



## Colorado's New Energy Economy – Town Meetings

Colorado Public Utilities Commission

Staff Report

December 19, 2007

## ***Introduction and Summary***

Coloradans discussed “Colorado’s New Energy Economy – the Path Forward” at town meetings held throughout Colorado during August and September of this year. As part of the state “listening tour”, 269 interested citizens, citizen groups, utility representatives, and industry affiliates discussed concerns, issues, and potential solutions for moving forward with Governor Ritter’s New Energy Economy agenda.

The eight town meetings were hosted jointly by the Colorado Public Utilities Commission (PUC) and the Colorado Office of Consumer (OCC). Meetings were held in Windsor, Yuma, Springfield, Alamosa, Canon City, Steamboat Springs, Montrose, and Vail, with some participants traveling over 100 miles to participate in the discussions. Virtually all the meetings included a mix of constituencies – individual consumers, citizen groups representing environmental and traditional consumer concerns, local and state government representatives, utility employees representing both investor-owned utilities and cooperative rural electric associations, and industry groups and their representatives. The discussions in Windsor even drew representatives from neighboring Wyoming.

PUC Chairman Ron Binz and OCC Director Jim Greenwood began each meeting by describing the responsibilities of the each agency and presenting an overview of Colorado energy facts and issues. (These presentations are included, respectively, as Appendix 1 and 2 to this report.) Commissioners Polly Page and Carl Miller, together with PUC Director Doug Dean, welcomed the participants and said they were very interested in hearing the views of the audience. A sheet of suggested questions was distributed to the audience to encourage discussion. (Appendix 3) Each audience participant was also given a free compact florescent light bulb, courtesy of Lowe’s home improvement stores. Each participant was also provided with information about the PUC and the OCC, both agencies of the Department of Regulatory Agencies, the state department focused on consumer protection across many industries.

Throughout the tour, the discussions were lively, thought-provoking, and fun. Most meetings concluded with comments from the elected officials in attendance. Additionally, some state and local officials who were unable to attend asked the Commissioners to share written comments with meeting attendees. (Appendix 4)

During the course of the Commission’s travels to each location, Commissioners and staff also toured energy facilities and infrastructure in the area. They visited the Lamar Wind Energy Project, SunEdison’s solar installation near Alamosa, Public Service Company’s Shoshone Hydro-Electric Generating Station, and the Western Area Power Association’s (WAPA) market trading operations center in Montrose.

Some common themes emerged from the discussions throughout the state, in some cases representing a broad consensus of opinion. However, each location’s focus was unique, incorporating the unique views of the local community and the diversity of thought within each community. The range of topics was broad – from the selection of new electric generation resources to siting of new transmission lines to energy efficiency. It was common to have diverse views in each location with virtually all agreeing that solutions are not easy and must be

carefully balanced, and recognizing that both short-term and long-term needs and costs must be considered by the Commission and other state policy-makers.

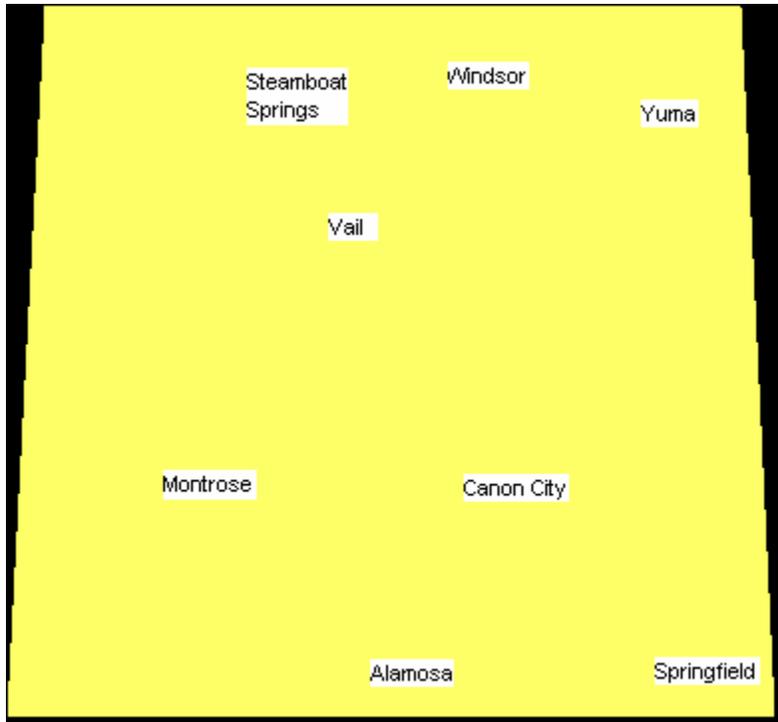
This report attempts to capture the breadth of issues raised, the constructive spirit of the discussions, and the uniqueness of each area's concerns.

