Betty Camargo - Follow up on wind meeting

ORIGINAL

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Environmental Portfolio Standard
Docket No. RE-00000C-00-0377

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From: "Amanda Ormond" <asormond@msn.com>
To: <bcamargo@cc.state.az.us>
Date: 6/2/04 10:54AM
Subject: Follow up on wind meeting

Betty, At our recent meetings on wind energy several Commissioners asked for additional information on renewable energy portfolio standards adopted in neighboring states. Please find attached two documents. The Western States RPS Summary provides detailed information on the requirements in NM, NV, CA, TX as well as Arizona. The spreadsheet document provides a great deal of comparison information.

I have also attached a fact sheet from a new report called A Balanced Energy Plan for the Interior West. www.westernresourceadvocates.org/energy/bep.html The plan was written by Western Resource Advocates and funded by the Hewlett Foundation. The report provide new documentation on the benefits of investing in renewable energy and energy efficiency.

Thank you for passing this information on to Chairman Spitzer.

Kind Regards,
Amanda

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Summary of Western State Renewable Portfolio Standards from the Database of State Incentives for Renewable Energy (DSIRE)

Arizona - Environmental Portfolio Standard

Last DSIRE Review: 02/12/2004

Incentive Type: Renewables Portfolio Standard
Eligible Technologies: Solar Water Heat, Solar Thermal Electric, Photovoltaics, Wind, Biomass, Solar Air Conditioning
Applicable Sectors: Utility
Standard: 0.2% in 2001, increasing to 1.1% in 2007 through 2012
Technology Minimum: 50% solar electric and 50% other renewable technologies for 2001 through 2003, increasing to 60% solar electric and 40% other for 2004 through 2012
Website: http://www.cc.state.az.us/utility/electric/environmental.htm
Authority 1: ACC Rules R14-2-1618
Date Enacted: 2001
Effective Date: 3/30/01
Expiration Date: 2012

Summary:

Arizona's Environmental Portfolio Standard (EPS) became effective on March 30, 2001. The Arizona Corporation Commission (ACC) started the EPS process with Dec. #62506 in 2000, but it was Dec. #63364 in February 2001 that approved the EPS. In March 2001, Dec. #63486 resulted in small modifications to the rules in response to a request for reconsideration. Under the standard, regulated utilities in the state are required to provide a certain percentage of their electricity from renewable energy. The standard begins with 0.2% renewables for 2001 and increases to 1.1% renewables according to the following schedule.

% Renewables Date
0.2%----------2001
0.4%----------2002
0.6%----------2003
0.8%----------2004
1.0%----------2005
1.05%----------2006
1.1%----------2007 - 2012

Of these amounts, solar-electric must make up 50% in 2001, increasing to 60% for 2004 through 2012. Applicable technologies include solar-electric (photovoltaics), solar water heating and solar air conditioning, landfill gas, wind, and biomass. Arizona Public Service Co. requested and received a rule waiver that would allow it to meet a portion of its EPS requirements from geothermal resources.

Funding for the EPS comes from existing system benefits charges and a new surcharge to be collected by the state's regulated utilities. The new surcharge is capped at 35¢ per month for residential customers, $13/month for non-residential, and $39/month for customers with loads over 3 MW. In total, at least $15 - $20 million is expected to be collected annually for the EPS.

Interestingly, the standard includes a caveat that if the cost of solar technologies does not decrease to a Commission-determined cost/benefit point by the end of 2004, the portfolio

requirement will not continue to increase. On February 10, 2004, the Commission voted to allow the standard to continue increasing to 1.1% of electricity from renewables by 2007. Workshops will be held to determine whether a current surcharge on residential electric bills of up to 35 cents per month should be increased and whether a requirement that 60% of the renewable energy comes from solar resources should be modified or eliminated.

If sustained, the standard will produce almost 100 MW of solar power by 2007.

