MINUTES OF THE
SENATE SELECT COMMITTEE ON ECONOMIC GROWTH AND EMPLOYMENT

Seventy-sixth Session
February 16, 2011

The Senate Select Committee on Economic Growth and Employment was called to order by Chair Ruben J. Kihuen at 1:08 p.m. on Wednesday, February 16, 2011, in Room 2134 of the Legislative Building, Carson City, Nevada. The meeting was videoconferenced to the Grant Sawyer State Office Building, Room 4412, 555 East Washington Avenue, Las Vegas, Nevada. Exhibit A is the Agenda. Exhibit B is the Attendance Roster. All exhibits are available and on file in the Research Library of the Legislative Counsel Bureau.

COMMITTEE MEMBERS PRESENT:

Senator Ruben J. Kihuen, Chair
Senator John J. Lee, Vice Chair
Senator Valerie Wiener
Senator Mark A. Manendo
Senator Don Gustavson
Senator Ben Kieckhefer
Senator Greg Brower

STAFF MEMBERS PRESENT:

Bryan Fernley-Gonzalez, Counsel
Kelly Gregory, Policy Analyst
Leslie Sexton, Committee Secretary

OTHERS PRESENT:

Robert E. Lang, Ph.D., Brookings Mountain West; Department of Sociology, University of Nevada, Las Vegas
James A. Croce, President and CEO, Nevada institute for Renewable Energy Commercialization
Stephen G. Wells, Ph.D., President, Desert Research Institute
Ray Bacon, Nevada Manufacturers Association

CHAIRMAN KIHUEN:
Today we will again hear from Dr. Robert Lang regarding "Nevada 2.0: New Economies for a Sustainable Future," the conference held on January 7, 2011.

The purpose of this conference was to explore opportunities to diversify Nevada's economy by examining similar efforts in nearby states.

ROBERT E. LANG, PH.D. (Brookings Mountain West; Department of Sociology, University of Nevada, Las Vegas):
I have a PowerPoint presentation for you today. I have made copies of some of the slides from that presentation for you (Exhibit C). Our conference featured presentations by representatives of four cities: Salt Lake City, Denver, Dallas and Phoenix/Scottsdale. We asked individuals who helped build the economies and universities in those cities to make presentations. Two of the presentations covered technology-based economic development in partnership with universities: Salt Lake City and Phoenix. Two were more comprehensive presentations: Denver and Dallas.

For many years, we have been talking about diversifying Nevada's economy. For many reasons, we have failed to diversity sufficiently to guard the economy against downturns. These downturns are especially difficult if they strike one key sector: consumption writ large. We have depended upon tourism, conventions, food and the business of growth itself. That is why Nevada has seen the most decline in its economy and employment. We need to look for more drivers to determine new opportunities for economic diversification. The conference organizers wanted to look at what a strategic plan would look like.

On pages 3, 4, and 5, Exhibit C, you will see an overview of the Utah Science Technology and Research (USTAR) initiative, a technology-based economic development initiative funded by the state of Utah. Nevada and Utah are very similar in size and major industries, tourism and mining. What is interesting is how much more affluent Nevada is than Utah. Utah has invested heavily in the next generation of economy. For example: Utah has approximately twice the number of university faculty, even excluding Brigham Young University, than does Nevada, even though both states have two major state universities.

In 2004, a new governor, Huntsman, took office in Utah at a time very similar to the current time in Nevada. He decided that he wanted to reorganize completely the way they approached economic development. He was interested in stimulating the university's and the state's capacity for research and development that could be applied to industry. That was the origin of the USTAR program. A large component of the program was issuing a bond for the construction of major science facilities at both the University of Utah and Utah State University. Nevada has already built two good science buildings at University of Nevada, Reno (UNR) and University of

Nevada, Las Vegas (UNLV). At the moment we do not have the staff to put in those places nor do we embrace the idea of a cooperation between industry and the universities. We need a strategic plan where the university's missions and investments in faculty are aligned with the needs of industry. Industry in Utah has partnered with the university system. They have set up objectives and guideposts. The university system is a participant in industrial policy that seeks research and development in very specific categories. The categories come from expert panels that have identified the state's capacity to be ahead of other states or where the state has competitive advantages in specific areas. It is much easier to pull a business into a state that is offering it engagement with an existing, robust large complex industry, rather than asking it to be a pioneer.