This report opens with a brief overview of the meeting at each location, followed by a short description of the issues that seemed uniquely focused on that locality. The report then identifies the global themes that permeated discussions throughout the localities. For example, in several locations, participants identified as an issue the failure of some cooperative electric associations to support generation resources other than coal and gas. Rather than list this issue multiple times, it is addressed as global issue.

It was clear from the entire listening tour that understanding unique local issues as well as the global themes is important for developing effective policies that advance the energy agenda across the state.

### ***Colorado Locations***

Eight town meetings were held during five weeks in August and September. Meetings were held in Windsor, Yuma, Springfield, Alamosa, Canon City, Steamboat Springs, Montrose, and Vail, as shown in this map.



## **Windsor**

*Date and Time:* Tuesday, August 14, 2007, from 7-9 p.m.  
*Location:* Windsor Community Center, 250 11<sup>th</sup> St., Pine Room  
*Attendance:* 32  
*Special Guests:* Representatives Marostica, Vaad and Solano.

The theme that infused the Windsor meeting was a sense of optimism that, with a commitment today to research and develop new technologies, Colorado's energy economy can move from being heavily dependent upon coal as the primary base-load resource to an energy economy supported by a broader mix of generation resources.

Like Windsor itself, a mix of traditional homes anchored by a local farming economy combined with new "bedroom community" developments, the citizens repeatedly pointed out the economic value of using both old and new forms of electric generation. Many observed the need to incorporate new generation supply sources (e.g., wind, solar, biomass, and storage related to these) with the traditional coal and gas generation resources.

Perhaps more than any other location, participants in Windsor spoke about the value to the new energy economy created by additional research and financial support for new business ventures. In particular, the participants encouraged the development of new storage technologies and transmission infrastructure that could expand the delivered capacity of wind and solar-powered generation. There was support for re-examining nuclear resources, especially if "standard" designs, such as those used by France, were supported.

Participants also pointed out that, while technological innovations can reduce costs, this takes time. Consequently, participants counseled the Commission to continue to support older technologies (e.g., coal-fired generation) that are relatively cheaper now, but they also encouraged the Commission to support development of new applications (e.g., wind, solar, storage) that may be less costly in the long-term. Participants also expressed concern that maintaining relatively lower-cost supplies (including coal) in the short term was important strategically because the cost of electricity also impacts small businesses' bottom line.

## **Yuma**

*Date and Time:* Tuesday, August 21, 2007, from 7-9 p.m.  
*Location:* Yuma Community Center, 421 E. 2<sup>nd</sup> Ave.  
*Attendance:* 19  
*Special Guests:* Senator Greg Brophy, Representatives Cory Gardner and Jerry Sonnenberg, Lincoln County Commissioner Gary Beedy. (Note: Representative Gardner also submitted a letter, included in the Appendix.)

In Yuma, the rural electric cooperative associations were well represented. The audience included directors or board members from Morgan County REA, Y-W Electric, Highline Electric

Association and Tri-State Generation & Transmission Association. As a group, the coop representatives spoke about the unique features of a coop's organizational structure and the value of the customers owning the utility. They emphasized the ability of individuals to directly influence the coop's policies by easily conversing with Board members and running for leadership positions on the Board if members believed the coop's leadership was out of step with members' preferred policies.

