

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF AN INQUIRY)
INTO RENEWABLE ENERGY AS A)
SOURCE OF ELECTRICITY.)
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Utility Case No. 3619

Comments by the New Mexico Sustainable Energy Collaborative

Executive summary

The New Mexico Sustainable Energy Collaborative
, a forum of numerous, diverse organizations across the State, has reached consensus on
recommendations and specific actions related to renewable energy development within New
Mexico for adoption by the Commission.

New Mexico has a
very large and diverse renewable energy resource base available to meet growing energy
demand in New Mexico. The Commission should adopt renewable energy policies for
establishing a commercially viable renewable industry in New Mexico that reflect the

following goals: (1) increased production and use of renewable energy in New Mexico, (2) increased energy efficiency and conservation, (3) increased energy supply diversity, (4) long-term energy price stability for consumers, (5) stimulated economic development in New Mexico, (6) reduced pollution, (7) decreased dependency on fossil fuels, and (8) environmental protection and improved public health. The Collaborative recommends that the Commission should:

Conclude its rulemaking proceeding on Interconnection Agreements;

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Establish a renewable energy education program and information resources;

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Assess activities in other states that have successfully promoted the development of renewable energy for applicability by the Commission in building a renewable industry here; and,

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- Examine the potential for funding and demonstrating renewable energy projects in New Mexico.

INTRODUCTION

The

New Mexico Sustainable Energy Collaborative ("NMSEC" or "Collaborative") provides these comments to the New Mexico Public Regulation Commission ("Commission" or "NMPRC") in response to the invitation in Paragraph 6 of the Notice of Inquiry ("NOI") establishing this proceeding for parties to provide written comments concerning the development of renewable energy in New Mexico.

NMSEC is a recently formed, diverse group including participants from small businesses, utilities, government, the national laboratories, trade organizations, educational institutions, and environmental and public interest groups. It was forged from the common interest of these organizations to provide an inclusive, cooperative approach to addressing barriers impeding the increased market penetration of clean energy technologies

in New Mexico. By consensus, the Collaborative is chaired by the Energy Conservation and Management Division of the New Mexico Energy, Minerals and Natural Resources Department. Attachment 1 provides a listing of participating organizations in the Collaborative.

NMSEC has adopted a mission statement: "Leading New Mexico in the transition to cleaner energy development and efficient use." Pursuant to this mission, the Collaborative believes that good energy policy for New Mexico should include a reflection of these goals:

- 1) Increased production and use of renewable energy in New Mexico,
- 2) Increased efficiency of New Mexico energy production and usage, and
- 3) Increased energy conservation in New Mexico.

The Collaborative agrees wholeheartedly with the Commission, as stated in Paragraph 4 of the NOI, that New Mexico is well-positioned to take advantage of renewable energy resources within New Mexico. The Collaborative believes that by seizing such advantage and in conjunction with policy measures to increase efficiency and conservation, New Mexico can reap the following benefits: (a) increased energy supply diversity, (b) stability in energy prices for consumers over the long-term, (c) stimulated economic development in New Mexico, (d) reduced pollution associated with growing energy production, (e) decreased dependency on fossil fuels, and (f) improved public health and environmental protection.

Achieving these goals and benefits requires an integrated regulatory and commercially viable renewable energy framework that fosters active, foundational involvement by entrepreneurs, suppliers, utilities, financial institutions, state and local governmental organizations, educational institutions, governmental research organizations, businesses and consumers in New Mexico. As the Commission assesses its options for constructively promoting a renewable energy industry in New Mexico, the goals and benefits identified above reflect a broad-based consensus endorsement by the Collaborative of basic policy objectives that should guide the Commission in evaluating

proposed specific actions and rules.

NMSEC's recommendations provided herein represent a consensus of the participants in the Collaborative formed through the give-and-take of discussions by the group. These recommendations should not be construed to substitute for or otherwise limit any comments on the NOI individually submitted to the Commission by any of the participating organizations. NMSEC recognizes that new legislation might be needed in New Mexico for implementation of some of its recommendations.

RENEWABLE RESOURCES IN NEW MEXICO

New Mexico has a very large and diverse renewable energy resource base, including solar, wind, geothermal and biomass.

- ◆ Solar. In terms of solar energy, New Mexico experiences more than 3,200 hours of sunshine per year — substantially more than most other states in the Southwest. Nationally, we rank among the top three states in solar resource potential. As an example of this potential, a photovoltaic (PV) array with a collector area equal to the size of a football field situated in one of New Mexico's better locations would be sufficient to power over 122 average homes. Thus, energy from the sun represents a potentially enormous energy resource readily available for both thermal and electrical generation applications within the state.