Utah's strategy for actually luring businesses and growing existing businesses is built around several key clusters. We conclude that Nevada would need some funding for the research teams that would come in and become world class faculty or "star faculty." When these teams have been tracked, it was found that they have brought in multiple times the original research and development investment. Utah also wanted to make sure this was tied to an explicit return on investment and that the results were measurable. They set up a series of metrics in many different areas. Overall, Utah is quite pleased with their progress. They are well ahead of projected goals of capital that has been attracted to Utah. The organization of the effort is a major reason this has happened.

Another region we looked at was Metropolitan Denver, Exhibit C, pages 6-8. Denver experienced a very rough recession in the early 1980s. They were heavily reliant on energy as a sector. During that time there was a collapse in the price of oil, and the result was that Denver suffered. Denver was not recognized as a leader in economic development. They figured out that the road out of the recession was to follow certain routes, Exhibit C, page 7. They created the "Regional Economic Development Metro Denver Big Plan." It started with the idea that the involved communities did not need to compete against each other to attract capital investment. They realized the region benefits when any kind of business comes to any one of the local communities. They developed a strategy. During this time they invested heavily in the regional infrastructure, Exhibit C, page 8. The Metro Denver Economic Development Corporation was created to effectuate a coordinated effort for regional development. It has grown from 35 initial partners to 70 partners in a 9-county metropolitan area, Exhibit C, page 8.

Last, we looked at the Dallas-Fort Worth region, Exhibit C, pages 9-10. They connected technology sectors with traditional economic development and looked at synergies between the two. They felt comfortable as a major American city but knew

that much of the growth in the global market was going to occur outside the United States. They made an honest assessment of their standing in the areas of emphasis: logistics and trade, technology and advanced business services. They found themselves lacking in all of these areas when compared to other nations. They developed action steps. One of these was a partnership with the state and the local community around one university to bring that institution to a par with the University of Texas so that a healthy competition could take place in technology development. They also looked beyond their "no income tax" status to several state funds that shared sales taxes. They allocated a small fraction of these funds to a war chest to be used for attracting companies into the state, Exhibit C, page 10. Texas also relieves companies who move into the state from certain taxes. This allows those companies to use the value of that relief for business financing.

We also heard representatives from Arizona State University (ASU), Exhibit C, pages 11-12. They are in partnership with municipalities in central Arizona. One example is in Scottsdale, which, contrary to what people might think, has a distressed area bordering Tempe. The city gave a large parcel of land to ASU with the condition that it be used for a business incubator. The city gave ASU a set of goals they were required to meet. The representatives from ASU met with the business leadership in the Phoenix region and linked investments in key sectors including sustainability, green technology and biotechnology. They made their efforts link the city's projections of their economic opportunities. They changed ASU's profile and put it on a trajectory to be a much larger research university. Like Dallas, Phoenix looked at their competitors and realized they did not have a tier-one research university. Presently, in all ways, ASU has come to scale and is comparable to universities that do not have medical schools. It closely resembles Massachusetts Institute of Technology or California Institute of Technology in total research money generated.

CHAIR KIHUEN:
What are the next steps for Nevada 2.0 conference organizers, and what should this committee do to help your efforts?

DR. LANG:
We are still in consultation. We are considering some type of program like USTAR. There have been discussions about a Denver-style armistice between municipalities or a Dallas strategic-investment plan, looking at all sectors. The best lesson we can learn from Utah is that we do need coordination. We do not need a rigid universal policy for the whole state. Governor Huntsman then was looking to do what Governor Sandoval is looking to do now, which is to rethink economic development. Many economic-development organizations exist, but

they are not coordinating, and they have never been asked to coordinate. That is what had been happening in Utah. Governor Huntsman saw many duplications of effort, efforts that were at cross purposes, and efforts that used different approaches for different areas

CHAIR KIHUEN:
I have seen the lack of cooperation in Nevada. This committee was established to be a place to bring together some of these organizations, groups and commissions so we can come up with a coordinated plan we can present at the end of this Session. We know that diversification of the economy is not going to happen in one session. We need short-term goals and long-term goals.

JAMES A. CROCE (President and CEO, Nevada Institute for Renewable Energy Commercialization):
I have a PowerPoint presentation, "The Role of Technology Commercialization in Accelerating Nevada's Economic Transformation," a copy of which I have provided to you (Exhibit D). On page 2, we explain the origin, the mission and the method of Nevada Institute for Renewable Energy Commercialization (NIREC). In 2009, the State Legislature reaffirmed NIREC as the commercialization partner for the Nevada System of Higher Education (NSHE), particularly the renewable-energy efforts. On that page you will also see a list of our other partners. Some of these partners are national entities. In order to accelerate our efforts, we must reach across state lines to bring capital, intellectual property and management talent into Nevada.

