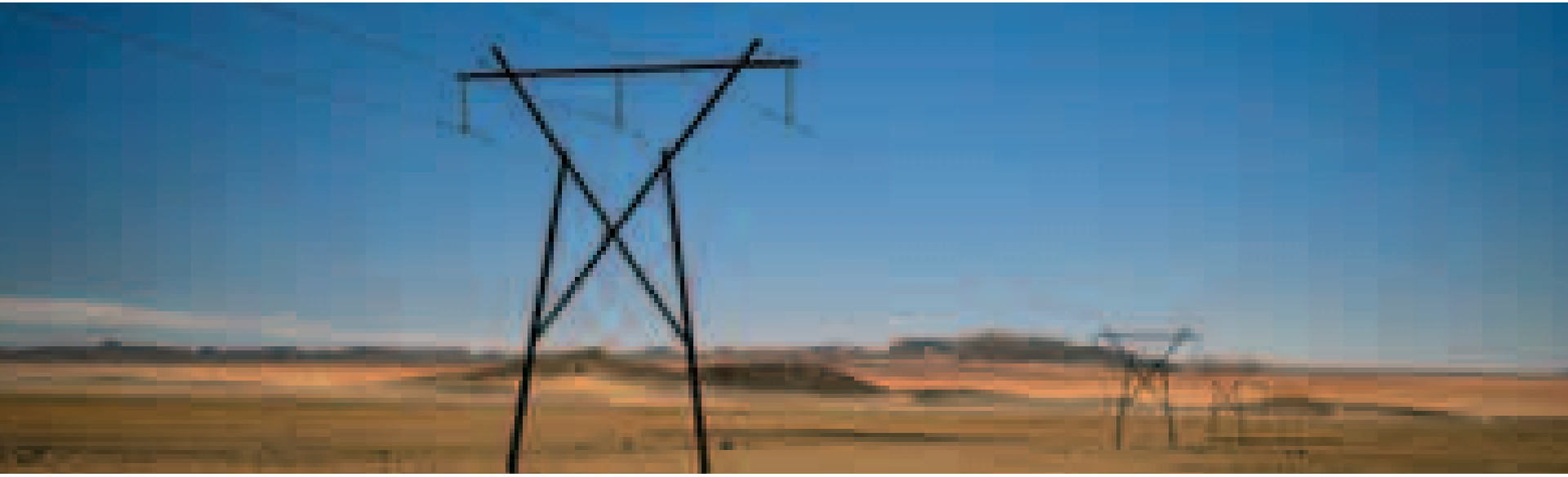
Nevada Renewable Energy & Energy Conservation Task Force



January 30, 2003

Report to the 2003 Nevada State Legislature
And to the Governor of the State of Nevada

January 30, 2003

Governor Kenny Guinn

Legislature of the State of Nevada

Dear Governor and Legislators:

As Chair of the Nevada Renewable Energy and Energy Conservation Task Force, I and my colleagues have taken great pleasure in serving Nevada in its effort to set an aggressive agenda for the development of renewable resources in our state.

In this report, you will see a comprehensive record of the Task Force's activities to date, with our findings and strategic recommendations to help meet Nevada's goals.

The Task Force acknowledges the insight and guidance of many sources including the direction received from Governor Guinn in his February 2002 letter, and to the many Legislators who both participated in the creation of this body and in assisting our efforts since our inception.

The Task Force believes Nevada, with a thoughtful, measured, and expedient approach to encourage the development of its renewable resources, as well as strong conservation and efficiency measures, can become energy independent.

I look forward to continuing the important dialogue with the Legislature, the Governor's Office of Energy and many other bodies as we move Nevada to an unprecedented level of energy independence and national leadership.

Sincerely,

Rose McKinney-James

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Acknowledgements

Prepared in consultation with Jeneane Harter, HiTech Communications; Misty Young, KPS|3; Bill Kockenmeister, Attorney at Law; Tom Clark, Syndetic Partners; Kim Swearingen, Sunrise Sustainable Resources Group.

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INTRODUCTION

At the moment, Nevada is a leader in renewable energy development and is striving to conserve and use energy more efficiently. If the state continues in a thoughtful, measured, yet expedient manner to encourage the development of its renewable resources, and encourages and supports energy conservation and energy efficiency, Nevada can become energy independent. It can also continue to lead the country in the development of a cleaner, more secure energy supply.

This report provides background information on renewable energy, energy conservation and energy efficiency, describes the Nevada Renewable Energy and Energy Conservation Task Force's mandates in detail, reports the Task Force's findings and recommendations and provides recommendations for actions by the Nevada State Legislature, the Governor of Nevada and other entities. The Executive Summary in this report provides a succinct discussion of the renewable energy, energy conservation and energy efficiency agenda from the perspective of the Nevada Renewable Energy and Energy Conservation Task Force.

Executive Summary and Recommendations

The Nevada Renewable Energy and Energy Conservation Task Force was created by the 2001 Legislature to act as an advocate for the renewable energy community and to provide them with a forum for moving the state's renewable energy agenda forward. The Task Force is composed of business executives, members of government and the University of Nevada, non-profit and utility executives. Members were appointed by the Governor of Nevada, the Senate Majority Leader, the Assembly Speaker, Senate Minority Leader, the Assembly Minority Leader and the Attorney General's Bureau of Consumer Protection.

The Task Force's mandate includes coordinating programs and activities with the Nevada State Office of Energy, the utilities, the Attorney General's Bureau of Consumer Protection, the Public Utilities Commission of Nevada, renewable energy stakeholders and other state and federal offices to help identify barriers, develop consensus, and identify solutions.

During its initial year of operation the Task Force heard presentations and reports from federal and state officials and from Nevada's renewable energy community and renewable energy stakeholders. Based on the presentations,

findings and recommendations were considered and adopted and the Task Force developed a strategy for addressing its mandates. The findings and recommendations are included in detail in the body of this report. An overview appears below.

Recommendations are organized by subject in the Executive Summary and by mandate in the body of the report. For ease of reference each recommendation is given a number. The numbers correspond to the order in which they appear in the Executive Summary

The Nevada State Office of Energy

Finding

- The Task Force finds that the Nevada State Office of Energy's Action Plan represents a reasonable course of action for first steps in implementing a comprehensive energy plan for Nevada.

Recommendation #1 (Mandate #1)

- The Task Force recommends support for the Nevada State Office of Energy's Action Plan.

Identification and Transmission of Nevada's Renewable Energy Resources

Findings

- Renewable energy is highly site specific—a difference of a mile or less can make a tremendous difference in the quality of a renewable resource. While progress has been made mapping Nevada's renewable resources, more work needs to be done to update, complete and fine tune the assessments in order to facilitate

development and influence leasing, transmission and power purchase policy.

- The research campuses of the University and Community College System of Nevada have all obtained Federal funding for wind, solar and geothermal assessments. The Nevada State Office of Energy is already working with University and Community College System of Nevada and other private and public organizations to map the state's renewable resources.

Recommendation #2 (Mandate #1)

- The Task Force will work with the Nevada State Office of Energy to update, complete and fine-tune the statewide assessment of Nevada's renewable energy resources by helping to secure additional Federal funding.

Findings

- Nevada's renewable energy resources are widely distributed throughout the state and not necessarily near existing power grid access points. In order to bring these resources to the electric grid, the state's transmission system must be upgraded and expanded with these resource locations in mind.
- The Nevada State Office of Energy is working with various entities including the Western Governor's Association to study Nevada's transmission issues. In addition, the Center for Resource Solutions in California is studying a possible high voltage DC intertie along the line that currently runs through Nevada.
- The Task Force finds that the absence of an intertie between the two entities of Sierra Pacific Resources presents a barrier to the statewide distribution and optimal use of Nevada's renewable resources.

Recommendation #3 (Mandate #1)

- To coordinate these and other efforts, the Task Force recommends a transmission and renewable energy resource assessment workshop. The workshop will provide a venue for transmission and resource planners, investors and stakeholders to identify and communicate transmission projects most important to renewable energy progress including the possible high voltage DC intertie, a North-South intertie, the Centennial Plan and other proposed transmission projects including upgrading existing system components. As a result of the workshop the Task Force will issue findings and recommendations with respect to transmission. Results of the workshop will be provided to the Nevada State Office of Energy, the Public Utilities Commission of Nevada and other appropriate entities.

Findings

- Distributed generation can contribute to Nevada's energy security. Renewable energy projects can play a large part in distributed generation. When it comes to on-site generation, net metering and distributed generation projects, residential, small commercial and agricultural customers have special needs, just a few include:
  - Understanding the language of energy.
    - Energy, and particularly renewable energy, is a complex subject with a language all its own. It includes terms the average consumer, small business owner and agriculturalists do not use in their daily lives.
  - Assessing which type of project is appropriate for their needs.

- Residential, small commercial and agricultural customers do not have access to the types of large scale resource assessment and project development data typically provided by national energy labs and the commercial energy developers.

- Choosing the right project and finding funding.
  - Average residents, small business owners and agricultural customers do not have the business model tools to easily understand the economics of potential projects.
  - They also may not have the knowledge of — or access to — the universe of grants and incentives potentially available to them.
  - In October of 2002, the Public Utilities Commission of Nevada approved Nevada Power Company's plans to provide rebates of $3 per watt, up to $3000, for 50 one kilowatt photovoltaic installations on residential homes in Southern Nevada.

Recommendations #4 (Mandate #6)

- The Task Force recommends working with the Nevada State Office of Energy, the University System's Cooperative Extension and other state entities to identify and fund organizations that would provide objective technical assistance for residents, small business owners and farmers developing on-site generation, net metering, and distributed generation projects.
- The Task Force believes programs like the Nevada Power buy-down should be studied to determine the potential benefits that distributed generation can bring to the electric grid and its customers.

Power Purchase and Leasing Issues

Findings

- State and regional energy credit trading systems achieve a number of renewable energy development objectives:
  - Credits are tools and mechanisms to optimize existing resources and have the potential to advance the portfolio standard.
  - Credits deliver lower priced renewable energy from the northern Nevada source to the southern Nevada population center by allowing the utility to freely trade renewable resource credits.
  - Credits allow the utility to take advantage of the least cost renewable energy resources available and pass these savings to the consumer.
  - Nevada's new crediting trading system has yet to implemented and is therefore unproven.

Recommendations #5 (Mandate #2)

- The Task Force will work to identify state and regional credit trading systems that would be effective and beneficial to Nevada. The Task force will seek to convene a workshop to further explore and develop these issues.
- The Task Force encourages state government to evaluate a regional credit trading program as an

important component to economic development in Nevada.

Findings

- Most renewable energy projects have large up-front construction costs. Thus, long-term (20-30 years) power purchase agreements are required in order to obtain financing for most renewable energy projects.
- Under AB 661 (NRS 704B.010) the term of a typical contract between a retail energy customer exiting the utility supply and a non-utility energy supplier is 3-5 years. This is much shorter than an expected contract between a non-utility supplier and a renewable energy developer which could be 10 years or more to obtain the necessary financing for a renewable energy project.
- The disparity in contract length creates a barrier for customers to exit the utility system — non-utility energy suppliers are unlikely to enter into contracts longer than their sales contracts with retail end user customers.
- Customers who take advantage of AB 661 have the ability to choose their power supplier. If a customer who has exited the utility system under AB 661 wishes to return or to change suppliers, the utility or new supplier would at that point be responsible to supply energy to the customer in accordance with the Renewable Portfolio Standard. Thus the new supplier must add more

renewable energy to its portfolio with the addition of any new customer.

Recommendation #6 (Mandate #7)

- The Task Force will coordinate with the utilities, the Public Utilities Commission of Nevada, the Attorney General's Bureau of Consumer Protection, renewable developers, potential AB 661 customers and others to identify possible solutions to the contract term problem. One approach may be to facilitate short term contracts by insuring that any future supplier of energy will assume prior renewable contracts or to identify appropriate agencies and agreements to backstop long-term contracts should the supplier and customer part ways.

Finding

- Federal production tax credits are critical contributors to renewable project profitability. Federal legislation was introduced in the 107th Congress to provide geothermal power generation with a production tax credit similar to that provided for wind. This legislation would significantly reduce the net cost of geothermal generation in Nevada making the development of new geothermal power more cost effective than any other new base load power resource including fossil fuels.

Recommendation #7 (Mandate #2)

- The Task Force has already expressed support for the continuation of production tax credits and encourages the Nevada State Legislature to also support the continuation of wind, and the development of new, federal production tax credits for other renewable resources.

Findings

- Acquiring leases and permits to develop renewable resources on public lands is a complex, lengthy process.

Recommendation #8 (Mandate #2)

- The Task Force recommends a study to identify a critical path system for all leasing and permitting of renewable energy projects on public lands. As part of the study, the Task Force would convene a workshop and resultant report that would identify duplications and overlaps, encourage efficiency and suggest prioritization.

Demand Side Management, Energy Conservation and Energy Efficiency

Finding

- Incentives are perhaps the most effective way to promote renewable energy. A large number of different types of tax, market and consumer incentives including system benefit charges, green tags and green tariffs have been tried in other states. The Nevada Commission on Economic Development has collected initial state-to-state data on tax incentives which can be found on www.expand2nevada.com. The Nevada State Office of Energy is also working in this area.

Recommendation #9 (Mandate #4)

- The Task Force recommends commissioning a study to evaluate, propose and analyze the potential effect of various market incentives. The Task Force recommends seeking co-funding for this study, perhaps from the Department of Energy, the Nevada Commission on Economic Development and other likely funding sources.

Findings

- Demand side management and energy conservation and energy efficiency programs are central to Nevada's energy strategy.

- In October 2002, the Public Utilities Commission of Nevada approved $11,200,000 in energy education, energy conservation and load management programs for Sierra Pacific Power Company and Nevada Power Company. This was the culmination of collaborative work with the utilities, the Public Utilities Commission of Nevada staff, the Attorney General's Bureau of Consumer Protection, Land and Water Fund of the Rockies, the Washoe County Senior Law Project, and several other interested parties. The set of programs contained in this approval set a new threshold of energy education, energy conservation and load management spending in Nevada.

Recommendations #10 (Mandate #7)

- The Task Force recommends a continuation of the successful collaborative process for the new demand side management plans required to be filed by the utilities by July 1, 2003. The Task Force offers to make a portion of its March or April 2003 meeting to assist the utility and collaborative team by reviewing and providing comment on the process, potentially recommending programs and spending plans that are contemplated in the required July 2003 document.
- The Task Force would support workshops dedicated to identifying additional incentives for demand side management and energy conservation and efficiency programs.

Findings

- When buildings are valued utilizing lifecycle accounting methods they are designed and built under economic constraints that include operating costs as well as construction costs. Reducing operating costs encourages the design and construction of buildings which conserve energy and are more energy efficient. Energy efficient government buildings will save Nevadans millions in energy bills. Conservation and efficiency—issues exist in both the public and the private sector—however—solutions to these problems may not always be the same.
- Nevada's current building codes for government buildings could more aggressively address energy conservation and energy efficiency.

Recommendations #11 (Mandate #1)

- In the coming months the Task Force will begin hearing presentations on the relative merits and economic impact of the following codes: 1) the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) codes; 2) the International Energy Conservation Code (IECC); and 3) the Leadership in Energy and Environment and Environmental Design (LEED) codes.
- Using information gathered in the above described meetings, the Task Force recommends working with the Nevada State Office of Energy, other appropriate subdivisions of the state, and other entities to coordinate a workshop for the Public Works Board, architects, contractors, builders and the general public on energy efficiency in public and private buildings. The outcome of the workshop will be a recommendation with respect to contracting procedures, building codes and best accounting practices for Nevada's private construction and government buildings.

Public Education and Outreach

Finding

- Nevada's public education and public outreach programs

need additional funding and support, more help from public/private partnerships and public relations assistance.

Recommendation #12 (Mandate #3)

- The Task Force will utilize the web pages provided to it by the Nevada State Office on energy, Sierra Pacific Power Company and Nevada Power Company to provide a vehicle for Nevada's existing public education and public outreach programs. It will also utilize the web site to help leverage efforts, expand reach, develop public/private partnerships and to assist in further funding.

Finding

- Nevada Power Company initiated a green power/renewable energy partnership with the Desert Research Institute Foundation that allows customers to voluntarily contribute additional money through their regular power bill to fund renewable energy education programs. The amount that a customer can contribute varies at their option and typically ranges from $5, $10 to $25. These funds are collected by Nevada Power Company and forwarded to the Green Power Company Committee, a non-profit organization, to be spent on renewable energy education,

renewable energy projects and the creation of renewable energy education kits. The kits consist of educational materials and a sample photovoltaic panel in addition to some field experiments. Nevada Power Company's customers voluntarily contribute about $12,000 every year toward this program. Sierra Pacific Power Company intends to initiate this program in the spring of 2003.

Recommendation #13 (Mandate #3)

- The Task Force recommends working with the Desert Research Institute Foundation's Green Power Committee to continue its unique work with its innovative green power pricing program and fostering its educational mandate.

Projects and Programs

Findings

- Nevada needs more federal funding for renewable energy projects. Possible sources include the United States Department of Agriculture, Department of Defense, Forest Service, the Bureau of Land Management, Department of Energy and other public and private funding sources.
- Nevada needs more public/private partnerships.

Recommendations #14 (Mandate #6)

- The Task Force would convene a one day workshop with appropriate partners to bring together state and federal entities identifying the universe of grant money available for funding renewable energy projects. The purpose of the workshop will be to coordinate existing federal funding opportunities in unique ways, e.g. the United States Department of Defense partnering with the Department of Agriculture and the Department of Homeland Security to fund distributed generation projects for rural Nevada.
- The Task Force suggests inviting venture capital firms to the workshop to discuss and build interest in investing in renewable energy projects.

Finding

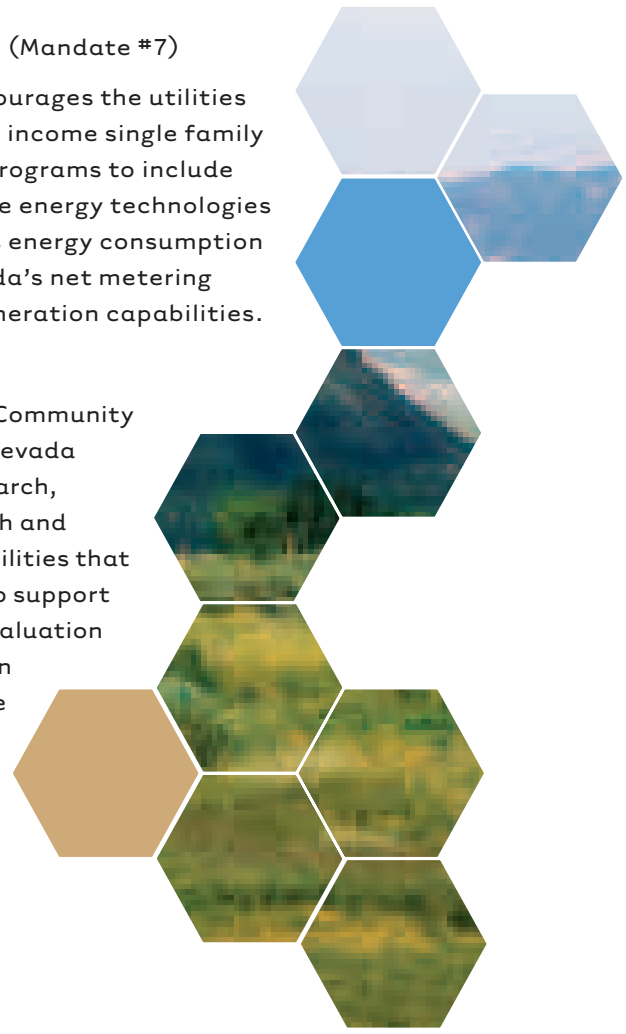
- Through Nevada's Universal Energy Charge over $9 million has been collected to assist low income Nevadans with their energy bills.

Recommendation #15 (Mandate #7)

- The Task Force encourages the utilities to expand their low income single family and multi-family programs to include providing renewable energy technologies to reduce Nevada's energy consumption and increase Nevada's net metering and distributed generation capabilities.

