

Nevada Commercial Buildings Energy Efficiency Project White Paper on Alignment of Economic Development & Energy Policies

Background

In 2011, the University of Nevada, Reno | Business Environmental Program (UNR-BEP) partnered with the Nevada Governor's Office of Energy and NV Energy to successfully pursue a US Department of Energy grant to analyze and enact methods to significantly improve Nevada's regulatory and policy environment for implementing energy efficiency projects in the state's existing commercial buildings. The goal of the program has been to shift the way commercial building retrofit projects are evaluated, implemented and financed, from both an energy-savings and financial return perspective.

UNR-BEP was awarded a sub-grant to research current economic development and energy policies and address specific barriers to commercial building energy efficiency retrofits, with a particular emphasis on financing barriers.

Reports

The following white papers and reports were prepared by UNR-BEP under the grant project:

- Assessment and Recommendations: Alignment of Nevada Economic Development Policy & Energy Policy White Paper. October 30, 2013
<http://www.unrbep.org/wp-content/uploads/2013/12/Assessment-and-Recommendations-110813-final.pdf>
- Energy Efficiency Financing for Commercial Buildings in Nevada. November 27, 2013
<http://www.unrbep.org/wp-content/uploads/2013/12/Commercial-Buildings-EE-Financing-Report-finalnov2013.pdf>
- Development of a Nevada Energy Policy Computable General Equilibrium (CGE) Model: A Decision Support Tool White Paper. November 2013
<http://www.unrbep.org/wp-content/uploads/2013/12/Process-for-Developing-a-CGE-Model-for-Nevada-112713-final.pdf>

Next Steps

Based on the research and recommendations developed in the above white papers and reports, the Nevada Governor's Office of Energy has established eight key working groups and, in May 2014, began the process of developing an implementation plan and action strategy to increase the number of commercial building energy efficiency retrofits in Nevada.

EXHIBIT C – ENERGY
Document consists of 9 pages.
Entire Exhibit provided.
Meeting Date: 05-19-14

Executive Summary of White Paper

Assessment and Recommendations: Alignment of Nevada Economic Development Policy and Energy Policy

A wide-ranging stakeholder process was utilized to develop a set of recommendations for improving the alignment of economic development policy with energy policy in Nevada. The findings and recommendations represent positions that were supported by a majority of the participants or were “compromise” positions. It should be noted, however, that some individual stakeholders did express to the authors their lack of support for some of the specific findings and recommendations.

- 1. Support the adoption and implementation of cost-effective energy efficiency building codes and standards and work to help ensure compliance.**
- 2. Develop and implement a pilot utility on-bill financing program for energy-efficiency improvements.**
- 3. Develop and adopt policies and measures to accelerate the acquisition and use of alternative fuel vehicles (AFVs) in Nevada - particularly in metro areas.**
- 4. Develop an outreach program to accelerate implementation of energy efficiency improvements in existing Commercial Buildings through a state-supported and well-defined Energy Savings Performance Contracting process.**
- 5. Implement alternative ways of incentivizing investor-owned utilities (IOUs) to increase their demand side management (DSM) programs.**
- 6. Support the Location and Expansion in Nevada of the Supply Chains of Goods and Services for Energy Efficiency.**
- 7. Utilize better decision support tools when considering energy policy and economic policy decisions.**
- 8. Establish Energy-Efficiency Targets for Nevada, Followed By Recommended Methods for Achieving Those Targets.**

The process of comparing Nevada Energy Policy and Economic Development Policy was somewhat challenging. While current economic development strategy is mostly embodied or summarized in a policy document (“Moving Nevada Forward: A Plan for Excellence in Economic Development 2012-2014”), there is no comprehensive state

energy policy document. Rather, energy policy is expressed in various provisions of the Nevada Revised Statutes (NRS), Nevada Administrative Code (NAC) and Public Utility Commission of Nevada (PUCN) rulings.

At the highest level of expression (NRS 701.010 Legislative Findings; state policy), it would appear that energy policy is closely aligned with economic development policy. The areas of policy alignment for both energy and economic development policies can be summarized in the following broad high-level goals:

- Increase the number of jobs in Nevada.
- Grow the Nevada economy.
- Lower energy costs (from what these cost levels might otherwise be) for businesses and residents in Nevada.
- Increase stability and predictability of energy costs.
- Reduce environmental impacts related to energy production and consumption, particularly in those circumstances where environmental impacts could adversely affect future growth and/or where reductions in environmental impacts could positively affect future economic growth.

However, the devil is in the details and at the implementation level it appears there are specific elements of state energy policy that deviate from the high-level ideals set forth in NRS 701.010.

For example, two key elements of Nevada's current economic development policy are job creation and economic impact. A shortcoming in many of the economic impact analyses currently presented to support various energy policy decisions is the failure to consider **net** economic impact; specifically, the analyses fail to consider how the rate impacts of various actions feed back into the broader economy.

Rate increases or decreases can have three general types of economic impacts:

- Effect on utility bills, which affects the rate of economic activity and growth of the state's economy;
- Effect on utility bills can affect the profitability of existing business operations and therefore their competitiveness and future growth potential; and
- Effect on the ability of Nevada to attract new businesses and support retention and expansion of existing businesses.

