F I S C A L I M P A C T R E P O R T

SPONSOR HAFC **ORIGINAL DATE** 02/06/08 **LAST UPDATED** **HB** CS/660/aHAFC

SHORT TITLE Solar Energy Research Park and Academy **SB**

ANALYST Williams

APPROPRIATION (dollars in thousands)

Appropriation		Recurring or Non-Rec	Fund Affected
FY08	**FY09**		
	NFI		

(Parenthesis ( ) Indicate Expenditure Decreases)

Relates to HB 146

ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT (dollars in thousands)

FY08	FY09	FY10	3 Year Total Cost	Recurring or Non-Rec	Fund Affected
			Currently unknown	Recurring	General Fund (student credit hours to generate formula funding)
			Currently unknown	Recurring	General Fund (additional operating funds for academic and research facilities); see discussion below

(Parenthesis ( ) Indicate Expenditure Decreases)

SOURCES OF INFORMATION
LFC Files

Responses Received From
Higher Education Department (HED)
Northern New Mexico College (NNMC)
Energy, Minerals & Natural Resources Department (EMNRD)
Economic Development Department (EDD)
Public Education Department (PED)

SUMMARY

Synopsis of HAFC Substitute Amendment

The HAFC amendment to the HAFC substitute strikes the appropriation.

Synopsis of Original Substitute Bill

House Appropriation and Finance Committee Substitute for House Bill 660 creates the solar energy research park and academy at Northern New Mexico College, referred to in the bill as Northern New Mexico state school. This public, postsecondary institution is directed to collaborate with Los Alamos National Laboratory to develop technology transfer applications related to solar energy. Further, the bill authorizes in statute three new degree programs: Associate in Science, Bachelor of Science and Master of Science in mechanical engineering with a major in solar energy. Finally, the bill appropriates $2 million from the General Fund to the Board of Regents of the Northern New Mexico State School to establish the research park and academy.

FISCAL IMPLICATIONS

The HAFC amendment removed the appropriation. The original appropriation in the HAFC Substitute for House Bill 660 was a $2 million recurring expense to the General Fund. Any unexpended or unencumbered balance remaining at the end of fiscal year 2009 would not revert to the general fund.

A request for funding of $1 million was submitted by Northern New Mexico College to the Higher Education Department in the Fall 2007 budget cycle, but was not included in Department's funding request for higher education in FY09. In its November 2007 evaluation of research and public service project expansion requests and new initiatives, HED rates the NNMC request as a "breach" of the higher education funding formula. The January 2008 LFC report "Higher Education Review of Selected Research and Public Service Projects" discusses best practices for funding these types of projects.

For the academic degree programs discussed in this bill, formula funding would be generated based on completed student credit hours with a two-year lag. NNMC notes after three years, federal funds and fees for services will also be generated.

SIGNIFICANT ISSUES

NNMC discusses the research park and academy would have three components to its mission:

1) "fund the initiation of a comprehensive academic degree program;
2) allow for the purchase of land and construction of associated academic research activities in the areas of solar energy conversion and storage systems;
3) provide funds for community outreach programs and development of public policy for the commercialization of solar energy conversion and storage systems…"

PED notes the proposed program could provide opportunities for students who follow the high school career cluster of Energy and Environmental Technology.

According to HED, New Mexico's combination of ideal weather and entrepreneurial spirit make it a potential epicenter for renewable energy in the twenty-first century. The state experiences

more than 340 days of sunshine per year, and in the eastern region, sustained winds are the norm, making New Mexico an ideal location for solar and wind energy research.

EDD indicates that for more than twenty-five years, New Mexico has excelled in hydrogen and fuel cell research and development. EDD sponsored the creation of the Hydrogen Technology Partnership, which is now managed by the Regional Development Corporation. This alliance of industry, academia, and government leaders envisions the use of New Mexico research and resources to reduce the nation's dependency on imported oil.

EDD further states that research in renewable energy is thriving in New Mexico. In 2004, the state received $40.4 million from the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy for a variety of state and federal programs relating to renewable energy development.

EMNRD discusses there is a current need in the New Mexico solar industry for qualified plumbers and mechanical technicians with solar expertise. This is a growing industry that requires that programs focus on technology transfer, commercialization, and training activities.

EMNRD recommends that the new facility include programs that emphasize technology transfer and commercialization of solar systems, and training of technicians to install and service them. EMNRD further encourages NNMCC to emphasize solar thermal heating and cooling technologies through its programs.

New Mexico public, postsecondary activities in the area of solar energy include:

- In June 2006, New Mexico State University (NMSU) was awarded an $875,000 grant from the U.S. Department of Energy (DOE) for solar energy research and development. Funding benefited NMSU's Southwest Region Experiment Station (SWRES), which provides support to the DOE National Center for Photovoltaics.

- University of New Mexico: Focus on elimination of precious metals in fuel cells, thus reducing their cost. They are also investigating methods to make large-scale hydrogen generation more effective.

- New Mexico Institute of Mining and Technology: Focus on fuel cells and technology related to clean coal production.

- San Juan College, Farmington: Offers a two-year renewable energy degree and certificate. Half the program's students already have at least a bachelor's degree before they begin; 25 students are enrolled.

OTHER SUBSTANTIVE ISSUES

Laws of 2005, Chapter 289 (House Bill 745) created the Higher Education Department. Known as the "Higher Education Department Act", 21-1-26 NMSA 1978 in Section A (4) specifies the department shall "analyze the financial impact of each new degree program of each public postsecondary educational institution as part of the department's review of the institution's operating budget". Further, in Section B, the Act states "Effective July 1, 2005, all new state-funded baccalaureate, graduate and professional degree programs shall be offered by public four-year educational institutions and all new associate degree programs shall be offered by public

post-secondary educational institutions after a timely and thorough consultation with and review by the department."

ALTERNATIVES

NNMC notes capital funds of approximately $6 million may be needed.

PERFORMANCE IMPLICATIONS

PED notes student preparation for careers in energy and environmental technologies is also supported by Standard l (Physical Science): Under the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy of Strand ll: Content of Science of the New Mexico Science Content Standards, Benchmarks, and Performance Standards.

AW/bb