



Green Grid

Transforming the current electrical grid into a smart grid that can handle large amounts of renewable energy (i.e. a green grid) is essential to the nation's energy security as well as our ability to compete in global markets. The electrical grid in New Mexico represents all the characteristics (urban, rural, and industrial) common to the existing grid throughout the United States while being small enough to serve as a financially viable model for building a green grid demonstration. The Green Grid project will provide the basis needed for venture capital and business to build out a green grid in New Mexico. The project will also provide the basis to attract large-scale green manufacturing of smart grid and clean energy systems to New Mexico.

The Green Grid collaboration, led by the New Mexico Computing Applications Center (NMCAC), is an international coalition that brings together five New Mexican communities and their utilities with the resources of Los Alamos and Sandia National Laboratories, our universities, and national business leaders (Intel, Siemens, General Motors, Whirlpool, CH2M Hill, Galvin Electricity Initiative, Schweitzer Engineering, Hunt Energy, and Viridity). And in a unique relationship, New Mexico is partnering with the New Energy and Industrial Technology Development Organization (NEDO) of the government of Japan, which is investing over \$20M in the project and connecting us to major Japanese smart grid and clean energy manufacturing companies.

We selected five sites across New Mexico in which we will demonstrate technologies from a range of international vendors in different regulatory structures. These demonstrations will take the first step towards achieving the vision of "net-zero carbon footprint" sustainable communities. Demonstration sites were deliberately selected in Albuquerque, Las Cruces, Los Alamos, Roosevelt County, and Taos to represent a wide spectrum of use cases. These sites are indicative of our nation: diverse population, social, and economic demographics that range from a rural agrarian community to an urban center; diverse energy use ranging from irrigation pumping to commercial buildings; and diverse energy mixes ranging from base-load fossil to high-penetration (50%) renewable energy.



The New Mexico Green Grid addresses all the major issues facing the transformation of our aging electrical grid: technology, systems design and integration, cybersecurity, regulatory and policy, environmental, business, workforce development, and consumer engagement. It will provide New Mexico with a leadership position in the country that will be reflected in moving our state's economy from fossil fuels to clean and renewable energy for export along with the creation of high-paying green manufacturing jobs.

The NMCAC will oversee the statewide effort through its Green Grid Division. The Center plays a critical technical role as well since it is responsible for coordination and execution of the data analysis, cybersecurity, and modeling and simulation efforts in the Green Grid project.

The New Mexico Green Grid has submitted a proposal to the DOE for \$59M of ARRA funding for smart grid demonstration projects. This request is matched with \$60M of private matching funds plus another \$73M of investments in clean energy development. With a total project size of \$192M, this is one of the most aggressive and comprehensive projects being developed in the United States.