Findings

- The University and Community College System of Nevada has technical, research, education, outreach and grant writing capabilities that should be tapped to support the formulation, evaluation and implementation of the Nevada State Office of Energy's Comprehensive Energy Plan for Nevada.



- The Nevada State Office of Energy is responsible for writing the Comprehensive Energy Plan and is responsible for implementing programs and seeking federal grant money in support of its plan.
- The University and Community College System of Nevada is essential to nurturing the engineering, scientific and business talent that is needed to support Nevada's energy future.
- The Nevada State Office of Energy has worked hard to support collaborative energy research efforts by University and Community College System of Nevada institutions. The Nevada State Office of Energy continues to involve University and Community College System of Nevada existing outreach programs such as Cooperative Extension, Small Business Development, Management Assistance Partnership (www.mapnv.com), the Energy Assessment Center and others in the implementation of programs in support of the Comprehensive Plan.
- The University and Community College System of Nevada is essential to creating a Nevada research infrastructure to support effective energy research programs in Nevada.
- The Task Force believes the Nevada State Office of Energy's efforts to facilitate collaboration among the University and Community College System of Nevada research institutions is an essential step toward the effective implementation of the Comprehensive Energy Plan for Nevada.
- The Task Force believes in the long run the creation of a Virtual Energy Institute complements the efforts of the Nevada State Office of Energy and the Task Force by representing an independent, academic source of technical advice, technical services, academic curricula and educational opportunity and is a worthy goal.

Recommendation #16 (Mandate #7)

- The Task Force recommends the Nevada State Office of Energy continue its efforts to involve the University Community College System of Nevada community to the maximum extent possible in the formulation and implementation of the Comprehensive Plan. The Task Force further recommends the Nevada State Office of Energy and the University and Community College System of Nevada should seek to use these collaborative efforts as the foundation for the eventual formation of a formal Energy Institute in Nevada as part of the University and Community College System of Nevada.

The Nevada Renewable energy and Energy conservation task force

Membership

Section 84 of Assembly Bill 661[1] of the 2001 Nevada State

- Legislature provided for the creation of the Nevada Renewable Energy and Energy Conservation Task Force.

The Task Force consists of nine members appointed as follows:

- Governor Kenny Guinn appointed **Mr. Mark Russell**, Vice President and General Counsel for the MGM/Mirage, to represent the interest of the Gaming industry and **Mr. Tim Carlson**, President, Carlson & Associates, to represent the wind industry.
- Senate Majority Leader Bill Raggio appointed **Mr. Sam Routson**, CEO Winnemucca Farms, Inc., to serve as the biomass representative and **Mr. Russ Fields**, President of the Nevada Mining Association, to serve as the mining industry representative. **Mr. Routson** is the Task Force Vice Chair.
- Assembly Speaker Richard Perkins appointed **Dr. Jane Long Ph.D.**, Dean of the Mackay School of Mines at the University of Nevada, Reno, to serve as the geothermal representative and **Mr. Steve Schur** from the professional staff of the Sierra Club in Las Vegas to serve as the non-profit representative. Mr. Schur subsequently resigned and was replaced by **Mr. Dan Geary**, owner of the Geary Company Advertising Agency in Las Vegas and Geary Interactive, a San Diego-based internet development and marketing firm.
- Senate Minority Leader Dina Titus appointed **Ms. Rose McKinney-James**, founder Energy Works Consulting, to represent the solar industry. Ms. McKinney-James is the Task Force Chair.
- Assembly Minority Leader Lynn Hettrick appointed **Mr. Robert Balzar**, Director of Energy Efficiency and Conservation of Sierra Pacific Power Company and Nevada Power Company as the public utilities representative.
- Nevada Consumer Advocate Timothy Hay appointed **Mr. Robert Cooper**, Senior Regulatory Analyst, Office of the Attorney General's Bureau of Consumer Protection, to represent Nevada's consumers.

Mr. Russell, Mr. Carlson, Ms. McKinney-James, Mr. Routson and Mr. Cooper will serve the Task Force through 2004. Dr. Long, Mr. Geary and Mr. Balzar will serve through 2003. After their initial terms, the term of each member of the task force is 3 years. The Task Force selects a new Chair and Vice Chair each year. Task Force members are not compensated for their time. Member biographies can be found in Appendix C.

Charter

Section 86 of AB 661 provides that the Task Force shall:

- Mandate #1 Advise the Nevada State Office of Energy in the development and periodic review of the comprehensive state energy plan with regard to the use of renewable energy and the use of measures which conserve or reduce the demand for energy or which result in the more efficient use of energy.

1. Appendix A

- Mandate #2 Coordinate its activities and programs with the activities and programs of the Nevada State Office of Energy, the Attorney General's Bureau of Consumer Protection and the Public Utilities Commission of Nevada and other federal, state and local offices and agencies that promote, fund, administer or operate activities and programs related to the use of renewable energy and measures which conserve or reduce the demand for energy or which result in more efficient use of energy.

Section 83 of AB 661 created the Trust Fund for Renewable Energy and Energy Conservation[2] Section 86 directs the Task Force to spend the fund to:

- Mandate #3 Educate persons and entities concerning renewable energy and measures which conserve or reduce the demand for energy or which result in the more efficient use of energy.
- Mandate #4 Create incentives for investment in and the use of renewable energy and measures which conserve or reduce the demand for energy or which result in more efficient use of energy.
- Mandate #5 Distribute grants and other money to establish programs and projects that use renewable energy and measures which conserve or reduce the demand for energy or which result in more efficient use of energy.
- Mandate #6 Conduct feasibility studies, including, without limitation, a feasibility study concerning an incentive fund, grants or other programs to enable or

2. AB 661 Section 109 (3) Not later than 10 days after the first meeting of the Task Force following the appointment of the initial members of the Task Force, the Public Utilities Commission of Nevada will transfer the sum of $250,000 from its reserve account in the public utilities commission regulatory fund, created by NRS 703.147, to the Trust Fund for Renewable Energy and Energy Conservation, created by Section 83 of this act.

assist residential, small commercial and agricultural customers to reduce the costs of purchasing on-site generation systems, net metering systems and distributed generation systems that use renewable energy.

- Mandate #7 Take any other actions Task Force deems necessary to carry out its duties, including, without limitation, contracting with consultants, if necessary, for the purposes of program design or to assist the Task Force in carrying out its duties.

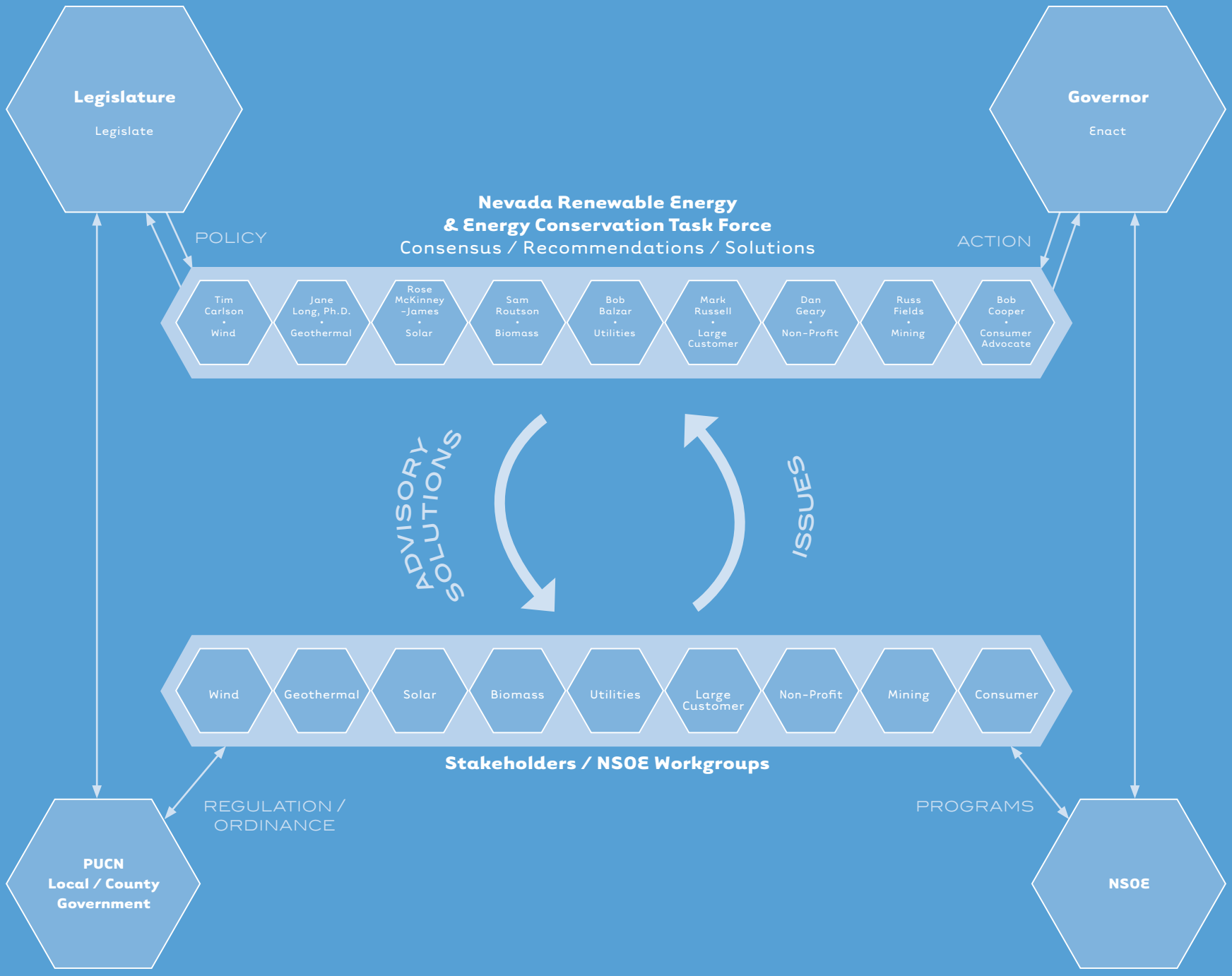
In February 2002, Governor Kenny Guinn presented the Task Force with a letter requesting the Task Force address the following issues. In some cases the Governor's requests mirror the Task Force's mandates with the caveat that any program recommended should be evaluated for fiscal impact and economic benefits relative to that fiscal impact.

- Recommend a methodology to the Director of the Nevada State Office of Energy for evaluating the economic development benefits of individual renewable energy projects to the state.
  - See Mandate #6
- Consider where educational efforts should be focused and recommend education programs addressed to consumers, businesses, construction professionals, realtors, lenders, builders, utilities, inspectors and appraisers.
  - See Mandate #3
- Recommend incentives the Task Force finds to be in the best interest of the state.
  - See Mandate # 4
- Recommend sources of public and private funds that do not originate from the United States Department of Energy.
  - See Mandate # 6
- Investigate the relative merits of incrementally adjusting existing energy codes to tailor them to the specific climatic conditions of the regions of Nevada vs. adopting an existing model code with due consideration of all costs and benefits to public and private entities.

Function

Since 2002 was the Task Force's initial year of operation, the Task Force chose to accelerate its meeting schedule to allow for strategic planning and to expedite data gathering. As a result, Task Force members elected to meet monthly rather than quarterly as set forth in the statute.

Staff and administrative support are provided to the Task Force by the Attorney General's Bureau of Consumer Protection. In November 2002, the Task Force hired a team of consultants including Misty Young, KPSI3; Jeneane Harter, HiTech Communications; Tom Clark, Syndetic Partners; Bill Kockenmeister, Attorney at Law; and Kim Swearingen, Sunrise Sustainable Resources Group to assist the Task Force in the execution of their duties.


Legislature
Legislate
Governor
Enact
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& Energy Conservation Task Force
Consensus / Recommendations / Solutions
POLICY
ACTION
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Jane Long, Ph.D. • Geothermal
Rose McKinney-James • Solar
Sam Routson • Biomass
Bob Balzar • Utilities
Mark Russell • Large Customer
Dan Geary • Non-Profit
Russ Fields • Mining
Bob Cooper • Consumer Advocate
ADVISORY SOLUTIONS
ISSUES
Wind
Geothermal
Solar
Biomass
Utilities
Large Customer
Non-Profit
Mining
Consumer
Stakeholders / NSOE Workgroups
REGULATION / ORDINANCE
PROGRAMS
PUCN
Local / County Government
NSOE

RENEWABLE ENERGY BACKGROUND

Renewable Energy Supply

Nevada is rich in renewable energy. Wind, geothermal, solar and biomass resources have the potential to meet Nevada's energy needs and, perhaps more importantly, to become a major new industry for the state.

Nevada consumes approximately 26 million megawatts per year. While the total potential for renewable energy is not well known, estimates indicate that Nevada could potentially produce 169 million megawatts per year from wind, geothermal, solar and biomass. These estimates do not account for land use and transmission barriers that must be overcome if Nevada is to fully develop all its renewable resources.[3]

Wind Potential	**Solar** Potential	**Biomass** Potential	**Geothermal** Potential	**Current (1999) Electricity Consumption**
55 Million MWh/yr	93 Million MWh/yr	1 Million MWh/yr	20 Million MWh/74	26 Million MWh/yr

Unfortunately, these estimates are based on old data and out moded technology. In the case of geothermal energy, the last resource assessment was completed by the United States Geological Survey in the late 1970's. Since that time the understanding of geology has advanced significantly. For example, lower temperature fields can now be economically developed using more advanced energy extraction technology. These fields were ignored in the past assessment.

Similarly, although five states in the West have detailed wind surveys, Nevada is not one of them. A detailed assessment would encourage the development of Nevada's wind resources. New methods for surveying wind provide very detailed pictures giving renewable developers a much clearer image of the land parcels that could be developed. Like geothermal, wind technology has also advanced and lower wind speeds can now be economically developed.

Although some of Nevada has been assessed for biomass potential, the vast majority of the state has no assessment what-so-ever. What has been assessed, mainly the northern most part of Nevada and the southern tip, is relatively low in potential.

The estimate of Nevada's solar potential is theoretically huge but the achievable potential hinges on technology to reduce costs and application. For example, thermal solar is currently much more economical and competitive than solar photovoltaic production. These technologies and applications need to be considered when assessing the state's true solar potential.

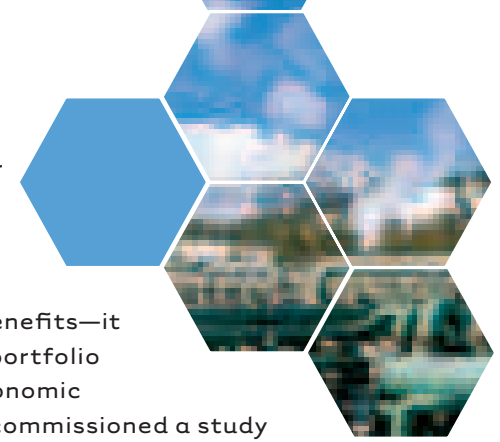
Some of the entities involved in determining the extent of Nevada's renewable resources include the University of Nevada, Las Vegas, the University of Nevada, Reno, the Desert Research Institute, and the Nevada Test Site Development Corporation among others. Recently, Governor Kenny Guinn and United States Senator Harry Reid announced $3.22 million in awards for renewable energy research and development. A portion of those awards will be spent conducting new surveys of Nevada's renewable energy resources.

3. Renewable Energy Atlas of the West, www.energyatlas.org — A Project of the Hewlett Foundation and The Energy Foundation, 2003.

These projects are critical and represent an excellent start toward a comprehensive, statewide resource assessment. However; a commitment to complete such an assessment has yet to be made. Whatever the final resource assessment reveals, the full potential of all of Nevada's renewable resources will be limited by policy choices and land use limitations.

Renewable Energy Development and Demand

Increasing the development of – and demand for – renewable energy is important. Mechanisms that encourage the development of renewable energy include federal production tax credits and other tax and credit incentives. Mechanisms that increase the demand for renewable energy include Renewable Portfolio Standards, Green Tags, and Green Tariffs. Green Tags, Green Tariffs and other programs encourage consumers to pay a premium to purchase renewable energy as opposed to traditional energy thereby increasing the demand for renewable energy.



Increasing the demand for renewable energy via a Renewable Portfolio Standard has multiple benefits—it provides the state with a cleaner portfolio of energy and it contributes to economic development. The Task Force has commissioned a study to determine just how—and how much—the development of Nevada's renewable energy resources will contribute to Nevada's economy. A description of that study is contained elsewhere in this report. The full study will be available before the end of the 2003 Legislative Session.

The benefits of a federal Renewable Portfolio Standard

were recently analyzed by the Union of Concerned Scientists (www.ucsus a.org) an advocacy group that has focused on energy issues. They concluded that between 2002 and 2020 a 20% national standard would produce $2.8 billion in new capital investment in Nevada, $213 million in new property tax revenues for local communities, $18 million in lease payments to farmers, ranchers and rural landowners from wind power and $3.6 billion in additional revenues from the export of renewable energy credits.

The Union of Concerned Scientists also found that under a 20% federal Renewable Portfolio Standard Nevada could produce the equivalent of 48% of its electricity from renewable energy (not including hydro) in 2010 and 71% in 2020. By 2020, renewable generation in Nevada would be more than 3.5 times the national standard. If electricity generation grows at the same rate as electricity use in Nevada, renewable energy would provide 56% of Nevada's electricity generation in 2020.

Demand Side Management

Energy conservation and energy efficiency programs that reduce customer demand are called demand side management programs.

In 2001, Sierra Pacific Power Company and Nevada Power Company created "Take Control" a new energy efficiency and conservation department dedicated to demand side management. Take Control's mission is to educate the public about energy efficiency and energy conservation and—as a result of that education—get measurable quantities of load off the system.

During 2002, Take Control conducted over 3000 energy audits and spent about $3 million on over 20 different programs that reduced Nevada residential and small business demand by 10 megawatts of peak load and over 5 megawatts of air conditioning control. In 2003, Sierra Pacific Power Company and Nevada Power Company will spend over $11 million on Take Control programs including:

- Energy audits
- Home and trade shows
- Low income single family weatherization
- Low income multi-family improvements
- Energy Star appliance rebates
- Small commercial customer incentives
- Residential compact fluorescent lights
- Residential solar photovoltaic rebates
- Air conditioning rebates coupled with time of use rates

Delivering Renewable Energy

Unlike fossil fuel plants which utilize transportable fuel sources and can therefore be conveniently located near the transmission grid, renewable energy plants utilize resources that cannot be moved. To develop a renewable energy resource, the power plant must be built wherever the resource is located. Developing Nevada's rich renewable resources means improving and expanding the state's transmission grid to reach each resource center.

The exception to this is distributed generation. Distributed generation systems create and use energy locally. As a result, they are not effected by transmission interruptions in the states which import energy to Nevada—this contributes to both regional and national security.

Renewable resources can play a significant role in the

development of distributed generation systems. Since distributed generation systems do not use the transmission grid, the development of distributed generation systems will help ease the current transmission constraints which now exist in Nevada.

One of the major transmission issues for Nevada is that the northern and southern parts of the state are not connected in the transmission grid. This means it is not possible for the south to get renewable energy generated in the north. Connecting the north and south would be a major benefit to the development of Nevada's renewable energy resources. Such a transmission addition is being considered from Ely to Las Vegas.

Another transmission issue is the ability to market Nevada's renewable energy to other states, particularly California. The high voltage DC intertie project is a study being conducted by the Center for Resource Solutions to look at the possibility of tapping into the existing high voltage direct current line. The line begins in Oregon and ends in Los Angeles and is currently under utilized. The construction of a tap into this existing DC line would be expensive, but would allow independent renewable energy producers to sell their energy to California.