During the discussion the rural electric associations were asked what they thought about financing efficiency efforts, such as heat pumps, for their customers. The consensus response was that, in a rural community, the local association may be reluctant to compete with the local bank in providing low-interest financing to coop members.

There was a lively discussion about the economic feasibility of the various technologies, including an expressed concern that sometimes customers think that wind and solar are free. One citizen expressed concern that there hasn't been a way to compare the true costs of various technologies. She said that many times comparisons are made without regard to subsidies provided to some industries so that the comparisons aren't accurate. She recommended that the Commission ensure that all externalities are quantified if any are included in the Commission's decision-making. In particular, she expressed concern that the increase in jobs in one economic sector or geographic location could be used as an economic benefit in one analysis, but that the loss of jobs in another economic sector or geographic area may not be included as an economic cost.

Some participants raised concern that increased production of corn-based ethanol fuels may help the corn-growing segment of their farm-based economy, but may ultimately hurt the ranchers and cattle-feeders that use corn as a feedstock.

There was concern expressed about electricity costs for local residents and farmers, and the need for discounted interruptible rates for large industrial and agricultural customers. Various energy efficiency programs currently offered by the associations were discussed. There was a sentiment from the utilities that sometimes customers favored energy efficiency programs because they receive a discounted rate or a refund (*i.e.*, if they turned off their air conditioner, irrigation equipment, etc.). However, when the time came for the customer to switch off the load, the utility receives complaint calls because the time wasn't convenient for the customer. There was a discussion about how Xcel Energy operates its saver-switch program. Although there seemed to be disagreement about whether energy efficiency programs work, several of the representatives of the rural cooperatives said irrigation customers have gotten very efficient over the years. One association said its peak load has not changed at all mainly due to all the efforts of irrigators.

## **Springfield**

*Date and Time:* Tuesday, August 28, 2007, from 7-9 p.m.  
*Location:* Community Resource Center, 1260 Main St.  
*Attendance:* 62  
*Special Guests:* Representative McKinley  
Baca County Commissioners Troy Crane, Peter Dawson, and Glen Ausmus, Springfield Mayor Jay Suhler

Without a doubt, the primary issue on the minds of Springfield participants was the development of new transmission resources to connect the wind resources (and possibly others) on the southeastern plains of Colorado to the electric grid.

The attendance at Springfield, a town of about 1350 residents, was remarkable. Even more remarkable is that the community's message – from citizens to wind developers to community officials – was unanimous. Springfield believes that development of additional wind resources and the transmission to connect those resources to the grid is critical to the economic growth of the area. The meeting was well attended by wind developers (Horizon Wind Energy, Prairie Wind Energy and Baca Green Energy) interested in using the considerable wind resources in the area.

As a farm-based community struggling with the challenges to agriculture (including recent decisions impacting the area's water resources) Springfield's message to the Commission is that it wants to be part of Colorado's New Energy Economy. Community leaders shared statistics on the positive economic impacts on neighboring counties of wind resources that are already in service, including an increased tax base and new jobs. Citizens discussed how new wind facilities create an additional stable income stream (annual lease payments made by wind developers to landowners). This means that parents can pass along to their children, along with the land, a way to enable them to stay in the area. Meeting participants knew about the designation of energy zones and were curious as to how the zones would be prioritized and ranked. A couple of participants also contended that more nuclear and coal generation will also be needed to meet Colorado's increasing need for more electricity. There was general agreement (head nodding) when that comment was made.

