel allocation (NRS 523.151);
- ☐ Adopt regulations for the conservation of energy in buildings, including manufactured homes (NRS 523.164);
- ☐ Administer the law which prohibits the installation of electric resistance space heating systems in counties over 100,000 population (NRS 523.167);
- ☐ Provide, upon request, energy-related information and assistance to State agencies (NRS 523.171); and
- ☐ Prepare an annual status report on energy and submit it to the Governor and the Legislature (NRS 523.181).

Under NRS 523.131, the Director of B&I has several duties relating to analyzing energy information and encouraging the development of geothermal and other alternative energy sources.

The director has assigned the administration of most of the provisions of Chapter 523 of NRS to the SEO within the department.

Under Chapter 704 of NRS and related statutes, the Public Service Commission of Nevada (PSCN) is responsible for implementing an important part of State energy policy through the regulation of Nevada's investor-owned electric and natural gas utilities. In 1983, the Legislature enacted IRP statutes for Nevada's largest electric utilities (NRS 704.741 through 704.751). The IRP requirement was extended to the natural gas utilities under 1987 legislation (NRS 704.755). Nevada's IRP process considers demand-side measures (conservation and load management) and supply-side measures (such as generation facilities) to provide the lowest cost mix of energy resources necessary to meet energy demand.

Under the IRP statutes, NPC and SPPCo are required to file electric resource plans every 3 years, with amendments as necessary. Sierra Pacific Power Company and Southwest Gas Corporation are required to file gas resource plans

every three years, with amendments as necessary. Resource plans use a 20-year planning horizon and a 10 year historical period.

In addition to demand-side and supply-side components, electric utility resource plans must include a load forecast (estimate of future energy sales and peak demands while considering energy prices) and integration analysis (establishing priorities among demand and supply options in order to determine the minimum costs of providing electricity to customers). Minimum costs are generally measured by computing a net present worth computed over the 20-year planning horizon for each plan. The plan with the minimum net present worth is considered to be the "least cost" plan. According to the PSCN, the minimum cost or "least cost" is the primary factor it considers when approving or rejecting a resource plan.[10] The commission also considers, among other things, the economic benefits (*Nevada Administrative Code* [NAC] 704.9357) and environmental costs (NAC 704.9359) to Nevada.

Paragraph (c) of subsection 3 of NRS 704.746 requires the PSCN to determine whether an electric utility's resource plan:

Adequately demonstrates the economic, environmental and other benefits to this state and to the customers of the utility, associated with the following possible measures and sources of supply:

- Improvements in energy efficiency;
- Pooling of power;
- Purchases of power from neighboring states or countries;
- Facilities that operate on solar or geothermal energy or wind;
- Facilities that operate on the principle of cogeneration or hydrogeneration; and
- Other generation facilities.

Subsection 4 of NRS 704.746 allows, but **does not mandate**, the PSCN to give preference to the measures and sources of supply listed in the aforementioned paragraph (c) of subsection 3. To receive preference, such energy measures and sources must:

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[10]Mendoza, 1993, pp. 6-7.

- Provide the greatest economic and environmental benefits;
- Be consistent with the provisions of this statute; and
- Provide adequate and reliable levels of service.

Although the S.C.R. 35 Subcommittee focused most of its attention on NRS Chapters 523 and 704, several other chapters of NRS were reviewed at various times during the study. These additional energy provisions are referenced in the recommendations section of the report.

IV. RENEWABLE ENERGY RESOURCES

"Renewables" is a term used to refer to the renewable energy resources which are naturally-replenishable or non-depletable. On the other hand, the "non-renewables" are the depletable energy stocks that will not be available after their supplies are exhausted. The principal non-renewable resources include the fossil fuels (such as coal, petroleum and natural gas) and the nuclear fuels (such as uranium).

Examples of the most common renewable energy resources include biomass (plant materials), solar energy, wind energy, geothermal energy and falling water (hydro). In contrast to the non-renewables, most renewables are considered to be clean and environmentally benign. Additionally, positive attributes associated with renewables are abundance, diversity, environmental equanimity, sustainable economic benefits, and modularity which provides for incremental capacity available from minimal lead times. (Nevada's renewable energy resources, primarily solar, geothermal and wind, are previously discussed on pages 4 and 5 of this report.)

Recent federal energy and environmental policies encourage the development of renewables. The EPACT includes a 1.5 cent per kilowatt-hour credit for electricity generated by wind energy and dedicated biomass energy crops, and this act provides a permanent extension of the business energy credits for solar and geothermal properties. In addition, the CAAAs contain provisions which may enhance the market for renewable energy technologies. Replacing existing, high-emission power plants with renewable energy resources is one way that electric utilities can meet the limit placed by the CAAAs on sulfur dioxide emissions. The CAAAs also provide a pool of bonus allowances, under a system of tradeable emission allowances, for utilities that invest early (between 1992 and the year 2000) in renewable energy and energy efficiency to avoid sulfur emissions.

Increased federal research and development funds have also been provided for renewables under various program budgets. Furthermore, the federal power marketing agencies, particularly the Bonneville Power Administration and the Western Power Administration, have been encouraged either to acquire renewables directly or to require that their customers use them.[11]

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[11]Hamrin and Rader, 1993, p. 7.

Many states are interested in adopting energy strategies which emphasize the development and use of renewables. Renewables are considered a cost-effective means of providing energy by:

- Complying with new environmental regulations;
- Protecting electric utility ratepayers from the potential financial risks associated with changing fuel prices, stricter environmental requirements, and other costs of operating and maintaining traditional utility plants;
- Diversifying the energy supply mix;
- Improving air quality and protecting public health; and
- Improving the local economy as a result of new market demands for, and export of, cleaner energy resources and related technologies.[12]

Recent public opinion polls indicate that the American public is increasingly concerned over the environment and the damaging environmental impact from using fossil fuels to generate electricity. One national poll conducted in 1990 found that overwhelming majorities prefer renewable energy resources over fossil fuels. As a first preference for replacing old, inefficient power plants, two of every three in the national survey chose renewables over other fuel sources. Sixty percent said they would be willing to pay at least $5 more each month for their utility company to switch to renewable energy. A separate survey using the same questions found that Nevadans give support for renewables that surpasses the national average.[13]

Energy generated from hydro and biomass renewables make up about 95 percent of the power produced from environmentally benign resources. Only five states, including California, Hawaii, Maine, New Hampshire and Vermont, derive more than 3 percent of their electric capacity from nonhydro-based renewables. Nevada follows closely with just under 3 percent, primarily from geothermal resources. Much of the existing electrical capacity in the U.S. from nonhydro renewables (approximately 11,000 MW) was developed by nonutility

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[12]Hamrin and Rader, 1993, p. 7.

[13]Sussman & Associates, 1990, pp. 12-13, 39.

generators (NUGs) in the 1980s under the requirements of the federal Public Utility Regulatory Policies Act of 1978 (PURPA).

Ten states account for over 70 percent of the development and use of renewables (excluding utility hydro) in electrical power. They are California (with more than 6,000 total MW or 14 percent of total capacity), Maine (855 MW or 36 percent of total capacity), Florida, Georgia, New York, Alabama, Michigan, North Carolina, Virginia and Massachusetts. Two factors help explain the greater development of renewable energy in certain states: (1) state policies which promote renewable energy development, and (2) availability of indigenous renewable resources.[14]

Economic incentives have been used by several states to encourage renewable energy development. Some states exempt renewable energy equipment from the state sales tax while others exempt renewable facilities from property taxes. Low-interest loans and state grants are available for renewable energy projects in certain states. Several states, including North Dakota and Wisconsin, have established policies which provide net electricity billing in which small-scale generators are paid retail rates through reverse metering.

Some states are considering policies to authorize "green pricing." "Green pricing" allows customers to obtain part of their electric service from renewable resources owned by the utility. The utility charges a premium over its usual rates for this service. The "green" price is designed to cover the utility's incremental cost of developing the renewable resources.

In states with IRP, the public utility commissions have an opportunity to encourage the consideration of renewables through the IRP process. The valuation of energy market externalities, including environmental impacts, and the inclusion of such costs in electricity costs can increase the economic competitiveness of cleaner renewable projects against projects which use fossil fuel. Several states have policies that require utilities explicitly to consider environmental externalities in the evaluation or acquisition of new generation resources. Although Nevada has an externality rule (PSCN General Order No. 65), representatives of renewable energy companies consider it to be too weak to encourage the development of renewables.

In addition to environmental externalities, other "adders" may be included when valuing resource additions to account for such attributes as fuel diversity and

[14]Hamrin and Rader, 1993, pp. 43-44.

resource flexibility. Such considerations would tend to favor renewables against more traditional resource options.

State policies can also encourage the development of renewable energy resources by allowing or requiring electric utilities to include a "set aside" portion of their planned resource acquisitions for renewables. By setting aside a portion of the utility resource plan for renewables, utilities can explore the capabilities of these technologies within cost and benefit parameters which are defined by the IRP.[15]

The following states have established set asides for renewables:

- ☐ California where a law mandates renewable set asides for the state's investor-owned utilities. The state's public utility commission has implemented the law by requiring 300 MW to be set aside out of a total of 1450 MW of resource additions to be obtained by 1999.

- ☐ Colorado where the public utilities commission has adopted a rule to require renewable set asides. The commission has considered a plan whereby 62.3 MW of capacity will been set aside over the next 20 years by Public Service Company of Colorado.

- ☐ Iowa where the utilities board requires the utilities to buy 105 MW of renewable capacity, with each company's purchases based on its load.

- ☐ New York where the state energy plan includes a 300 MW set aside for renewables to be acquired by regulated utilities to be on line by 1998.

- ☐ Wisconsin where the public service commission has required utilities to undertake an number of renewable energy projects to move toward achieving the state renewable development goal of over 800 MW by the year 2010.

The National Renewable Energy Laboratory (NREL) reports that many renewable energy sources are competitive, on a life-cycle basis, in the current energy market. Resource decisions which favor traditional, fossil-fuel-based generation technologies often ignore nonmarket impacts ("externalities") and the vagaries of future fuel price and availability. According to NREL, renewable power projects are highly dependable and can provide power continually or "on

[15]Lehr, 1993, pp. 1-2.

demand"--when it is economically and operationally advantageous to accommodate utility demand.

Further development of renewables depends upon utilities and consumers recognizing the contribution new technologies can make to the marketplace. Greater direct involvement in and education about renewables, by traditional utility companies, will add to the expertise they will demonstrate, and might ultimately help to encourage use of clean and competitive power for ratepayers.[16]

[16]Swezey, 1994, pp. 2-11.

V. RECOMMENDATIONS

At its final meeting and work session on July 19, 1994, the S.C.R. 35 Subcommittee adopted 47 recommendations under the topics of State energy policy development and implementation; development and use of renewable energy resources; transportation, alternative fuels and air quality; and energy conservation and efficiency. These proposals, which include 15 BDRs, are submitted for consideration by the 1995 Legislature

Organized by topic headings, the following sections of the report discuss the subcommittee's recommendations.