Developing Nevada's Renewable Energy Resources

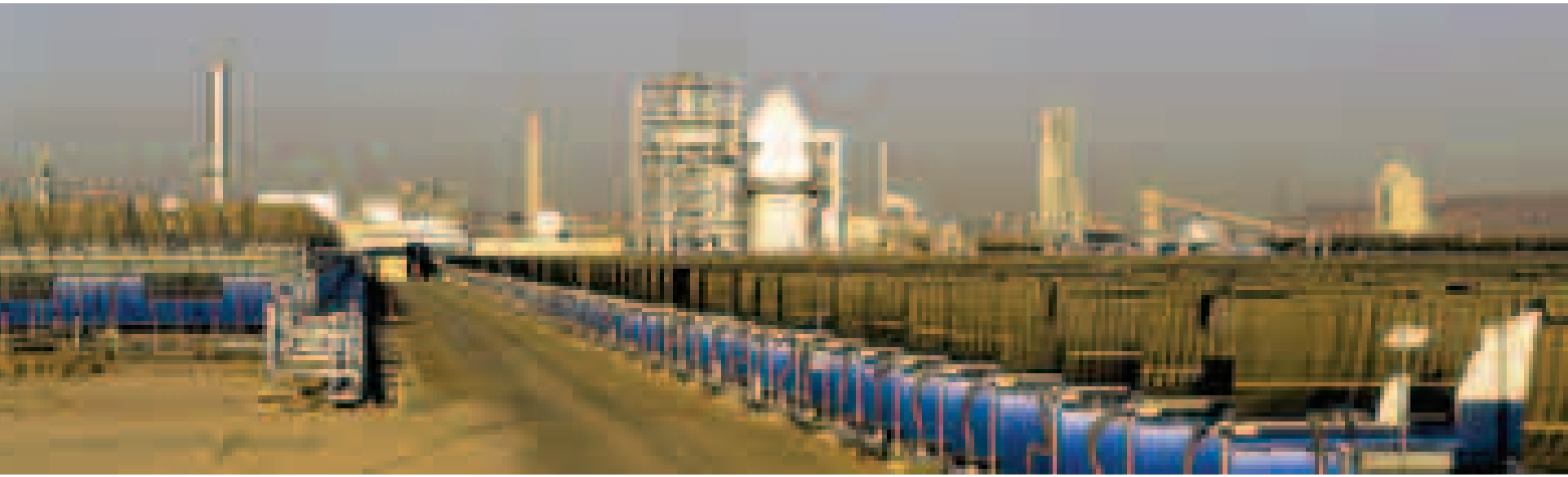
In 1995, the Nevada Legislature passed legislation allowing utility customers to choose to pay for renewable energy. In 1997, legislation was also passed that established the first Renewable Portfolio Standard in Nevada.

Other legislation passed that session, included net metering for certain customers of an electric utility who have installed renewable energy systems and exemptions from property taxes on property used to produce electric energy from solar renewable energy.

On January 11, 2001, the Nevada Electric Energy Policy Committee issued a report to the Governor. In the report, the Committee made the following recommendations on renewable energy development in Nevada:

The state of Nevada has great potential to utilize its wind, solar and geothermal renewable resources. We recommend the state of Nevada develop an overall policy to support renewables in this state consistent with the following:

- Establish a standing committee to aid in the development and oversight of such policy. Prior to reviewing the concept of a systems benefits charge for renewables or modifying the portfolio standards based on an analysis, a study identifying the true costs of a renewables policy on an ongoing basis should be undertaken.
- Work with the Congressional delegation to extend the federal tax credits for wind to solar and geothermal. If tax credits are extended, geothermal and wind resources can be competitive with today's prices.
- Encourage the Department of Energy and any other entity to bring a model or any kind of solar/geothermal/wind project for trial in the state and, to the extent possible, encourage construction of a natural gas pipeline, if feasible, to the Nevada Test Site/Department of Energy area for renewable development.



- Geothermal providers need the ability to enter into long-term contracts with their provider for their financing needs.
- Revisit the portfolio standards that are currently set forth in NRS 704.989 to eliminate the bias toward higher cost solar renewables (this recommendation is not to be considered a negative statement regarding solar renewables).
- Creatively leverage existing state and federal resources and capabilities and provide an incentive for the development of renewable energy systems within the state.[4]

During the 2001 session, the Nevada Legislature created the Task Force. The Task Force picked up where the Nevada Electric Energy Policy Committee left off and has carried the Electric Energy Policy Committee's recommendations forward.

The 2001 Session also allowed eligible customers to leave the electric system (AB 661) and revised the renewable portfolio standard (SB 372) passed in 1997. Nevada's Renewable Portfolio Standard is now among the most aggressive in the nation has been the model for California and other states to initiate their renewable portfolio standards.

Beginning in calendar years 2003 and 2004, the Renewable Portfolio Standard requires Nevada Power Company and Sierra Pacific Power Company to generate or acquire electricity from renewable energy sources in an amount that is not less than 5% of the total amount of the

4. Excerpted from January 11, 2001 Report to the Governor of the State of Nevada from the Nevada Electric Energy Policy Committee

electricity sold by the utilities to its retail customers. The portfolio standard increases biannually until calendar year 2013, at which time the percentage is established at not less than 15% system wide. Not less than 5% of the energy generated or acquired from renewable energy systems must come from solar renewable energy systems.

As a result of the legislation, Nevada Power Company has entered into seven contracts for the purchase of renewable energy. Those contracts have been filed with the Public Utilities Commission of Nevada for approval. The contracts are as follows:

1. Desert Queen Wind, a wind generating facility with a total capacity of 80 megawatts located near Goodsprings, Nevada.
2. Ely Wind Company, LLC, a wind generating facility with a total capacity of 50 megawatts located at the Robinson Mine, Ruth, Nevada.
3. Advanced Thermal Systems, Inc., a geothermal facility with a total capacity of 28 megawatts located at Steamboat Springs, Nevada.
4. Earth Power Resources, Inc., a geothermal facility with a total capacity of 10 megawatts located in Elko County, Nevada.
5. ORNI 9, LLC, a geothermal facility with a total capacity of 10 megawatts located at Desert Peak KGRA, Churchill County, Nevada.
6. ORNI 3, LLC, a geothermal facility with a total capacity of 20.2 megawatts located at Desert Peak KGRA, Churchill County, Nevada.
7. Duke Solar Energy, LLC, a solar energy system with a total capacity of 50 megawatts located in Boulder City, Nevada.

Finally, the 2001 Legislature set standards for renewable energy contracts entered into by the utilities. The term of any such contract must not be less than 10 years, and the terms and conditions of such contracts must be just and reasonable.

Nevada's Renewable Energy Projects

Defining Renewable Energy

The definition of renewable energy varies from state to state. The 2001 Nevada Legislature defined renewable energy as biomass, geothermal, solar and wind energy. Some states also include small hydro projects in the definition of renewable energy. The following renewable resources are used to fuel commercial power plants.

Biomass

Biomass is any organic matter available on a renewable basis, including, without limitation:

- Agricultural crops and agricultural wastes and residues
- Wood and wood wastes and residues
- Animal wastes
- Municipal wastes
- Aquatic plants

Biomass energy uses these organic materials to produce electricity or heat. Biomass materials can also be converted to liquid or gaseous fuels such as methane or ethanol. The advantages of biomass are that it uses materials that would otherwise be incinerated or disposed of in a landfill. In Nevada, there is also interest in eradicating invasive species by harvesting them for energy and in using forest wastes.

Energy from biomass power plants cost an average of $60–80 per megawatt hour to produce[5] and provides reliable energy to the electric grid. There is one biomass plant connected to Sierra Pacific Power Company's transmission grid. It has an installed capacity of 10 megawatts.

Solar

There are many ways to harness solar energy, either through photovoltaic or solar thermal resources:

- Photovoltaic (solar cell) systems produce electricity directly from sunlight.
- Concentrating (solar thermal) systems to use the sun's heat to produce electricity.
- Passive solar heating and day lighting use solar energy to heat and light buildings.
- Solar hot water heats water with solar energy.
- Solar process heat and space heating and cooling are industrial and commercial uses of the sun's heat.

The advantages of solar energy are that it is an abundant form of energy that could be tapped in every building by utilizing passive solar design, solar heating and hot water, and photovoltaic.

Energy from solar power plants costs an average of $200–250 per megawatt hour to produce[5]. Solar energy is a non-firm energy source — firm energy is energy that is available whenever a customer needs it — solar energy (unless

5. Based on contracts in Nevada. Colin Duncan, Staff Consultant Resource Contracts, Sierra Pacific Power Company.

stored) is only available when the sun is shinning (although even under sudden cloud cover solar will still supply some power.) Non-firm energy sources require additional operational flexibility on the part of the utility to provide ancillary services to firm-up the power. Nevada has two dish/engine systems providing 50 kilowatts to the grid and one 110 kilowatt direct use system.

In December 2002, Sierra Pacific Resources announced that its two Nevada-based utilities have signed long-term contracts with Duke Solar Energy LLC to supply 50 megawatts of electricity generated by solar thermal power from a plant to be located in Eldorado Valley, near Boulder City, Nevada. Nevada Power Company contracted for approximately two-thirds of the power and Sierra Pacific Power Company contracted for approximately one-third.

Geothermal

Geothermal energy taps the heat in the earth's crust. The total amount of heat in the earth's crust significantly exceeds the amount of energy that can be derived from gas and oil. Like solar, geothermal energy can be used directly (direct use) to provide heat. Alternatively, the heat can be used to drive turbines which produce electricity. The direct use of geothermal energy is available almost anywhere through the use of geothermal heat pumps. However, finding enough heat and fluid to drive

power production is more limited. Geothermal reservoirs capable of producing electricity must have both heat and either water or steam to carry that heat to the surface.

There are three kinds of geothermal power plants, dry, flash and binary. They type of plant depends on the temperatures and pressures of the geothermal reservoir.

A dry steam reservoir produces steam but very little water. The steam is piped directly into a dry steam power plant to provide the force to spin the turbine generator.

A geothermal reservoir that produces mostly hot vapor in the form of steam can be utilized by a flash steam system. Water ranging in temperature from 300 – 700 degrees Fahrenheit is brought up to the surface through the production well – upon being released from the pressure of the deep reservoir, some of the water flashes into steam in a separator. The steam then powers the turbines. This type of plant represents a small percentage of the potential development in Nevada.

A reservoir that is liquid dominated and produces geothermal liquids at temperatures between 250 and 370 degrees Fahrenheit can be utilized by a binary geothermal facility. In a binary system the geothermal water is passed through a heat exchanger, where its heat is transferred into a second (binary) liquid, such as isopentane, that boils at a lower temperature than water. When heated, the binary liquid flashes to vapor, which, like steam, expands across and spins the turbine blades. The vapor is then recondensed to a liquid and is reused repeatedly. In this closed loop cycle, there are no emissions to the air.

A reservoir that is liquid dominated and produces

geothermal liquids at temperatures below 250 degrees Fahrenheit but above 100 Fahrenheit may be utilized in direct use applications such as aquaculture, horticulture, hydroponics and dehydration of organic products. The energy provided by the geothermal resources would displace natural gas and electricity that would be required at these facilities if geothermal liquids were not available. Therefore, they can be provided as electricity equivalent energy savings. Direct use geothermal applications have the potential to provide significant job creation and add to the tax base in Nevada.

The advantage of geothermal is it has many of the attributes of traditional power plants in that it is available on demand. The resource is available on a constant basis compared to wind and solar. Direct use geothermal is both ubiquitous and capable of stable production.

Energy from geothermal plants costs an average of $50–$70 per megawatt hour to produce[6] and provides reliable, high capacity energy to the electric grid. There are eleven binary plants with a combined installed capacity of 63.14 megawatts and three single flash plants with an installed capacity of 48.33 megawatts operating in Nevada. Nevada's utilities have just signed four new geothermal plant contracts for 97 megawatts of new capacity.

Wind

Wind is generally assessed on a scale from one (least energetic) to seven (most energetic), seven being the best class at over 800 W/m2. (W/m2 is Watts per square meter of the blade swept area). Wind is generally thought to be economical at class four and above, i.e. 400 W/m2. Using new technology advances, small scale wind projects have been economically installed in regions classified as low as two.

There are two main ways to harness the wind:

Horizontal Axis Turbines:

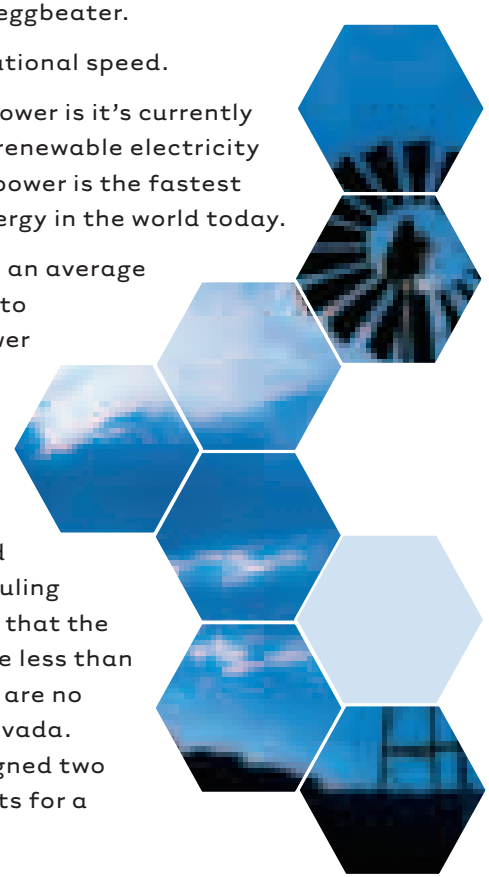
- These are two or three-blade turbines with variable speed capabilities so they can operate at higher efficiencies over a wider range of wind speeds ranging from 6 mph to 60 miles per hour. Newer technologies are being developed that can tap winds under 6 miles per hour.

Vertical Axis Turbines:

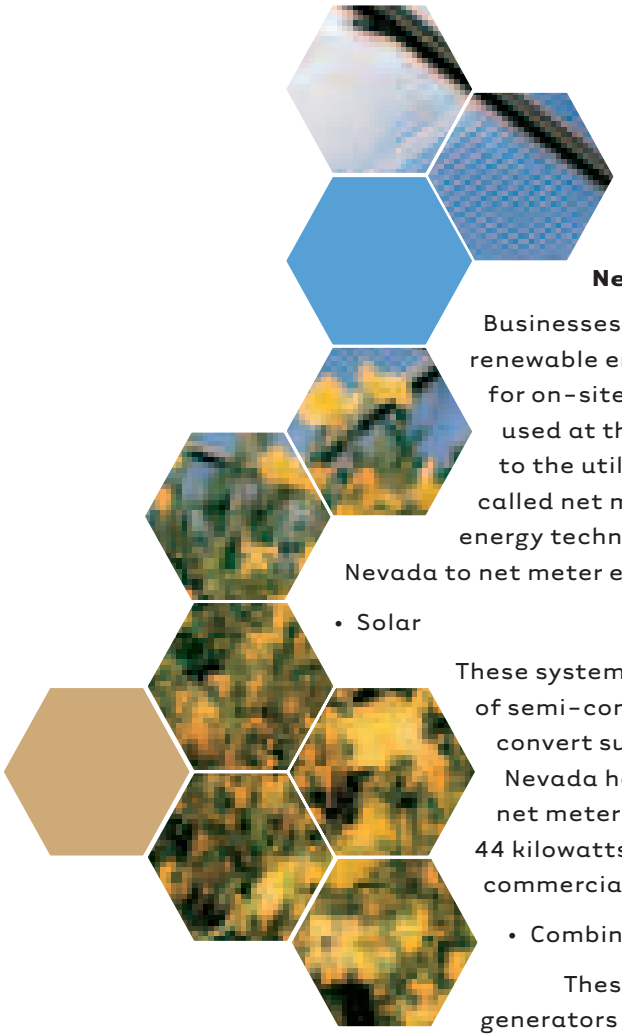
- Darrieus type looks like an eggbeater.
- Savonius type has slow rotational speed.

The main advantage of wind power is it's currently the most economical form of renewable electricity production. As a result, wind power is the fastest growing form of renewable energy in the world today.

Energy from wind plants costs an average of $35–45 per megawatt hour to produce.[6] Wind generated power is also a non-firm source of energy. The utilities are studying the impact of non-firm energy sources on grid and are also exami ning the attending regulation, load following, and resource scheduling issues – initial indications are that the operating impact costs may be less than $.005 per kilowatt hour. There are no wind power plants online in Nevada. Nevada's utilities have just signed two new wind power plant contracts for a combined 130 megawatts.



6. Based on contracts in Nevada. Colin Duncan, Staff Consultant Resource Contracts, Sierra Pacific Power Company.



Net Metering

Businesses and homes also use renewable energy to generate power for on-site use. Power that is not used at the site can be sold back to the utilities. This process is called net metering. Renewable energy technologies currently used in Nevada to net meter energy include:

- Solar

These systems use solar cells made of semi-conducting materials to convert sunlight to electricity. Nevada has 18 solar residential net metering systems totaling 44 kilowatts, and one 5 kilowatt commercial net metering system.

- Combined Solar and Wind

These systems combine wind generators with solar systems. Nevada has two residential combined solar and wind net metering systems that net meter a combined 3 kilowatts.

- Total Net Metering

Between Nevada Power Company and Sierra Pacific Power Company, Nevada now has a combined total of 31 net-metered customers.

Energy Conservation in Nevada

Energy conservation reduces energy consumption by changing human behavior or installing new technologies.

A few simple no cost behavioral actions are:

- In the cooling season, keeping the thermostat at 78-80 degrees when people are in the building, 85 degrees at night and on weekends
- In the heating season, keeping the temperature at 68 degrees when people occupy the building, 55-60 degrees at night and on weekends
- Making sure outdoor lighting is turned off during the day
- Not using screen savers—they prevent computers and monitors from going into power-saver mode
- Making sure equipment is turned off overnight and weekends. Using the energy saving feature on printers, monitors, copiers and computers
- Keeping exterior and freight doors closed as much as possible
- Making sure that bulbs, fixtures, lenses, lamps and reflective surfaces are cleaned regularly

Conservation methods like these can easily reduce monthly energy bills by 10-15%.

Another simple, no-cost human behavior that can have a tremendous effect on energy bills is switching the time of day that things are done. Energy rates fluctuate with the time of day and season. In northern Nevada, peak time in the winter months of October through May begins at 5:00 pm and lasts till 10:00 pm and in the summer months of June through September from 10:00 am until 10:00 pm. During the peak periods, the cost of one kilowatt hour jumps from off peak rate of 8.3 cents per kilowatt-hour to peak rate of 11.4 cents per kilowatt-hour—a 37% energy cost increase.

In southern Nevada, the peak period runs from 1:00 pm

to 7:00 pm during the summer months of June through September. During this time, peak rates are over 14 cents per kilowatt hour versus the non-peak rates of approximately 6.5 cents per kilowatt hour. Flex operating schedules can begin workdays at 5:00 am and end at 1:00 pm avoiding peak energy charges. By moving from a standard operating day to a flex operating day, businesses can avoid paying peak energy charges.

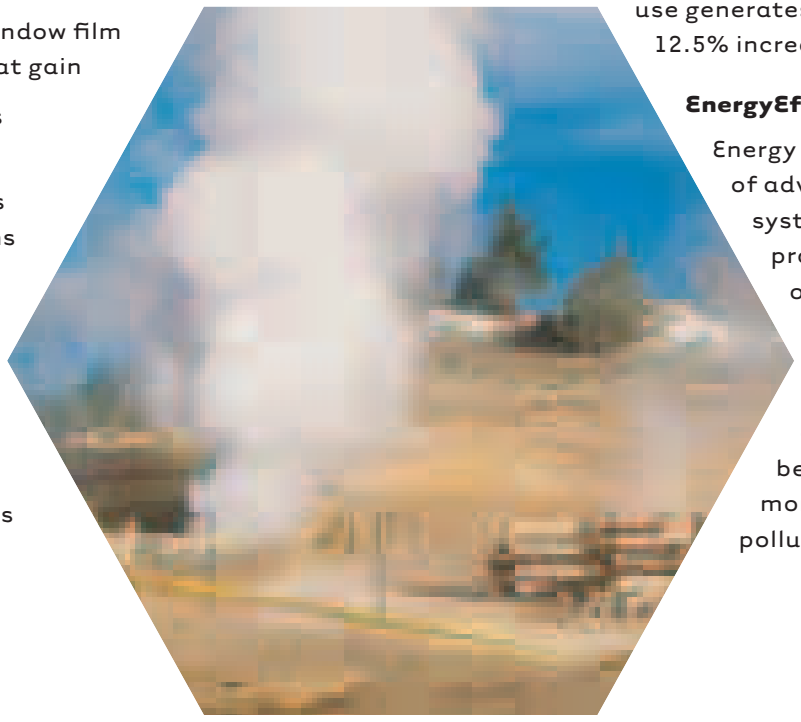
Low-cost efforts requiring a small investment in technology that save another 10-25% of a monthly energy bill include:

- Planting trees on south and west sides of buildings
- Using ceiling fans to keep the air moving, which can make it feel at least four degrees cooler
- Making sure doors to the outside have enough weather stripping
- Caulking windows
- Using drapes, shutters or window film to prevent heat loss and heat gain
- Changing the furnace filters monthly
- Replacing existing exit signs with more efficient LED signs
- Installing a programmable thermostat. Consider a locking cover over the thermostat to avoid having employees change temperature settings
- And insulating water heaters and supply pipes.

