

**MINUTES OF THE
SENATE COMMITTEE ON FINANCE**

**Seventy-Seventh Session
February 22, 2013**

The Senate Committee on Finance was called to order by Chair Debbie Smith at 8:13 a.m. on Friday, February 22, 2013, in Room 2134 of the Legislative Building, Carson City, Nevada. The meeting was video conferenced to Room 4412E of the Grant Sawyer State Office Building, 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 Debbie Smith, Chair
Senator Joyce Woodhouse, Vice Chair
Senator David R. Parks
Senator Moises (Mo) Denis
Senator Ben Kieckhefer
Senator Michael Roberson
Senator Pete Goicoechea

STAFF MEMBERS PRESENT:

Mark Krmpotic, Senate Fiscal Analyst
Eileen G. O'Grady, Chief Deputy Legislative Counsel
Alex Haartz, Principal Deputy Fiscal Analyst
Thomas Hutton-Potts, Committee Secretary

OTHERS PRESENT:

Jason Geddes, Ph.D., Chairman, Board of Regents, Nevada System of Higher Education
Steve Hill, Executive Director, Office of Economic Development, Office of the Governor
Karsten Heise, Technology Commercialization Manager, Office of Economic Development, Office of the Governor
Marc A. Johnson, Ph.D., President, University of Nevada, Reno, Nevada System of Higher Education

Senate Committee on Finance
February 22, 2013
Page 2

Thomas C. Piechota, Ph.D., Vice President for Research, Dean of the Graduate College, University of Nevada Las Vegas, Nevada System of Higher Education

Stephen G. Wells, Ph.D., President, Desert Research Institute, Nevada System of Higher Education

Angela Brommel, President, Nevada Faculty Alliance

Alex Bybee, Assistant Director, Department of Legislative Affairs, Associated Students of the University of Nevada

Tyson K. Falk, Policy Analyst, Nevada Institute for Renewable Energy Commercialization

Danny L. Thompson, Executive Secretary-Treasurer, Nevada State AFL-CIO

Chair Smith:

I am requesting a committee introduction of Bill Draft Request (BDR) S-914.

BILL DRAFT REQUEST S-914: Revises provisions governing the issuance of bonds to finance certain projects at the University of Nevada, Reno. (Later introduced as Senate Bill 185.)

SENATOR GOICOECHEA MOVED TO INTRODUCE BDR S-914.

SENATOR DENIS SECONDED THE MOTION.

THE MOTION CARRIED UNANIMOUSLY.

Chair Smith:

I am turning the gavel over to Vice Chair Woodhouse.

Senator Woodhouse:

Before us today is Senate Bill (S.B.) 173 which makes appropriations to the Knowledge Fund.

SENATE BILL 173: Makes appropriations to the Knowledge Fund. (BDR S-534)

Senator Debbie Smith, Senatorial District No. 13:

I am Senator Debbie Smith representing Senate District No. 13 and I have submitted a prepared statement for the record (Exhibit C). I am here to testify in

support of S.B. 173 which appropriates \$10 million to the Knowledge Fund. As you may remember, A.B. No. 449 of the 76th Session created the Knowledge Fund and established a program for the development and commercialization of research and technology at the University of Nevada, Las Vegas (UNLV); the University of Nevada, Reno (UNR); and at the Desert Research Institute (DRI).

Among other uses, the money in the Knowledge Fund is to be allocated by the executive director of the Governor's Office of Economic Development (GOED) to provide funding for the recruitment, hiring and retention of faculty and teams to conduct research in science and technology, research laboratories and related equipment. The funding will be used for the construction of research clinics, institutes and facilities and related buildings in the State. Matching funds from federal and private grants that further economic development could also be realized.

The Knowledge Fund did not receive an appropriation in the current biennium.

I spent a lot of time at the end of last Session thinking about what we need to do about funding for economic development. I was pleased when the Governor's Executive Budget came out, because he recommended funding for the Knowledge Fund. I would like to bring the total fund to \$20 million which is double what the Governor has proposed in his budget.