A. State Energy Policy Development and Implementation

On November 10, 1993, the subcommittee met in Las Vegas to review Nevada's existing State energy policy. In addition, the subcommittee considered federal energy legislation and state energy policies which have been adopted by New Mexico, South Carolina and Washington State. At subsequent meetings of the subcommittee, the legislators continued their examination of the State's policy in comparison with such policies in other jurisdictions. Special consideration was given to the SEO's role in policy development and implementation and the need for ongoing legislative oversight of energy policy matters.

1. State Energy Policy

After examining the existing State energy policy as stated in NRS 523.011, the subcommittee decided that it reflects Nevada's energy needs, with one exception. In recognizing the state's overdependence on energy imported from other states and the need to develop Nevada's own energy resources, particularly geothermal, solar and wind resources, the subcommittee adopted the following recommendation:

- **Amend paragraph (e) of subsection 1 of *Nevada Revised Statutes* (NRS) 523.011, "Legislative finding; state policy," to read as follows:**

  Government and private enterprise need to accelerate research and development of alternative sources of energy *[*and to*],* improve technology related to the research and development of existing sources of energy *[.] and maximize the use of indigenous resources to the extent economically feasible.* (BDR 46 -- 410)

2. State Energy Office

Throughout the course of the study, the subcommittee received testimony and evidence that the SEO plays an important role in administering State energy programs and providing assistance to public and private entities. Much of its work is in the areas of energy conservation and energy education, and it is responsible for administering the provisions of Chapter 523 of NRS and making sure that the State complies with various federal energy mandates.

The SEO was created administratively within B&I, but it is not referenced in statute. On April 29, 1994, the Chief of the SEO testified that the office and its programs do not currently receive money from the State General Fund but are supported through federal energy programs and the petroleum violation or "oil overcharge" account. The Chief presented the subcommittee with several funding options, all of which would enable the office to increase, to varying degrees, its program activities and obtain additional federal funding.

In response to recommendations made by the SEO Chief, the subcommittee recommended that the 1995 Legislature:

- **Review and amend Chapter 523 of NRS, "Energy," to acknowledge the SEO and its attendant responsibilities. (BDR 46 -- 411); and**

- **Provide, by appropriation, for funding the SEO with $65,000 from the State General Fund in each year of the next biennium. (BDR 46 -- 411)**

3. Energy Education

At the subcommittee's meeting in Carson City on April 29, 1994, the Superintendent of Public Instruction submitted his recommendation that the State support increased energy education activities. The coordinator of the energy and environmental education program at the University of Nevada, Las Vegas, endorsed this recommendation and indicated that Nevada's energy education programs should continue to involve "partnerships" between governmental entities, home builders and the utility companies. Recognizing the need for both public and private efforts to educate consumers, the subcommittee proposed that the Legislature:

- **Support public and private efforts to provide consumer energy education programs throughout Nevada.**

4. Legislative Oversight

The Chairman of Washington State's Senate Energy and Utilities Committee, appearing before the subcommittee on November 10, 1993, suggested that Nevada create a standing legislative committee on energy to oversee the development and implementation of State energy policy. At the subcommittee's final meeting and work session, the subcommittee agreed that the work of the S.C.R. 35 Subcommittee should be continued by an ongoing statutory committee within the Nevada Legislature to provide oversight on energy policy and the rapidly changing electric utility industry. Such a statutory committee would allow the Legislature to review energy policy and regulations during the interim between legislative sessions.

At the July work session, the subcommittee decided to postpone action on six proposed recommendations with which most, if not all, of the members agreed in principle. The proposals related to establishing a funding source for the SEO; appropriating additional State money to support consumer energy education programs; creating a State authority to issue revenue bonds for renewable energy projects; directing a State study of the potential development of renewable energy technologies by electric utilities; requiring optional "green" tariff rates for consumers who choose to use electricity generated by renewable energy; and creating a statewide task force on carbon dioxide. The subcommittee made the decision that the ongoing statutory committee on energy should review those specific recommendations before they are presented to the Legislature.

Therefore, the subcommittee adopted the following recommendation:

- **Create, by statute, an ongoing statutory committee on energy of the Nevada Legislature. Provide the committee with broad powers to review the laws, regulations and State agencies relating to energy policy. Require the SEO to make quarterly reports to the committee regarding energy planning activities, the implementation of energy policies and recommendations for legislation. (BDR 17 - 412)**

  The statutory committee should review the following recommendations which were presented to the interim study subcommittee:

  a. **Appropriating adequate funding for the SEO and providing a stable source of funding for the office;**

b. **Providing adequate funding to support consumer energy education programs throughout Nevada;**

c. **Creating, by statute, a "State Renewable Energy Authority" which is authorized to issue revenue bonds for renewable energy projects;**

d. **Directing the SEO, in cooperation with the PSCN, to undertake a study of the feasibility and costs of participation by the state's electric utilities in the development of renewable technologies and the interconnection of their transmission systems to further regional development of and access to renewable energy resources;**

e. **Requiring the PSCN to develop optional "green" tariff provisions for those Nevada customers who, by choice, wish to support renewable resource projects through a specific tariff rate earmarked for those types of projects; and**

f. **Appointing a statewide task force to study means of reducing carbon dioxide.**

B. Development and Use of Renewable Energy Resources

The subcommittee received a great amount of testimony and correspondence concerning the need for the State to encourage the development and use of renewable energy resources. Renewables were discussed at almost every meeting of the subcommittee, but the most extensive testimony was given at the meeting in Carson City on January 31, 1994. Most of the discussion centered on the use of renewables by Nevada's electric utilities.

1. Selected Testimony on Renewables

At the meeting on January 31, representatives of Nevada's investor-owned utilities made presentations regarding their use or potential use of renewable energy resources. Additional testimony was provided by State energy officials, national experts on renewable energy, and representatives of various renewable energy companies or energy interest groups. The following discussion includes a summary of a few selected presentations which address some of the important renewable energy concerns.

Frederick J. Schmidt, Nevada's Consumer Advocate, Office of Advocate for Customers of Public Utilities (OACPU), Office of the Attorney General, said his

office not only encourages energy awareness, but also supports economic and environmentally benign energy development because Nevada has a large, untapped potential in renewables.

According to Mr. Schmidt, the OACPU sponsored the Electric Resource Planning Act (ERPA) in 1981 and has been a participant in electric resource planning for the major electric utilities since 1984, and in natural gas resource planning since 1987 (as the act was expanded in scope). In 1989, the office also was involved with geothermal developers in support and passage of legislation aimed at favoring those resources which have less environmental impact. The environmental "externalities" which were adopted by the PSCN, and are intended to be included in the resource planning process, were developed by the OACPU in concert with professional consultants it hired.

Mr. Schmidt noted that NPC, pursuant to its last approved resource plan, invested over $300,000 on a comprehensive study of solar power potential in Nevada which was carried out by John C. Schaefer, a solar power consultant.

Furthermore, Mr. Schmidt stated that an evaluation of the statistics and comments from the electric utilities shows the state is not a leader in development of renewable or clean energy technologies. Nevada Power Company has virtually no renewable resources integrated into its 20-year plan, except for Hoover Dam power which makes up about 8 percent of the capacity in the NPC system. Comparatively, SPPCo, which had no geothermal capacity in 1984, increased its energy produced from geothermal resources to 13 percent of capacity by 1993, but geothermal production by 2002 will represent only 9 percent of overall capacity. Mr. Schmidt said, during the time he was a commissioner on the PSCN, SPPCo's increased use of geothermal energy had not come easily; however, it is his opinion that SPPCo had become open and willing to consider that renewable technology. He said he is disappointed to see no other environmentally benign resources in the SPPCo plan, other than geothermal and demand-side management (DSM).

Mr. Schmidt said between 1989 and 1991 the PSCN developed effective regulations to encourage renewables; however, in implementing those regulations, flexibility was maintained which did not make it mandatory to make weighted decisions based on the environmental cost adders. As a result of that flexibility being left in regulation, the utilities decided they didn't have to pursue renewables aggressively, only include them in their presentations. As a result, the actual and projected environmental costs were immediately debated and little progress has been made toward increasing use of renewable energy resources.

In Mr. Schmidt's view, Nevada's economic development and environmental improvement will be enhanced by the utilization of the state's natural resources. Although the coal, fossil fuel, and natural gas supplies which Nevada imports are plentiful in nearby states, Nevada does not have those resources in abundance. However, it does have a wealth of geothermal fluid, sunshine and wind from which power can be generated. Those renewable energy resources are the long-term future of power supplies in this country, he said. The ability to move forward in developing those new technologies is dependent upon the vision shown by the utility companies and the state legislators in Nevada, he added.

He noted three major problems which have precluded development to date: (1) there is no real utility-type ownership of the alternative power solutions to our energy future; (2) that ownership is lacking because those who currently work in traditional utility companies, the engineers and planners, do not have sufficient expertise in renewable resources (that condition is gradually changing, however); and (3) the current management and employees of traditional utility resources are not those who are, necessarily, going to visualize the changes required and aggressively lead the industry in the conversion to renewable resources.

To begin work on a solution to those problems, a method for encouraging and developing utility ownership of renewable, clean energy resources needs to be established, said Mr. Schmidt. He presented the following proposals, among others, to help develop renewable resources which hold great economic potential for Nevada's future:

- ☐ Consider a reasonable percentage of new growth to be set aside for renewable resource development (restricting the percentage would ameliorate the effect on rates while providing proof to energy developers that there is a market in Nevada--which will eventually drive down the cost); and

- ☐ Institute a method by which utilities are encouraged to work on renewable technologies through joint ventures and other participatory plans such as the environmental offset or "adder" on profit--and allow sufficient time for those incentives to positively impact the process.

Concluding his testimony, Mr. Schmidt stated Nevada has the opportunity to evolve from an energy environment based on imports and pollution to one based on clean energy resources which could supply the state's needs and feasibly allow for export.

Rose McKinney-James, Director, B&I, offered her observations as a former commissioner of the PSCN. She indicated that the issues surrounding the

development of renewables in Nevada are somewhat confused. It is awkward to effectively address the lost revenues and related promotional expenses for "least cost" programs as well as the reliability of renewables, she explained. Distribution and delivery costs appurtenant to renewable energy resources often make renewables cost prohibitive, she said. However, that should not preclude progressive steps being taken--through demonstration projects and otherwise--to expand use of renewables.

She stated there are similarities in her philosophy regarding renewable energy resources and the previous comments of Mr. Schmidt, and she called for a comprehensive energy policy which specifically addressed renewables. The PSCN is constantly grappling with various restrictions, the need to balance the interest of the ratepayer and the utilities, and being responsive to the guidance from the Legislature. When the Legislature assumes a portion of the responsibility for establishing the parameters of state energy policy, based on contributions from all stake holders, the PSCN will become better able to test the use of renewables, she surmised.

In making further remarks about renewable issues raised during her tenure on the PSCN, Ms. McKinney-James said the geothermal and solar issues addressed in Nevada were, and are, similar to interests shown throughout the Western Region and the entire Country. She noted that Nevada's two most useful energy management tools are the IRP process and the state's order outlining "environmental externalities."

Ms. McKinney-James said she was frustrated by the lack of movement away from traditional energy resource mix to a broader inclusion of environmentally benign renewables while she was involved with the commission. As a result, at her request, the PSCN has reopened the rule-making process so that whether the original intent is being met could be explored. However, she has not seen movement toward a better mix as yet.