More aggressive conservation measures requiring a greater investment in technology include changing incandescent bulbs to compact fluorescent bulbs, installing skylights for natural day-lighting, increasing insulation in ceilings and walls, installing double pane or storm windows, using e-coating on glass surfaces allowing short-wavelength sunlight to pass through while blocking the escape of longer-wavelength heat radiation, and installing occupancy sensors and timers for lighting, among others.

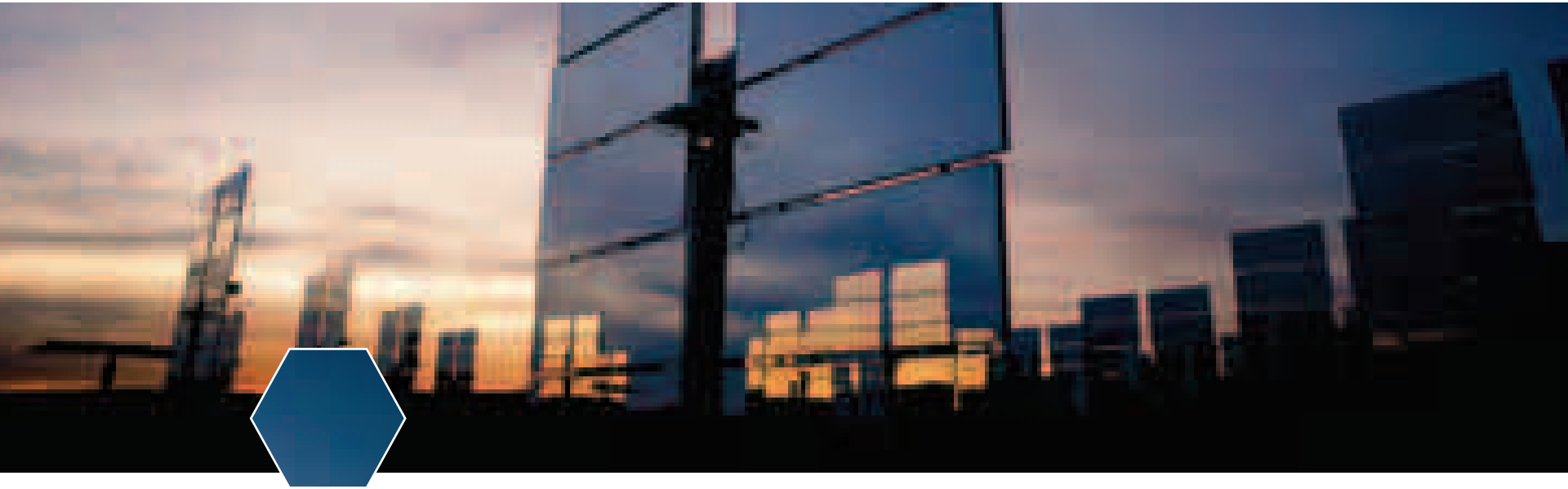
Conservation and efficiency can even pay. In mid 2001, Nevada Power Company's new Commercial Lighting Rebate Program awarded the University of Nevada Las Vegas with a $25,000 check for implementing campus lighting retrofits that reduced over 1100 kilowatts of peak load.

Energy conservation and efficiency also result in higher profits. Consider this - the average Nevada restaurant spends 2% of its revenue on energy. Given an average profit margin of 4%, a 25% reduction in energy use generates profits equivalent to a 12.5% increase in sales



EnergyEfficiency in Nevada

Energy efficiency takes advantage of advances in technology and system design to get the most productivity from every unit of energy and to eliminate energy waste. It means being more comfortable, creating a more vibrant economy and living in a better environment for less money, less energy and less pollution.



Reducing pollution is one of the drivers behind the federal government's Energy Star program. Energy Star is the largest energy efficiency program in the United Sates. It is a branded partnership program operated by the United States Department of Energy and the Environmental Protection Agency. Energy Star partners educate governments, businesses and consumers with regard to energy efficiency and provide building efficiency audits and solutions. They also provide Energy Star branded products and offer Energy Star mortgages or loans for Energy Star products.

Businesses and organizations providing Energy Star products and services include product manufacturers, utilities, state and regional energy efficiency groups, retailers, retail trade associations, home builders, lenders, and home energy raters.

The Southern Nevada Home Builders Association is particularly active in the Energy Star program. Eighteen builders in southern Nevada are Energy Star members. In 2002, these builders constructed 5615 Energy Star homes in Las Vegas and the surrounding area. This accounts for 25.4% of all new homes built in Las Vegas in 2002 and 10% of all Energy Star Homes in the United States. In recognition of Energy Star's importance to Nevada, Governor Guinn declared May 2002 as Energy Star Month.

The best large scale example of energy efficiency is cogeneration. Cogeneration uses system design changes

and special turbines to effectively use the same fuel twice — they produce electricity and provide steam or heat for manufacturing, material processing, or heating all at the same time. Cogeneration systems produce more electricity with less fuel for less capital cost with less pollution and without impacting the electrical grid.

Because cogeneration doesn't require a large central infrastructure or transmission investments, it is especially appropriate for creating distributed generation systems. In northwest Nevada, a group of five disparate businesses are working together to use cogeneration to create a distributed generation system that would potentially bring about an additional 60 megawatts of efficient, secure energy to this growing region of the state.

Energy efficiency and energy conservation are a win–win combination. One act of energy efficiency or energy conservation can save money, increase comfort, protect the environment, enhance the economy, and promote national security. The Task Force believes that such activities deserve every support from the Governor, the Legislature, the Public Utilities Commission of Nevada, and the general public, among others.

The Carson City School District demons trates an excellent example of efficiency and conservation: a combination of lighting retrofits, mechanical system retrofits, window treatments and changes in human behavioral reduced their energy costs to $0.74 per square foot. As a comparison, four of the newer schools in the neighboring Washoe County School District pay an average of $1.10 per square foot. The program cost the Carson City School District $800,000 to implement and has saved $2.4 million to date.[7]

The Nevada State Office of Energy is particularly involved in energy conservation and energy efficiency. The Nevada State Office of Energy Residential Efficiency Work Group and the Commercial Efficiency Work Group were formed to provide Nevada State Office of Energy and the Task Force with recommendations for encouraging the dissemination of energy efficiency technologies and methods. The Work Groups are also concerned with helping to build the infrastructure in Nevada that will promote the development and expansion of a viable residential efficiency sector in Nevada. Work Group members, proceedings, findings and recommendations can be found on the Nevada State Office of Energy's web site at www.energy.gov.nv. A list of other Nevadans involved in renewable energy, energy conservation and energy efficiency can be found in Appendix F.

8. Carl Keller, President, Quality Control Systems.

Findings and Recommendations

Task Force Mandates

The Task Force was given a long list of broad mandates. In order to fully address each mandate, and to conscientiously examine every issue it brings forward, the Task Force prioritized the mandates it would address in its first year. Mandates not fully addressed in the first year will be addressed in subsequent years.

The Task Force heard 12 months of presentations from —and held conversations with—renewable energy and energy conservation stakeholders including: David Garman, the Assistant Secretary Energy Efficiency and Renewable Energy US Department of Energy; Nevada's Congressional Delegation; Nevada's Legislators; the Nevada State Office of Energy; representatives from the utilities; representatives from the Public Utilities Commission of Nevada; representatives from the Bureau of Land Management, other state and federal office holders, industry representatives, consumers and renewable energy and energy conservation advocates, among others.

Based on these presentations and conversations the Task Force made the following findings and has the following recommendations. The findings and recommendations are broken out by mandate. The Task Force recognizes that in some cases the Nevada State Office of Energy, the Attorney Gereral's Bureau of Consumer Protection, the PUCN, other federal, state and local agencies and other entities may have similar efforts underway. In such cases, the Task Force recommendations are meant to coordinate with and augment such efforts.

Mandate #1 — Advise the Nevada State Office of Energy

The Task Force's first mandate is to advise the Nevada State Office of Energy in the development and periodic review of the Comprehensive State Energy Plan with regard to the use of renewable energy and the use of measures which conserve or reduce the demand for energy or which result in the more efficient use of energy. This is a complex mandate which requires an understanding of the strategic renewable energy and energy conservation issues facing the state.

Task Force Activity

- The Nevada State Office of Energy has a standing item on the Task Force's agenda; this allows the Task Force and the Nevada State Office of Energy to hold a continuing dialog.
- In February 2002, the Nevada State Office of Energy presented the Task Force with a status report on the Comprehensive State Energy Plan, on August 23rd 2002, the Nevada State Office of Energy presented the Task Force with a copy of the Strategic Action Plan.

Finding

- The Task Force finds that the Nevada State Office of Energy's Action Plan represents a reasonable course of action for first steps in implementing a comprehensive energy plan for Nevada.

Recommendation #1 (Mandate #1)

- The Task Force recommends support for the Nevada

State Office of Energy's Action Plan.

Finding

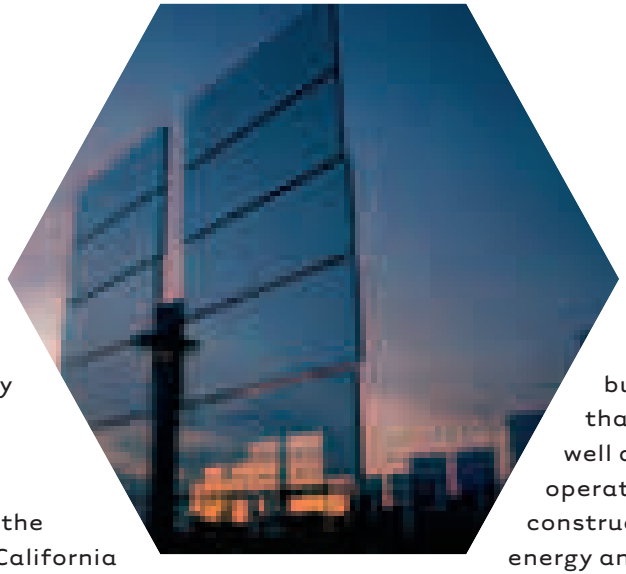
- Renewable energy is highly site specific – a difference of a mile or less can make a tremendous difference in the quality of a renewable resource. While progress has been made mapping Nevada's renewable resources, more work needs to be done to update, complete and fine tune the assessments in order to facilitate development and influence leasing, transmission and power purchase policy.
- The research campuses of the University and Community College System of Nevada have obtained federal funding for wind, solar and geothermal assessments. The Nevada State Office of Energy is already working with University and Community College System of Nevada and other private and public organizations to map the state's renewable resources.

Recommendation #2 (Mandate #1)

- The Task Force will work with the Nevada State Office of Energy to update, complete and fine-tune the statewide assessment of Nevada's renewable energy resources by helping to secure additional federal funding.

Finding

- Nevada's renewable energy resources are widely distributed throughout the state and not necessarily near existing power grid access points. In order to bring these resources to the electric grid, the state's



transmission system must be upgraded and expanded with these resource locations in mind.

- The Nevada State Office of Energy is working with various entities including the Western Governor's Association to study Nevada's transmission issues. In addition, the Center for Resource Solutions in California is studying a possible high voltage DC intertie along the line that currently runs through Nevada.
- The Task Force finds that the absence of an intertie between the two entities of Sierra Pacific Resources presents a barrier to the statewide distribution and optimal use of Nevada's renewable resources.

Recommendation #3 (Mandate #1)

- To coordinate these and other efforts, the Task Force recommends a transmission and renewable energy resource assessment workshop. The workshop will provide a venue for transmission and resource planners, investors and stakeholders to identify and communicate transmission projects most important to renewable energy progress including the possible high voltage DC intertie, a North-South intertie, the Centennial Plan and other proposed transmission projects including upgrading existing system components. As a result of the workshop the Task Force will issue findings and recommendations with respect to transmission. Results of the workshop will be provided to the Nevada State Office of Energy, the Public Utilities Commission of Nevada and other appropriate entities.

Finding

- When buildings are valued utilizing lifecycle accounting methods they are designed and built under economic constraints that include operating costs as well as construction costs. Reducing operating costs encourages the design and construction of buildings which conserve energy and are more energy efficient. Energy efficient government buildings will save Nevadans millions in energy bills. Conservation and efficiency issues exist in both the public and the private sector—however—solutions to these problems may not always be the same.
- Nevada's current building codes for government buildings could more aggressively address energy conservation and energy efficiency.

Recommendation #11 (Mandate #1)

- In the coming months the Task Force will begin hearing presentations on the relative merits and economic impact of the following codes: 1) the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) codes; 2) the International Energy Conservation Code (IECC); and 3) the Leadership in Energy and Environment and Environmental Design (LEED) codes.
- Using information gathered in the above described meetings, the Task Force recommends working with the Nevada State Office of Energy, other appropriate subdivisions of the state, and other entities to coordinate a workshop for the Public Works Board, architects, contractors, builders and the general public on energy efficiency in public and private buildings.

The outcome of the workshop will be a recommendation with respect to contracting procedures, building codes and best accounting practices for Nevada's private construction and government buildings.

Mandate #2 — Coordinate with State and Federal Government

This mandate sets the parameters for the Task Force's actions under all other mandates.

The Task Force's second mandate is to coordinate its activities and programs with the activities and programs of the Nevada State Office of Energy, the Attorney General's Bureau of Consumer Protection, the Public Utilities Commission of Nevada and other federal, state and local offices and agencies that promote, fund, administer or operate activities and programs related to the use of renewable energy and the use of measures which conserve or reduce the demand for energy or which result in more efficient use of energy.

The Task Force also viewed this mandate as a directive to focus on incentives and other measures that would accelerate the development of Nevada's renewable resources on federal land (87% of Nevada is public land, so most of Nevada's renewable resources are under the jurisdiction of various federal entities).

Task Force Activity

- The Task Force met with David Garman, the Assistant Secretary, Energy Efficiency and Renewable Energy, U.S. Department of Energy and engaged in a dialog designed to remove barriers to renewable energy development in Nevada.
- Members of the Task Force participated in United States Senator Harry Reid's Renewable Energy Summit held at the Desert Research Institute.
- The Task Force collected and summarized concerns regarding an expedited Bureau of Land Management permitting process for the development of Nevada's renewable energy resources on federal lands. The need to accelerate the process was relayed to the BLM offices in Washington D.C.

- Subsequent to this, Mr. Richard Hoops was appointed as a central point of contact for coordinating permits and leases on federal lands.
- The Task Force collected and presented arguments in support of a federal Renewable Portfolio Standard equal to or higher than Nevada's Standard to Nevada's Congressional Delegation. (See Appendix D)
- Arguments in support of the federal production tax credit for wind were collected and presented to Nevada's Congressional Delegation. (See Appendix D)

Findings

- State and regional energy credit trading systems achieve a number of renewable energy development objectives:
  - Credits are tools and mechanisms to optimize existing resources and have the potential to advance the Renewable Portfolio Standard.
  - Credits deliver lower priced renewable energy from the northern Nevada source to the southern Nevada population center by allowing the utility to freely trade renewable resource credits.

- Credits allow the utility to take advantage of the least cost renewable energy resources available and pass these savings to the consumer.
- Nevada's new crediting trading system has yet to be implemented and is therefore unproven.

Recommendations #5 (Mandate #2)

- The Task Force will work to identify state and regional credit trading systems that would be effective and beneficial to Nevada. The Task force will seek to convene a workshop to further explore and develop these issues.
- The Task Force encourages state government to evaluate a regional credit trading program as an important component to economic development in Nevada.

Finding

- Federal production tax credits are critical contributors to renewable project profitability. Federal legislation was introduced in the 107th Congress to provide geothermal power generation with a production tax credit similar to that provided for wind. This legislation would significantly reduced the net cost of geothermal generation in Nevada, making the development of new geothermal power more cost effective than any other new base load power resource including fossil fuels.

Recommendation #7 (Mandate #2)

- The Task Force has already expressed support for the continuation of production tax credits and encourages the Nevada State Legislature to also support the continuation of wind, and the development of new, federal production tax credits for other renewable resources.

Finding

- Acquiring leases and permits to develop renewable resources on public lands is a complex, lengthy process.

Recommendation #8 (Mandate #2)

- The Task Force recommends a study to identify a critical path system for all leasing and permitting of renewable energy projects on public lands. As part of the study, the Task Force would convene a workshop and resultant report that would identify duplications and overlaps, encourage efficiency and suggest prioritization.

Mandate #3 — Education

The Task Force's third mandate is to educate persons and entities concerning renewable energy and measures which conserve or reduce the demand for energy or which result in the more efficient use of energy.

Task Force Activity

- The Task Force believes this is one of its most important mandates. While the Task Force heard presentations requesting support for various public education and public outreach programs, it was quickly clear that coordinating all the public relations aspects of the various programs would require a public relations professional. In November, 2002 the Task Force retained the services of a public relations consultant to work with the presenting organizations and their programs to coordinate, leverage and maximize public outreach efforts.
- The consultant developed a public relations and public outreach program designed to leverage and maximize Nevada's renewable energy and energy conservation outreach and education programs.
  - The goal of the plan is to:
    - Deliver into the public agenda themed and targeted messages through the continued identification, promotion, coordination and

distribution of information on a variety of renewable energy, energy conservation and energy efficiency topics and issues.

- The plan will:
  - Work with existing programs to conduct a coordinated statewide, multi-media public education and outreach campaign delivering messages supporting the continued research and development of Nevada's renewable resources and to promote energy conservation and energy efficiency.

Other Task Force activities included:

- The Task Force co-sponsored the annual national conference of the American Solar Energy Society. The conference was held in Sparks, Nevada, in June 2002. International participants included nearly 1000 scientists, architects, academicians, industry representatives and consumers, among many others.
- The Task Force also co-sponsored the Sustainable Living Exposition held in conjunction with the American Solar Energy Society conference. The June 15-16th exposition was open to the public and featured renewable energy and energy conservation vendors and renewable energy and energy conservation education programs. Approximately 2000 people from all over northern Nevada attended the expo. The event was featured extensively in regional media including print and broadcast.
- To highlight Nevada's energy conservation and energy efficiency efforts, the Task Force created the Renewable Energy and Conservation Honors (REACH) Award. The

first award will be given to Dr. Patrick Herron formerly of the Clark County School District. *Dr. Herron spearheaded the aggressive conservation and efficiency efforts which saved the Clark County School District in excess of $3 million in one fiscal year alone.*

- The Task Force has developed a statewide advocacy group roster to assist public outreach efforts.

Finding

- Nevada's public education and public outreach programs need additional funding and support, more help from public/private partnerships and public relations assistance.

Recommendation #12 (Mandate #3)

- The Task Force will utilize the web pages provided to it by the Nevada State Office of Energy, Sierra Pacific Power Company and Nevada Power Company to provide a vehicle for Nevada's existing public education and public outreach programs. It will also utilize the web site and other public relations efforts to help leverage efforts, expand reach, develop public/private partnerships and to assist in seeking further funding.