I will discuss why this is so important and what this fund and this idea were modeled after which is the Utah Science Technology and Research (USTAR) initiative. I cannot emphasize enough how important it is. The suggested increased appropriation is based upon this concept.

We did not have the money to pay for competitive salaries. At the DRI we lost 43 research faculty, or 28 percent of the institution's current faculty.

One DRI faculty member was recruited by the University of Texas at Austin to become the associate director of the Bureau of Economic Geology.

Another faculty member was recruited to the College of Engineering at the University of New Mexico. That former faculty member received a National Science Foundation grant based upon work he started at the DRI. The grant would have gone to the DRI instead of the University of New Mexico if we had been able to provide adequate compensation.

The Knowledge Fund can be used to help keep these highly talented professionals, scientists and researchers as well as attract new recruits. We cannot afford for our biggest export to be our most talented scientists.

The annual salary to retain or recruit these highly talented researchers would cost from \$82,000 to \$260,000, dependent upon the researcher. An additional \$40,000 to \$900,000 would be incurred in start-up costs. An example of this happened at UNLV. They made 13 impact hires last year across five departments, which cost approximately \$1.6 million in salaries and about \$4.4 million in start-up costs, for a total of about \$6 million. These impact hires brought in a total of approximately \$1 million in outside grant funding last year. They have submitted grant proposals for an additional approximately \$19 million in outside grant funding since July 2012.

The DRI, UNR and UNLV are great institutions and are creating new technologies while improving on existing models. They are currently working with our business leaders through creative innovations and jobs. The new buildings and the equipment on the campuses need to be used.

When the USTAR was created in 2006, they allocated \$15 million per year for research personnel, and \$4 million each year for technology outreach, commercialization and support of business development to enhance their research. The USTAR spent \$160 million for construction of research facilities.

Utah used \$50 million from their General Fund, and \$110 million in bonds paired with an additional \$40 million in matching contributions from their universities. In 2009, while in the throes of the national recession, Utah reduced their funding to \$13 million per year for faculty recruitment and support and \$1.8 million per year for the technology outreach portion. With that money, the USTAR program teams attracted \$131 million in federal- and industry-supported grant funding to Utah and \$100 million in foundation money and other outside grants. There have been 300 invention disclosures with 185 patents and provisional patents, 11 new companies, plus the expansion of many others and the creation of jobs.

We support the concept of the Knowledge Fund. The plan was codified last Session. It is clear that we need to fund it.

Testifiers are here to speak more specifically about the program in hope that our State can emulate this plan. I am confident that GOED, the universities and the Chancellor will work together to arrive at an appropriations plan for distribution of the funding.

Senator Goicoechea:

I am supportive of the Knowledge Fund and the need to fund it to whatever level we can. I continue to be concerned that we are reducing the budgets for some institutions of higher education, predominantly the community colleges, while we are expanding this program. I want to see the community colleges made whole before we start appropriating more money.

Senator Smith:

In the Executive Budget, this appropriation is made with ongoing funding and the recommendation was to supplement it with one-shot funding. In that way it will not cut into our ongoing funding because it will keep the appropriation separate. I see this as a boost to help this program get up and running through one-shot funding.

Senator Denis:

I am supportive of this plan. I appreciated the opportunity to meet with the people at USTAR as well as a few of the Utah Legislators to discuss the program. It is unacceptable that Nevada set up this program and then did not fund it. Those who run the USTAR program and those legislatures, have a long-term commitment to make it successful. I hope that we are creating a long-term commitment as it starts to create opportunities for bringing jobs to Nevada and to diversify our workforce.

Senator Smith:

When we attend national meetings, we hear the USTAR program discussed extensively. Most of this is the nature of the program they are operating. It is a vibrant program and everywhere we go there is an abundance of energy surrounding the USTAR program.