Blair G. Swezey, Principal Policy Adviser, Analytic Studies Division, NREL, stated his organization leads the Nation in conducting research and development of renewable energy resources and technologies. Chairman Titus asked Mr. Swezey to comment on NPC's lack of renewables in its 20-year resource plan. Mr. Swezey stated that due to the abundance of Nevada's renewable resources, he would be suspicious of any plan which did not include development of those resources. In his opinion, the plan should be more thoroughly reviewed.

2. Legislative Proposals

In response to recommendations made by the Nevada Geothermal Council (NGC), the Center for Energy Efficiency and Renewable Technologies (CEERT) and others, the subcommittee recommended that the 68th Legislature:

- **Provide, by statute, the following definition relating to renewable energy resources:**

  "Renewable energy resources" are defined as resources capable of producing electricity from an energy source that is not consumed or combusted and is naturally regenerated, such as wind, solar, geothermal, and hydro. For this purpose, hydro may include pumped storage hydropower if the source of the power used to pump the water is from non-fossil, renewable resources. (BDR 58 -- 413)

After carefully considering several possible options for a renewable "set aside" provision for electric utilities, the subcommittee proposed the following:

- **Require, by statute, that Nevada's investor-owned electric utilities use a certain percentage or set-aside of renewable energy resources as follows:**

  That over the next 6 years [through the year 2000], 10 percent of new growth shall be provided from renewable resources until utility resource plans reach a level of 10 percent of overall capacity from renewable resources. (BDR 58 -- 413)

The following two recommendations were adopted in response to proposals from CEERT and the NGC:

- **Amend the statutes to add systems and facilities which utilize "renewable energy resources" to the list of systems and facilities eligible for property tax exemptions. (BDR 32 -- 414); and**

- **Consider adopting a policy statement finding and declaring that the sustained orderly development of renewable energy resources for use as sources of energy for the state's electric utilities is needed to preserve and improve the environment, to provide resource**

diversity, and to mitigate the risks associated with the state's continued dependency on electricity generated from fossil fuels.

At the meeting in Las Vegas on March 9, 1994, a representative of Nevada's U.S. Senator Richard H. Bryan advised that Senator Bryan is pursuing the establishment of a national center for solar energy technology and development at the Nevada Test Site (NTS) between Las Vegas and Tonopah, Nevada. The federal DOE has established a Solar Enterprise Zone Task Force to prepare a plan for developing a solar enterprise zone at NTS. Senator Bryan, Nevada Governor Bob Miller and S.C.R. 35 Subcommittee Chairman Titus, among others, are members of the task force. The subcommittee recommended that the Legislature:

- **Urge, by resolution, all departments in the Executive Branch of State Government to work with the United States DOE and other federal offices to coordinate efforts and pursue demonstration facility construction and develop a solar strategic plan for southern Nevada. In addition, the resolution should express the Legislature's support for the efforts to develop a "Solar Power Enterprise Zone" in Nevada, and it should note that the state will have the opportunity to lead the Nation in technologies for the solar industry. Furthermore, the resolution should include a statement that it is time for the State to act and speed up production of this environmentally clean power resource (solar energy), as well as economically benefit from the conversion of the Nevada Test Site (NTS) to a solar energy research and development site. (BDR R -- 415)**

The Director of Electric Policy Planning for SPPCo advised the subcommittee that because of Nevada's large rural area, continued attention to distributed, modular, and economically feasible renewable energy use is essential to further develop this market. The subcommittee agreed with this position and recommended to:

- **Urge the PSCN to support modular, distributed use of renewable energy. Such use provides electrical energy for those customers at remote locations that would otherwise need costly line extensions or other less desirable generation options.**

The subcommittee adopted the following proposals which the PSCN submitted to allow renewables to play a greater role in Nevada's energy future:

- **Amend NRS 704.741, "Plan to increase supply or decrease demands: Triennial submission required; contents prescribed by regulation." Amend paragraph (b) of subsection 2 of NRS 704.741 as follows:**

  Determine the best combination of *[*sources of supply*]* *resources* to meet *[*or reduce*]* the demands *with due consideration of economic and environmental impacts [*or the best method to reduce them*]*.
  (BDR 58 -- 416); and

- **Encourage creative public/private partnerships to promote resource development and stability in renewable energy areas.**

The members of the subcommittee expressed their support for two additional proposals relating to renewables. Several persons proposed that the subcommittee recommend "green pricing" or "green tariff" provisions for electric utility customers who, by choice, wish to support renewable resource projects through a specific tariff rate (slightly higher utility bills) earmarked for those types of projects. In addition, a representative of the geothermal industry recommended that the Legislature create, by statute, a "State Renewable Energy Authority" which is authorized to issue bonds for renewable energy projects. Although the subcommittee agreed with these two proposals, it chose not to recommend them to the 1995 Legislative Session. Instead, the subcommittee included both of the proposals under the topics to be studied by the ongoing statutory committee on energy which would be established under Recommendation No. 5 in this report.

The subcommittee also recommended that a third renewable energy proposal be placed under the purview of the statutory committee: The NGC and CEERT had proposed that the SEO and the PSCN undertake a study of the feasibility and costs of the electric utilities developing renewable technologies and interconnecting their transmission systems to further access to renewables.

C. Transportation, Alternative Fuels and Air Quality

At its meeting in Las Vegas on March 9, 1994, the subcommittee focused on energy policy relating to transportation, alternative fuels and air quality.

Air quality was given special consideration because the major urban areas in the state, the Las Vegas Valley in Clark County and the Truckee Meadows area of Washoe County, do not meet certain federal air quality standards. Because motor vehicle emissions are a major contributor to air pollution in the urban areas, the subcommittee solicited testimony on how the State might increase the

use of clean, alternative fuels for vehicles. Cognizant of the fact that Nevada's annual transportation fuel bill is well over $1 billion, the subcommittee examined various alternatives to reduce vehicle traffic and use more fuel-efficient vehicles.

1. Air Quality

Representatives of Nevada's Bureau of Air Quality, Division of Environmental Protection (State Department of Conservation and Natural Resources), and the Vehicle Emission Control Section, Registration Division (Department of Motor Vehicles and Public Safety), made presentations regarding the State's compliance with the CAAAs and other federal EPA mandates for air quality. Furthermore, officials from the air pollution control agencies in Clark and Washoe counties submitted their recommendations for reducing emissions of carbon dioxide, carbon monoxide, ozone and other air pollutants.

The officials from Washoe County suggested that the existing I/M program for motor vehicles be expanded to include Incline Village and the areas and counties adjacent to the Truckee Meadows, and the subcommittee discovered that the State Environmental Commission already has the statutory authority to expand the I/M program to those areas and other locations. The subcommittee learned that air pollution from sources in Nevada may be contributing to the impairment of visibility in the Grand Canyon area.

Based on the information presented by the aforementioned State and local officials, the subcommittee recommended that the 1995 Legislature do the following:

- **Urge the State Environmental Commission to make certain that all areas in Nevada meet the federal EPA standards for carbon monoxide and ozone;**

- **Direct, by resolution, the State Environmental Commission to expand Nevada's inspection and maintenance (I/M) program for motor vehicles to include additional areas of the state, particularly Carson City, Incline Village and areas adjacent to the Truckee Meadows area of Washoe County. (BDR R -- 417); and**

- **Urge the PSCN and the State Environmental Commission to coordinate State policies and support utility efforts to deal with federal policy agendas, such as global climate change and visibility impairment in the Golden Circle of Parks.**

The subcommittee also considered adopting an additional proposal presented by the Director of Air Pollution Control for the Clark County Health District. This official suggested that the Legislature appoint a statewide task force to study the means of reducing carbon dioxide in Nevada. This task force should identify the impacts and sources of carbon dioxide emissions and then work toward reducing those emissions. Although the subcommittee chose not to forward this proposal for action in the 1995 Session, it is included as a topic for consideration by the ongoing statutory committee on energy which would be created under Recommendation No. 5 in this report.

2. Alternative Fuels, Fuel Quality and Fuel Efficient Vehicles

Alternative fuels used for transportation include compressed natural gas (CNG); liquefied petroleum gas (LPG) or "propane"; methanol, ethanol or other alcohol fuel in concentration of at least 85 percent; reformulated gasoline or diesel which exceeds the standards for such fuels commonly available to the general public; hydrogen; other alternative power sources such as electricity; and other clean liquid fuels derived from coal or other sources of energy. These fuels assist in reducing air pollution and improving energy efficiency.

Nevada and other states have begun to promote the use of alternative fuels to reduce the reliance on foreign oil and assist in meeting the air quality standards under the federal Clean Air Act. Although Nevada cities are not required to comply with the "Clean Fuel Fleets" provisions of the CAAAs, planning agencies in Clark County and Washoe County have begun to use alternative fuel vehicles (AFVs) in State Implementation Plans (SIPs) which are required by the EPA.[17] The SIPs are detailed air quality compliance plans which must be prepared by nonattainment areas (Las Vegas Valley and the Truckee Meadows).

The EPACT contains federal mandates for AFVs. The act mandates the use of alternative fuels in certain "covered fleets." While municipal and all private fleets may be covered at a later date, the current law applies most directly to light-duty vehicle fleets in the energy business, including alternative fuel providers, and federal and state government fleets.

The 1991 Nevada Legislature enacted Assembly Bill 812 (Chapter 612, *Statutes of Nevada 1991*) which, among other things, made provision for converting fleets to AFVs. This legislation was codified as Chapter 486A of NRS, "Fleets: Use of Alternative Fuels." A "fleet" is defined as 10 or more motor vehicles owned, leased or operated by the State or a local governing body. Under A.B. 812, the

[17]Western Interstate Energy Board, 1993, p.15.

State Environmental Commission was required to adopt regulations to require the conversion of State and local government fleets to alternative fuels. The commission adopted such regulations (Chapter 486A of NAC) which became effective on November 23, 1992. The regulations require government agencies with fleets in a county of 100,000 or more to begin phasing in AFVs. The Bureau of Air Quality was given the authority to implement the phase-in program

Under NAC 486A.160, all covered fleets, including those with buses and heavy-duty trucks, must obtain clean AFVs in the following percentages of vehicles acquired or replaced, and according to the following schedule: 10 percent in Fiscal Year (FY) 1995, 15 percent in FY 1996, 25 percent in FY 1997, 50 percent in FY 1998, 75 percent in FY 1999 and 90 percent in FY 2000 and each year thereafter.

The Administrator of the State Motor Pool advised of his agency's plans to expand the acquisition of AFVs and construct fueling stations for such vehicles. During the interim study, the subcommittee learned that certain states, including Arizona and New Mexico, have adopted policies which require state and local governments to acquire AFVs as new or replacement vehicles at higher percentages and/or in earlier years than Nevada's schedule. To address these concerns, the subcommittee recommended that the Legislature:

- **Consider the following proposals:**

  a. **The Legislature and the Budget Division should support adequate funding for the State Motor Pool to construct and operate a fueling station for natural gas or other alternative fuels and a mini-fleet of Original Equipment Manufacturer (OEM) AFVs. This fueling station and mini-fleet is to be located at the new State office building near Cashman Field Center in Las Vegas. In addition, the Legislature and the Budget Division should support funding the construction of additional fueling facilities for AFVs in Clark and Washoe Counties to serve the State Motor Pool, other State agencies and other public and private fleets; and**

  b. **The State Environmental Commission should review and revise its regulations which require the conversion of State and local government fleets to alternative fuels. The commission should be urged to revise its regulations so as to accelerate the schedule for the acquisition of AFVs by State and local governments. Furthermore, the commission should consider**

the AFV requirements which have been adopted for public fleets in Arizona and New Mexico.