Page 3, Exhibit D, contains a four-point summary of what "commercialization" means. This page also describes the four components of a thriving innovative ecosystem which is the basis of sustainable enterprise.

Page 4 shows a slide that depicts how Nevada has traditionally promoted economic development and a description of what Nevada must do by 2015 to be innovative and competitive. Page 4 also describes the Silver Spark Project, a fact-based assessment of Nevada's commercialization infrastructure.

Page 5, Exhibit D, describes elements common to states and regions that have successfully developed and implemented a technology-based, economic-development strategy. It also describes some key similarities and differences between Utah and Nevada with respect to Utah's USTAR program. To recreate the USTAR model in Nevada, we must start by bolstering the

State's investment in NSHE's basic infrastructure and research and development capacity.

Page 6, Exhibit D, outlines opportunities and challenges facing Nevada based on our assessment. We do have some unique competitive advantages in Nevada. One of the benchmarks we used in our study was Orlando, Florida, because it is descriptive of the opportunity we have here with the convention and tourism industry.

On page 7 is a list of seven short-term recommendations from the Silver Spark program.

On page 8 we describe key deliverables over the coming three years.

CHAIR KIHUEN:
Why is College of Southern Nevada not on your partnership list?

MR. CROCE:
At present they are not a research institute.

SENATOR KIECKHEFER:
Does increasing research and development capacity of NSHE mean investing general funds so that the system can recruit and pay researchers? Do we hire researchers who then search for grant opportunities?

MR. CROCE:
The intent is to recruit faculty luminaries who bring major research capabilities with them. They have been repeatedly funded over time in the many millions of dollars. They will not be productive on day one. They need facilities. They typically will bring a team with them. Utah has provided a soft landing for these kind of people, covering their costs for the first 12 to 18 months. Utah has a lot of data to show that small amounts of seed investment lead to millions of dollars in research income. A university must be healthy enough to provide that soft landing.

SENATOR KIECKHEFER:
Do we currently have the lab capacity and physical infrastructure to attract these luminaries?

MR. CROCE:
I am not the best person to answer that question. It is dependent upon the key areas of focus. Utah found one key area they were missing from their overall strategy. They searched for and found the missing part. I do not think we are short on physical infrastructure—the bricks and mortar. Specialized equipment would always need to be brought in.

CHAIR KIHUEN:
Would the State need to invest a little bit of money in order to begin this process? Once we are able to get credibility by attracting these luminaries, would it be easier to raise money from other entities nationally?

MR. CROCE:
Correct. At a minimum, we have to stop the bleeding and ensure that we have a healthy NSHE base. As the financial health of the educational system decreases, we are losing faculty luminaries.

CHAIR KIHUEN:
My concern is that the proposed State budget cuts, up to 36 percent in higher education, are not going to entice some of these luminaries to Nevada. The State must show a commitment to NSHE before we can recruit these luminaries.

MR. CROCE:
Education budget cuts are completely counterproductive to our discussion about economic development.

SENATOR LEE:
What attracts these luminaries? Do they follow a dream? Do they follow wages? Or do they follow leadership?

MR. CROCE:
Opportunity for growth, intellectual stimulation, working with like-minded people and, of course, money are important to them. They want to be on the cutting edge. This has not been present in the past two years. We are losing the intellectual property we once had.

STEPHEN G. WELLS, PH.D., (President, Desert Research Institute):
I have prepared a PowerPoint presentation, copies of which I have provided (Exhibit E). I will talk about what we have and what is possible to achieve. We have a lot, and we have done a lot. I will be focusing on innovation, technology transfer and commercialization in higher education.

The report of the Battelle Memorial Institute in 2000, "A Technology Strategy for Nevada," found that university-based research centers are the most important factor in incubating high-tech industries. The Milken Institute Report in 2010 ranked Nevada number 46 out of 50 states in capabilities in science and technology, Exhibit E, page 2.

You have heard many times today that the key to success in economic development is nurturing innovation assets—the people you can attract as well as the people you have now in whom you have already invested.

On page 3, Exhibit E, is a graphic that depicts the Georgia Model. About 15 years ago they invested in 3 biotech scholars. This produced 31 Associated Faculty, 61 Associated Ph.D.s and Post Doctorate researchers, and 60 Associate Research Technicians. It does not show all of the companies that resulted from this investment. These people spend their money and invest locally.