Jason Geddes, Ph.D. (Chairman, Board of Regents, Nevada System of Higher Education):

I represent District 11, consisting of northern Washoe and Pershing Counties, on the Board of Regents. The Board of Regents is wholly supportive of the Knowledge Fund. We came to this Legislative Session with three priorities. The

first is furlough and pay relief for our faculty who have experienced multiple cuts and forced time off without pay. The new funding formula, which for the first time places emphasis on research and funding research at appropriate levels, is the second priority. Finally, we believe that the Knowledge Fund can jump-start our research capabilities and the commercialization of that research.

There has been criticism of the unfunded Knowledge Fund. The Legislature created it and is seeking to fund it this Session. Over the past decade, all of you have been in favor of increasing research.

Looking at the USTAR model, they put \$250 million into the infrastructure with another \$25 million a year to support it. The Legislature has done that through funding the Computational Research and Visualization Building (CAVE) at DRI, for funding the Science and Engineering Buildings at UNLV and for freeing up the indirect cost recovery to fund the Center for Molecular Medicine at UNR. You have been very supportive of research and in building infrastructure like Utah. This Session you have the opportunity to allocate ongoing funds. I strongly encourage you to support S.B. 173.

Steve Hill (Executive Director, Office of Economic Development):

The purpose and the structure of the Knowledge Fund is in statute. That has been helpful in providing guidance over the previous interim period as we think about the potential of the Knowledge Fund, how it will be funded, how it will operate and what the purpose is for the Fund. It is a high priority for our office as well.

Previously, Nevada System of Higher Education (NSHE) Chancellor Daniel Klaich testified in support of the Knowledge Fund indicating that it is one of the few times the University System has had a high priority of funding from a program that is not within NSHE. The Knowledge Fund provides an opportunity to link two of the highest priorities of the State: education and economic development. It is important that the Knowledge Fund provides that link, and the structure already in statute allows this linking to take place. This will not always be the case.

The focus that the Knowledge Fund will have, not only on research, but research that can be commercialized and can produce the results that we are looking for, is a function of the way that the Knowledge Fund is structured at this point.

As you expanded economic development during the last Legislative Session, we broadened the effort to recruit companies from out of state to come to Nevada which continues to be a major piece of economic development. It gives us an opportunity to start companies at the leading edge of technology and in multiple fields. This gives Nevada the opportunity to assist existing companies' growth by partnering with them to advance their products and their services. That partnership will bring new ideas to the table that they can, in turn, use to grow and sell the new offerings to customers while continuing to hire more employees within the State.

It also helps in recruiting to have these centers, and the projects contained within the Knowledge Fund, under the auspices of NSHE. This is an important component in attracting companies that are on the leading edges of their industries. These companies need to know that when they come to Nevada, they will have opportunities to interact with experts in the fields and that they will have a workforce already engaged in that specific topic. The Knowledge Fund links those types of projects and products.

Karsten Heise (Technology Commercialization Manager, Office of Economic Development, Office of the Governor):

I will briefly introduce the projects that could benefit from the Knowledge Fund and then the presidents will deliver more details regarding these projects, some of which have already begun. The GOED has chosen innovation-based economic development, using the rationale that nations and states will have competitive advantages. This competitiveness hinges upon long-run productivity. Unlocking long-run productivity requires technological innovation. A Nobel Prize laureate in economic sciences, Robert M. Solow, said that the most important factor of production is technological innovation. That is what the Knowledge Fund is designed to do.

Innovation-based economic development can best be understood by the development chain located on page 3 of our presentation on the Knowledge Fund ([Exhibit D](#)). What is important in this chain is that every element of the chain is integrated and interlinked with the center of excellence (COE). We start with basic research and extend to building technology faster. We are going through projects of applied science and demonstrations which is taking research and building it into a planned project. Technology transfers the power of that chain to protect all that is being generated at the universities.

We are working to attract companies to this State and to affect these companies in a sustainable manner. This means that when we build a technology cluster, we are working on attracting a company that fits into that cluster and can make a contribution and benefit from the university knowledge base.