In response to proposals made by representatives of the Clark County Department of Comprehensive Planning and Southwest Gas Corporation, the subcommittee recommended that the 68th Legislature:

- **Consider supporting the following:**

  a. **Development of a State alternative fuel vehicle implementation plan to aid transition, similar to the Clark County program;**

  b. **Establishment, in the future, of a State-administered grant fund within the SEO to assist communities in the construction of public-access fueling facilities for alternative fuels; and**

  c. **Establishment, in the future, of a State-administered grant fund to assist fleet and individual vehicle owners to reduce the initial cost of conversion to or acquisition of AFVs.**

Several persons representing public agencies and alternative fuel companies testified in support of eliminating or reducing the State fuel tax on alternative fuels, primarily on LPG and CNG. They noted that some states, Arizona being one example, have either eliminated the tax on alternative fuels for several years or have reduced it to only a few cents per gallon. The existing State fuel tax rate for LPG and CNG is 23 cents per gallon; the rate on other alternative "special fuels" is 27 cents per gallon; and the rate on gasoline is 24 cents. Recognizing the need to provide an additional incentive for the use of alternative fuels, the subcommittee recommended legislation to:

- **Amend the statutes to reduce the State fuel tax on clean alternative fuels for motor vehicles to 20 cents per equivalent gallon. (BDR 32 -- 418)**

In response to concerns raised by the LP Gas Clean Fuels Coalition, the subcommittee proposed that the Legislature:

- **Adopt an energy policy that is "fuel neutral" -- a policy which does not promote the use of one type of clean alternative fuel for motor vehicles over another. In addition, the Legislature should consider**

supporting efforts at establishing uniform State and local regulations regarding refueling facilities for alternative fuel vehicles.

The Chairman of the Nevada Gasoline Retailers and Garage Owners Association informed the subcommittee that certain persons are selling substandard motor fuels in Nevada with the intent of evading State and local taxes. He indicated that this practice is compromising air quality standards and may be causing damage to motor vehicles. Moreover, he estimated that Clark County alone may be losing as much as $200,000 each month in unpaid fuel taxes. At the subcommittee's request, the Chief of the Bureau of Plant Industry in the Division of Agriculture, the agency responsible for enforcing gasoline and diesel fuel standards, submitted his suggestions on how to address the concerns over the sale of substandard motor fuels. After reviewing this issue, the subcommittee recommended that the Legislature:

- **Consider directing the SEO and the Division of Agriculture to study and report back to the 1997 Legislature on the problem concerning the transportation and sale of substandard motor fuels in Nevada. The report should include recommendations for improving interagency cooperation and communication relating to State enforcement actions; and**

- **Consider supporting, in conjunction with the Budget Division, the Division of Agriculture's 1995-1997 budget requests in the Gas Pollution budget for additional analyzing equipment for the new Las Vegas laboratory and additional inspectors to increase fuel sampling and analysis.**

A representative of the SEO recommended that Nevada join other states, Oregon being an example, that have passed resolutions to the President and Congress to support Nevada's U.S. Senator Richard Bryan's efforts to gain passage of a federal Corporate Average Fuel Economy (CAFE) standard. Such a standard would improve automobile efficiency by 20 percent beginning with upcoming model years and 40 percent by model year 2001. Therefore, the subcommittee recommended that the Legislature:

- **Urge, by resolution, the President and Congress to support an improved CAFE standard. (BDR R -- 420)**

Certain states, including California, have authorized programs where state and local air quality agencies may purchase and scrap/recycle older motor vehicles

which are the worst violators of auto emission standards. According to the SEO, certain old vehicles are the worst polluters on the road because they have little or no air pollution control equipment and are exempt form emission inspections. In addition, pre-1971 cars are among the least energy-efficient vehicles. In response to a proposal by the SEO, the subcommittee recommended that the Legislature:

- **Consider the need for proposing legislation which would support State and local air quality management agency emissions reduction programs which include the purchase of old "gas guzzler" vehicles.**

Connecticut and Iowa are among the states which have enacted legislation to require that state and/or local governments purchasing new vehicles must purchase only those vehicles which equal or exceed the average fleet fuel efficiency standard established by the Federal Government for that model year. The SEO suggested that Nevada take similar action. Therefore, the subcommittee recommended that the 1995 Legislature:

- **Require, by statute, that the purchase of new motor vehicles by the State and local governments must equal or exceed the average fleet fuel efficiency standard established by the Federal Government for that model year. (BDR 27 -- 421)**

3. Transportation

At the subcommittee's first meeting, the director of the Western Interstate Energy Board testified that energy use in the transportation sector is the most critical energy policy issue facing Nevada. He noted that Nevada paid more money for energy in 1991 than total revenues from mining, farming and ranching generated in 1989. As previously stated, almost all of the money spent on energy, especially transportation fuel products, has gone to out-of-state suppliers.

The following information describes some of the transportation programs reviewed by the subcommittee prior to making its recommendations.

California, Oregon and Washington State have adopted state policies that encourage the efficient use of their energy resources used for transportation. Other states, such as Minnesota, Virginia and Wisconsin, have enacted transportation demand management and/or innovative mass transit programs.

For more than a decade, the federal EPA has promoted various transportation control measures (TCMs) to clean the air. Transportation systems management (TSM) and transportation demand management (TDM) are terms that are used interchangeably with TCM. Under the federal CAAAs of 1990, states with ozone and carbon monoxide nonattainment areas will use TCMs under their SIP that will detail how they will reduce air pollution.

Transportation control measures include employer-based transportation management; improved public transit; park-and-ride lots; parking management programs; ridesharing (car- and van- pooling incentives); road pricing (tolls); traffic flow improvements; trip-reduction ordinances; voluntary no-drive days; and work schedule changes. Such measures not only reduce emissions and congestion but also save energy and money. Those savings have been demonstrated in the basin of Los Angeles, California, where the South Coast Air Quality Management District aggressively implements TSM.

California's *1991 Energy Plan* advocates reduced traffic congestion and reduced vehicle-miles-travelled to improve efficiency in transportation. High occupancy vehicle lanes (HOV), transit fare allowances, vanpooling allowances, rideshare matching and subsidized travel time, combined with reduced or eliminated subsidized parking, are among the ways to achieve these goals.[18]

State energy policies may also target state and local governments. Government agencies could be encouraged or required to reduce motor vehicle use in the following ways: providing bicycle racks and showers for employees who bike to work; providing shuttle service from public transportation stops to government facilities; maintaining ride boards to help employees increase car pooling; charging higher fees for parking at government buildings; reimbursing employees using public transportation; using teleconferencing; and using telecommuting, allowing employees to work at home and use telephone and computer links to communicate with their office.[19]

In response to a proposal by a representative of the Regional Transportation Commission of Clark County, the subcommittee recommended that the Legislature:

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[18]Totten and Settina, 1993, pp. 67-68.

[19]Lewis and Weltman, 1992, p. 60.

- **Strengthen, in cooperation with local government planning agencies and regional transportation commissions, the institutional relationships between land use planning and transportation planning.**

After considering the testimony from the Nevada staff of the California-Nevada Super Speed Ground Transportation Commission, the subcommittee adopted legislative proposals to:

- **Urge, by resolution, the President and Congress to support federal efforts regarding:**

  a. **The maglev, high-speed train projects which operate in excess of 180 miles per hour; and**

  b. **Funding, through grants or otherwise, for national corridor development.**

  (BDR R -- 419); and

- **Approve, in conjunction with the Budget Division, future funding requests made by the California-Nevada Super Speed Ground Transportation Commission.**

In response to proposals submitted by the SEO, the subcommittee recommended that the 1995 Legislature:

- **Urge State agencies to: use telecommuting, including initiation of a State telecommuting pilot project; develop State "telework centers" and additional video teleconference facilities; and utilize altered work schedules for State employees, including 9-day/80-hour (over 2 weeks) and 4-day/40-hour work weeks;**

- **Urge the Nevada Department of Transportation to consider implementing HOV lanes on appropriate sections of State highway prone to traffic congestion in order to reduce travel delays, energy consumption, and air pollutants; and**

- **Urge the Nevada Department of Transportation to consider developing and implementing a ridesharing (car-pooling) program for State employees who commute to the capital (Carson City) from the Truckee Meadows and the Minden/Gardnerville area. The program may include various employee incentives such as parking pricing and preferential parking.**

D. Energy Conservation and Efficiency

On April 29, 1994, the subcommittee met in Carson City to take testimony regarding the State's energy policy relating to energy conservation and efficiency. Most of the attention was given to the subject of building energy codes. National experts on building energy standards, State and local energy and building officials, representatives of Nevada's homebuilders and others made presentations. Except for the final recommendation, all of the recommendations in this section are based on testimony presented at the April meeting.

1. Background on Building Energy Conservation and Efficiency

According to the Alliance to Save Energy, buildings account for more than a third of the energy used in the United States, and homes use more than half of this amount. Over the last 20 years, new technologies and building methods have been developed to avoid much of the energy use in buildings through cost-effective efficiency features. Recent new building designs use half or less of the energy consumed in older buildings, and many of the features that are easy and inexpensive to include in new buildings are difficult or expensive to add later as retrofits.

State and local building codes provide the foundation for energy efficient new buildings. While the Federal Government and national organizations can develop model energy standards for new buildings, the administration and enforcement of building codes is left to state and local governments.

Since the 1970s, a number of model building energy standards have been created by private engineering societies, government agencies and code official organizations. The two organizations that have developed the most commonly used standards are the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the Council of American Building Officials (CABO). State and local governments have adopted the national standards in an uneven fashion. Most states have some energy standards in their

regulations, but many states are not able to enforce building codes statewide. Many building codes therefore do not reflect either the modern building techniques or the levels of energy efficiency that can be economically justified.[20]

The Federal Energy Policy Act of 1992 requires states to adopt the ASHRAE 90.1-1989 standard for commercial buildings and to compare the CABO 1992 Model Energy Code (MEC) against current state residential energy standards. If a state chooses not to upgrade residential building codes to meet the MEC, it must explain its decision to DOE.

Many states are implementing Home Energy Rating Systems (HERS) as a new way to encourage energy efficiency for homes. The HERS programs, usually voluntary, provide potential home buyers with objective, standardized information on the energy performance of homes, similar to energy efficiency labels on appliances and miles per gallon ratings for automobiles.

Energy-efficient mortgages (EEMs), guaranteed by the major federally chartered mortgage financing institutions, enable home buyers to qualify for a higher mortgage to purchase an energy-efficient home. The EEMs are based on the assumption that the home buyer can afford a higher mortgage since energy-efficient homes have lower heating and cooling costs than the average home. Increased mortgage payments typically are more than offset by energy savings over the life of the loan.[21]

2. Nevada's Building Energy Conservation Standards

Under NRS 523.164, the Director of B&I is responsible for the adoption of regulations for the conservation of energy in buildings, including manufactured homes. Nevada's Office of Community Services, which was abolished in 1993, adopted Chapter 523 of the NAC, "Conservation of Energy in Buildings," on July 8, 1988. These regulations, which were based on the 1986 MEC, establish minimum building energy standards, but they apply only to areas in which the governing body of the local government has not adopted standards for the conservation of energy in buildings.