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California - Renewables Portfolio Standard

Last DSIRE Review: 05/05/2004

Incentive Type: Renewables Portfolio Standard
Eligible Technologies: Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Fuel Cells, Municipal Solid Waste, Digester Gas, Tidal Energy, Wave Energy, Ocean Thermal
Applicable Sectors: Investor-Owned Utility, Later: ESPs and CCAs. Munis implement themselves.
Standard: Increase 1% per year beginning in 2003 to reach at least 20% by end of 2017
Website: http://www.energy.ca.gov/portfolio/index.html
Authority 1: SB 1078 of 2002
Date Enacted: 9/12/02
Effective Date: 1/1/03
Authority 2: SB 1038 of 2002

Summary:

Legislation enacting California's Renewable Portfolio Standard (RPS) - SB 1078 - was signed by the Governor of California on September 12, 2002. This legislation, which requires retail sellers of electricity to purchase 20 percent of their electricity from renewable sources by 2017, establishes California as having the most aggressive RPS in the country. Renewable sources include biomass, solar thermal, photovoltaics, wind, geothermal, fuel cells using renewable fuels, small hydropower of 30 megawatts or less, digester gas, landfill gas, ocean wave, ocean thermal, and tidal current. Municipal solid waste is generally only eligible if it is converted to a clean burning fuel using a non-combustion thermal process. There are restrictions for some of these technologies.

Under the RPS, retail sellers of electricity are required to increase their procurement of eligible renewable energy resources by at least 1 percent per year so that 20 percent of their retail sales are procured from eligible renewable energy resources by 2017. The RPS legislation requires that the Energy Commission and CPUC work collaboratively to implement the RPS and assigns specific roles to each agency. The two agencies are currently developing rules that will apply to investor owned utilities (IOUs), and will later develop rules for Electric Service Providers and Community Choice Aggregators. Municipal utilities are ordered by the legislation to implement RPS programs under their own direction.

The California Energy Commission, in collaboration with the California Public Utilities Commission

(CPUC), has initiated a proceeding to implement the state's RPS Program. Pursuant to SB 1078, the Energy Commission must do the following:
1. Certify eligible renewable resources that meet criteria contained in the bill,
2. Design and implement a tracking and verification system to ensure that renewable energy output is counted only once for the purpose of the RPS and for verifying retail product claims in California or other states, and
3. Allocate and award supplemental energy payments as specified in SB 1038 to eligible renewable energy resources to cover above-market costs of renewable energy.

The CPUC is addressing its responsibilities in implementing the RPS through a separate proceeding titled, Order Instituting Rulemaking to Establish Policies and Cost Recovery Mechanisms for Generation Procurement and Renewable Resource Development (R. 01-10-24). The CPUC, in collaboration with the Energy Commission, is charged with:
1) Determining market price referents for electricity from non-renewable sources. The IOUs will hold solicitations to purchase electricity from renewable generators, and bids above the referents may be eligible for supplemental energy payments from the Energy Commission.
2) Establishing the process for the IOUs to follow in selecting the "least cost" bidders of renewable energy that "best fit" the IOUs resource needs. IOUs will use the process to select winning bidders from their solicitations to procure renewable electricity.
3) Implementing flexible rules for compliance with annual procurement targets. If an IOU fails to procure sufficient renewable energy, despite the flexibility, the CPUC will impose penalties.
4) Establishing the standard terms and conditions to be used by all IOUs in contracting for eligible renewable energy resources. Parties will have an opportunity to negotiate terms and conditions over the third quarter of 2003.

The California Legislature has charged the Energy Commission with developing a tracking system for implementing California's Renewable Portfolio Standard. In response, the Western Renewable Energy Generation Information System (WREGIS), a renewable energy tracking system, is being developed by the Energy Commission and the Western Governors' Association (WGA) with input from stakeholders.

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Nevada - Renewable Energy Portfolio Standard

Last DSIRE Review: 10/30/2003

Incentive Type: Renewables Portfolio Standard
Eligible Technologies: Solar Water Heat, Solar Space Heat, Solar Thermal Electric, Solar Thermal Process Heat, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Municipal Solid Waste, Solar Pool Heating, Anaerobic Digestion, Biodiesel
Applicable Sectors: Investor-Owned Utility
Standard: 5% in 2003, rising to 15% by 2013
Technology Minimum: 5% of the renewables portfolio must be solar
Credit Trading: Yes
Website: http://www.puc.state.nv.us/Renewable/REPSNevada_files/frame.htm
Authority 1: NRS 704.7801, as amended by SB 372 in 2001
Date Enacted: 6/8/01
Effective Date: 1/1/03
Authority 2: NAC 704.8831 - NAC 704.8893

Summary:

As part of its 1997 restructuring legislation, the Nevada legislature established a renewable energy portfolio standard. Under the standard, the state's two investor-owned utilities, Nevada Power and Sierra Pacific Power, must derive a minimum percentage of the total electricity they sell from renewable energy resources. In 2001, the legislature revised the minimum amounts to increase by 2% every 2 years, starting with a 5% renewable energy requirement in 2003 and achieving a 15% requirement by 2013 and each year thereafter. Not less than 5% of the renewable energy must be generated from solar renewable energy systems.