Finding

- Nevada Power Company initiated a green power/renewable energy partnership with the Desert Research Institute Foundation's Green Power Commitee that allowing customers to voluntarily contribute money, in addition to their regular power bill, to fund renewable energy education programs. The amount that a customer can contribute varies at their option and typically ranges from $5, $10 to $25. These funds are collected by Nevada Power Company and forwarded to the Green Power Committee, a non-profit organization, to be spent on renewable energy education, renewable energy projects and the creation of renewable energy education kits. The kits consist of educational materials, and a sample photovoltaic panel in addition to some field experiments. Nevada Power Company's customers voluntarily contribute about $12,000 every year toward this program. Sierra Pacific Power Company intends to initiate this program in the spring of 2003.

Recommendation #13 (Mandate #3)

Mandate # 4 — Create Incentives for Investment

The Task Force's fourth mandate is to create incentives for investment in—and the use of—renewable energy, and measures which conserve or reduce the demand for energy or which result in more efficient use of energy.

Task Force Activity

- In December, 2002, the Task Force asked the Nevada Commission on Economic Development to provide a state-to-state comparison of tax incentives. The Nevada Commission on Economic Development provided the data in January, 2002, and included a state-to-state comparison of Renewable Portfolio Standards. The report is available on the Nevada Commission on Economic Development web site at www.expand2nevada .com.
- In January, the Task Force met with the President of Sierra Pacific Resources and representatives from

Reliant Energy regarding—among other things—the need for incentives.

- Note: other incentive related recommendations are mentioned elsewhere in this report.

Finding

- Incentives are perhaps the most effective way to promote renewable energy. A large number of different types of tax, market and consumer incentives including system benefit charges, green tags and green tariffs have been tried in other states. The Nevada Commission on Economic Development has collected initial state-to-state data on tax incentives which can be found on www.expand2nevada.com. The Nevada State Office of Energy is also working in this area.

Recommendation #9 (Mandate #4)

- The Task Force recommends commissioning a study to evaluate, propose and analyze the potential effect of various market incentives. The Task Force recommends seeking co-funding for this study, perhaps from the Department of Energy, the Nevada Commission on Economic Development and other likely funding sources.

Mandate #5 — Distribute Grants

The Task Force's fifth mandate is to distribute grants and other money to establish programs and projects that use renewable energy and measures which conserve or reduce the demand for energy or which result in more efficient use of energy.

Task Force Activity

- The Nevada State Office of Energy presented the Task Force with an opportunity to provide support for the Zero Energy School program; however, Bob Balzar asked the Task Force to allow Sierra Pacific Power Company and Nevada Power Company to fund the program. The Task Force agreed, and the program was ultimately co-funded by the utilities.
- In the coming months the Task Force will underwrite (or host) a meeting of the Utility Wind Interest Group Inc., a national association dealing with the problems of power integration. Additional information about the group, their goals and objectives can be found at www.uwig.org.

Mandate #6 — Feasibility Studies

The Task Force's sixth mandate is to conduct feasibility studies, including, without limitation, a feasibility study concerning an incentive fund, grants or other programs to enable or assist residential, small commercial and agricultural customers to reduce the costs of purchasing on-site generation systems, net metering systems and distributed generation systems that use renewable energy.

Task Force Activity

- The Task Force has funded an economic study to report on the impact of renewable energy in Nevada. The report is being coordinated by Sunrise Sustainable Resources Group and written by Dr. Keith Schwer and Mary Riddell of the Center for Business and Economic Research at the University of Nevada, Las Vegas. A description of the study is provided below. The full report will be provided to the Legislature prior to the end of the Legislative session.

"Taking Stock of Nevada's Renewable Energy Resources: A Proposal for Examining the Potential for Developing Renewable Energy in the State of Nevada"

R. Keith Schwer and Mary Riddel
Center for Business and Economic Research
University of Nevada, Las Vegas

Nevadans are increasingly concerned about their dependence on electricity generated by out-of state sources. Rising electrical power prices and subsequent rolling blackouts in California helped stimulate interest in using local renewable resources for electric power generation to help relieve our dependence on increasingly unreliable out-of-state power sources. The warm, sunny, climate, diverse geomorphology, and geologic fortune have conferred a windfall of renewable energy potential on Nevada. At present, the majority of these resources are untapped, largely as a result of the cost of exploiting these resources relative to purchasing power from "the grid." Nevertheless, as the cost of generating power using nonrenewable resources increases, renewable sources are likely to become more economically competitive sources of electricity.

The purpose of this study is to examine the potential for electrical generation using natural, renewable energy sources within the state of Nevada. Four types of renewable energy sources will be studied: solar, wind, geothermal, and biomass. The study will have three components.

First, we will take stock of the existing resources and potential for development of each of the four renewable energy sources within the state of Nevada. To understand the potential for renewable fuels for meeting the electric power needs of Nevadans, it is essential to know the stock of the resources. In other words, how large are each of these resources currently and what is their future potential? Additionally, we must know the location of resources. How close are they to urban centers? Are the sources diffuse, spread evenly over the state, or concentrated in certain areas? Given this information, we can more readily assess the

potential for renewable sources to meet state energy demands now and in the future.

The second component of the study will examine the economic viability of existing resources. When prices are available, we will compare the price of electrical generation using specific renewable resources and compare those to the price of electricity "from the grid." Of course, all units of renewable power, even with each category, cannot be generated for the same price. Some wind farms may be more productive than others simply due to weather patterns. Thus, prices in our study will represent the best available information about the generation prices for the "average" renewable resource within each category.

Economic theory tells us that prices are based on the quantity of the resource used and the cost of generating that amount. Renewable power costs have two main components that are important in the decision of when, and to what extent, to develop the resource. There is the cost of constructing facilities to initially exploit the resource. For solar power, this may involve the cost of solar panels for a public building or, on a larger scale, the cost of constructing a solar energy generation facility. These "fixed costs" affect the decision of when to exploit a resource. Nevertheless, production costs, termed "marginal costs," including maintenance, transport, and generation costs also play a critical role in the economic viability of renewable energy sources. Taken together, fixed and "marginal costs" steer investment and operation decisions of producers and offer information about when switching to renewable resources may be economically efficient. Our report will tally fixed and marginal costs for each energy source for the "average" unit produced.

Third, we will examine how switching to renewable energy for some of the state's power needs will affect the state economy. We will describe the effect, in terms of gross state output, that exploiting nonrenewable resources could have on the State of Nevada. Of course, using local fuel sources will affect all industries within the state to the extent that they affect electrical power costs. Cheaper power boosts local economic activity whereas an increase in power prices dampens state output, employment and other economic measures. Nevertheless, there are additional considerations, in terms of state economic activity, associated with developing local nonrenewable resources. Of these employment and output impacts from construction of wind, geothermal, biomass or solar generation facilities will create employment and encourage new economic activity within the state.

In an effort to examine the possible economic impacts of developing nonrenewable resources, we will develop four scenarios. Energy sources and prices will be different across the scenarios. For example, one scenario may include constructing a solar power generating plant, exploiting two geothermal resources, and constructing three wind farms in different parts of the state with electricity price "from the grid" set at 10 percent above current price. Another scenario will have a similar set of new generation facilities, but assume grid prices climb by 20 percent. For each scenario, we will tabulate economic impacts, in terms of gross state product, employment by major industries, and fiscal impacts. The economic impact will be decomposed into: 1) direct impacts from constructing facilities and price effects, 2) indirect impacts from stimulating secondary economic activity within the state, and 3) induced effects arising from changes in income and consumption by Nevada residents.

Findings

- Distributed generation can contribute to Nevada's energy security and renewable energy projects can play a large part in distributed generation. When it comes to on-site generation, net metering and distributed generation projects, residential, small commercial and agricultural customers have special needs, just a few include:
  - Understanding the language of energy
    - Energy, and particularly renewable energy, is a complex subject with a language all its own — it includes terms the average consumer, small business owner and agriculturalists do not use in their daily lives.
  - Assessing which type of project is appropriate for their needs
    - Residential, small commercial and agricultural customers do not have access to the types of large scale resource assessment and project development data typically provided by national energy labs and the commercial energy developers.
  - Choosing the right project and finding funding
    - Average residents, small business owners and agricultural customers do not have the busine ss model tools to easily understand the economics of potential projects.
      - They also may not have the knowledge of —or access to—the universe of grants and incentives potentially available to them.
    - In October of 2002, the Public Utilities Commission of Nevada approved Nevada Power Company's plans to provide rebates of $3 per watt, up to $3000, for 50 one kilowatt photovoltaic installations on residential homes in Southern Nevada.

Recommendation #4 (Mandate #6)

- The Task Force recommends working with the Nevada State Office of Energy, the University System's Cooperative Extension and other state entities to identify and fund organizations that would provide objective technical assistance for residents, small business owners and farmers developing on-site generation, net metering, and distributed generation projects.
- The Task Force believes programs like the Nevada Power Company buy-down should be studied to determine the potential benefits that distributed generation can bring to the electric grid and its customers.

Findings

- Nevada needs more federal funding for renewable energy projects. Possible sources include the United States Department of Agriculture, Department of Defense, the Forest Service, Bureau of Land Management, Department of Energy and other public and private funding sources.
- Nevada needs more public/private partnerships.

Recommendations #14 (Mandate #6)

- The Task Force would convene a one day workshop with appropriate partners to bring together state and federal entities identifying the universe of grant money available for funding renewable energy projects. The purpose of the workshop will be to coordinate existing federal funding opportunities in unique ways, e.g. the U.S. Department of Defense partnering with the Department of Agriculture and the Department of Homeland Security to fund distributed generation

projects for rural Nevada.

- The Task Force suggests inviting venture capital firms to the workshop to discuss and build interest in investing in renewable energy projects.

Mandate #7 — Other

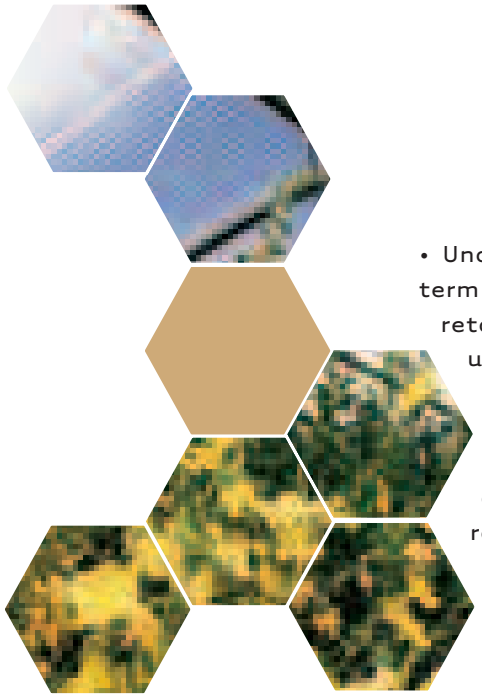
The Task Force has spent a considerable amount of time educating themselves on issues over and above their mandate including dockets before the Public Utilities Commission of Nevada and legislation pending before the 2003 session of the Nevada State Legislature.

Task Force Activity

- The Task Force met continually with representatives from the utilities, the Legislature, the Public Utilities Commission of Nevada and from the renewable energy industry.

Findings

- Most renewable energy projects have large up-front construction costs. Thus, long-term (20-30 years) power purchase agreements are required in order to obtain financing for most renewable energy projects.



- Under AB 661 (NRS 704B.010) the term of a typical contract between a retail energy customer exiting the utility supply and a non-utility energy supplier is 3-5 years. This is much shorter than an expected contract between a non-utility supplier and a renewable energy developer which could be ten years or more to obtain the necessary financing for a renewable energy project.

- The disparity in contract length creates a barrier for customers to exit the utility system. Non-utility energy suppliers are unlikely to enter into contracts longer than their sales contracts with retail end user customers.

- Customers who take advantage of AB 661 have the ability to choose their power supplier. If a customer who has exited the utility system under AB 661 wishes to return or to change suppliers, the utility or new supplier would at that point be responsible to supply energy to the customer in accordance with the Renewable Portfolio Standard. Thus the new supplier must add more renewable energy to its portfolio with the addition of any new customer.

Recommendation #6 (Mandate #7)

- The Task Force will coordinate with the utilities, the Public Utilities Commission of Nevada, the Attorney General's Bureau of Consumer Protection, renewable developers, potential AB 661 customers and others to identify possible solutions to the contract term problem. One approach may be to facilitate short term contracts by insuring that any future supplier of energy will assume prior renewable contracts or to identify appropriate agencies and agreements to backstop long-term contracts should the supplier and customer part ways.

In the coming months the Task Force will address dockets before the Public Utilities Commission of Nevada and legislation before the 2003 session of the Nevada State Legislature.

Findings

- Demand side management and energy conservation and energy efficiency programs are central to Nevada's energy strategy.

- In October 2002, the Public Utilities Commission of Nevada approved $11,200,000 in energy education, energy conservation and load management programs for Sierra Pacific Power Company and Nevada Power Company. This was the culmination of collaborative work with the utilities, the Public Utilities Commission of Nevada staff, the Attorney General's Bureau of Consumer Protection, Land and Water Fund of the Rockies, the Washoe County Senior Law Project, and several other interested parties. The set of programs contained in this approval set a new threshold of energy education, energy conservation and load management spending in Nevada.

Recommendations #10 (Mandate #7)

- The Task Force recommends a continuation of the successful collaborative process for the new demand side management plans required to be filed by the utilities by July 1, 2003. The Task Force offers to make a portion of its March or April 2003 meeting to assist the utility and collaborative team by reviewing and providing comment on the process, potentially recommending

programs and spending plans that are contemplated in the required July 2003 document.

- The Task Force would support workshops dedicated to identifying additional incentives for demand side management and energy conservation and efficiency programs.

Finding

- Through Nevada's Universal Energy Charge over $9 million has been collected to assist low income Nevadans with their energy bills.

Recommendation #15 (Mandate #7)

- The Task Force encourages the utilities to expand their low income single family and multi-family programs to include providing renewable energy technologies to reduce Nevada's energy consumption and increase Nevada's net metering and distributed generation capabilities.

Findings

- The University and Community College System of Nevada (UCCSN) has technical, research, education, outreach and grant writing capabilities that should be tapped to support the formulation, evaluation and implementation of the Comprehensive Energy Plan for Nevada.
- The Nevada State Office of Energy is responsible for writing the Comprehensive Energy Plan and is responsible for implementing programs and seeking federal grant money in support of the plan.
- The UCCSN is essential to nurturing the engineering, scientific and business talent that is needed to support Nevada's energy future.
- The Nevada State Office of Energy has worked hard to support collaborative energy research efforts by UCCSN institutions and Nevada State Office of Energy continues to involve UCCSN existing outreach programs such as the University System's Cooperative Extension, Small Business Development, Management Assistance Partnership, the Energy Assessment Center and others in the implementation of programs in support of the Comprehensive Plan.
- The UCCSN is essential to creating a Nevada research infrastructure to support effective energy research programs in Nevada.
- The Task Force believes Nevada State Office of Energy efforts to facilitate collaboration among the UCCSN research institutions is an essential step toward the effective implementation of the Comprehensive Energy Plan for Nevada.
- The Task Force believes in the long run the creation of a Virtual Energy Institute complements the efforts of the Nevada State Office of Energy and the Task Force by representing an independent, academic source of technical advice, technical services, academic curricula and educational opportunity and is a worthy goal.

Recommendation #16 (Mandate #7)

- The Task Force recommends the Nevada State Office of Energy continue its efforts to involve the University Community College System of Nevada community to the maximum extent possible in the formulation and implementation of the Comprehensive Plan. The Task Force further recommends that the Nevada State Office of Energy and the UCCSN should seek to use these collaborative efforts as the foundation for the eventual formation of a formal Energy Institute in Nevada as part of the UCCSN.

Summary

The Task Force has received a significant amount of information from Nevada's renewable energy and energy conservation and efficiency stakeholders. The Task Force members have heard a large number of presentations from a wide variety of view points. As a functioning body, the Task Force now has an excellent basis for developing a strong and focused agenda in the following years.

In the coming months the Task Force will focus on

- Continued interaction with Nevada State Office of Energy
- Helping to facilitate the identification and transmission of Nevada's renewable energy resources
- Breaking down power purchase and leasing barriers
- Demand Side Management, Energy Conservation and Energy Efficiency
- Public Education and Outreach
- A variety of workshops, projects and programs designed to enhance Nevada's energy future

As advisors to the Nevada State Office of Energy and the Legislature, the Task Force is uniquely positioned within the network of organizations, associations, businesses and government entities addressing energy and its economic impact on Nevada. By facilitating coordination between these entities, the Task Force assures that renewable energy will receive a prominent position in all Nevada's energy and economic development discussions thus ensuring that the state's renewable energy, energy conservation and energy efficiency agenda continues to move forward.

The Task Force has enjoyed the opportunity to focus the statewide discussion while providing advice, a venue for public education, and influencing regulatory action and information exchange relative to Nevada's renewable energy future.

Glossary of selected electric utility operations terms (With credit to the Edison Electric Institute)

AMPERE — The unit of measurement of electrical current produced in a circuit by one volt acting through a resistance of one ohm.

BRITISH THERMAL UNIT (BTU) — The standard unit for measuring quantity of heat energy, such as heat content of fuel. It is the amount of heat required to raise one pound of water (about one pint) by one degree Fahrenheit at or near its point of maximum density.

BUSBAR — The point at which power is available for transmission.

CAPACITY — The load for which a generating unit, generating station, or other electrical apparatus is rated, either by the user or by the manufacturer. Sometimes used a synonym for "capability".

GROSS MAXIMUM — Maximum capacity a unit can sustain over a specified period of time when not restricted by seasonal or other deratings.

GROSS DEPENDABLE — Gross maximum capacity modified for seasonal limitations over a specified period of time.

NET DEPENDABLE — Gross dependable capacity less the unit capacity utilized for that unit's station service or auxiliaries.

NAMEPLATE — The full-load continuous rating of a generator, prime mover or other electrical equipment under specified conditions as designed by the manufacturer. The nameplate rating of the electric generator may not be indicative of the unit maximum or dependable capacity, since some other item or equipment may limit unit output.

CAPACITY FACTOR (%) — The ratio of a unit's actual generation to its maximum possible generation over a given interval, calculated as follows: Net Generation (MWh) / [Period Hours * Net Dependable Capacity (MW)] * 100

DEMAND — Total electrical load requirement of an area or electric system.

DEMAND CHARGE — The fixed capacity charge component of a power transaction, i.e., the cost for having capacity available for a power transaction over time, based on the amount of capacity (kW) being sold. This charge is typically expressed as $/kW/Month.

ENERGY CHARGE - The variable charge component of a power transaction, based on the amount of energy (MWh) being sold. This charge is expressed as $/MWh.

EXIT FEE — Fee paid by a customer leaving the utility system intended to compensate the utility in whole or in part for loss of income from the departing customer, or for stranded generating capacity.

INDEPENDENT POWER PRODUCER (IPP) — Wholesale electric producer unaffiliated with the franchised utility in the area in which it is selling power. Now generally known as an Exempt Wholesale Generator (EWG).

KILOWATT — One kilowatt equals 1,000 watts.

KILOWATT-HOUR (kWh) — The basic unit of electric energy equal to one kilowatt of power supplied to or taken from an electric circuit steadily for one hour. One kilowatt-hour equals 1,000 watt-hours.

Glossary of selected electric utility operations terms (With credit to the Edison Electric Institute)

LOAD — Demand or energy requirement.

LOAD FACTOR — Total native load energy (MWh), divided by the peak demand (MW), times period hours.

OFF-PEAK ENERGY — Energy purchased and/or delivered during hours of lowest demand. The WSCC Inadvertent Interchange Energy Accounting definition of off-peak hours is: 8 hours on weekdays and Sunday, plus holidays.

SYSTEM LOAD — The total energy demand of the electric system.

SYSTEM PEAK LOAD — The 1-hour maximum demand (in MW) on the utility's electric system.

VOLT — The unit of electromotive force or electric pressure, which, if steadily applied to a circuit having a resistance of one ohm, would produce a current of one ampere.

WATT — The electrical unit of real power or rate of doing work equivalent to one ampere flowing against an electrical pressure of one volt. One watt is equivalent to approximately 1/746 horsepower, or one joule per second.