Page 4, Exhibit E, briefly describes Desert Research Institute (DRI), what we do and how we have contributed to Nevada's economy. Every dollar of State money invested in DRI returns $40 back into the economy. Pages 5 and 6 profile four examples of the return on investment in terms of human capital. If you give people a chance to build, grow, innovate and open the doors, and let them do so without restriction, it is amazing what will happen. The examples shown, Exhibit E, both at UNR and DRI, show individuals who were given basic laboratories and proceeded to build them into world-class facilities. They have had remarkable return on our investment. Page 7, highlights a technology strategy for Nevada as conceived by the Battell Memorial Institute in 2000. Also on that page is a list of DRI's industry and governmental partners from whom we receive our funding.

The DRI has been involved in technology transfer projects with many successes because of the entrepreneurial culture that we have maintained. In partnership with UNR, we embarked upon an assessment of our technology-transfer

potential. We developed a business plan to establish a joint Technology Transfer Office (TTO). This TTO has developed the "NSHE Express" to facilitate faculty innovation, Exhibit E, page 8. On page 9 is a graph showing the rise and fall of DRI's patent applications. There is also a list of additional technologies which DRI has licensed. Page 10 lists recent start-up companies that DRI has delivered. There are many more challenges ahead, there are few financial and time incentives to encourage researchers to commercialize their intellectual property or innovations. Page 11, Exhibit E, discusses NSHE's renewable energy consortium and their demonstrated collaborations that enhance economic growth in Nevada.

Our conclusions are listed on page 12, Exhibit E.

SENATOR KIECKHEFER:
If you had an extra million dollars to recruit faculty, how would you decide in which research areas you would recruit. How does that relate to our economic development efforts in Nevada?

DR. WELLS:
We do need our base budget to continue effectively. The DRI has been very effective in developing its own talent. We recruit people and take them through a post-doctoral tutelage. Then we see if they have what it takes to carry on in a soft-money environment. That is a different environment than in universities. If we had those extra funds, we would look at the State's priorities, in particular in the area of renewable energy. We would try to bring in people who could accelerate development in that area. We would do well with that type of investment.

CHAIR KIHUEN:
Has there been an effort to launch a Nevada research alliance?

DR. WELLS:
In 2000, I appeared before a committee similar to this one and spoke about the Georgia Research Alliance (Alliance), which was a unique partnership between universities and industries. The Alliance pledged to invest if the state would invest in recruiting scholars. There was some success in identifying potential state sources of funds, but for unknown reasons that Alliance never got started. I would like to come back here in ten years and not have to say that I was here ten years ago making these recommendations, but nothing was done. If we had

done these things ten years ago, we probably would not be in the current economic situation. Now is the time to think about how we can help the universities help the State.

RAY BACON (Nevada Manufacturers Association):
I will be speaking about industry perspective. I agree with Dr. Wells that we have had multiple opportunities and have not done well with them. One of these was the Georgia Model. Texas Instruments, International Business Machines and others were getting nervous about the fact there was only one semiconductor-based research area, Silicon Valley, California. This was approximately 30 years ago. Prices were rising. They created a consortium, and they were ready to establish a second area in Phoenix, Arizona. Then the state of Texas and the University of Texas in Austin literally bought the project out from under Phoenix. There are parallels between this case and the Georgia Model. Both were driven by the private sector. In many cases, they were selecting the faculty. They directed the focus of the research into specific technologies. In Nevada, we have typically attracted faculty with an interest in a specific technology and then we start looking for partners. We need to merge these thought processes.

We had a patent attorney on UNR's campus. I do not believe we ever had one at UNLV. If you are going to get serious about commercialization, you will need that kind of in-house expertise, even if it is a resource shared by both campuses.

Differentiated tuitions send the wrong message about our commitment to economic development based on technology. There has been some discussion about charging higher tuition for the areas of study that cost more, such as engineering and science. If we want to get serious about technology, we need to make sure our dollars are focused on those things. The cost of educating is an important concern to minority students. If we have higher tuitions in those technical areas, we will not attract students from those disadvantaged populations. It might be helpful to put in a means-based component to the Governor Guinn Millennium Scholarship program so that the differential is offset. The students with the highest academic talent and the highest need would receive the highest level of scholarship.

In Nevada, we have had a tendency to try to be everything for everybody. The result is a lot of degree programs. We are not a large state. We may need to

rethink whether or not we want to do everything for everybody. There are programs we can buy off the street. Every year we import college graduates in almost every discipline to this State. Very soon we are not going to be able to produce everything we need. We may have to eliminate some standard programs.