% Renewables -- Date
5% ---------- 01/01/2003
7% ---------- 01/01/2005
9% ---------- 01/01/2007
11% ---------- 01/01/2009
13% ---------- 01/01/2011
15% ---------- 01/01/2013

Beyond solar, qualifying renewable energy resources include biomass, geothermal energy, wind, and waterpower.

The Public Utilities Commission of Nevada (PUCN) adopted a temporary regulation on November 20, 2002 that allows energy providers to buy and sell renewable energy credits (REC). With the passage of four REC-related bills in the 2003 legislative session, the REC regulations are in the process of being revised. Retail energy providers complying with Nevada's RPS can purchase credits from the owners of the REC. One REC will represent a kilowatt-hour of electricity generated from a renewable energy system, with the exception of photovoltaics, which counts as 2.4 kWh. RECs are valid for a period of five years. For more information on Nevada's REC program, review the REC summary on DSIRE.

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New Mexico - Renewables Portfolio Standard

Last DSIRE Review: 03/09/2004

Incentive Type: Renewables Portfolio Standard
Eligible Technologies: Solar Thermal Electric, Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Anaerobic Digestion, Fuel Cells (Renewable Fuels)
Applicable Sectors: Investor-Owned Utility
Standard: 5% in 2006, rising to 10% in 2011
Technology Minimum: No, but some sources have a higher "value" for accumulating credits
Credit Trading: Yes
Website: http://www.nmprc.state.nm.us/utility/pdf/3619finalrule.pdf
Authority 1: NM PRC Case No. 3619
Date Enacted: 12/17/02
Effective Date: 7/1/2003
Authority 2: 17.9.573 NMAC
Authority 3: Senate Bill 43 of 2004 - The Renewable Energy Act

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Summary:

On December 17, 2002, the New Mexico Public Regulation Commission (PRC) unanimously approved an expansive new renewable energy rule requiring investor owned utilities to produce 5% of all energy they generate for New Mexico customers from solar, wind, hydropower, biomass, or geothermal sources by 2006. Generation from renewable sources must increase by at least 1% per year until the portfolio standard (RPS) of 10% is attained in the year 2011. In March of 2004, SB 43 placed the PRC rule, also called the Renewable Energy Act, into statute and established additional requirements.

Utilities document compliance with the RPS through the use of renewable energy certificates, which represent kilowatt hours of renewable energy produced. The various sources of renewable energy have been assigned different values for the purposes of issuing certificates and calculating the percentage of electricity generated by renewables:

* One kilowatt-hour of electricity generated by wind or hydroelectric technologies is worth one kilowatt-hour toward compliance with the RPS;
* One kilowatt-hour of biomass, geothermal, landfill gas, or fuel cell power is worth two kilowatt-hours toward the RPS; and
* One kilowatt-hour of solar power is worth three kilowatt-hours toward the RPS.

The rule also requires investor owned utilities and electric cooperatives (for coops - only to the extent that their suppliers under their all-requirements contracts make such renewable resources available) to offer a voluntary renewable energy tariff (green pricing program) for those customers who want the option to purchase additional renewable energy. These utilities must also develop an educational program to communicate the benefits and availability of its voluntary renewable energy program. The voluntary renewable energy tariffs along with the details of their consumer educational programs for each utility and electric cooperative were due by August 30, 2003. In addition, the IOUs were required to file a renewable energy plan, which is a general long-term strategy for satisfying the RPS, due by November 1, 2003.

Note: IOUs that as of December 17, 2002, have all-requirements contracts that expire after January 1, 2006, shall be exempt from the RPS until the earlier of the date of their next contract forward or the date on which the all-requirements contract is amended or renegotiated.

With the passage of SB 43 in 2004, the PRC is required to establish the "reasonable cost threshold," through hearings and research, by December 31, 2004. If the cost of renewable energy generation is above this PRC established level, the public utility will not be required to add renewable energy to its supply portfolio.