Several of Nevada's local governments have adopted certain building energy standards, but some of these standards date back to 1978. It appears that

[20]Howard and Prindle, 1991, p. i.

[21]Burmeister and Sikkema, 1993, pp. 1-3.

Clark County is the only jurisdiction that has adopted a fairly recent code--the 1992 Edition of the MEC. James P. Hawke, who was the Director of the Office of Community Services at the time of the 1993 Legislative Session, proposed legislation to extend the minimum State building energy standards to apply to all jurisdictions in Nevada. This legislation was introduced as Senate Bill 124, but it failed to be passed out of the Senate Committee on Natural Resources.

In 1991, the Nevada Legislature's Interim Finance Committee (IFC) created a subcommittee "to study energy conservation projects for state and University and Community College System of Nevada buildings for both new construction and retrofitting of existing structures." After conducting the study, the subcommittee, chaired by Assemblyman Robert M. Sader, submitted its report to the IFC on November 9, 1992.

As a result of the IFC study on energy conservation, the 1993 Legislature approved the following measures:

- Assembly Bill 407 (Chapter 314, Statutes of Nevada 1993) which authorizes the use of alternative financing for energy retrofitting projects in buildings occupied by State or local governmental entities. It also requires the Governor, the Legislature and the Supreme Court to designate one or more energy retrofit coordinators for the buildings occupied by their respective branches of government, and it authorizes local governments to designate their own energy retrofit coordinators;

- Senate Bill 562 (Chapter 448, *Statutes of Nevada 1993*) which amends A.B. 407 to change, among other things, its effective date (from October 1, 1993, to March 1, 1995) and its expiration date (from May 1, 2013, to March 1, 2015);

- A.B. 408 (Chapter 315, *Statutes of Nevada 1993*) which requires the establishment of a program to track the use of energy in buildings owned by the State and authorizes such a program for buildings occupied by a State agency; and

- Assembly Joint Resolution No. 26 (File No. 139, *Statutes of Nevada 1993*) which proposes to amend the *Constitution of the State of Nevada* to exempt from the debt limit money borrowed to retrofit State buildings to make those buildings more energy efficient. This proposal will be returned to the 1995 Legislature and, if adopted in identical form, will be

placed on the 1996 General Election ballot for voter approval or disapproval.

3. **Legislative Proposals**

After considering testimony describing Boulder City's innovative program to encourage energy efficiency, the subcommittee recommended that the Legislature:

- **Urge all electric utilities in Nevada to adopt creative programs to promote energy efficient buildings. As one option, the utilities might consider implementing a program similar to Boulder City's sliding scale fees for electrical hookups. In Boulder City, the electrical hook-up fees for new construction are reduced based on use of conservation and efficiency design elements in the home.**

In response to proposals submitted by the SEO and supported by various persons representing energy companies and associations, the subcommittee adopted the following recommendations for the 1995 Legislative Session:

- **Amend NRS 523.164, "Regulations for conservation of energy in buildings: Adoption by director; exemptions; applicability; public comment and hearing," to require the SEO to consider the most current edition of the Model Energy Code (MEC) and other national standards relating to building energy conservation and efficiency; and allow the SEO to provide for certain exemptions or modifications to accommodate the particular heating or cooling needs of each geographic region in the state. In addition, require the application of the State's minimum standards for building energy conservation in any area in which the local government has not adopted more stringent standards. (BDR 46 -- 411);**

- **Urge the SEO to adopt the 1995 MEC for residential construction [three stories and less] and the code version of the ASHRAE/IES Standard 90.1[with amendments] for all other construction, as well as the National Fenestration Rating Council (NFRC) performance rating requirements;**

- **Provide, by statute, that the SEO shall adopt a voluntary HERS for new construction and existing homes that is modeled after HERS**

programs which have been adopted in other states. In addition, amend Chapter 704 of NRS, "Regulation of Public Utilities Generally," to require major utility companies regulated by the PSCN to incorporate the HERS rating criteria in connection with energy efficient and DSM programs for new construction. (BDR 46 -- 411);

- **Direct the Buildings and Grounds Division, Department of Administration, to "sign on as a partner" in the U.S. EPA's Green Lights and Energy Star Buildings Programs -- to promote State leadership to local government and the private business sector; and**

- **Urge city and county managers and local elected officials to support their respective building departments and officials by providing adequate staffing to adequately enforce construction codes and standards. In addition, urge local building code officials to require compliance with "the letter of the code" to ensure adequate enforcement of building and energy codes. A better energy education process for both the building jurisdictions as well as the building industry, in general, should be implemented which would underscore how important attention to quality control is in these matters. The SEO, the utility companies, local building officials and the builders should all cooperate in improving this education process.**

Endorsing a proposal made by a representative of The Alliance to Save Energy, the subcommittee recommended that the Legislature:

- **Support, in conjunction with the SEO, the following:**

  a. **Linking the enhanced availability of EEMs with the use of a HERS;**

  b. **Improved use of renewable resources as well as thermal factors such as daylighting, overhangs and shading, in structures;**

  c. **Disseminating training and new technology information to compliance and construction personnel simultaneously;**

  d. **Coordinating the efforts of the heating, ventilating and air conditioning contractors with those of the general building**

contractors, and improving communications between all the building trades;

e. **Assessing, quantifiably, life-cycle costs on all construction;**

f. **Providing maximum compliance flexibility throughout the building process to encourage innovation in housing and the assimilation of new technical approaches;**

g. **Stressing, through consumer education, the long-term benefits of buying energy efficient homes, including providing information on lower utility costs and improved lending policies; and**

h. **Allowing the utilities to become more actively involved in the building code inspection/certification process.**

Concerned that the State Public Works Board has not taken adequate steps to ensure that public buildings are designed and built to maximize energy conservation and efficiency, the subcommittee recommended that the Legislature:

- **Require, by statute, the State Public Works Board to:**

  a. **As part of the process for accepting bids for public works projects, have an independent analysis of energy conservation/efficiency methods and designs performed [either by a private energy consultant or by the appropriate utility, perhaps through a bidding process] on each building project;**

  b. **After accepting bids for each public works project that is a building, determine what energy conservation rebates are available for the particular building project and apply for the available rebates; and**

  c. **Each biennium, designate at least one building project an energy-efficient pilot program.**

  (BDR 28 -- 422); and

- **Urge the State Public Works Board to:**

  a. **Establish priorities for the public works project managers in a manner which would limit the removal of high efficiency, low energy consuming or environmentally improving related products from a building project budget which is estimated as over budget before the bids are received; and**

  b. **Require new facilities to be designed in a manner which results in the least cost for the monthly operation of utilities.**

In response to a proposal made by a representative of the State Buildings and Grounds Division, the subcommittee recommended that the Legislature:

- **Provide, by statute, that State agencies which implement energy cost savings programs may use any rebates or money from energy savings to invest in other energy conservation and efficiency programs. When State agencies institute measures which result in energy cost savings, the amounts saved should not reduce the applicable budgets to lower levels if the money is used to invest in other energy savings programs. (BDR S -- 423)**

The subcommittee adopted the following recommendation, based on a proposal by the Southern Nevada Homebuilders Association, for the Legislature to:

- **Urge the SEO to work with local building officials to establish a centralized "energy hotline" concept, where building officials, architects, engineers and builders could call to determine compliance on items in question.**

Certain energy consultants submitted the following recommendations which were adopted by the subcommittee:

- **Urge the SEO, the State Public Works Board and local building officials to consider the use of solar orientation in all new construction;**

- **Consider enacting legislation similar to California's statutes which provide that no deed conditions, covenants, restrictions, or similar**

binding agreements regarding real property shall prohibit the installation of solar energy or other renewable energy devices. In addition, consider enacting similar legislation to prohibit local government ordinances which ban homeowners and others from installing such devices; and

- **Direct the SEO to work with local building officials in establishing new installation requirements for heating, ventilating and air conditioning systems for homes and commercial buildings, to require:**

  a. **Stricter compliance with manufacturer's specifications (through testing of the system);**

  b. **Accessibility to equipment for the purpose of cleaning and repair;**

  c. **Joining ducting sections with mastic rather than "duct tape" (which deteriorates and fails over time);**

  d. **Ducted return systems (in place of using building cavities for that purpose);**

  e. **Proper location and sizing of equipment (appropriate to specific building needs); and**

  f. **Increased technician training in installation, maintenance and repair.**

The 1993 Legislature appropriated $26,000 for the first phase of an energy management program for the Legislature's buildings (A.B. 788 [Section 17 of Chapter 351, *Statutes of Nevada 1993*, at page 1132]). The facilities manager for the LCB advised the subcommittee that an additional $66,000 is necessary to complete the lighting retrofit project in the Legislative Building and the Sedway Office Building. He said the completion of these projects would result in an energy savings payback within 1 to 4 years. Expressing support for completing this project, the subcommittee recommended that the 1995 Legislature:

- **Approve funding to complete the lighting retrofit program and other energy conservation projects requested under capital improvement projects for the Legislative Building and the Sedway Office Building.**

At the subcommittee's final meeting on July 19, 1994, the Special Counsel for the Land and Water Fund of the Rockies submitted a proposal to amend the statutes to allow regulated electric utilities to recover their costs of implementing energy efficiency measures from customer utility rates. A representative of SPPCo testified that the proposal is appropriate and consistent with federal energy policy. Thus, the subcommittee recommended that the Legislature:

- **Amend Chapter 704 of NRS, "Regulation of Public Utilities Generally," to provide that:**

  All prudent and reasonable costs associated with utility sponsored measures to improve customer energy efficiency must be recovered from rates charged to utility customers. Such costs shall include but are not limited to expenses associated with energy efficiency programs, investments in energy efficiency programs and a reasonable return thereon, and all lost revenues which result from implementation of energy efficiency measures by an electric utility.

  (BDR 58 -- 424)

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VII. APPENDICES

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APPENDIX A

Senate Concurrent Resolution No. 35 of the 1993 Legislative Session (File No. 182, *Statutes of Nevada 1993*)

Senate Concurrent Resolution No. 35—Senators Titus and Glomb

FILE NUMBER 182

SENATE CONCURRENT RESOLUTION—Directing the Legislative Commission to conduct an interim study to review past and present efforts to conserve and develop energy resources in Nevada and to formulate a policy on the use and sources of energy in this state.