Without tools that analyze all of these economic impacts, energy efficiency has likely been overlooked as a key energy and economic development resource for Nevada. Further, as an expression of policy, Nevada had not established energy efficiency as a

high priority resource (for example, as would be evidenced by an integrated resource planning objective of acquiring all cost-effective energy efficiency). It is the opinion of the authors that the greatest omission in Nevada's current energy policy is the failure to promote energy efficiency as the priority resource, or even among the top resources, for meeting Nevada's future energy needs.

Additionally, levels of future risk associated with various energy supply choices seem to typically not be fully considered, or at least no attempt is made to quantify the risks into the economic analyses. Risks can include potential fuel supply disruption, fuel price volatility, and political decisions. At one of the stakeholder meetings held to discuss policy recommendations, one participant asked, "Does anyone present believe there will not be some form of carbon tax within the next decade?" Not one stakeholder present responded. And yet, policy decisions are being made now that do not appear to include a carbon tax as a cost/risk element even though investments are contemplated that will involve fossil fuel-based energy supply sources with useful lives of several decades.

The authors have concluded that the state's high-level economic development and energy goals can be achieved by accomplishing the following more-specific objectives:

- Increase aggregate electricity consumption in Nevada while reducing individual user's average electricity consumption. This could be accomplished, for example, by attracting more electricity-intensive businesses (i.e. data centers); more residents; increased adoption of electric vehicles; and switching "fuels" where beneficial.
- Reduce peak demand for electricity relative to total or average consumption to improve the utilization of existing electricity generation, transmission and distribution infrastructure which should translate into lower electricity rates and/or aggregate utility bills for Nevada customers.
- Reduce average energy consumption (metrics: per capita, per square foot, per employee, per mile traveled). Energy efficiency continues to represent the most cost-effective and lowest-risk means of meeting Nevada's energy needs.
- Reduce air emissions related to energy production and consumption.
- Reduce water consumption related to energy production and consumption. Water is considered a precious commodity in Nevada and is one of the resources that can constrain economic development and growth.

To achieve these objectives, the following set of eight policy recommendations has been developed:

1. Support the adoption and implementation of cost-effective energy efficiency building codes and standards and work to help ensure compliance.

New buildings typically will have useful economic lives of at least 30 years, with 50 - 100 years being more representative of the likely range of the expected useful lives. Investment in more energy-efficient building design and equipment from the outset is typically the most thorough and cost-effective approach.

2. Develop and implement a pilot utility on-bill financing program for energy-efficiency improvements.

Utility on-bill financing (OBF) has been a low-risk, low-default mechanism for overcoming two of the major barriers to energy-efficiency improvements: 1) upfront investment and 2) access to financing. Unlike other methods of financing energy efficiency improvements, properly designed OBF can be the “democratizing factor” that opens the potential for energy-efficiency improvements to nearly all consumers.

The goal of a pilot project is to demonstrate the beneficial impact of allowing building owners/operators to make energy efficiency improvements without needing to use their own capital for the upfront costs and without applying traditional lending qualification criteria.

3. Develop and adopt policies and measures to accelerate the acquisition and use of alternative fuel vehicles (AFVs) in Nevada - particularly in metro areas.

Increased use of AFV’s can assist with several of the specific objectives identified above as important to Nevada policy alignment, specifically:

- increase aggregate electricity consumption in Nevada;
- reduce peak demand for electricity relative to total or average consumption;
- reduce emissions related to transportation (especially in the potential non-attainment basins of Las Vegas and Reno metropolitan areas);
- reduce carbon footprint of vehicles by reducing vehicle emissions (metrics: tons of carbon emitted);
- reduce average energy consumption (metrics: per capita, per square foot, per employee, per mile traveled);
- reduce dependence on foreign transportation fuels; and
- create jobs involved in the installation of charging and fueling stations.

4. **Develop an outreach program to accelerate implementation of energy efficiency improvements in existing Commercial Buildings through a state-supported and well-defined Energy Savings Performance Contracting process.**

Performance contracting involves an energy service company (ESCO) designing a package of energy cost reduction measures, installing or implementing those cost reduction measures, and guaranteeing the savings that will be achieved (i.e., the performance of the measures). The owner pays for the package over time using the stream of revenue from the energy cost savings resulting from the guaranteed energy reduction measures. NSOE should lead an effort to increase the awareness of performance contracting by establishing a formalized, systematic method of defining and communicating the correct process to be used by contractors and building owners who employ performance contracts to achieve energy efficiency improvements, with emphasis on risk mitigation.

5. **Implement alternative ways of incentivizing investor-owned utilities (IOUs) to increase their demand side management (DSM) programs.**

As the American Council for an Energy Efficient Economy (ACEEE) has observed:

The obligation to earn a profit drives utilities to increase revenues by selling more electricity. Given this, investment in energy efficiency raises financial concerns for investor owned utilities (IOUs). IOUs need to be able to recover the money they invest in efficiency from ratepayers and just like investments in new power plants; they need to be able to earn a return on investments in energy efficiency. Further, the threat of reduced sales if an energy efficiency program is successful threatens to cut into utility profits.