WHEELING — The use of one utility's transmission facilities to transmit power (or gas) for another utility system.

Appendix A

SB 372

SB 372 was enacted by the Nevada Legislature in 2001 to encourage development and use of renewable resources. The legislation requires Nevada Power Company and Sierra Pacific Power Company to comply with portfolio standards for renewable energy. The portfolio standard provides that beginning in calendar years 2003 and 2004, Nevada Power Company and Sierra Pacific Power Company must generate or acquire electricity in an amount that is not less than 5% of the total amount sold by the utilities to its retail customers. The portfolio standard increases biannually until calendar year 2013, at which time the percentage is established at not less than 15%. Not less than 5% of the energy generated or acquired from renewable energy systems must come from solar renewable energy systems.

SB 372 sets standards for renewable energy contracts entered into by the utilities. The terms of any such contract must not be less than ten years. The terms and conditions must be just and reasonable. The Public Utilities Commission of Nevada must adopt regulations for the determination of just and reasonable terms and conditions for renewable energy contracts. The PUCN may adopt regulations establishing a renewable energy credit-trading program.

The PUCN must approve all renewable energy contracts entered into by the utilities. If a utility fails to comply with its portfolio standard for any given calendar year the PUCN may include any enforcement mechanisms which are necessary to ensure that each utility complies with its portfolio standard. An enforcement mechanism may include the imposition of administrative fines.

The PUCN has adopted regulations which establish (1) the terms and conditions required for approval of a renewable energy contract, (2) the provisions for administrative fines for non-compliance and (3) a renewable energy credit-trading program. See Chapter 704 of the Nevada Administrative Code.

AB 661

AB 661 was enacted by the Nevada Legislature in 2001. Of importance to renewable energy and energy conservation, AB 661 (1) authorized certain eligible customers to purchase electric energy from providers of new electric resources; (2) established the universal energy charge to fund low-income energy assistance; (3) made various changes to net metering; (4) authorized the director of the department of business development to issue industrial development bonds for certain renewable energy projects; (5) created the task force for renewable energy and energy conservation; (6) created the Trust Fund for Renewable Energy and Energy Conservation; (7) created the Office of Energy within the Office of theGovernor; and (8) transferred control of the State Energy Office from the Director of the Department of Business and Industry to the office of energy within the Office of the Governor.

The PUCN has adopted regulations implementing the universal energy charge. See Nevada Administrative Code Chapter 702. The Public Utilities Commission has also adopted regulations setting forth application requirements for eligible customers that wish to receive energy from a new resource provider. See Nevada Administrative Code Chapter 704. Those eligible customers that receive electric energy from a new resource provider must comply with the Renewable Portfolio Standards.

LINKS

Nevada Legislative Counsel Bureau www.leg.state.nv.us

Nevada Public Utilities Commission www.puc.state.nv.us/

Appendix B - Nevada Renewable Energy and Energy Conservation Task Force Biographies

BOB BALZAR BBalzar@sppc.com

Bob Balzar is the director of energy efficiency and conservation for Sierra Pacific Resources. He leads the "Take Control" team that develops resources to help customers conserve energy and is also responsible for creating load reduction programs to offset power plant construction and power contract requirements.

Mr. Balzar is a member of the Desert Research Institute's Green Power Committee, which utilizes donations from utility customers to produce electricity from renewable sources and a member of the Board of Directors of SWEEP, the Southwest Energy Efficiency Project www.swenergy.org/ a new public interest initiative promoting greater energy efficiency in Nevada, Colorado, Arizona, New Mexico, Utah and Wyoming.

With a degree in electrical engineering from the University of Nevada, Reno, Mr. Balzar began his career as a nuclear engineer for the Department of Navy, and has subsequently held multiple positions within Sierra Pacific since 1985.

TIM CARLSON carlsontim@lvcm.com

Tim Carlson, president of Carlson and Associates, works with developers and community leaders to promote Nevada as a location for new business startups and expansions. As a recognized leader in alternative energy, he negotiates power purchase agreements for renewable energy companies and has actively encouraged legislation to create incentives for clean energy projects. Additionally, Carlson and Associates works with energy companies to develop and construct projects throughout the western United States. With more than 30 years of government and business development experience, Mr. Carlson's career includes seven years as president and CEO of NTS Development Corporation, a non-profit business development group organized and supported by the US Department of Energy. As executive director of the Nevada Commission on Economic Development, a cabinet level position, Mr. Carlson served on several energy-related projects including the Solar Energy Task Force. He was also the executive director of the Nevada Development Authority, where he spearheaded the legislation necessary to bring over 15 credit card operations into the state resulting in the creation of 50,000 jobs. He is a graduate of Utah State University with a degree in public administration.

BOB COOPER
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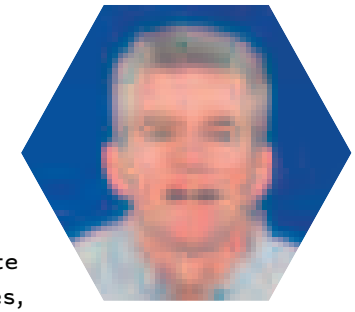


Since 1995, Bob Cooper has worked at the Attorney General's Bureau of Consumer Protection, currently under the leadership of consumer advocate Timothy Hay. Among other duties, Mr. Cooper specializes in renewable energy and low income energy matters. Mr. Cooper represents the state in a national program promoting solar energy funded by the US Department of Energy, and also helps coordinate the state's Wind Energy Working Group, which includes working with his national consumer advocate peers to administer a grant promoting wind energy.

Prior to joining the bureau, Mr. Cooper was an administrative attorney with the Nevada Public Utilities Commission, where he developed a strong interest in Nevada's renewable energy potential.

RUSS FIELDS rfields@nevadamining.org

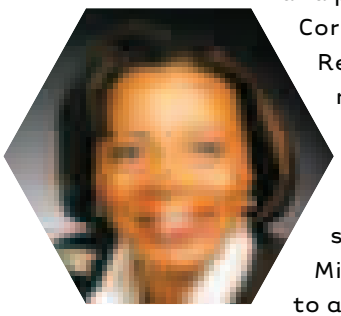
As president of the Nevada Mining Association, Russ Fields has represented the mining industry in public, regulatory, and government affairs since 1997. Mr. Fields was a member of the Electric Energy Policy Committee that provided recommendations on the state's long-term energy policy to Governor Guinn in 2001. The committee's recommendations concerning renewable energy were instrumental in the creation of the Renewable Energy Task Force.

Before heading the mining association, Mr. Fields was the administrator of the Nevada Division of Minerals. In that position he had responsibility for regulating the state's oil, gas, and geothermal development as well as managing a program to identify, rank, and secure abandoned mine lands. At Sierra Pacific Resources, he was supervisor of corporate planning and new venture development for three years. Mr. Fields began his career as a field geologist and has a degree in geology and an M.B.A. degree from the University of Nevada, Reno.

DANIEL GEARY dan@gearyi.com

Daniel Geary is a private public policy consultant on environmental, public health, and consumer law issues. He and his organization have worked to institute equal opportunities for the developers and end-users of clean, renewable energy. Additionally, as the Nevada representative for the National Environmental Trust, Mr. Geary works with the non-profit group to promote sound environmental policies, encourage conservation, and transform polluting industries. Mr. Geary's career in public policy began as an aide to former US Representative James H. Bilbray. Since that time he has been a campaign consultant for a variety of federal, state, and local elected officials and in 1994 was the Clark County campaign manager for US Senator Bob Kerrey's presidential campaign. Mr. Geary also co-founded Nevadans for Medical Rights, an organization that spearheaded changes to the state's constitution regarding marijuana for the terminally ill. Along with his brothers, he is an owner of the Geary Company Advertising Agency in Las Vegas and Geary Interactive, a San Diego-based internet development and marketing firm.

ROSE MCKINNEY-JAMES (Task Force Chair)
FourSolar@aol.com



Rose McKinney-James, founder of Energy Works Consulting, has been a leader in Nevada renewable energy issues throughout her career in economic development and politics. As the first president of the Corporation for Solar Technology and Renewable Resources (CSTRR), she was recruited by former US Senator Richard Bryan to join a coalition working with the Clinton Administration on business-friendly environmental solutions. In 1993, former Governor Bob Miller appointed Mrs. McKinney-James to a key cabinet-level position directing the Department of Business and Industry. She also served on the Nevada Public Service Commission for five years, where she dealt with the complex issues of public utilities, alternative energy resources, and transportation as chair of the Transportation Committee of the National Association of Regulatory Utility Commissions.

Mrs. McKinney-James was a candidate for Nevada Lieutenant Governor in 1998 and is currently on the board of directors for a number of state organizations, including the Energy Foundation and the Desert Research Institute Foundation. She is a graduate of Antioch School of Law in Washington D.C. and received her undergraduate degree from Olivet College in Michigan.

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Jane C.S. Long, Ph. D., has been dean of the Mackay School of Mines at University of Nevada, Reno since 1997. During her time as dean, Dr. Long added the Mining Life-Cycle Center and the Great Basin Center for Geothermal Research to the school's strong existing programs in natural resource science and engineering. She also led the university's recent initiative for renewable energy projects. Throughout her career Dr. Long has conducted extensive research on nuclear waste storage, geothermal reservoirs, petroleum reservoirs, and contaminant transport. Before joining the university, she worked at Lawrence Berkeley National Laboratory for 20 years where she was chair of the Energy Resources Technology Department and then the Environmental Research Department. Dr. Long has been a member of the National Academies of Science Board on Radioactive Waste Management, the Board of Energy and Environmental Systems and has also participated as chair or member of multiple study committees. She is a member of the American Geological Institute Foundation Board and an associate of the National Academies of Science (lifetime award).

SAMUEL J. ROUTSON (Task Force Vice Chair)
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Samuel Routson is chief administrative officer and counsel of Winnemucca Farms, Inc., one of America's largest integrated agricultural and food processing companies. Winnemucca Farms has been investigating potential biomass and wind applications on their site and is also identifying rural economic development opportunities in Nevada involving renewable energy.

With four university degrees, including a law degree from Brigham Young University, Mr. Routson led a notable military and political career prior to joining Winnemucca Farms. He served as the deputy assistant secretary of the Navy in the Reagan and first Bush Administrations where his anti-drug efforts were recognized with a distinguished public service medal. As a staff director and administrative assistant, Mr. Routson supported former US Senator Steve Symms who was a member of the Senate Environmental and Public Works Committee. Since that time, Mr. Routson has represented individuals and businesses before regulatory agencies on environmental and natural resource issues, and has served on multiple boards and commissions including the Nevada State Board of Agriculture and the US Department of Agriculture's Farm Service Agency State Committee.

MARK W. RUSSELL
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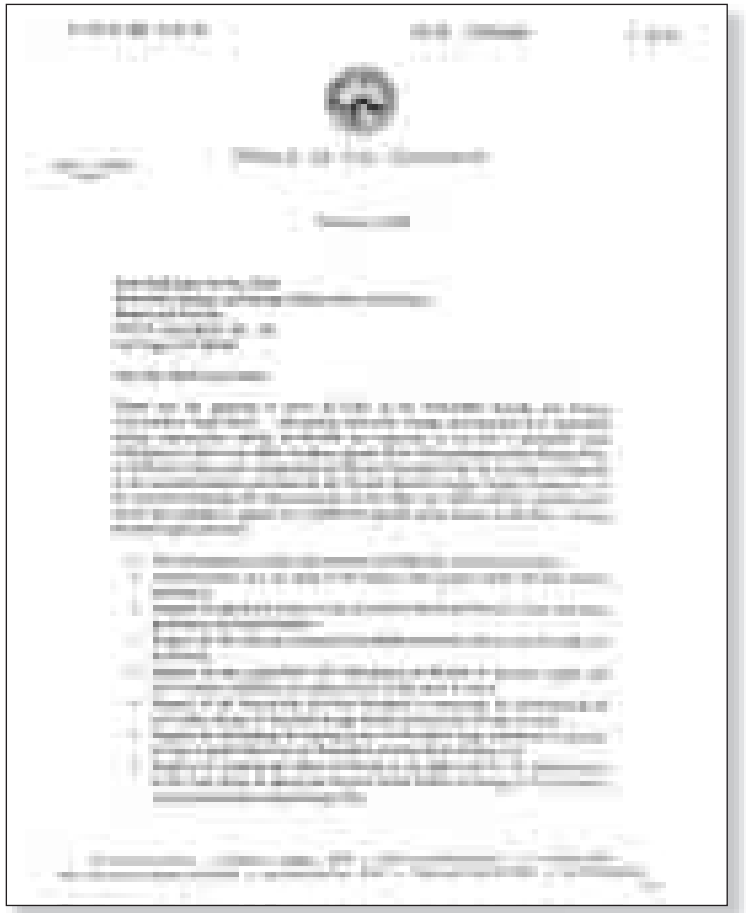
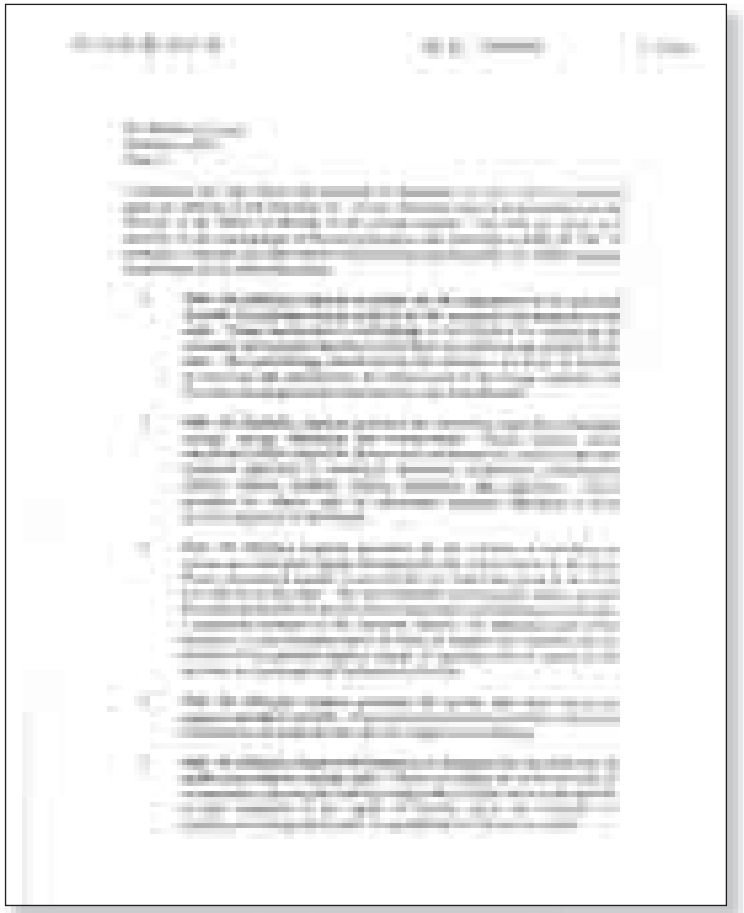
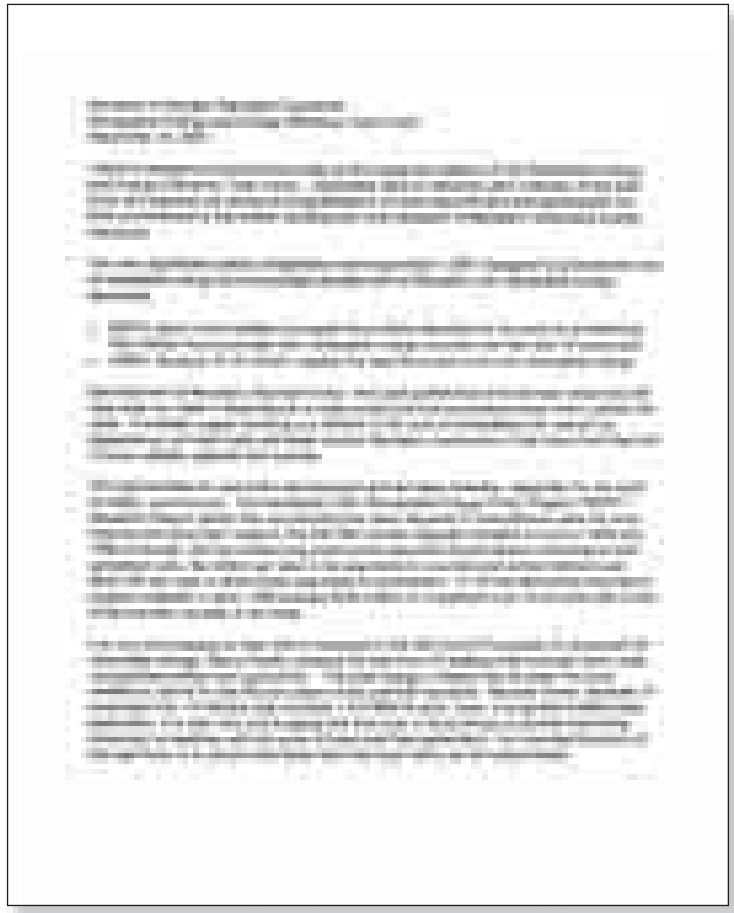
Mark Russell is currently vice president/general counsel of the Mirage Casino-Hotel and has served multiple MGM/Mirage properties in the same capacity since 1986. Mr. Russell has actively represented MGM/Mirage properties as well as the Nevada Resort Association on numerous committees dealing with the state's environmental and energy policies. He was a member of two Southern Nevada Water Authority advisory committees concerning groundwater management and water quality, and was also on the Nevada Electric Energy Policy Committee, which provided recommendations to Governor Guinn concerning the state's long-term energy policy in 2001.

Previously Mr. Russell was the city attorney for Sun Valley, Idaho, and was in private practice for ten years. He earned an undergraduate degree from the University of California in Berkeley and a law degree from Santa Clara University, where he graduated magna cum laude.