WHEREAS, With the recent endorsement of the Earth Summit Treaty by President Clinton, this nation has bound itself to limit the increase in emissions of carbon dioxide into the atmosphere; and

WHEREAS, Recent studies of the melting of the polar ice caps in the Antarctic have reinforced the controversial theory that there is in fact a global warming of the atmosphere which may cause serious climatic changes to our world; and

WHEREAS, Because the State of Nevada currently imports all of its energy from other states and in so doing is consuming fossil fuel which is a limited resource, it is imperative that alternative ways to use renewable sources of energy such as solar, wind and geothermal energy be considered; now, therefore, be it

RESOLVED BY THE SENATE OF THE STATE OF NEVADA, THE ASSEMBLY CONCURRING, That the Legislative Commission is hereby directed to conduct an interim study of Nevada's current and future needs for energy and formulate a policy on energy taking into consideration the conservation and development of our available natural resources, the costs involved and the impact of alternative energy policies on employment, economic growth and economic development in Nevada; and be it further

RESOLVED, That the study include:

1. An assessment of the present and future needs for energy in Nevada, including the role of energy in Nevada's economic growth, development, employment and competitive position relative to other states;
2. An evaluation of potential sources of energy in each county including solar, wind and geothermal energy, the estimated costs of generating electricity from these renewable forms of energy and the impact from the use of such forms of energy on Nevada's economy and on consumers of energy in this state;
3. Estimations of the amount of carbon dioxide expected to be emitted in this state in 1990, 1995, 2000, 2005 and 2010 from all sources of energy which burn fossil fuels, and Nevada's expected rank in total and per capita carbon dioxide emissions compared with other states;
4. An examination of current building codes and landscaping techniques which reduce the need for heating and cooling;
5. An evaluation of the California-Nevada Super Speed Transportation System and the progress the California-Nevada Super Speed Commission has made in its interstate effort to carry out this plan;
6. A review of existing state laws, regulations and local ordinances which affect the use or generation of energy;

7. The compilation of a list of informational materials relating to methods of preventing pollution in the environment with specific suggestions for local governments; and

8. An evaluation of the resources available in schools which relate to the conservation of energy and the time spent educating pupils on this subject; and be it further

RESOLVED, That the Legislative Commission report the results of the study and any recommended legislation to the 68th session of the Nevada Legislature.

APPENDIX B

Suggested Legislation

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SUMMARY--Revises legislative findings concerning energy. (BDR 46-410)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: No.

AN ACT relating to energy; providing a legislative finding that the use of indigenous resources must be maximized to the extent economically feasible; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 523.011 is hereby amended to read as follows:

523.011 1. The legislature finds that:

(a) Energy is essential to the economy of the state and to the health, safety and welfare of the people of the state.

(b) The state has a responsibility to encourage the maintenance of a reliable and economical supply of energy at a level which is consistent with the protection of environmental quality.

(c) The state has a responsibility to encourage the utilization of a wide range of measures which reduce wasteful uses of energy resources.

(d) Planning for energy conservation and future energy requirements should include consideration of state, regional and local plans for land use, urban

expansion, transportation systems, environmental protection and economic development.

(e) Government and private enterprise need to accelerate research and development of alternative sources of energy , [and to] improve technology related to the research and development of existing sources of energy [.] *and maximize the use of indigenous resources to the extent economically feasible.*

(f) Prevention of delays and interruptions in providing energy, protecting environmental values and conserving energy require expanded authority and capability within state government.

2. It is the policy of this state to encourage participation with all levels of government and private enterprise in cooperative state, regional and national programs to assure adequate supplies of energy resources and markets for such energy resources.

3. It is the policy of this state to assign the responsibility for managing and conserving energy and its sources to agencies whose other programs are similar, to avoid duplication of effort in developing policies and programs for energy.

SUMMARY--Establishes state energy office and makes various other changes relating to energy conservation. (BDR 46-411)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Contains Appropriation.

AN ACT relating to energy; creating the state energy office within the department of business and industry and providing the duties of the office; making various changes relating to the conservation of energy; making an appropriation; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 523 of NRS is hereby amended by adding thereto the provisions set forth as sections 2 and 3 of this act.

Sec. 2. *1. The state energy office is hereby created within the department of business and industry.*

2. The director shall appoint a chief of the state energy office.

3. The director shall determine the duties of the state energy office and may delegate any of his responsibilities related to energy to the chief of the state energy office.

Sec. 3. *1. The state energy office shall develop a home energy rating system for use in determining the extent to which new and existing homes make efficient use of energy.*

2. To the extent practicable, the state energy office shall model the system after similar systems adopted by other states.

3. Participation in and use of the system by homeowners, contractors and other persons is voluntary.

Sec. 4. NRS 523.164 is hereby amended to read as follows:

523.164 1. The director shall adopt regulations for the conservation of energy in buildings, including manufactured homes, which establish the minimum standards for:

(a) The construction of floors, walls, ceilings and roofs;

(b) The equipment and systems for heating, ventilation and air-conditioning;

(c) Electrical equipment and systems;

(d) Insulation; and

(e) Other factors which affect the use of energy in a building.

2. When establishing the minimum standards pursuant to subsection 1, the director shall consider the most current edition of the model energy code published by the Council of American Building Officials and other published national standards which relate to conserving energy and increasing the efficient use of energy in buildings.

3. The director may exempt a building from a standard if he determines that application of the standard to the building would not accomplish the purpose of the regulations.

[3.] *4.* The regulations must authorize allowances in design and construction for solar, wind or any other renewable source of energy used to supply all or a part of the energy required in a building.

[4.] *5.* The standards adopted by the director are the minimum standards for the conservation of energy [which apply only to areas in which] *in buildings. If* the governing body of [the] *a* local government [has not adopted] *adopts more stringent* standards for the conservation of energy in buildings [. Such governing bodies] *, the buildings within the jurisdiction of that local government must comply with such standards. Each governing body which has not adopted more stringent standards* shall assist the director in the enforcement of the regulations adopted pursuant to this section.

[5.] *6.* The director shall solicit comments regarding the adoption of regulations pursuant to this section from:

(a) Persons in the business of constructing and selling homes;

(b) Contractors;

(c) Public utilities;

(d) Local building inspectors; and

(e) The general public,

before adopting any regulations. The director must conduct at least three hearings in different locations in the state, after giving 30 days' notice of each hearing, before he may adopt any regulations pursuant to this section.

Sec. 5. Chapter 704 of NRS is hereby amended by adding thereto the provisions set forth as sections 6, 7 and 8 of this act.

Sec. 6. *A utility which supplies electricity in this state shall incorporate the home energy rating system developed by the state energy office pursuant to section 3 of this act into programs developed by the utility to decrease the demand for electricity.*

Sec. 7. *The application of NRS 704.755 and section 8 of this act is limited to any public utility in the business of supplying natural gas which has an annual operating revenue in this state of $10,000,000 or more.*

Sec. 8. *A utility which supplies natural gas in this state shall incorporate the home energy rating system developed by the state energy office pursuant to section 3 of this act into programs developed by the utility to decrease the demand for natural gas.*

Sec. 9. NRS 704.736 is hereby amended to read as follows:

704.736 The application of NRS 704.741, 704.746 , [and] 704.751 *and section 6 of this act* is limited to any public utility in the business of supplying electricity which has an annual operating revenue in this state of $2,500,000 or more.

Sec. 10. NRS 704.755 is hereby amended to read as follows:

704.755 1. A utility which supplies natural gas in this state shall, periodically, as prescribed by the commission, submit to the commission a plan which describes:

(a) The anticipated demand for natural gas made on its system by its customers;

(b) The estimated cost of supplying natural gas sufficient to meet the demand and the means by which the utility proposes to minimize that cost; and

(c) The sources of planned acquisitions of natural gas, including an estimate of the cost and quantity of the acquisitions to be made from each source and an assessment of the reliability of the source.

2. The commission shall, by regulation, provide for the procedure and schedule for and the contents and method of preparing, reviewing and approving the plan.

3. The costs of preparing the plan are allowable expenses of the utility for the purpose of establishing rates. The commission may provide for the timely recovery of those costs.

[4. The application of this section is limited to any public utility in the business of supplying natural gas which has an annual operating revenue in this state of $10,000,000 or more.]

Sec. 11. 1. There is hereby appropriated from the state general fund to the department of business and industry for use by the state energy office in carrying out its duties:

For the fiscal year 1995-96 ..... $65,000

For the fiscal year 1996-97 ..... $65,000

2. Any balance of the sums appropriated by subsection 1 remaining at the end of the respective fiscal years must not be committed for expenditure after June 30 and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 12. 1. This section and sections 1, 2, 3 and 5 to 11, inclusive, of this act become effective on July 1, 1995.

2. Section 4 of this act becomes effective upon passage and approval.

SUMMARY--Creates legislative committee on energy. (BDR 17-412)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Yes.

AN ACT relating to the state legislature; creating a legislative committee on energy and providing its duties; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 218 of NRS is hereby amended by adding thereto the provisions set forth as sections 2 to 7, inclusive, of this act.

Sec. 2. *As used in sections 2 to 7, inclusive, of this act "committee" means the legislative committee on energy.*

Sec. 3. *1. There is hereby established a legislative committee on energy consisting of three members of the senate and three members of the assembly, to be appointed respectively by the majority leader of the senate and the speaker of the assembly. The members must be chosen from the membership of:*

(a) The assembly standing committee on natural resources, agriculture and mining;

(b) The assembly standing committee on government affairs;

(c) The senate standing committee on commerce and labor; and

(d) The senate standing committee on natural resources,

with at least one member chosen from each of those committees.

2. The members of the committee shall select a chairman from one house of the legislature and a vice chairman from the other. After the initial selection of a chairman and a vice chairman, each such officer holds office for a term of 2 years commencing on July 1 of each odd-numbered year. If a vacancy occurs in the chairmanship or vice chairmanship, the members of the committee shall select a replacement for the remainder of the unexpired term.

3. Any member of the committee who is not a candidate for reelection or who is defeated for reelection continues to serve until the convening of the next session of the legislature.

4. Vacancies on the committee must be filled in the same manner as original appointments.

Sec. 4. *1. The members of the committee shall meet throughout each year at the times and places specified by a call of the chairman or a majority of the committee. The director of the legislative counsel bureau or a person he has designated shall act as the nonvoting recording secretary. The committee shall prescribe regulations for its own management and government. Four members of the committee constitute a quorum, and a quorum may exercise all the power and authority conferred on the committee.*

2. Except during a regular or special session of the legislature, the members of the committee are entitled to receive the compensation provided for a majority of the members of the legislature during the first 60 days of the preceding session, the per diem allowance provided for state officers and

employees generally and the travel expenses provided pursuant to NRS 218.2207 for each day of attendance at a meeting of the committee and while engaged in the business of the committee.

Sec. 5. *The committee may:*

1. Review and comment on any administrative policy, rule or regulation of any agency of this state or the Federal Government which relates to energy, including those which are proposed, enacted or adopted;

2. Review the quarterly reports submitted by the director of the department of business and industry pursuant to NRS 523.131;

3. Conduct investigations and hold hearings in connection with its review, including, without limitation, investigating any effect on the state, its citizens, political subdivisions, businesses and industries of any policy, rule, regulation or related law;

4. Consult with and advise any agency of this state on matters concerning energy use, policies and activities in this state;

5. Direct the legislative counsel bureau to assist in its research, investigation, review and comment;

6. Recommend to the legislature as a result of its review any appropriate state legislation or corrective federal legislation; and

7. Apply for any available grants and accept any gifts, grants or donations to aid the committee in carrying out its duties.

Sec. 6. *1. In conducting the investigations and hearings of the committee:*

(a) The secretary of the committee, or in his absence any member of the committee, may administer oaths.

(b) The secretary or chairman of the committee may cause the deposition of witnesses, residing either within or without the state, to be taken in the manner prescribed by rule of court for taking depositions in civil actions in the district courts.