- ◆ Wind. The same holds true for our wind energy potential. According to the U.S. Department of Energy, New Mexico ranks 12th in the Nation – the upper echelon – in wind energy resources. Significantly, if New Mexico's total wind potential were developed with utility-scale wind turbines, the power produced each year would equal approximately 25 times the entire state's electricity consumption. Other states, such as Texas, with comparable potential are currently adding hundreds of megawatts of wind electric generating capacity. At present, however, total installed commercial wind capacity in New Mexico amounts to less than 1 megawatt from a single wind turbine near Clovis operated by Southwestern Public Service Company/XCEL Energy.

- ◆ Geothermal. Geothermal resources exist in 20 of New Mexico's 33 counties, with more than 300 thermal springs and wells identified to date. According to the U.S. Geological Survey, our geothermal resource base contains the thermal energy equivalent of more than 100 billion barrels of oil. These geothermal resources are suitable for both electrical generation and direct-use applications. At present, approximately 50 acres of greenhouse space and an aquaculture facility in southern New Mexico are heated with geothermal

energy, as is the New Mexico State University campus in Las Cruces; however, no commercial geothermal electric generation is under development or in operation here in the state.

◆ Biomass/Biofuels. New Mexico also has an abundant diversity of biomass resources, including wood or wood waste, agricultural residues, livestock/dairy manure, sewage sludges, and municipal solid wastes. A 1990 study conducted by the Southwest Technology Development Institute at New Mexico State University indicated that the biomass waste generated in 1988 alone had a potential energy content of 35 trillion BTUs — many times greater than our state's total daily energy consumption. With much forest thinning scheduled to occur here over the next few years, coupled with the continuing rapid expansion of our dairy industry, biomass resources have great potential to supply an increasing amount of New Mexico's future energy requirements.

More specific information on New Mexico's renewable resource base can be found on the U. S. Department of Energy website: http://www.eren.doe.gov/state_energy.

The breadth of New Mexico's renewable resource base represents a great opportunity to enhance our energy supply diversity and to promote the productive use of these resources throughout our state using both large-scale (e.g., wind farms) and smaller-sized (e.g., residential solar heating) renewable energy technologies.

Moreover, these resources are extensive enough to enable New Mexico to develop a major renewable energy export industry, generating jobs and revenues for its citizens.

SUSTAINABLE ENERGY PROJECTS AND PROGRAMS IN NEW MEXICO

National surveys of energy consumers and recent developments in many states and communities across the

Nation indicate a general interest in pursuing clean fuels and improved energy efficiency. [Reference: National Renewable Energy Laboratory, *Willingness to Pay for Electricity from*

Renewable Resources: A Review of Utility Market Research, NREL/TP-550-26148, July 1999.] For example, Public Service Company of Colorado's *Windsources* Program, through which residential electric customers can voluntarily buy wind energy in blocks of 100 kilowatt-hours for \$2.50 a month above existing residential rates, has been over-subscribed since its inception in 1997. New Mexico's energy consumers, both large and small, deserve to be able to participate in and benefit from these types of viable renewable energy programs.

A variety of organizations, including some members of the Collaborative, are involved with or considering renewable energy projects, programs or initiatives here in New Mexico. These could grow into business ventures to provide plant and equipment, or goods and services to builders or operators of renewable energy projects and the consumers served by them — both here in New Mexico and in other locations. These projects or interests provide important opportunities for achieving the policy objectives that the Collaborative has identified above. Additionally, there are periodic seminars and other activities held in New Mexico sponsored by various organizations, including Collaborative participants, to encourage communications, promotion, and implementation of renewable energy supplies, generation and technologies.

RECOMMENDATIONS FOR ENCOURAGING the Development of Renewable Energy in New Mexico

The Collaborative urges the Commission, in its regulations and other activities, to support the development of a commercially viable renewables energy industry in New Mexico.

The Collaborative believes that it is important to have an economically viable commercial framework within which a renewable energy industry can develop and operate in New Mexico, whether by regulation or legislation, that is applicable across diverse renewable energy resources and technologies and consumer utilization preferences. Specific actions that the Commission should undertake toward establishing such a framework are described more fully below and include:

- Concluding the Commission's rulemaking proceeding on Interconnection Agreements in NMPRC Case No. 3312;
- Instituting a proactive education program regarding the benefits of renewable energy, conservation and energy efficiency, and supporting a State Web page for making relevant information readily accessible;
- Assessing activities in other states that have successfully promoted the development of

renewable energy for applicability by the Commission in building a renewable industry; and

Examining the potential for funding and demonstrating renewable energy projects in New Mexico.