Innovation-based technology development requires that we pay attention to every link in the chain. The fact that the Knowledge Fund has not been funded, is no reason not to start. I am working on two projects with DRI and UNR in setting up applied research centers. These are based upon the German "Fraunhofer Model" shown on page 4 of [Exhibit D](#). Two-thirds of the funding for these institutes is contract-based research coming from contract industry and federal contractors, while one-third is funded by a combination of federal and local governments.

Presidents Stephen Wells and Marc Johnson will detail the projects that are ongoing in the College of Science at UNR to set up an Advanced Manufacturing Applied Research Center, and at DRI based in the CAVE, in supporting industry with advanced data analytics and visualization which ties directly in with other areas at the DRI. The COE also addresses elements of the development chain that are included within our efforts.

Marc A. Johnson (President, University of Nevada, Reno, Nevada System of Higher Education):

I have submitted a prepared statement ([Exhibit E](#)).

During the long economic downturn, UNR lost approximately one-third of its State funds and has experienced repeated budget cuts. Our strategic approach was to preserve the university and continue to educate, build the workforce, perform research and bring research capabilities to the State. We also worked with our faculty in becoming more entrepreneurial to turn the research we are doing into business opportunities. In the past 12 months, two of our professors at UNR have started businesses in Reno based upon the commercialization of the results of their research.

To follow up with what Mr. Heise indicated earlier, we have been using the prospect of the Knowledge Fund to turn our attention to working with industry to define exactly what industry needs. Our interactions have shown us that industries in Nevada need more high technology support and technical services

currently unavailable in Nevada. They have supply-chain issues and workforce-skill gaps which we must address.

The UNR is addressing these issues with the creation of a manufacturing research center we call NVTECH. It is designed as a university-industry connection to stimulate industry and solve their high-tech needs. In this center, that we are already setting up, we will have fee-for-service opportunities so companies can use our equipment and the expertise of our personnel to work with them in solving their individual company's technology-related problems. This model has been used across Europe and in the U.S. and has been proven to work. We need to bring organizations that have direct services available to industry to this State. We have several projects waiting and investment in the Knowledge Fund would kick-start these projects under the NVTECH umbrella in working directly with industry in Nevada.

Stephen Wells, Ph.D. (President, Desert Research Institute, Nevada System of Higher Education):

I have submitted my written testimony ([Exhibit F](#)) in support of the Knowledge Fund.

Thomas Piechota, Ph.D. (Vice President for Research and Dean of the Graduate College, University of Nevada Las Vegas, Nevada System of Higher Education):

I have submitted my written testimony ([Exhibit G](#)) in support of the Knowledge Fund.

Mr. Hill:

Mr. Heise will make a few comments regarding the Knowledge Fund structure and how it is to be administered. I will then speak briefly about the metrics within the operation and functionalities of the Knowledge Fund.

Mr. Heise:

The structure we are proposing is located on page 5 of [Exhibit D](#). The structure is simple, yet effective, in addressing what has been written in the *Nevada Revised Statutes*.

The executive director of GOED will make the ultimate investment decisions. To remove as much work from him as possible, in the daily operations of the Knowledge Fund, we propose the position of a Knowledge Fund director who

will issue a Request for Proposal (RFP) to NSHE institutions. The NSHE institutions will subsequently respond to the RFP. We have an advisory council in place that advises the Knowledge Fund director and assists in reviewing the proposed projects and the related funding requests.

Externally, with respect to investment policy and performance metrics, the ideal advisory council should be comprised of individuals that have links to industry, such as advisory board members of the NSHE colleges that represent industry.

The proposals would be reviewed by the executive director and the advisory council for investment recommendations. The recommendations would go to the GOED executive director for final investment decisions.

Mr. Hill:

The nine broad metrics outlined on page 6 of [Exhibit D](#) that are to be used in determining the effectiveness of the disbursement of the Knowledge Fund appropriations will also be used to determine which grants would ultimately be funded.