In the traditional regulatory structure these concerns hinder a utility's willingness to invest in energy efficiency. No single policy mechanism can adequately remove the existing biases against utility investment in energy efficiency. However, several policies, when used in combination, can properly align financial incentives to remove the major market barriers to energy efficiency. These include cost recovery, decoupling and providing shareholder incentives.

Nevada has attempted to address these concerns in a couple of ways. In July 2010 the Public Utilities Commission of Nevada (PUCN), directed by 2009 legislation, adopted a lost revenue recovery mechanism providing for annual recovery of

NV Energy's efficiency program expenses and its fixed cost revenues lost from the reduced sales caused by the efficiency programs. A previous five percent additional rate of return incentive was eliminated, and instead a party may file a request for an incentive on a program-by-program basis. The lost revenue recovery policy, however, has been more complex to implement and more controversial than was anticipated at the time of its adoption. There is broad sentiment that the current lost revenue recovery mechanism needs to be replaced.

It is recommended that alternative ways of encouraging IOU investment in DSM programs be considered to determine what combination of provisions would best encourage accelerated implementation of energy efficiency/DSM programs in Nevada. Most likely, a combination of approaches is needed: one mechanism to offset the lost recovery of fixed costs that results from successful DSM and another mechanism to share the benefits of successful DSM between ratepayers and the utilities. The decoupling mechanism currently being used in Nevada by Southwest Gas is one candidate for offsetting 'lost revenue'.

6. Support the Location and Expansion in Nevada of the Supply Chains of Goods and Services for Energy Efficiency.

Renewable energy component manufacturing, advancing and internationalizing geothermal development and energy efficiency upgrading are targeted by the State as areas for economic opportunity. GOED should expand this strategy to specifically include opportunities in the energy-efficiency supply chain. GOED and/or NSOE may be able to identify grant opportunities that would include promotion of Nevada energy-related businesses.

7. Utilize better decision support tools when considering energy policy and economic policy decisions.

Funding should be pursued to develop an "open" Computable General Equilibrium (CGE) model for use by utilities, the PUCN, and stakeholders in energy decisions. The University Center for Economic Development at the University of Nevada, Reno completed a background study and roadmap for developing a CGE model for use in estimating economic impacts related to various energy decisions, including fossil-fuels generation, renewable energy electricity generation and energy efficiency programs. This analytical tool would have the capability of comparing the economic and net employment impacts of various policies regarding the mix of fossil fuels, renewable energy resources, and energy efficiency measures to meet electricity needs in Nevada.

Utilizing a CGE model to compare all energy policy decisions (fossil-fuels, renewable and efficiency) could result in making better-informed policy decisions. Presumably, this would also lead to higher rates of economic growth for the State and to prioritization of lowest-cost, lowest-risk resources.

8. Establish Energy-Efficiency Targets for Nevada, Followed By Recommended Methods for Achieving Those Targets.

From the recently published “2013 City Energy Efficiency Scorecard” by ACEEE:

Energy efficiency may be the cheapest, most abundant and most underutilized resource for local economic and community development. Considerable evidence documents that investments in energy efficiency can improve community self-reliance and resilience; save money for households, business and anchor institutions, and local governments; create local jobs; extend the life of and reduce the costs and risks of critical infrastructure investments; catalyze local economic reinvestment; improve livability and the local asset value of the built environment; and protect human health and the natural environment through reducing emissions of critical pollutants and greenhouse gases.

At a September 2013 meeting of stakeholders, there seemed to be general consensus that Nevada should establish energy efficiency targets and then consider the various ways of achieving those targets. Methods for achieving energy efficiency targets include various incentives, use of alternatives to the Total Resource Cost test, mandates (with predetermined consequences if goals are not achieved), and/or utilizing some sort of carbon tax and letting market forces allocate energy resources, including energy efficiency. Mandates are already used by many states with Energy Efficiency Resource Standards (EERS) being the most prevalent form for mandating energy efficiency targets. Importantly, states that have implemented EERSs now represent 61 percent of total electricity sales in the U.S.

In the 2013 session, the Nevada Legislature passed AB 428 creating a Legislative Committee on Energy. Since much of Nevada’s energy policy is set forth in Nevada Revised Statutes, it is recommended that the energy efficiency goal-setting process be referred to the Legislative Committee on Energy, with support from GOED and NSOE, as well as the involvement of any other entities and individuals the Committee identifies.

Next Steps

The Nevada State Office of Energy has formed working groups to help implement these eight policy recommendations. The first meeting of four of the working groups was on May 6, 2014. Next to be developed are time frames, definitions of “success”, milestones, and reporting processes. These elements are absolutely necessary for the working groups to achieve meaningful and timely results.

While the working groups take on these tasks, due to time considerations, we encourage the interim Legislative Committee on Energy to engage the working groups and consider any legislation needed to implement these recommendations. The next session of the Nevada Legislature in 2015 can be a “watershed point” for advancing energy efficiency and optimizing the economic benefits of energy efficiency for all Nevadans.