We have national shortages in math, science and special-education teachers. Nevada produces about one-quarter of the math and science teachers we need. We are not going to fill that need in kindergarten through Grade 12 (K-12) when we have national shortages. The university system needs to educate more of these specialists. For at least 20 years Clark County K-12 schools have been employing long-term substitutes to teach math and science. If Nevada wants to focus on creating technology degrees, we cannot continue to do that. In Clark County, the shortages are greatest in the economically poorest or predominately minority schools. I served on the State of Nevada Education Reform Blue Ribbon Task Force, and found that we have unequal education in our State. The "Nevada Plan" does a wonderful job of normalizing the funding county to county. It does not normalize the educational equity in our school districts. The "Nevada Promise" Website refers to excellence, rigor and equity. We have a long way to go to achieve equity.

The Northern Nevada Development Authority (NNDA) has formed a group of certified public accountants (CPAs) in Carson City and the surrounding communities. As companies consider relocating to the area this group provides a free bottom-line cost analysis of relocating. That builds credibility and at least opens a dialog with the company.

I have stated what needs to be done. I have testified on this issue many times. We need to do it. I am not sure how it should be done. We must do it correctly. We will only have one opportunity to do it. We need to do it now, when the need is greatest. We should have done it 15 years ago. We did not. We should have done it ten years ago. We did not. We must consider these things so we do it correctly.

We have talked about wanting to be the leader in the nanotech field. It is too late for that. We need to determine the field in which we want to be the leader. It should be a field in which there is still a cutting edge. If someone already has even a three-year lead, then we are too late. There probably are not too many fields in which there is room for more than one leader.

SENATOR WIENER:
Did the CPAs involved with the NNDA project come up with a standard package of items they considered in order to provide the cost analysis of relocation?

MR. BACON:
For specifics, you will have to contact Rob Hooper at NNDA for that information.

SENATOR WIENER:
Many years ago I did work with the Nevada Development Authority of southern Nevada to provide incentives for southern California firms to establish additional locations in Nevada, especially adding a hub for transportation or an extended location for warehousing. Are some of these companies to whom the NNDA is reaching out considering these possibilities?

MR. BACON:
I do not have that detail. My counterpart in California has a board of approximately 25 members. At a recent board meeting of the 25 members present not a single person was investing any people or capital in the state of California. If a company is large enough to be a publicly traded entity on the New York Stock Exchange or the NASDAQ, and they have to deal with a board of directors and shareholders, executing a relocation is fundamentally not possible. It is not cost-effective when the cost of moving the executives is included. The notable exception to that is when Boeing moved its headquarters from Seattle to Chicago. In fact, they had been moving executives to Chicago for eight years. Every new hire on the executive staff, unless they were on the manufacturing side, moved to Chicago so when the company made the official announcement of the move, it was not a big shock to the people in Seattle. Boeing had been warning the state of Washington for 20 years that they were going to move. That is an example of the effort needed to relocate a corporate headquarters. None of the major high-technology companies in Silicon Valley, California, have moved their corporate headquarters, but they also have not put any new manufacturing plants in California. Nevada should be looking at those branch operations and those expansions. We can move some of those into Nevada. Nevada has not tried to attract warehousing operations since the 1970s, when California had a floor tax. We have Ivanpah in the south, which would only use five to six miles of Nevada roads. We have the Tahoe Regional Industrial Center in Sparks and the industrial areas of Stead in the north. We have the dual rail center east of Elko. California Assembly Bill 32 of 2006 will

take the very low-margin business of warehousing to the point it has no margin left. Many companies will look at moving warehousing operations out of that state. Nevada must be warehousing-friendly. Someone who has worked as a hotel maid or in shipping and receiving docks can work in logistics. They may not have the greatest education possible, but most of them can work in logistics.

SENATOR MANENDO:
We would like to have you back to walk us through your thoughts on that. I am open to anything and everything we can do. If you or your clients have ideas of what we can do, it would be in our best interest to hear more about warehousing or anything else we should be doing.

MR. BACON:
Anytime.

CHAIR KIHUEN:
This meeting is adjourned at 2:50 p.m.

RESPECTFULLY SUBMITTED:

_____
Leslie Sexton,
Committee Secretary

APPROVED BY:

_____
Senator Ruben J. Kihuen, Chair

DATE: _____

EXHIBITS

Committee Name: Select Committee on Economic Growth and Employment

Date: February 16, 2011 Time of Meeting: 1:00 p.m.

Bill	Exhibit	Witness / Agency	Description
	A		Agenda
	B		Attendance Roster
	C	Robert Lang	NV 2.0
	D	Jim Croce	The Role of Technology Commercialization in Accelerating Nevada's Economic Transformation
	E	Stephen Wells	Innovation, Technology Transfer, and Commercialization Efforts in the Nevada System of Higher Education