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1. The Commission should complete the on-going rulemaking proceeding in NMPRC Case No. 3312 so that renewable generation developers know and can incorporate into their project design and operations the requirements they must meet to connect with the electric transmission or distribution systems. This effort should include an examination of the standards being established by the Institute of Electrical and Electronics Engineers (IEEE) and in key states such as New York, Texas and California. These are the standards that are driving the development of interconnection technologies that could be used in New Mexico.

2. The Commission should institute a proactive education program regarding the benefits of renewable energy, conservation and energy efficiency; and support a State Web page for making relevant information readily accessible. The Commission should sponsor a proactive education program for retail energy consumers in New Mexico regarding the opportunities and benefits of renewable energy, conservation, and energy efficiency. Additionally, the Commission should support a State Web page that provides a data base and information relating to renewable energy resources, technologies, programs and incentives, as well as information on the cost-effectiveness of conservation and energy efficiency utilization technologies. Easy access to information by suppliers, financiers, consumers and the general public is necessary.

3.

The Commission should evaluate the established policies, procedures and programs that have successfully encouraged the economic development of renewable energy in other states and communities across the Nation. These mechanisms are varied and may be adaptable to New Mexico. They include the following:

2.

Renewable Energy Certificates. A program by which the state or other authorized entity certifies the actual production of renewable energy by a plant facility and issues certificates to the generator that verify this electricity generation. Renewable energy certification programs not only serve to protect consumers, but also lay the groundwork for complementary programs involving Renewable Portfolio Standards, Green Pricing, and Renewable Trading Credits, all discussed below. Texas recently established a Renewable Energy Certificate program that could be reviewed by the Commission.

Renewable Portfolio Standards.

A program by which every retail power supplier is obligated to purchase or otherwise obtain renewable energy credits or certificates equivalent to some percentage of its total annual megawatt-hour energy sales. The retailer can satisfy this obligation by either owning a renewable energy facility or by purchasing the credits from someone else's facility. To date, Arizona, Nevada and Texas are among the states that have adopted Renewable Portfolio Standards.

Green Pricing Program.

Tariffs are filed by electric utilities companies through which their customers could voluntarily purchase renewable energy in various kilowatt-hour blocks. To date, more than 80 utilities in 28 states have either developed or announced intentions to develop green pricing programs for their customers. Southwestern Public Service Company/XCEL, a member of the Collaborative, has established the *Windsource* Green Pricing Program in its New Mexico service territory. An excellent technical report on green pricing is available from the National Renewable Energy Laboratory and entitled *Green Power Marketing in the United States: A Status Report*, NREL/TP-620-28738, August 2000.

Renewable Energy Purchases/Trading Credits. A program in which consumers and others, such as utilities, purchase Renewable Energy Certificates from authorized generators to demonstrate their acquisition or use of clean, renewable energy.

Rebate Program for Purchases of Small-scale Renewable Energy Systems and Energy-Efficient Products. A program through which monetary incentives are provided to encourage consumers — primarily in the residential and commercial sectors — to purchase and use renewable energy systems (e.g., photovoltaics and solar water heaters), as well as energy-efficient equipment and appliances. This type of program could be administered by electric utilities. Alabama (Alabama Power Company), Arizona (Tucson Electric Power), California (Los Angeles Municipal Utility; Palo Alto Municipal Utility; Pasadena Municipal Utility; Plumas-Sierra Rural Electric Cooperative; Sacramento Municipal Utility), Florida (Gainesville Regional Utilities; New Smyrna Beach Utilities), Hawaii (Hawaiian Electric Utilities; Kauai Electric), Nevada (Boulder City Municipal Utility), New York (Long Island Power Authority), Oregon (Ashland Municipal Utility; Emerald People’s Utility District; Eugene Municipal Utility; Lane Electric Cooperative), South Carolina (Palmetto Electric Cooperative), Texas (Austin Energy Municipal Utility), and Wisconsin (Madison Gas & Electric Company) have all established rebate programs that could be reviewed by the Commission.