(c) The secretary or chairman of the committee may issue subpenas to compel the attendance of witnesses and the production of books and papers.

2. If any witness refuses to attend or testify or produce any books and papers as required by the subpena, the secretary or chairman of the committee may report to the district court by petition, setting forth that:

(a) Due notice has been given of the time and place of attendance of the witness or the production of the books and papers;

(b) The witness has been subpenaed by the committee pursuant to this section; and

(c) The witness has failed or refused to attend or produce the books and papers required by the subpena before the committee which is named in the subpena, or has refused to answer questions propounded to him,

and asking for an order of the court compelling the witness to attend and testify or produce the books and papers before the committee.

3. Upon such petition, the court shall enter an order directing the witness to appear before the court at a time and place to be fixed by the court in its order, the time to be not more than 10 days after the date of the order, and then and there show cause why he has not attended or testified or produced the books or papers before the committee. A certified copy of the order must be served upon the witness.

4. If it appears to the court that the subpena was regularly issued by the committee, the court shall enter an order that the witness appear before the committee at the time and place fixed in the order and testify or produce the required books or papers, and upon failure to obey the order the witness must be dealt with as for contempt of court.

Sec. 7. *Each witness who appears before the committee by its order, except a state officer or employee, is entitled to receive for his attendance the fees and mileage provided for witnesses in civil cases in the courts of record of this state. The fees and mileage must be audited and paid upon the presentation of proper claims sworn to by the witness and approved by the secretary and chairman of the committee.*

Sec. 8. NRS 523.131 is hereby amended to read as follows:

523.131 The director shall:

1. Acquire and analyze information relating to energy and to the supply, demand and conservation of its sources.

2. Utilize all available public and private means to provide information to the public about problems relating to energy and to explain how conservation of energy and its sources may be accomplished.

3. Review and evaluate information which identifies trends and permits forecasting of the energy available to the state. Such forecasts must include estimates on:

(a) The level of demand for energy in the state for 5-, 10- and 20-year periods;

(b) The amount of energy available to meet each level of demand;

(c) The probable implications of the forecast on the demand and supply of energy; and

(d) The alternative sources of energy which are available and their possible effects.

4. Study means of reducing wasteful, inefficient, unnecessary or uneconomical uses of energy and encourage the maximum utilization of existing sources of energy in the state.

5. Encourage the development of any existing and alternative sources of energy which will benefit the state.

6. In conjunction with the desert research institute, review policies relating to the research and development of the state's geothermal resources and make recommendations to the appropriate state and federal agencies for establishing methods of developing the geothermal resources within the state.

7. Prepare and submit a written report quarterly to the legislative committee on energy which:

(a) Discusses any planning related to energy in which the department is engaged;

(b) Sets forth any administrative policy, rule or regulation relating to energy which has been newly adopted by the department or which is being considered for adoption; and

(c) Provides any recommendations for legislation.

SUMMARY--Requires that portion of electrical generating capacity of certain utilities be provided by use of renewable energy resources. (BDR 58-413)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: No.

AN ACT relating to energy; requiring that a portion of the electrical generating capacity of certain utilities be provided by the use of renewable energy resources; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 704 of NRS is hereby amended by adding thereto a new section to read as follows:

1. In each calendar year, not less than 10 percent of the increase in the electrical generating capacity of a utility over the electrical generating capacity of the utility in the preceding calendar year must be provided by the use of renewable energy resources.

2. The percentage of the total electrical generating capacity of the utility that is provided by the use of renewable energy resources, and future projections of

the change in that percentage, must be included in the plan submitted by the utility pursuant to NRS 704.741.

3. As used in this section, "renewable energy resources" means resources from which electricity is produced, but which are not consumed or combusted and are naturally regenerated, including, without limitation:

(a) Wind;

(b) Solar energy;

(c) Geothermal energy; and

(d) Pumped-storage hydropower, but only if the source of the energy used to pump the water is not a fossil fuel.

Sec. 2. Section 1 of this act is hereby amended to read as follows:

Section 1. 1. [In each calendar year, not] *Not* less than 10 percent of the [increase in the] *total* electrical generating capacity of a utility [over the electrical generating capacity of the utility in the preceding calendar year] must be provided by the use of renewable energy resources.

2. The percentage of the total electrical generating capacity of the utility that is provided by the use of renewable energy resources, and future projections of the change in that percentage, must be included in the plan submitted by the utility pursuant to NRS 704.741.

3. As used in this section, "renewable energy resources" means resources from which electricity is produced, but which are not consumed or combusted and are naturally regenerated, including, without limitation:

(a) Wind;

(b) Solar energy;

(c) Geothermal energy; and

(d) Pumped-storage hydropower, but only if the source of the energy used to pump the water is not a fossil fuel.

Sec. 3. NRS 704.736 is hereby amended to read as follows:

704.736 The application of NRS 704.741, 704.746 and 704.751 , *and section 1 of this act,* is limited to any public utility in the business of supplying electricity which has an annual operating revenue in this state of $2,500,000 or more.

Sec. 4. 1. This section and sections 1 and 3 of this act become effective on October 1, 1995.

2. Section 2 of this act becomes effective on October 1, 2001.

SUMMARY--Provides exemption from property tax for property used as facility for production of electrical energy from renewable energy resources. (BDR 32-414)

FISCAL NOTE: Effect on Local Government: Yes.

Effect on the State or on Industrial Insurance: Yes.

AN ACT relating to taxation; providing an exemption for property used as a facility for the production of electrical energy from renewable energy resources; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 361.076 is hereby amended to read as follows:

361.076 1. All property, both real and personal, is exempt from taxation as set forth in this section to the extent that the property is used as:

(a) An active system to utilize solar energy; [or]

(b) A facility for the production of electrical energy from recycled material [.

If such a system] *; or*

(c) A facility for the production of electrical energy from renewable energy resources.

2. If an active system to utilize solar energy is installed in a building used primarily for another purpose, any value added by the system to the building must be excluded from the assessed value of the building.

[2.] *3.* Personal property exempted pursuant to subsection 1 may not receive an exemption for more than 10 consecutive years. Real property exempted pursuant to subsection 1 may not receive an exemption for more than 20 consecutive years.

[3.] *4.* As used in this section:

(a) An "active system to utilize solar energy" is one which uses solar devices thermally isolated from the area where the energy is used and includes all the equipment used to collect and store solar energy, and to convert this energy into electricity, if the energy is used for:

(1) Heating water for domestic, recreational, therapeutic or commercial use;

(2) Heating or cooling air;

(3) Production of electricity;

(4) Industrial heating; or

(5) Mechanical energy.

(b) A "facility for the production of electrical energy from recycled material" is a facility which uses recycled material as its primary fuel *in the production of electricity,* including material from:

(1) Industrial or domestic waste, other than hazardous waste, even though it includes a product made from oil, natural gas or coal, such as plastics, asphalt shingles or tires;

(2) Agricultural crops, whether terrestrial or aquatic, and agricultural waste, such as manure and residue from crops; and

(3) Municipal waste, such as sewage and sludge.

The term includes all the equipment in the facility used to process and convert into electricity the energy derived from a recycled material fuel.

(c) A "facility for the production of electrical energy from renewable energy resources" is a facility which uses renewable energy resources as its primary fuel in the production of electricity. The term includes all the equipment in the facility used to process and convert into electricity the energy derived from renewable energy resources.

(d) "Renewable energy resources" means resources from which electricity is produced, but which are not consumed or combusted and are naturally regenerated, including, without limitation:

(1) Wind;

(2) Solar energy;

(3) Geothermal energy; and

(4) Pumped-storage hydropower, but only if the source of the energy used to pump the water is not a fossil fuel.

Sec. 2. This act becomes effective on July 1, 1995.

SUMMARY--Urges increased development of solar energy in Nevada. (BDR R-415)

CONCURRENT RESOLUTION--Urging the increased development of solar energy in this state.

WHEREAS, Scientific reports indicate that if the use of energy from the burning of fossil fuels continues to increase, the climate of the earth may be irreversibly and detrimentally altered and air quality may be significantly decreased; and

WHEREAS, The effects of such an alteration in the earth's climate may include not only significantly higher temperatures, but also a greater number of severe storms, droughts, floods and a higher frequency of abnormal weather patterns; and

WHEREAS, The use of solar energy will not contribute to the decline of air quality or to the overall destruction of the stability of the earth's climate; and

WHEREAS, It has been estimated that a 100-square-mile plot of land in southern Nevada could serve the solar energy needs of the entire United States; and

WHEREAS, Substantial economic benefits would accrue to the State of Nevada if it capitalizes on its opportunity to export solar energy and related technologies throughout the United States and the world; and

WHEREAS, Japan and other countries are also interested in capitalizing on their resources to provide solar energy and related technologies throughout the

world and are striving to become the dominant producers of solar energy in the world; now, therefore, be it

RESOLVED BY THE OF THE STATE OF NEVADA, THE CONCURRING, That all agencies in the executive department of state government are hereby urged to work with the United States Department of Energy and other federal offices to coordinate efforts to pursue the construction of a demonstration facility for solar energy and the creation of a strategic plan for the development of solar energy in southern Nevada; and be it further

RESOLVED, That the Nevada Legislature hereby declares its support for all efforts to develop a solar-power enterprise zone in southern Nevada and specifically the efforts to convert the Nevada Test Site into a solar-energy research and development site; and be it further

RESOLVED, That the Nevada Legislature hereby declares its intention that the State of Nevada increase the rate at which it develops solar-power resources and produces solar power so that it can capitalize on its opportunity to become the nation's leader in the solar-technology industry; and be it further

RESOLVED, That the of the prepare and transmit a copy of this resolution to the Governor, the Director of the Department of Administration, the Chairman of the Commission on Economic Development, the Director of the Department of Business and Industry, the Chairman of the Public Service Commission of Nevada, the Director of the Department of Employment, Training and Rehabilitation, the Director of the State

Department of Conservation and Natural Resources, the Director of the Department of Transportation and the Chairman of the Board of Regents of the University of Nevada.

SUMMARY--Revises provisions governing plan concerning electricity which must be submitted triennially by certain public utilities to public service commission of Nevada. (BDR 58-416)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: No.

AN ACT relating to public utilities; revising provisions governing the plan concerning the supply of and the demand for electricity which must be submitted triennially by certain public utilities to the public service commission of Nevada; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 704.741 is hereby amended to read as follows:

704.741 1. A utility which supplies electricity in this state shall, on or before July 1 of every third year, in the manner specified by the commission, submit a plan to increase its supply of electricity or decrease the demands made on its system by its customers to the commission.

2. The commission shall, by regulation, prescribe the contents of such a plan including, but not limited to, the methods or formulas which are used by the utility to:

(a) Forecast the future demands; and

(b) Determine the best combination of [sources of supply] *resources* to meet the *projected future* demands [or the best method to reduce them.] , *with due consideration of the economic and environmental impact of the use of those resources.*

SUMMARY--Urges State Environmental Commission to expand program for control of emissions from motor vehicles. (BDR R-417)

CONCURRENT RESOLUTION--Urging the State Environmental Commission to expand the program of inspecting and testing motor vehicles for the control of emissions to other areas of this state.