SB 43 also reduces the RPS for nongovernmental customers at a single location or facility with consumption exceeding 10,000,000 kWh/yr. The number of kWhs of electricity from renewable sources procured for these customers is to be limited so that the additional cost of the RPS to each customer does not exceed the lower of 1% of that customer's annual electric charges or $49,000. This procurement limit criterion is then increased by 1/5% or $10,000 per year until January 1, 2011, when it remains fixed at the lower of 2 % of the customer's annual electric charges or $99,000. The bill clarifies that this language in no way affects a public utility's right to recover all reasonable costs of complying with the RPS. It also provides the PRC the authority to defer recovery of the costs of complying with the PRS, including carrying charges.

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Texas - Renewable Generation Requirement

Last DSIRE Review: 11/20/2003

Incentive Type: Renewables Portfolio Standard
Eligible Technologies: Photovoltaics, Landfill Gas, Wind, Biomass, Hydroelectric, Geothermal Electric, Tidal Energy, Wave Energy
Applicable Sectors: Municipal Utility, Investor-Owned Utility, Rural Electric Cooperative, Retail Supplier
Standard: 400 MW by 2002, increasing to 2,000 by 2009 (and maintained to 2019)
Technology Minimum: None
Credit Trading: Yes
Website: http://www.puc.state.tx.us/rules/subrules/electric/25.173/25.173ei.cfm
Authority 1: Section 39.904 of Texas Utilities Code; PUCT Substantive Rule 25.173
Date Enacted: 12/16/1999
Effective Date: 1/10/2000

Summary:

On December 16, 1999, the Public Utility Commission of Texas issued the Renewable Energy Mandate Rule. This standard establishes the state's renewable portfolio standard, a renewable energy credits trading program (trading program), and defines the renewable energy purchase

requirements for competitive retailers in Texas. The standard calls for 2,000 MW of new renewables to be installed in Texas by 2009, which is in addition to the 880 MW of existing renewables generation. The rule also: (1) implements the statutory mandate in PURA §39.904 to promote the development of renewable energy technologies; (2) encourages the construction and operation of new renewable energy projects at Texas sites having the greatest potential for development; (3) reduces air pollution in Texas from fossil fuel electric generation; (4) responds to customer preferences for more "clean" energy from renewable resources; (5) increases the amount of renewable energy available in Texas; and (6) ensures that customers have access to energy from renewable energy resources pursuant to PURA §39.101(b)(3).

The goal will be met according to the following schedule:

MW New Renewables----------Date
400 MW ---------- 01/01/2002
400 MW ---------- 01/01/2003
850 MW ---------- 01/01/2004
850 MW ---------- 01/01/2005
1,400 MW ---------- 01/01/2006
1,400 MW ---------- 01/01/2007
2,000 MW ---------- 01/01/2008
2,000 MW ---------- 01/01/2009 - 2019

Qualifying renewable energy sources include solar, wind, geothermal, hydroelectric, wave or tidal energy, or biomass or biomass-based waste products, including landfill gas. Qualifying systems are those installed after September of 1999. The RPS applies to all retail energy providers including municipal and cooperative utilities.

The Public Utility Commission of Texas is establishing a Renewable Energy Credits Trading Program to start July 1, 2001 and continue through 2019. A Renewable Energy Credit (REC) represents one megawatt hour (MWh) of qualified renewable energy that is generated and metered in Texas. A Capacity Conversion Factor (CCF) will be used to convert MW goals into MWh requirements for each retailer in the competitive market. The CCF will be administratively set and equal to 35% for the first two compliance years, thereafter based on the actual performance of the resources in the credits trading program.

Each retailer in Texas will be allocated a share of the mandate based on that retailer's pro rata share of statewide retail energy sales. The program administrator will maintain a REC account for program participants to track the production, sale, transfer, purchase, and retirement of RECs. Credits can be banked for 3 years, and all renewable additions have a minimum of 10 years of credits to recover over-market costs. A penalty system has been established for providers that do not meet the RPS requirements. The penalty is the lesser of $50 per MWh or 200% of the average cost of credits traded during the year.

For more information on RECs, visit the ERCOT website.

The Public Utility Commission of Texas' (PUC) Goal for Renewable Energy (§ 25.173) implements the legislative goal for renewable energy development in the state of Texas as set forth in Senate Bill 7 (SB 7), Act of May 21, 1999, 76th Legislature, Regular Session, chapter 405, 1999 Texas Session Law Service 2543, 2561 (Vernon) (to be codified as an amendment to the Public Utility Regulatory Act (PURA), Texas Utilities Code Annotated §39.904).

