

# NEW MEXICO EPSCOR

## ENERGIZE NEW MEXICO

Energize New Mexico is helping to lead the nation in harnessing and promoting sustainable energy resources, cultivating a well-qualified STEM workforce, and developing a sustainable culture of entrepreneurship and innovation.



## SETTING A NEW STANDARD

The main goal of NM EPSCoR's Energize New Mexico grant is to improve the research, cyberinfrastructure, and human resources required for New Mexico to achieve its energy, education, and workforce development potential. Research activities and findings are communicated broadly through social media, new partnerships with the New Mexico Informal Science Education Network, a citizen-centric web portal, and vibrant, experiential programs targeting K-12 students.

## KEY RESEARCH QUESTIONS

The NM EPSCoR science research components focus on one overarching question: How can New Mexico realize its energy development potential in a sustainable manner? To answer this question, NM EPSCoR research focuses on six science components:

- **Bioalgal Energy Development:** establishing a better understanding about algal biology and how to scale up biofuel production to help grow the bioalgal industry in the desert southwest
- **Geothermal Energy:** researching factors that affect the viability, sustainability, and practical limitations of New Mexico's underlying natural hydrothermal systems
- **Osmotic Power Development:** investigating issues that prevent produced water-based osmotic pressure systems from becoming commercially viable sources of power
- **Solar Energy:** designing more efficient photovoltaic systems as well as investigating nanotechnology that uses solar energy to generate non-petroleum-based fuels
- **Uranium Transport & Site Remediation:** establishing a better understanding of Uranium distribution, forms, and mobility for responsible development and remediation
- **Social & Natural Science Nexus:** developing cutting-edge multidisciplinary models linking natural and human systems to understand socioeconomic and environmental trade-offs



## NM EPSCoR: GOOD FOR NEW MEXICO

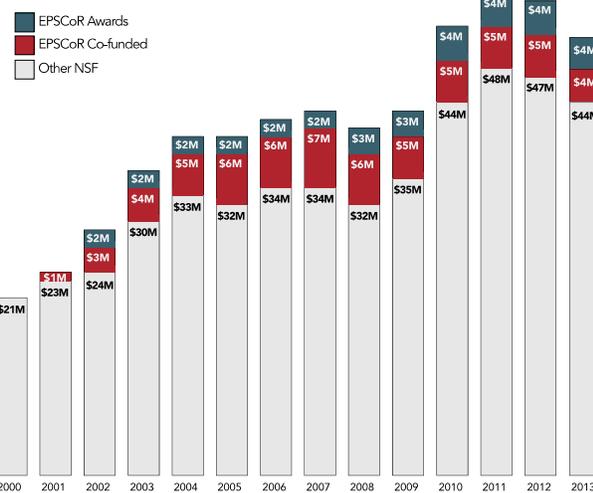
### INCREASING NSF FUNDING TO THE STATE

Through 2013, NM EPSCoR generated approximately \$96 million to New Mexico in direct EPSCoR awards (\$34M) and co-funded awards (\$62M). Co-funded awards would not have been made without EPSCoR funding) NM EPSCoR is also achieving its goal of making the state more competitive in securing NSF funding.

Since 2001, NM EPSCoR has bolstered New Mexico’s academic research capability in:

- nanoscience
- biomedical engineering
- ecological research
- hydrology and aquatic chemistry
- climate science and modeling
- socioeconomics
- sustainable energy development

### NSF Funding in New Mexico



Multi-institutional funding allows for collaboration between universities and industry, a main feature of EPSCoR research. Funding also establishes a strong cyberinfrastructure for the state, providing internet access to rural communities and data access for education. New Mexico EPSCoR funding also supports entrepreneurship, STEM education, and workforce development through SEED Awards, Innovation Working Groups, workshops for K-12 educators and post-doc faculty, after school clubs, STEM research experiences for undergraduates, and externships for graduate students.

### DIVERSITY IN NM EPSCoR

Diversity is a key component of all NM EPSCoR program activities. We have met or are near our target of 50% representation by women and under-represented minorities for all age groups in all EPSCoR programs. The NM EPSCoR Diversity Team created a strategic plan as well as a faculty-student mentor plan, and will continue to work with all EPSCoR components.