Appendix C







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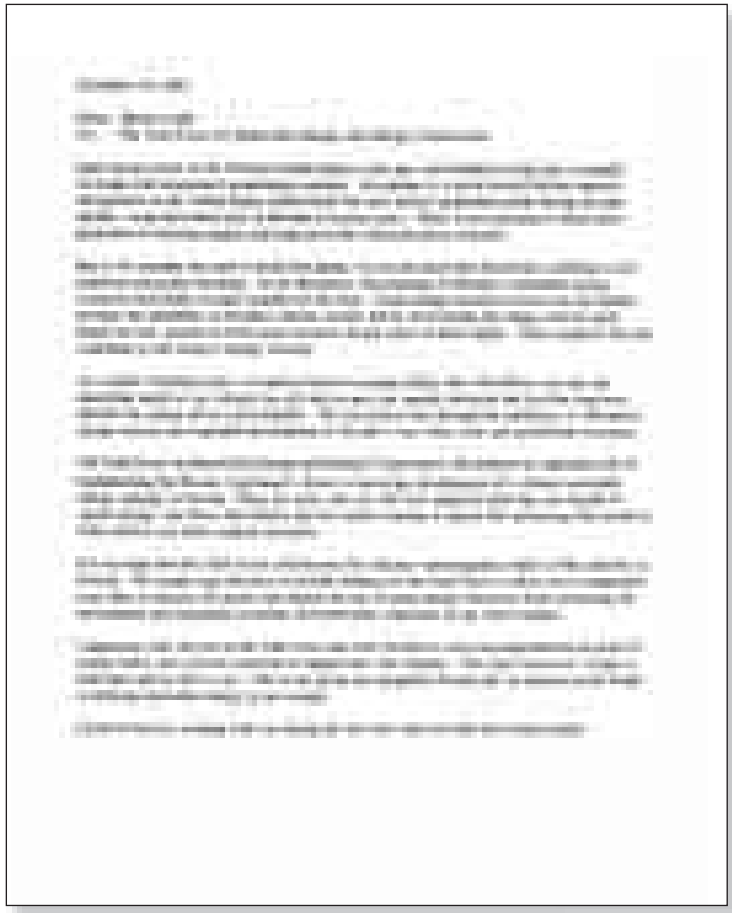

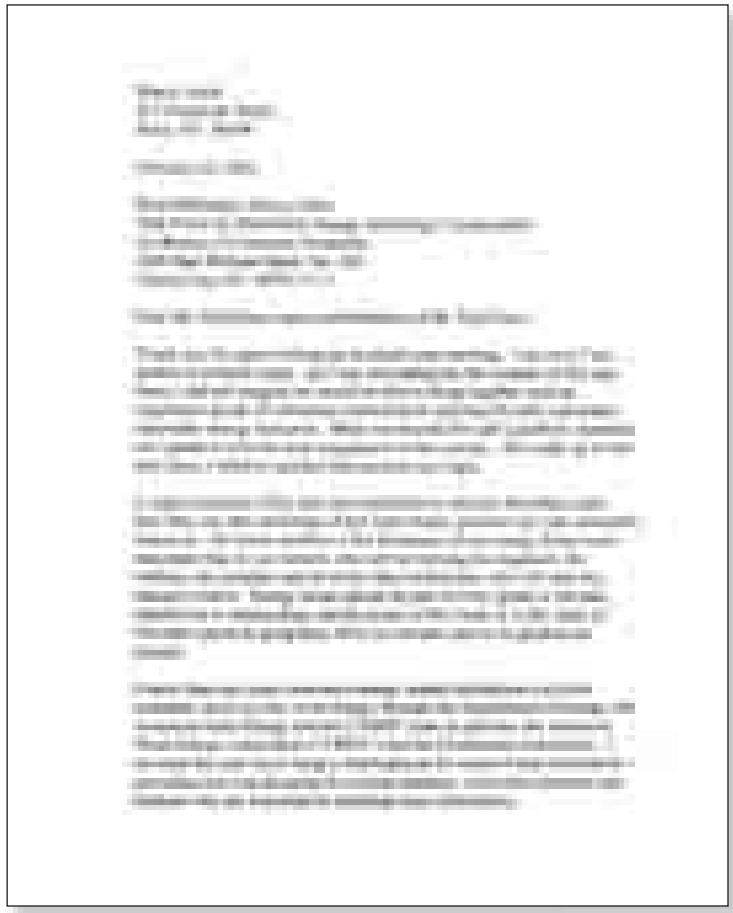

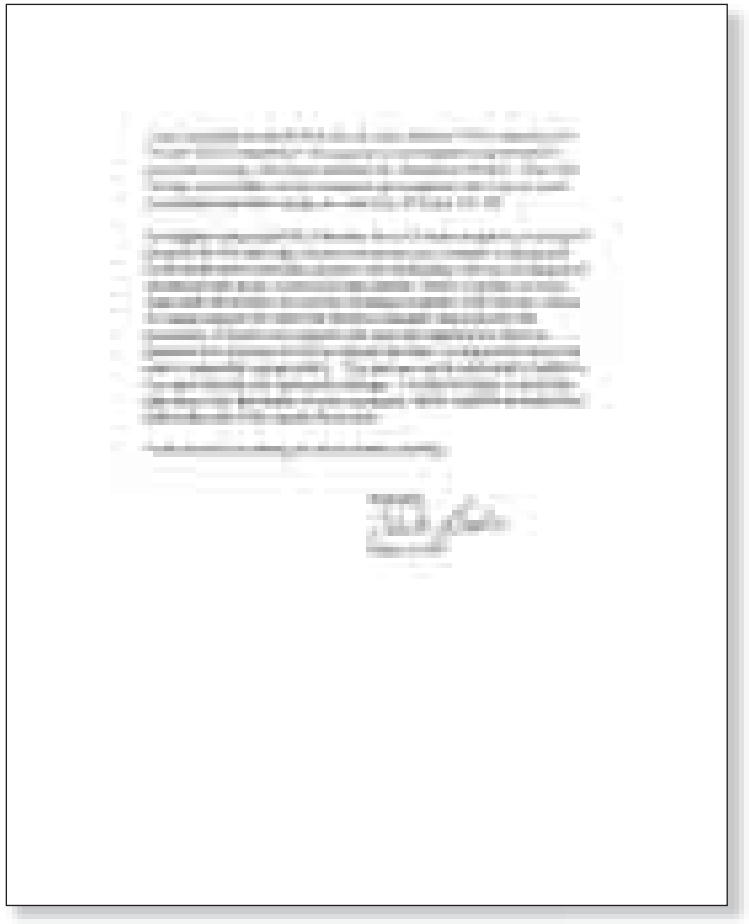

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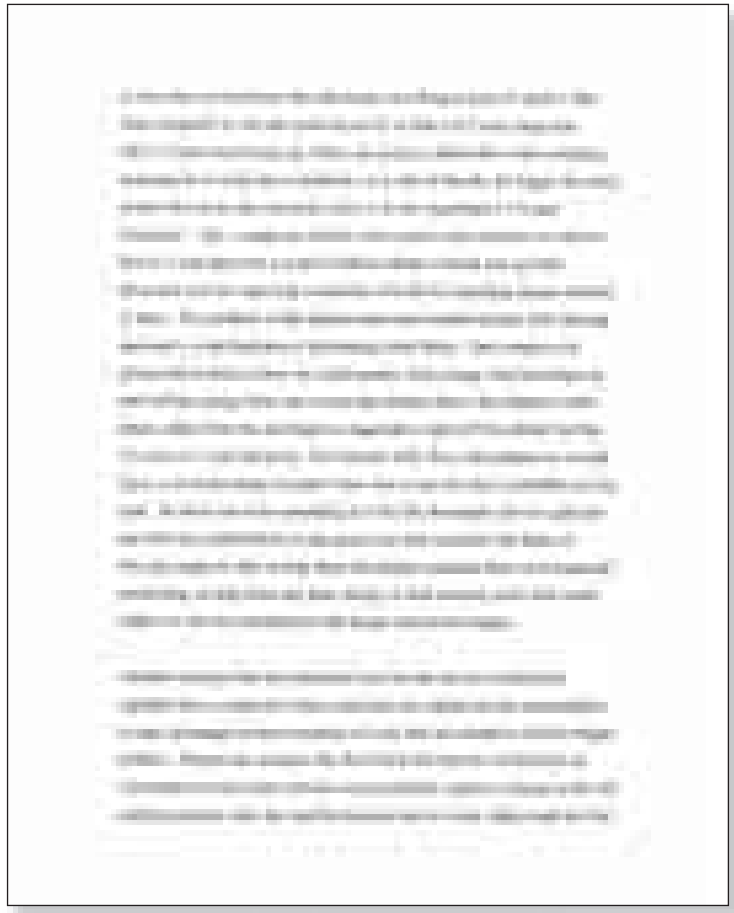

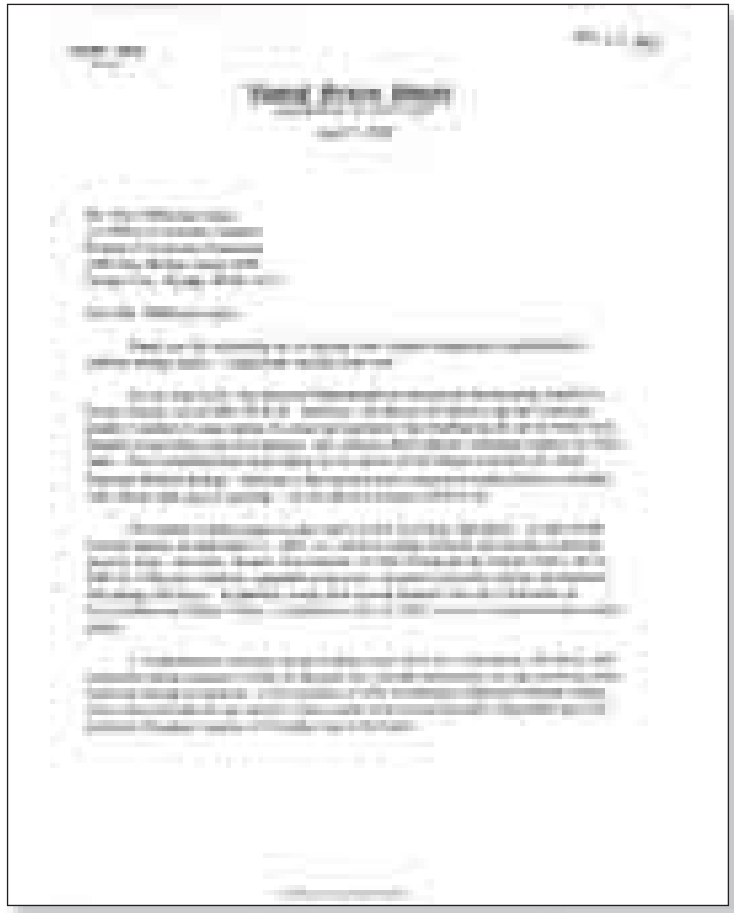

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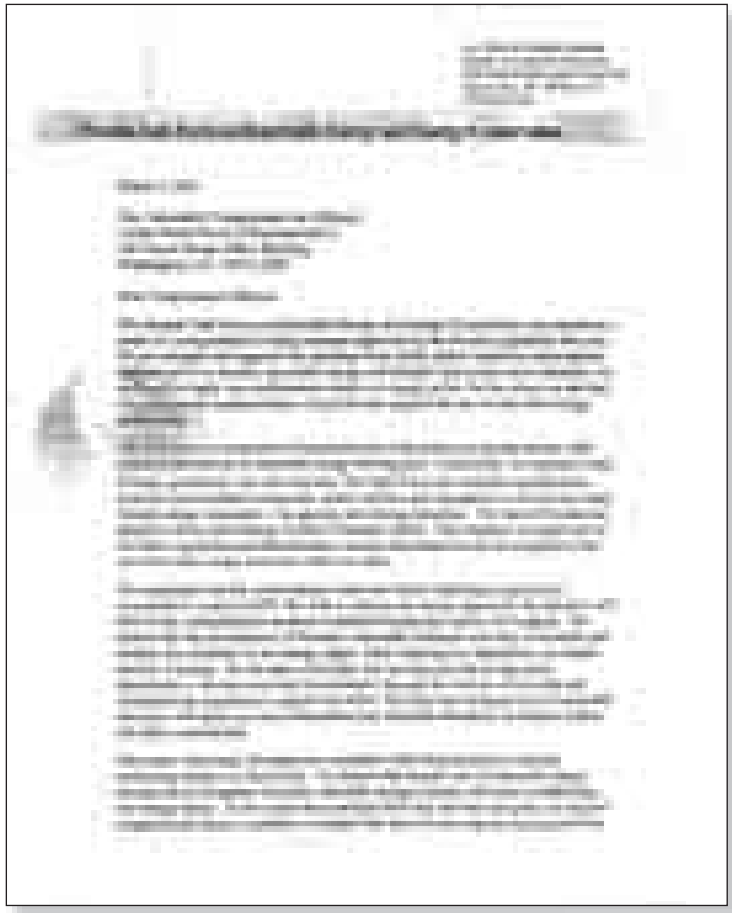

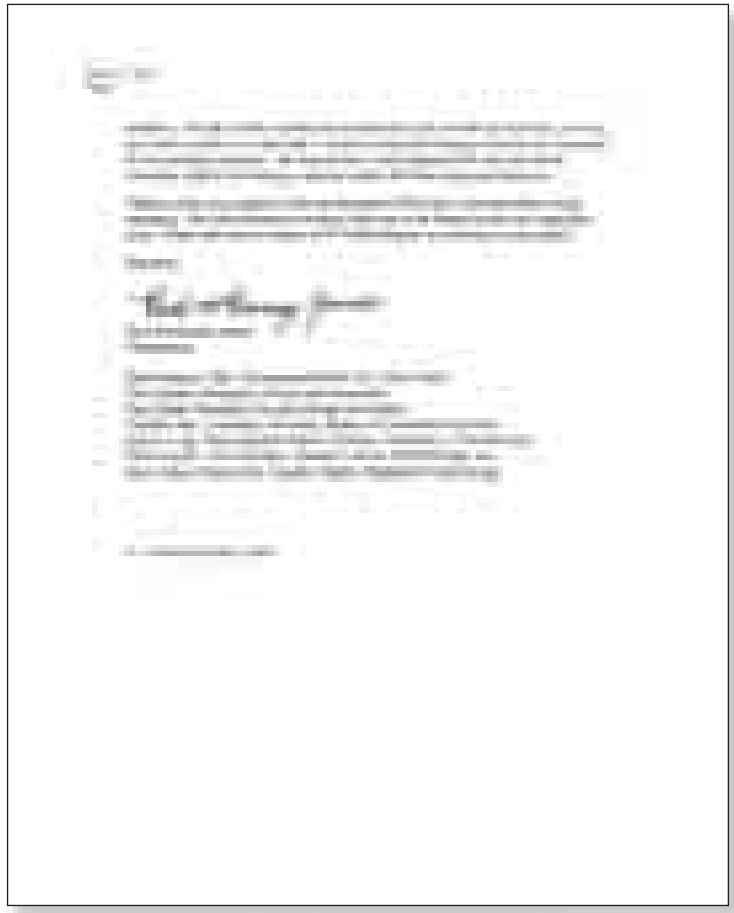

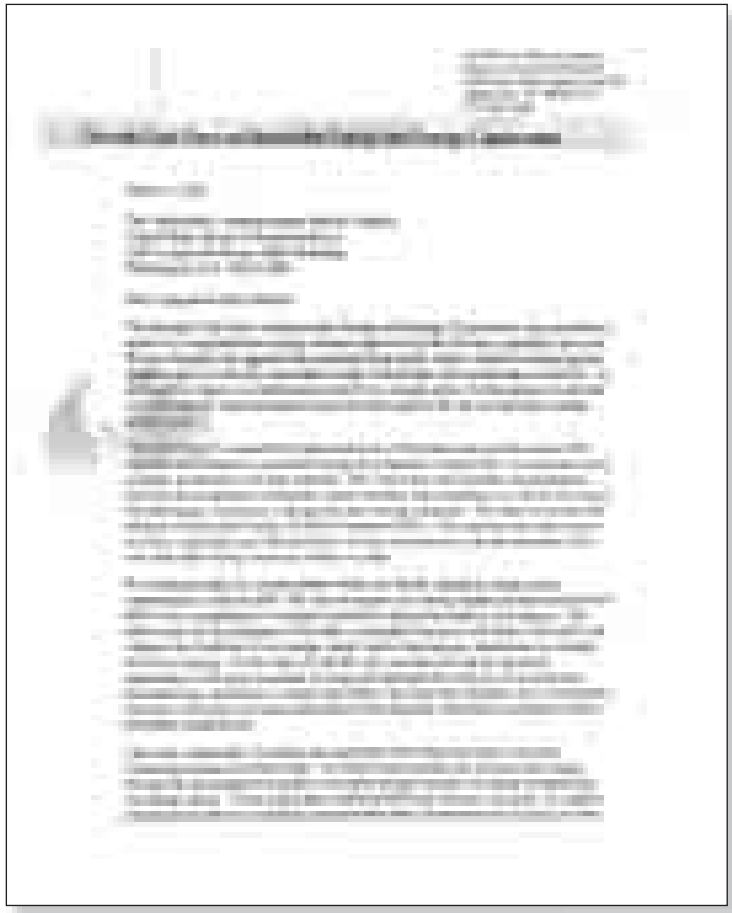

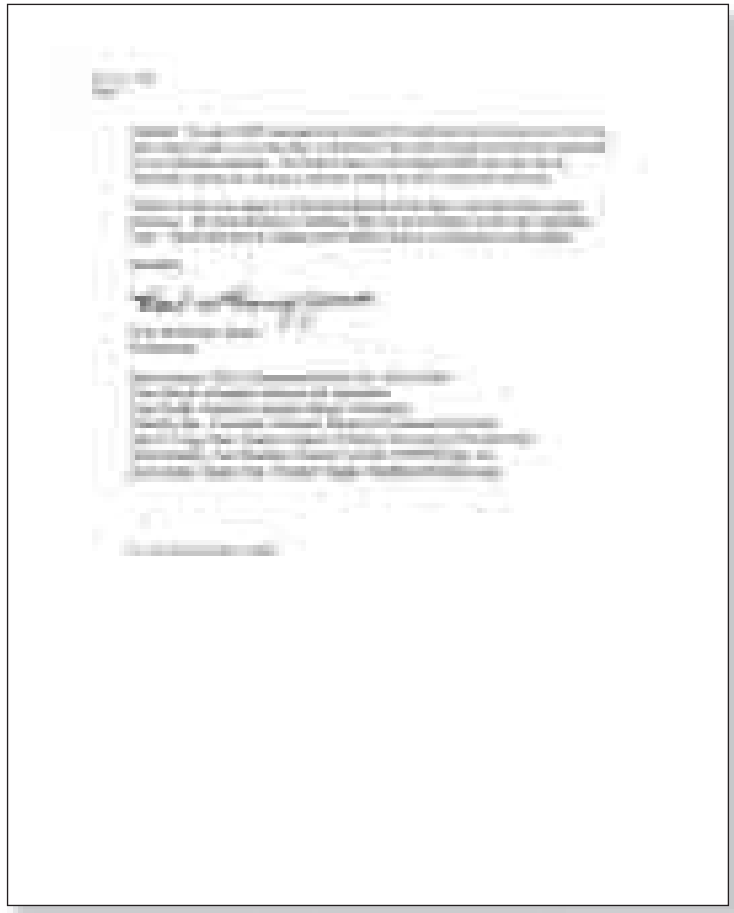

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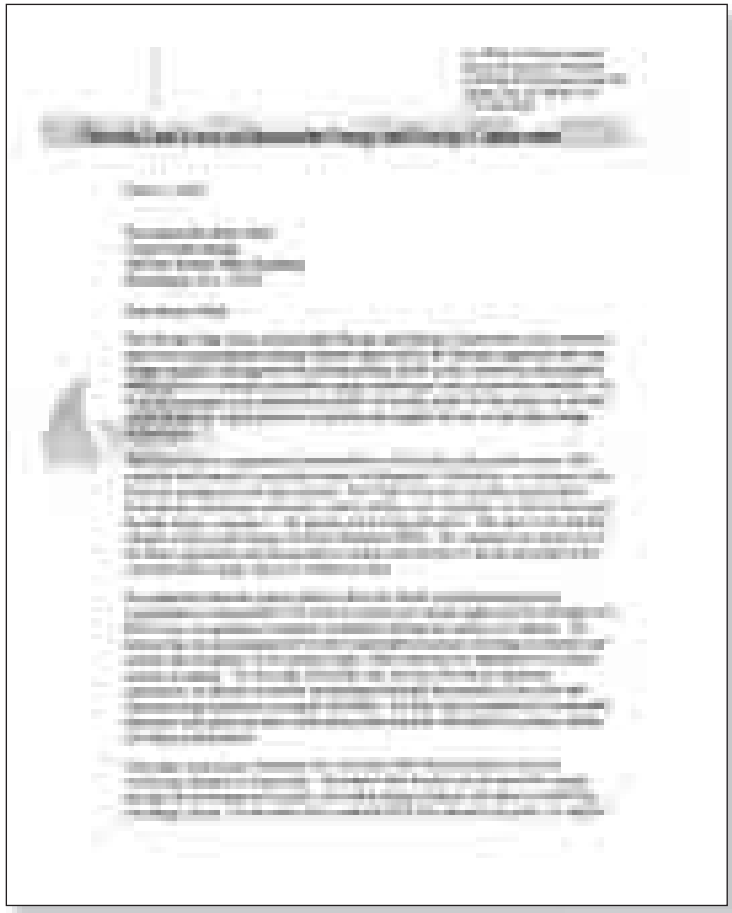