These metrics would be the focus of questions the advisory council would ask and are exactly what, in turn, will be asked by GOED. The project's intended outcomes, and how we are to measure these within and for each project, will be presented by the research institutions. This also guides how follow up measurements would take place after a project has gone live.

This broad range of metrics matches the broad range of benefits originating from the Knowledge Fund. We initiate the metrics component by inquiring how many students are to be involved in a program, not only in the knowledge acquisition arena, but in knowledge generation which truly advances the learning process. Students will be directly involved with companies that are partnering with NSHE in seeking to advance their products and services, and to then commercialize those offerings.

We have listed the metrics in terms of what stage we would expect to see results in the program process versus those items that will take longer to appear or become measurable.

We are excited about the Knowledge Fund; however, we do not want to mislead anyone into thinking that this is going to turn around the

Nevada economy in a 6- to 12-month period. This is a program that is critical in not only the short term but, most certainly, in the long term as well.

Angela Brommel (President, Nevada Faculty Alliance):

I am the President of the Nevada Faculty Alliance (NFA) and I have submitted a written statement from Mr. Jim Richardson ([Exhibit H](#)) in support of S.B. 173.

The Knowledge Fund is the first step in enhancing research programs at NSHE institutions and it is important, as a demonstration, that the Nevada Legislature understands the importance of research as it relates to the future of the State.

The funding level, judged by comparison with similar efforts in other states, should be expanded as in S.B. 173. This is a viable first step and we support it.

Alex Bybee (Assistant Director, Department of Legislative Affairs, Associated Students of the University of Nevada):

I have submitted my written testimony ([Exhibit I](#)) in support of S.B. 173.

Tyson K. Falk (Policy Analyst, Nevada Institute for Renewable Energy Commercialization):

We are an independent, IRS tax-exempt 501(c)3 nonprofit organization actively involved in uniting innovation, driving commercialization and fueling acceleration of innovation intermediaries in Nevada. Our primary goal is to foster innovation-based economic development with the ultimate goal of jobs creation. The Knowledge Fund is absolutely crucial as we move forward in innovation-based economic development in this great State. We enthusiastically support it.

This Fund has the ability to fundamentally transform how we look at economic development throughout the State.

Danny L. Thompson (Executive Secretary-Treasurer, Nevada State AFL-CIO):

Economic diversification has echoed through these halls for years. Even in the old building, we talked about ways to move away from a single industry and everyone knew the problem. We have studied this issue repeatedly. If one goes back and reviews those original studies, the common denominator in every review is to create and maintain a great research facility. One of the vital components states must have to successfully diversify their economies is viable

research facilities. We were excited when the Knowledge Fund was created and we are encouraged to see the renewed focus now.

Today, there is a real opportunity to diversify Nevada's economy and, as Mr. Hill said, no one is expecting this to occur overnight. But, if we had done this 10 years ago, Nevada would be a different State today. We wholeheartedly support the Knowledge Fund.

Senator Woodhouse:

If there is no further public comment at this time, I will close the meeting on S.B. 173. I will return the gavel to Senator Smith.

Chair Smith:

This meeting stands adjourned at 9:10 a.m.

RESPECTFULLY SUBMITTED:

Thomas Hutton-Potts,
Committee Secretary

APPROVED BY:

Senator Debbie Smith, Chair

DATE: _____

<u>EXHIBITS</u>				
Bill	Exhibit		Witness / Agency	Description
	A	1		Agenda
	B	4		Attendance Roster
S.B. 173	C	5	Senator Debbie Smith	Written Testimony
S.B. 173	D	7	Karsten Heise	Knowledge Fund Hearing
S.B. 173	E	3	Marc A. Johnson	Written Testimony
S.B. 173	F	9	Stephen G. Wells	Written Testimony
S.B. 173	G	2	Thomas C. Piechota	Written Testimony
S.B. 173	H	2	Jim Richardson	Written Testimony
S.B. 173	I	2	Alex Bybee	Written Testimony