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WESTERN RESOURCE ADVOCATES

Facts About
A Balanced Energy Plan for the Interior West

Business has a lot at stake in how we'll meet our rapidly growing regional energy needs. The new study, *A Balanced Energy Plan for the Interior Wes,* will be useful to business leaders concerned with securing a long-term supply of electricity while minimizing risks and costs. The study focuses on the Interior Western states of Arizona, Colorado, Montana, New Mexico, Nevada, Utah, and Wyoming, but includes data from the Pacific Northwest and California.

The Issue: How to Power Economic Growth
Although caused by a variety of factors, the 2001 California electricity crisis was a wake-up call about the vulnerability of the western power grid. In spring 2004, officials declared a "transmission emergency" for the state and asked businesses to cut down on what they consume. Because the West's population and economy are slated to expand significantly between now and 2020, the Western power grid will see significant additions in both transmission and generation capacity—enough to power five new cities the size of the Denver metro area.

The question becomes not *whether* we will meet this new demand for power, but *how* we will do so. Current proposals are focused almost entirely on fossil fuel resources, adding most of the new power from coal and natural gas. However, such a "business-as-usual" approach will add unnecessary risks, costs, and liabilities to the region's economic picture and it will affect electricity bills of the region's electricity customers. As always, the cost impacts will fall most heavily on the biggest users—businesses. Continuing to rely on fossil resources will also damage quality of life in the Interior West. This stands to make the region less attractive as a place to live and do business and could reduce its ability to attract and retain a high-quality workforce.

What's at Stake: The Bottom Line
The biggest concern for business is the uncertainty that accompanies the business-as-usual approach—the energy supply portfolio is heavily concentrated on a few resources, which is inherently risky. These risks make electricity costs difficult to forecast. In addition to rising and uncertain fuels prices, electricity rates are likely to be affected by future environmental regulations. Some of the liabilities for business include:

- **Rising** and **unstable** gas prices.
- **Higher** electricity costs from stricter future air quality and climate change regulations.
- Drought-induced hydroelectric **shortages** that would require more reliance on costly natural gas.
- **Damage** to landscapes, water, and air quality from energy extraction and production—leading to adverse economic impacts as **western quality of life loses** some of its allure.

- **Adverse public health** impacts and resulting liabilities, including increased childhood asthma and other respiratory disorders, as well as increased toxic mercury emissions from power plant emissions.

A More Secure Business Climate
Western Resource Advocates compared the business-as-usual scenario with a more diversified, balanced plan that takes advantage of the region's enormous potential for renewable and efficient energy. The Balanced Plan projects 20 percent of electricity as coming from renewables by 2020 and assumes the adoption of an aggressive but reasonable array of efficiency measures. However, it does not ignore traditional fuels, which still make up a large part of the mix. Instead, it balances these fossil resources.

Using the same PROSYM model employed by the electric power industry, we ran a side-by-side cost and benefit analysis of the two scenarios. Both scenarios account for an upgraded transmission system, and both ensure a reliable electric grid. The Balanced Plan had significant advantages for large electricity consumers and the region's business community. Compared to business-as-usual, by 2020, the Balanced Energy Plan will:

- Lower the costs of electricity production by $2 billion per year.
- **Stabilize** electricity bills due to a decreased reliance on new natural gas.
- Save the region $2.5 billion per year if natural gas prices are higher than expected.
- Save the region **$4.9 billion per year** in the event of stricter future environmental regulations, particularly climate change regulation.
- Reduce smog- and haze-forming pollutants **by 30 percent**, and carbon emissions associated with global warming **by 40 percent**. These decreases will lower risks and liabilities associated with increased healthcare costs.