WHEREAS, Clean air is important to all the residents of this state; and

WHEREAS, Regulating the control of emissions from motor vehicles is a successful method of maintaining and improving the quality of air in this state; and

WHEREAS, The program of inspecting and testing motor vehicles for the control of emissions in areas designated by the State Environmental Commission promotes the goal of reducing air pollution; and

WHEREAS, If the State Environmental Commission, pursuant to NRS 445.630, determines that it is feasible, practicable and necessary, the Commission may expand the program of inspecting and testing motor vehicles for the control of emissions into other areas of this state; now, therefore, be it

RESOLVED BY THE OF THE STATE OF NEVADA, THE CONCURRING, That the State Environmental Commission is hereby urged to make a determination that it is feasible, practicable and necessary to expand the program of inspecting and testing motor vehicles for the control of emissions to other areas of this state, including, without limitation, Carson

City, Incline Village and areas adjacent to the Truckee Meadows; and be it further

RESOLVED, That the of the prepare and transmit a copy of this resolution to the Chairman of the State Environmental Commission.

SUMMARY--Reduces rate of tax on clean alternative fuels. (BDR 32-418)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Yes.

AN ACT relating to taxation; reducing the rate of tax on clean alternative fuels; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 366.190 is hereby amended to read as follows:

366.190 1. Except as otherwise provided in subsection 2, a tax is hereby imposed at the rate of 27 cents per gallon on the sale or use of special fuels.

2. A tax is hereby imposed at the rate of [23] *20* cents per gallon on the sale or use of [liquefied petroleum gas and compressed natural gas.] *clean alternative fuel.*

3. As used in this section, "clean alternative fuel" means:

(a) Methanol, ethanol or other alcohol, or any mixture thereof containing 85 percent or more by volume of such alcohol with gasoline or other fuels;

(b) Compressed natural gas; and

(c) Liquefied petroleum gas.

Sec. 2. This act becomes effective on July 1, 1995.

SUMMARY--Urges President and Congress to support efforts to build and use high-speed trains which operate by magnetic levitation. (BDR R-419)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: No.

JOINT RESOLUTION--Urging the President of the United States and Congress to support all federal and state efforts to build and use high-speed trains which operate by magnetic levitation.

WHEREAS, Air and highway travel is becoming increasingly congested in the Western United States as populations continue to increase in those areas; and

WHEREAS, Such congestion may result in an increase in the number of fatal automobile and airplane accidents and in the amount of harmful contaminants released into the atmosphere; and

WHEREAS, The technology to build high-speed trains which operate by magnetic levitation is available and if employed would help eliminate the congested conditions on the highways and in the air and therefore help reduce the rate of fatal accidents and the levels of air pollution; and

WHEREAS, High-speed trains which operate by magnetic levitation can travel in excess of 180 miles per hour and therefore for many trips would be of comparable efficiency to that of most commercial airlines; and

WHEREAS, The estimated fare for passengers of such high-speed trains is only about two-thirds of the prevailing fare for passengers of commercial airlines; and

WHEREAS, The cost of construction of such a high-speed train system is estimated to be lower per mile than building traditional highways or airports in urban areas; now, therefore, be it

RESOLVED BY THE AND OF THE STATE OF NEVADA, JOINTLY, That the President of the United States and Congress are hereby urged to support all federal and state efforts to build and operate high-speed trains which operate by magnetic levitation and to support financially, through grants or otherwise, the development of a national corridor for the travel of such high-speed trains; and be it further

RESOLVED, That the of the prepare and transmit a copy of this resolution to the President of the United States, the Vice President of the United States as the presiding officer of the Senate, the Speaker of the House of Representatives and each member of the Nevada Congressional Delegation; and be it further

RESOLVED, That this resolution becomes effective upon passage and approval.

SUMMARY--Urges President and Congress to increase Corporate Average Fuel Economy standard. (BDR R-420)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: No.

JOINT RESOLUTION--Urging the President of the United States and Congress to support efforts to improve the fuel efficiency of motor vehicles by increasing the Corporate Average Fuel Economy standard.

WHEREAS, The United States is substantially dependent on other countries for its supply of oil which is necessary for the production of fuel for motor vehicles; and

WHEREAS, Incidents such as the crisis in the Persian Gulf and the resulting increases in the price of oil demonstrate the danger of being dependent on other countries for the nation's fuel supply; and

WHEREAS, The technology exists for improving fuel efficiency and conserving the United States' precious supply of oil; and

WHEREAS, Improving fuel efficiency will also reduce the amount of harmful contaminants which are released into the atmosphere; and

WHEREAS, Reducing the release of harmful contaminants will result in a slowing of the global warming process and its predicted effects, which include

coastal flooding and an increase in the frequency and intensity of tropical storms; now, therefore, be it

RESOLVED BY THE AND OF THE STATE OF NEVADA, JOINTLY, That the President of the United States and Congress are hereby urged to support efforts to improve the fuel efficiency of motor vehicles by increasing the Corporate Average Fuel Economy standard to a level which will significantly improve fuel efficiency; and be it further

RESOLVED, That the of the prepare and transmit a copy of this resolution to the President of the United States, the Vice President as presiding officer of the Senate, the Speaker of the House of Representatives and each member of the Nevada Congressional Delegation; and be it further

RESOLVED, That this resolution becomes effective upon passage and approval.

SUMMARY--Requires that certain motor vehicles purchased by public body comply with average fuel economy standards established by Federal Government. (BDR 27-421)

FISCAL NOTE: Effect on Local Government: Yes.

Effect on the State or on Industrial Insurance: Yes.

AN ACT relating to public purchasing; requiring that certain motor vehicles purchased by a public body comply with average fuel economy standards established by the Federal Government; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 334 of NRS is hereby amended by adding thereto a new section to read as follows:

1. Except as otherwise provided in subsection 2, the average fuel economy for each classification of new motor vehicles purchased each year by a public body must equal or exceed the average fuel economy standard for the classification and model year of such vehicles as established by the Secretary of Transportation pursuant to 15 U.S.C. § 2002.

2. Subsection 1 does not apply to motor vehicles purchased primarily for use in:

(a) Law enforcement;

(b) Transporting pupils to and from school;

(c) The performance of off-road maintenance work; or

(d) Pulling loaded trailers.

3. As used in this section:

(a) "Fuel economy" means the average number of miles traveled by a motor vehicle per gallon of gasoline, or the equivalent amount of another fuel, consumed, as determined by the administrator of the Environmental Protection Agency pursuant to 26 U.S.C. § 4064(c).

(b) "Public body" means this state, a county, city, town or school district, or any public agency of this state or its political subdivisions.

SUMMARY--Revises duties of state public works board concerning conservation of energy in state buildings. (BDR 28-422)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: Yes.

AN ACT relating to the state public works board; requiring the board biennially to designate a construction project as a demonstration project which incorporates advances in the conservation of energy; revising the duties of the board in certain other matters concerning the conservation of energy in state buildings; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. Chapter 341 of NRS is hereby amended by adding thereto the provisions set forth as sections 2 and 3 of this act.

Sec. 2. *1. The board shall designate during each even-numbered year at least one project for the construction of a state building as a demonstration project which incorporates innovative advances in the conservation of energy that commonly are not found in other buildings.*

2. The board shall submit a report not later than January 15 of each odd-numbered year to the director of the legislative counsel bureau for presentation to the legislature. The report must include:

(a) A description of each demonstration project that was commenced during the previous year;

(b) An analysis of the costs and benefits of all other existing demonstration projects; and

(c) Any plans for future demonstration projects.

Sec. 3. *The board shall obtain the analysis of an independent consultant before approving a proposal for the construction of a state building. The consultant shall provide an analysis of the various methods for making the building more energy efficient, including, without limitation, an analysis of the effects of installing various equipment and of utilizing various architectural designs.*

Sec. 4. NRS 341.145 is hereby amended to read as follows:

341.145 The board:

1. After consulting with the interim finance committee, has final authority for approval as to the architecture of all buildings, plans, designs, types of construction, major repairs and designs of landscaping.

2. Shall solicit bids for and let all contracts for new construction or major repairs.

3. May negotiate with the lowest responsible bidder on any contract to obtain a revised bid if:

(a) The bid is less than the appropriation made by the legislature for that building project; and

(b) The bid does not exceed the relevant budget item for that building project as established by the board by more than 10 percent.

4. May reject any or all bids.

5. After the contract is let, shall supervise and inspect construction and major repairs. The cost of supervision and inspection must be financed from the capital construction program approved by the legislature.

6. May authorize change orders, before or during construction:

(a) In any amount, where the change represents a reduction in the awarded contract price.

(b) Not to exceed in the aggregate 10 percent of the total awarded contract price, where the change represents an increase in that price.

7. *After the construction of a state building is complete, shall determine whether any rebates are available from a public utility for installing devices in the building which are designed to decrease the use of energy in the building. If such a rebate is available, the board shall apply for the rebate.*

8. Has final authority to accept each building as completed or to require necessary alterations to conform to the contract, and to file the notice of completion.

SUMMARY--Provides for use by state agencies of money attributable to energy savings. (BDR S-423)

FISCAL NOTE: Effect on Local Government: No.

Effect on the State or on Industrial Insurance: No.

AN ACT relating to energy conservation; providing for the use by a state agency of money attributable to energy savings; setting forth the conditions of that use; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. 1. Notwithstanding any specific statute to the contrary, any unencumbered money of an agency of this state remaining at the close of the fiscal years 1995-1996 and 1996-1997 which is attributable to energy savings does not revert to the fund from which it was appropriated but constitutes a balance carry forward.

2. With the approval of the interim finance committee, all such money may be used by the agency to pay for devices or systems, or to allow the agency to participate in programs, designed to conserve energy or increase the efficient use of energy.

3. As used in this section, "energy savings" means:

(a) All money that was authorized for expenditure by an agency during a fiscal year to pay for energy costs but which, as the result of prudent energy conservation, was not committed for expenditure during the fiscal year; and

(b) All money that the agency received during the fiscal year as a rebate of any costs incurred by the agency in participating in a program to conserve energy, and which was not needed to pay the energy costs of the agency.

Sec. 2. This act becomes effective on July 1, 1995.

SUMMARY--Authorizes certain public utilities to recover costs related to carrying out programs that reduce demand for electricity. (BDR 58-424)

FISCAL NOTE: Effect on Local Government: Yes.

Effect on the State or on Industrial Insurance: Yes.

AN ACT relating to public utilities; authorizing certain suppliers of electricity to recover costs and expenses related to carrying out programs that reduce the demand for electricity; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. NRS 704.751 is hereby amended to read as follows:

704.751 1. Within 135 days after a utility has filed its plan, the commission shall issue an order accepting the plan as filed or specifying any portions of the plan it deems to be inadequate.

2. All prudent and reasonable expenditures made to develop the utility's plan, including environmental, engineering and other studies, must be recovered from the rates charged to the utility's customers.

3. All prudent and reasonable costs and expenses of the utility related to carrying out programs that reduce the demand for electricity and are included

in the plan must be recovered from the rates charged to the utility's customers. Such costs and expenses include, without limitation:

(a) Expenses associated with programs designed to increase the efficient use of energy, including a reasonable return on investments in such programs; and

(b) Lost revenue resulting from a decrease in the demand for electricity.

Sec. 2. This act becomes effective on July 1, 1995.