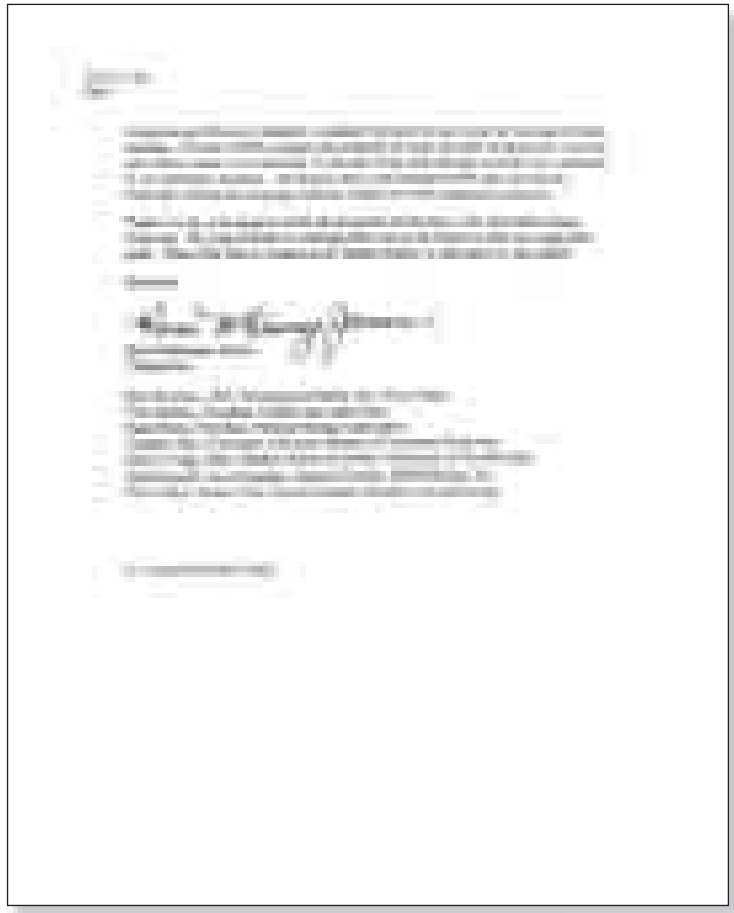

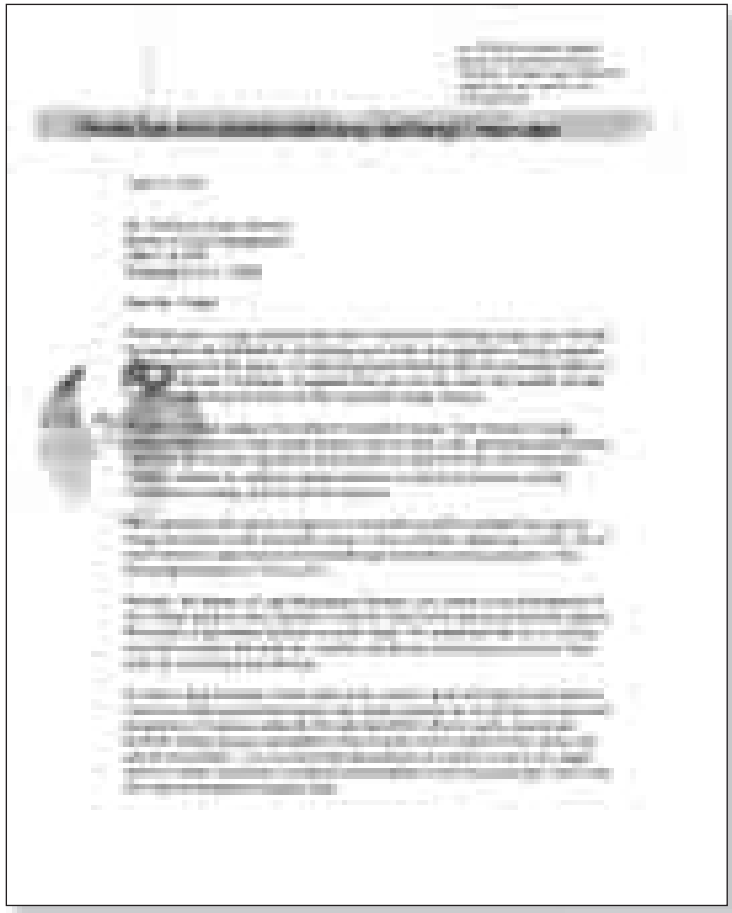

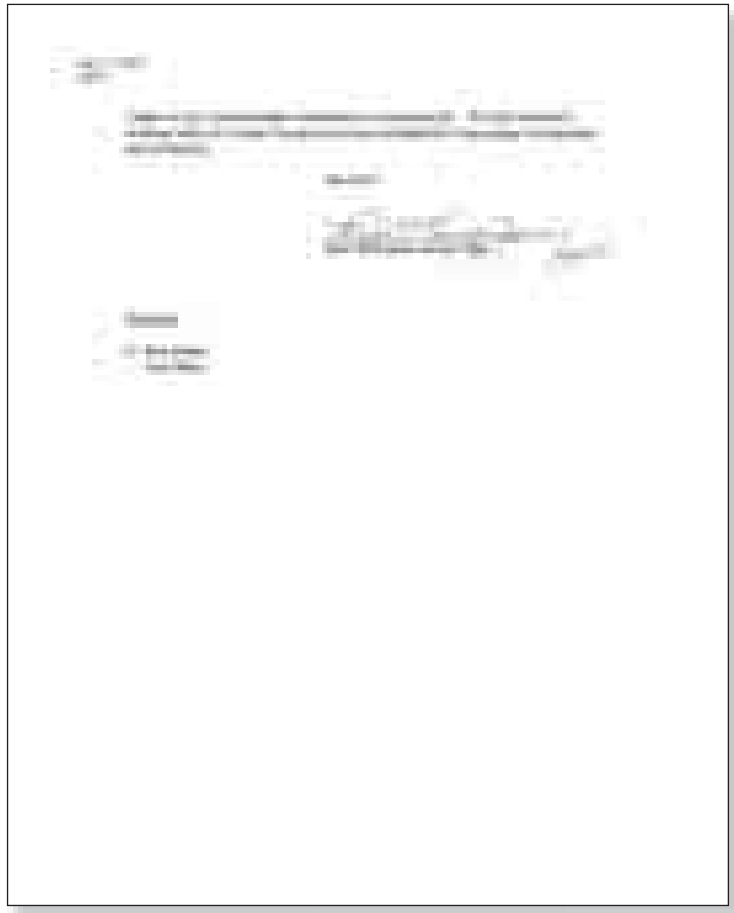

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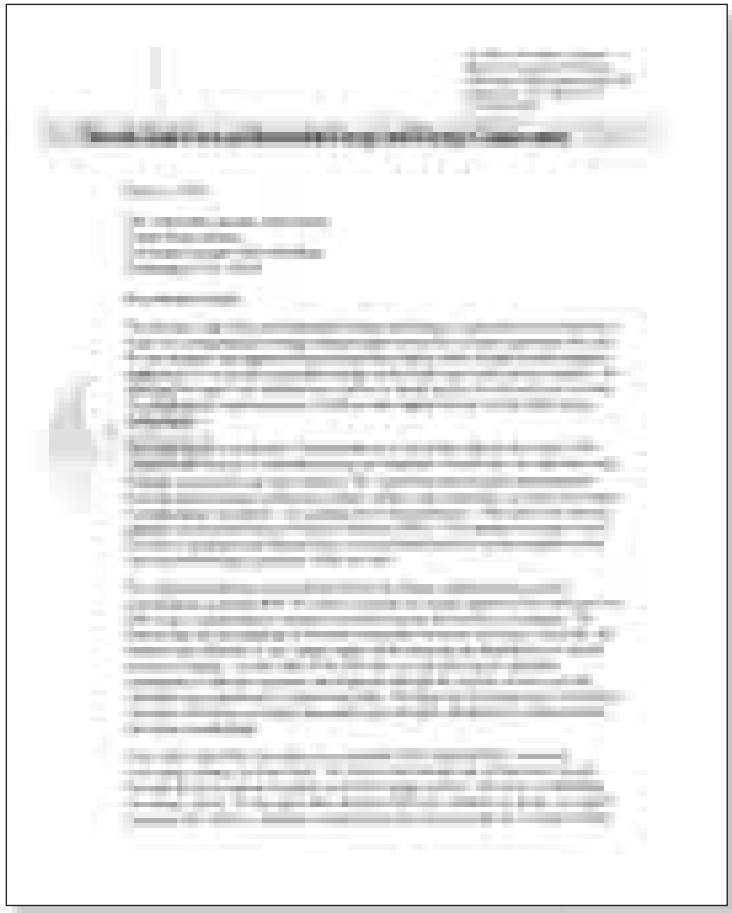

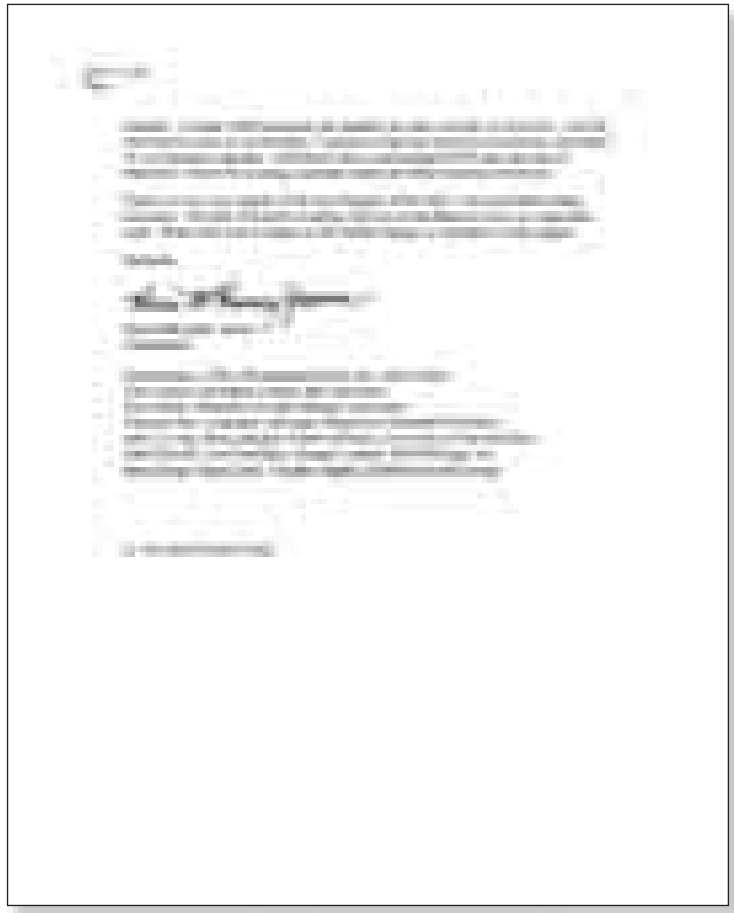

Appendix E

TASK FORCE FOR RENEWABLE ENERGY AND ENERGY CONSERVATION			
Budget Account 1034			**1/17/03**
July 01, 2001 to			
DATE	DESCRIPTION	SOURCE	AMOUNT
12/19/01	Transfer of Funds	Public Utilities Commission	$250,000.00
	TOTAL REVENUE		**$250,000.00**
DATE	DESCRIPTION	VENDOR	AMOUNT
7/3/02	Grant for June Solar Expo	Sunrise Sustainable Resources	5,000.00
	TOTAL EXPENDITURES		**5,000.00**
	ACCOUNT BALANCE		**$245,000.00**
11/26/02	Contract for services	KPS3	50,000.00
12/10/02	Grant for UNLV renewable energy economic impact study	Sunrise Sustainable Resources	10,000.00
	BALANCE		**$185,000.00**

Appendix F

The following presents a small sub-section of Nevada's Renewable Energy, Energy Conservation and Energy Efficiency Community. The Task Force acknowledges the hard work of these entities and individuals. Although this appendix is provided as a directory, it is a work in progress.

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Appendix G

Renewable Energy Portfolio Timeline
Provided by and reflecting the position of Sierra Pacific Power Company
Kathleen Drakulich kdrakulich @sppc.com
Associate General Counsel Sierra Pacific Power Company
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November 1983	Sierra Pacific Power Company ("Sierra") executed its first geothermal contracts with geothermal developers in northern Nevada.
January 1991	Sierra had successfully executed contracts for approximately 170MW megawatts of renewable capacity that ranged between 10 and 30 years in length. The contracts still in effect currently represent approximately 106MW, which equates to 9% of Sierra's total energy sales in 2001 and accordingly amount to one of the most aggressive renewable energy usages nation wide.
June 1997	The Nevada Legislature enacted NRS 704.989, the first Renewable Portfolio Standard in the state that required that by January 1, 2001, two-tenths

	of one percent of the total amount of electricity consumed annually by customers in Nevada be renewable energy. That amount of renewable energy was to increase biannually after that by two-tenths of one percent until the total annual electric consumption consisted of one percent of renewable energy. Fifty percent of the renewable energy was required to be solar energy.
Fall 2000	The Public Utilities Commission of Nevada ("Commission") opened Docket No. 00-7021 for the purpose of developing regulations to implement NRS 704.989.
Oct 2000 thru June 2001	The Commission conducted numerous workshops and hearings in Docket No. 00-7021 for purpose of developing regulations to implement NRS 704.989. Many parties throughout the industry as well as Nevada Power Company ("Nevada Power"), Sierra, the Regulatory Operations Staff of the Public Utilities Commission of Nevada ("Staff") and the Bureau of Consumer Protection ("BCP") participated in an aggressive process to produce numerous drafts of a regulation that would address the standards in the law. The regulation drafted pursuant to NRS 704.989 addressed all aspects of a renewable energy portfolio including the credit-trading program. Nevada Power and Sierra attended, actively participated in and filed comments for every workshop and hearing held by the Commission in Docket No. 00-7021.
February 2001	Prior to finalizing and adopting the regulation being developed pursuant to NRS 704.989, the 2001 Nevada Legislative Session convened. Nevada Power and Sierra participated on a daily basis in the session, providing testimony and proposed language for a revised Renewable Portfolio Standard.
June 2001	The Nevada Legislature passed Senate Bill ("SB") 372, which Requests that by 2015, 15% of all energy sales in this state must be renewable energy. During the 2001 session, Nevada Power and Sierra provided testimony that the portfolio standard being proposed in SB 372 would be difficult to meet in the time allotted by the bill.
July 2001	On July 18, 2001 the Commission opened Docket No. 01-7029 for the purpose of developing a regulation to implement SB 372.
July 2001	During this timeframe the Commission held numerous workshops and hearings in Docket No. 01-7029. Nevada Power and Sierra attended, actively participated in and filed written comments for every workshop and hearing held by the Commission.

	During this timeframe, Nevada Power and Sierra prepared the pro forma contract for renewable energy purchases and provided it to all parties participating in Docket No. 01-7029.
October 2, 2001	Nevada Power and Sierra established a web site for the purpose of keeping all interested parties in Docket No. 01-7029 as well as other developers and members of the public informed about the progress that is being made to comply with the renewable portfolio standard in Nevada. On the web site, Nevada Power and Sierra posted the renewable Request for Proposal issued in October, "Frequently Asked Questions" which were regularly answered and updated, updates to the renewable RFP, pro forma contracts, and press releases and information related to the renewable RFP.
October 2001	By mid-October 2001 the process to develop the regulation in Docket No. 01-7029 was not complete. (Pursuant to the terms of SB 372, the Commission had just 120 days from the passage of the bill to develop and adopt a regulation to implement the new law.) The draft regulation contained language that addressed all of the criteria by which the renewable energy contracts would be developed and evaluated, but Nevada Power, Sierra and many developers were concerned that the regulation would not be completed in time to allow for the initiation and completion of an RFP process. Accordingly, Nevada Power and Sierra developed an RFP for renewable energy contracts and on October 16, 2001 issued it.
November 29, 2001	The Commission voted to accept the renewable energy regulation in Docket No. 01-7029 and on December 12, 2001, the Commission issued its order adopting the regulation.
November 30, 2001	The deadline for accepting proposals under the RFP process expires.
December 14, 2001	The Legislative Commission, upon review of the regulation adopted by the Commission, rejected Section 30, which included price caps for renewable energy, and advised the Commission to revise it.
December 19, 2001	The Commission issued its Procedural Order Number 3 and Request for Comment No. 2 in Docket No. 01-7029 requesting that the parties to the docket submit comments in accordance with the direction provided by the Legislative Commission. Thereafter, the Commission conducted an additional workshop and hearing in the docket to revise Section 30 in accordance with the direction provided by the Legislative Commission.

February 27, 2002 — Nevada Power filed the fully executed MNS Wind long-term contract with the Commission for its review and approval (Docket No. 02-2039). The MNS Wind contract is a twenty-five year contract for the purchase of energy generated by a wind-powered facility with a nameplate capacity of 85 megawatts at the Shoshone Wind Farm on the Nevada Test Site. If fully implemented, the MNS Wind contract will provide 26% of the non-solar Renewable Portfolio Standard requirement for Nevada Power in compliance year 2004 and 18% in compliance year 2005.

February 28, 2002 — Nevada Power and Sierra prepared and delivered to Staff a summary of all of the renewable energy proposals received through the RFP process. (The submission of this summary was a requirement of the draft regulation that had been rejected by the Legislative Commission. The Utilities elected to continue to comply with the provisions of the draft regulation even though it was not effective, in order to avoid delaying compliance with the law.)

May 8, 2002 — The Commission voted to open Docket No. 02-5029, an investigation and rulemaking to adopt regulations to implement a renewable energy credit-trading program. The Commission conducted numerous workshops and a hearing in this docket during 2002. The final hearing in this docket took place on November 6, 2002, prior to the adoption of the regulation. Nevada Power and Sierra were present at every workshop and at the hearing conducted in Docket No. 02-5029 and filed and presented comments at each of these events.

May 10, 2002 — The Commission issued a second order in Docket No. 01-7029, adopting the regulations for renewable energy with an amended Section 30 that would implement the provisions of SB 372.

May 20, 2002 — The Legislative Commission accepted the regulation that had been adopted by the Commission on May 10, 2002, in Docket No. 01-7029, which thereafter became effective. (SB 372 allowed only 120 days to develop a renewable energy regulation. Because of the delay that resulted from the Legislative Commission's rejection of the original version of the regulation, it took an additional 142 days, or more than twice the statutorily allotted time, to put a renewable energy regulation in place. It took an additional 6 months (or approximately 180 days) before the credit trading regulation was in place.)

May 28, 2002 — Nevada Power filed a stipulated agreement executed by all parties to Docket No. 02-2039 with respect to the MNS Wind contract. A revised

	stipulation was filed on May 30, 2002.
June 19, 2002	The Commission issued an order in Docket No. 02-2039 accepting the stipulated agreement filed with respect to the MNS Wind contract.
July 2002	Nevada Power received notification from MNS Wind representatives that they likely will be unable to comply with the terms and conditions of the approved contract due to restrictive conditions placed upon them by the Nevada Test site and government officials
June, July 2002	Non-conforming bids received through the RFP process were eliminated. In June and July of 2002 Nevada Power and Sierra asked the pool of potential suppliers to update their pricing proposals in order to establish a standardized pricing based on a twenty-year contract term for both a fixed price over the term of the contract and a starting price that would escalate by 1% annually.
August 2002	Nevada Power and Sierra notified the suppliers that they had either been selected on the "Short List," "Secondary List" or the "Unsuccessful-at —This-Time-List." Those on the "Short List" were notified that negotiations would commence in the near future.
August 19, 2002	Formal negotiations began during the week of August 19, 2002 and concluded in mid-November 2002. During this twelve and one-half week period, Nevada Power and Sierra continued due diligence with respect to the twelve proposals on the "Short List" and conducted parallel negotiations with the suppliers. The negotiations resulted in the six successful non-solar purchase power agreements being filed with the Commission on November 28, 2002.
November 6, 2002	The Commission conducted the final hearing in Docket No. 02-5029 and generated a final version of the renewable energy credit trading program regulation.
November 28, 2002	Nevada Power filed six non-solar renewable energy contracts with the Commission.
December 3, 2002	The Commission adopted the renewable energy credit trading program regulation which will become effective as a temporary regulation pursuant to the terms and conditions of NRS Chapter 233B.
December 2002	Nevada Power and Sierra Pacific each filed with the Commission executed solar contracts with Duke Solar that will meet the solar requirements for both utilities beginning in 2005. Both utilities also filed six (6) related power purchase agreements for sale of energy between the utilities of the energy generated from the renewable energy projects.