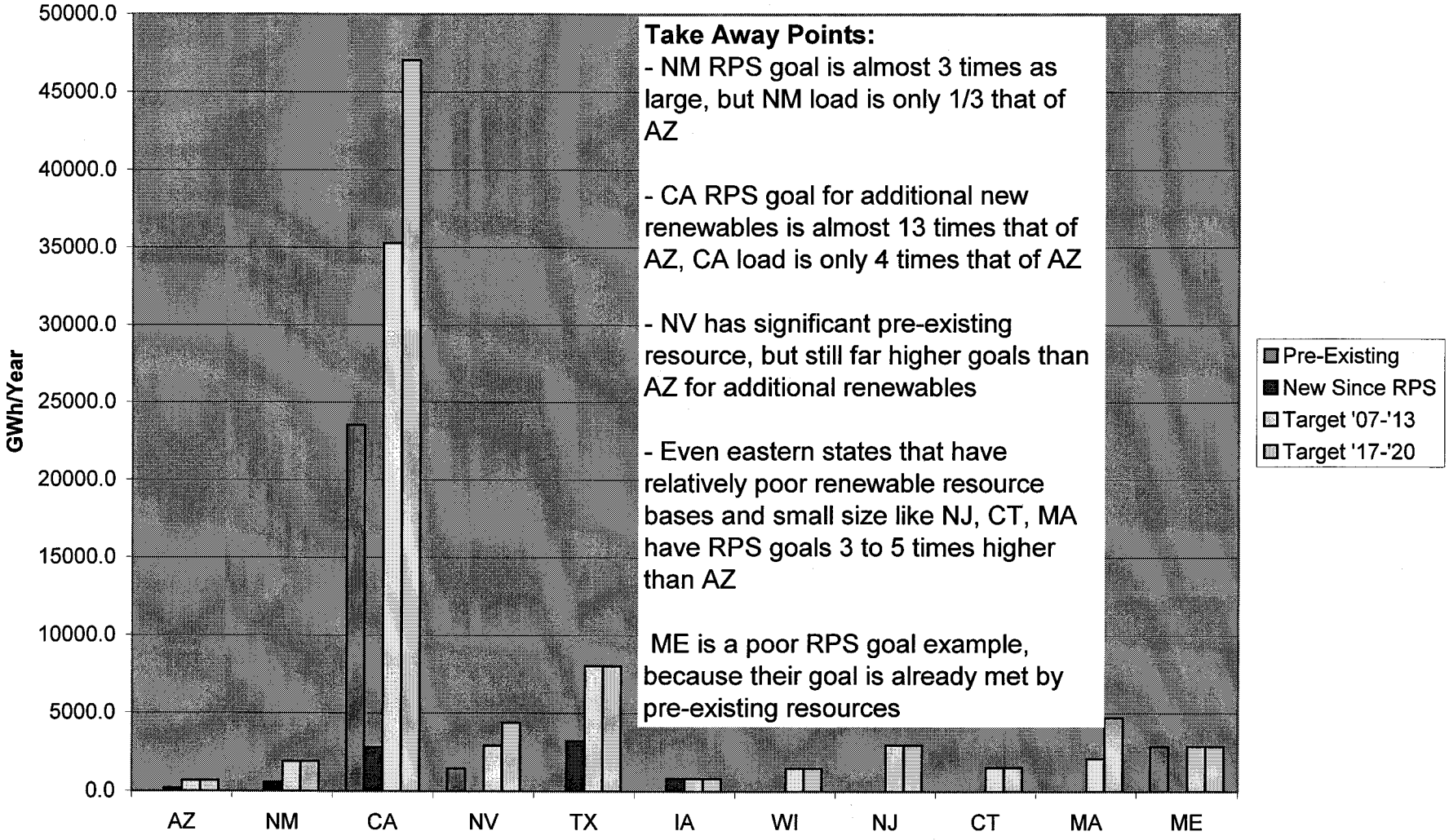
The Balanced Plan: The Best Way to Power Business Needs
In bottom-line dollar figures, the business community has the most to gain from the adoption of a least-risk energy plan. A diversified energy portfolio that improves the balance among renewables, efficiency, and traditional fuel sources would create a more stable economic climate as well as a cleaner, healthier place to live and work. Implementing the balanced plan requires leadership and support from the business community, which in turn would benefit substantially from the plan. Regional business leaders should evaluate the plan and use it as a tool for guiding the West into the electric energy future it deserves.

The full text of the report details next steps businesses can take and highlights examples set by industry in our region.

For more information, please contact Claudia Putnam, Western Resource Advocates, 303-444-1188 x 227, cputnam@westernresources.org.

www.westernresourceadvocates.org/energy/bep.html

Comparative State Renewable Energy Generation & RPS Goals
(approximate for representative purposes only, based on 2002 load data)



Take Away Points:

- NM RPS goal is almost 3 times as large, but NM load is only 1/3 that of AZ

- CA RPS goal for additional new renewables is almost 13 times that of AZ, CA load is only 4 times that of AZ

- NV has significant pre-existing resource, but still far higher goals than AZ for additional renewables

- Even eastern states that have relatively poor renewable resource bases and small size like NJ, CT, MA have RPS goals 3 to 5 times higher than AZ

ME is a poor RPS goal example, because their goal is already met by pre-existing resources