Leasing/Lease Purchase Program for Small-scale Renewable Energy Systems. A program whereby renewable energy systems (e.g., photovoltaics) are purchased and leased to consumers at an affordable price over the long-term. Some programs of this nature provide the customer a purchase option at some point during or at the end of the lease term. This type of program could be administered by an electric utility. Southwestern Public Service Company/XCEL Energy currently operates the only such program in New Mexico, leasing solar photovoltaic systems for livestock water pumping and stand-alone power. Other states offering renewable energy system leasing programs that could be reviewed include Arizona (Arizona Public Service), California (Santa Clara Municipal Utility; Plumas-Sierra Rural Electric Cooperative), Texas

(Austin Energy Municipal Utility), and Wyoming (Carbon Power & Light).

Low-Interest Loan Program for Small-scale Renewable Energy Systems and Energy-Efficient Products. A program in which below-market interest rates on loans are offered to consumers for the purchase and use of renewable energy systems, as well as energy-efficient equipment and appliances.

At present, Alabama (Alabama Power Company), Oregon (Emerald People’s Utility District; Eugene Municipal Utility; Lane Electric Cooperative), and Texas (Austin Energy Municipal Utility) offer such low-interest loans.

An excellent source of additional information on financial incentives, regulatory policies, and awareness and investment programs that promote renewable energy is the Database of State Incentives for Renewable Energy (DSIRE), located at <http://www.dsireusa.org>. Established in 1995, the DSIRE database is an ongoing project of the Interstate Renewable Energy Council, funded by the U.S. Department of Energy's Office of Power Technologies. Attachment 2 provides DSIRE's comprehensive listing by state of existing government and utility financial incentives that promote renewable energy. As shown, none of these financial incentives are offered in New Mexico.

4. The Commission should examine the potential for funding and demonstrating renewable energy projects in New Mexico.

Renewable Energy Fund. The Commission should examine the potential for a funding mechanism supported at some acceptable level by all electric consumers in New Mexico. This fund could be used for multiple purposes in fostering a sustainable energy industry in New Mexico. Options include: demonstrating the benefits of renewable energy projects, funding for consumer education programs regarding renewables, and/or establishing and managing a Renewable Energy Certificates program. Such an array of activities would foster both supply and demand incentives for renewable energy.

Demonstration Projects. The Commission also should evaluate the potential for funding and demonstrating renewable energy programs in order to jump-start their implementation in New Mexico.

Conclusion

New Mexico has a vast and diverse renewable energy resource base with the potential to

provide economic benefits for consumers, jobs for its citizens, and revenues for its businesses. The development of a renewable energy industry in New Mexico will come more quickly if advanced with integrated policy innovations that promote diverse renewable energy resource development while emphasizing cost-effectiveness and cost savings for suppliers and consumers. Conservation and energy efficient technologies further open the window of opportunity for renewable energy projects.

The Collaborative appreciates the opportunity to provide these comments , and looks forward to participating in further actions by the Commission towards creating a productive regulatory and business climate for the renewable energy industry in New Mexico.

Attachment 1
New Mexico Sustainable Energy Collaborative
Partial List of Meeting Attendees

AAA Solar

AG Marketing

Cielo Wind Energy

City of Albuquerque

City of Farmington

Coalition for Clean Affordable Energy (CCAEE)

Electric Power Research Institute (EPRI)

El Paso Electric Company

Global Energy

Green Party of New Mexico

HYDROTECH

Institute of American Indian Arts (IAIA)

K-Tao Radio (Taos, NM)

Land & Water Fund of the Rockies

LC2 Consulting Engineers

Los Alamos National Laboratory

National Renewable Energy Laboratory (NREL)

New Mexico Highlands University

New Mexico State University (NMSU)--Las Cruces

New Mexico Energy, Minerals and Natural Resources Department/ECMD

New Mexico Environment Department

New Mexico Institute of Mining and Technology/Petroleum Recovery Research Center

New Mexico Public Interest Research Group (NMPIRG)

New Mexico State Land Office

New Mexico Solar Energy Association (NMSEA)

New Mexico Solar Energy Industries Association (NMSEIA)

Public Service Company of New Mexico

Rebuild New Mexico

San Juan College

Sandia National Laboratories—Albuquerque

Solaria Corporation

Southwest Technology Development Institute/NMSU

Southwestern Public Service Company/XCEL Energy

Southwest Energy Institute

Tri-State Generation and Transmission Association, Inc.

University of New Mexico (UNM)/Physical Plant Department and Lobo Energy, Inc.

U.S. Department of Energy/Albuquerque Operations Office and Denver Regional Office

VAWTPOWER Management

Waste-management Education and Research Consortium (WERC)/NMSU

Attachment 2
Database of State Incentives for Renewable Energy
Financial Incentives

S= State L = Local U = Utility