## **Alamosa**

*Date and Time:* Wednesday, August 29, 2007, from 7-9 p.m.  
*Location:* Alamosa Family Recreation Center, 2222 Old Sanford Rd.  
*Attendance:* 44  
*Special Guests:* Representatives Gallegos and McFadyen, Senator Schwartz, former Senator Lewis Entz, and Charlotte Bobicki on behalf of Senator Ken Salazaar's Office

The economic impact on Alamosa and the San Luis Valley of new energy technologies was a main topic of conversation in Alamosa. As a key part of that economic discussion, many meeting participants offered suggestions for targeted financial incentives to further expand the state's renewable portfolio including:

- *additional incentives for the development of solar-electric generation and transmission, if necessary, in the San Luis Valley;*
- *renewable energy incentives targeted exclusively to benefit individual consumers;*
- *grants to farmers to install equipment to reduce agricultural irrigation energy consumption;*
- *reduced utility rates for low-income consumers, who currently do not have the income to pay for the increased costs of renewable generation;*
- *special assistance to install renewable energy sources and energy efficiency improvements in public schools;*
- *promotion of small hydroelectric plants; and,*
- *energy efficiency incentives for small businesses.*

The conversation also included discussion about the need for transmission, the need to use existing resources more effectively, and the need for job skill training programs for the emerging renewable and demand-side management industries. One attendee identified a shortage of trained photovoltaic installers in southern Colorado and urged that training programs be set up at state colleges. Another participant said that Trinidad State College at Alamosa had been approached about starting a photovoltaic installation training program. She also suggested that a biomass heating training program be started as well.

Other comments from participants reflected diverse individual concerns. These included: a recommendation to modify the current minimum renewable energy standards of House Bill 07-1281 to require all future electric generation to be renewable; diverse opinions on the desirability of nuclear energy; concerns about the environmental safety of compact florescent lamps including a recommendation that the PUC initiate a disposal program to reduce the amount of mercury entering the environment; and concerns with the National Forest Service's handling of a small commercial hydro electric operation.

### **Canon City**

*Date and Time:* Thursday, August 30, 2008. from 7-9 p.m.  
*Location:* Garden Park High School, 201 N. 6<sup>th</sup> Street  
*Attendance:* 16  
*Special Guests:* Rep. McFadyen and Pam DiFatta, representative from Congressman John Salazar's office.

In Canon City, citizens shared stories of their successes and failures with alternative energy and energy efficiency measures. One citizen described how his homeowners association had replaced all incandescent lamps with compact florescent lamps. Another citizen identified how he had operated two remote communication towers since the 1970s, one with photovoltaic power

and the other with photovoltaic power augmented with a wind turbine generator. He also stated that he had very bad experience with broadband service over power lines with utility representatives echoing that they had investigated broadband over power lines, but they rejected it as ill-suited for rural areas.

Given the coal resources in the Canon City area, it is perhaps not surprising that the negative economic impact on Colorado of wholesale replacement of coal generation was a theme expressed by many attendees. Citizens expressed concern about the uncertainty of the rate impacts of renewable energy and stated that a carbon tax levied solely on utilities, and not across the board, would unfairly impact one segment of the Colorado economy. Another resident suggested that perhaps raising the price of traditional sources of energy to account for carbon emissions would hasten the use of renewable energy. Others questioned the amount of thermal-electric generation necessary to back up wind generation and expressed concern that eliminating thermal-electric generation was not realistic. One participant recommended that Colorado coal should be used to generate electric power until more advanced energy solutions have a chance to prove themselves. Others reminded the Commission that low sulfur Colorado coal has tremendous value for existing coal burning power plants in other states.

Attendees openly acknowledged that solutions were neither easy nor costless to consumers and the Colorado economy, and acknowledged that solutions are complex and imperfect. When one attendee suggested that the PUC should reject any new coal burning power plants in favor of natural gas fired combined-cycle thermal-electric power plants, another resident reminded the group about the many water issues associated with the proposed construction of an integrated coal-gasification combined-cycle (IGCC) thermal-electric power plant on the Arkansas River. Another attendee questioned if coal continues to fuel electric generation for some time, should we build new infrastructure for coal or merely run our existing coal mines and coal power plants until they outlive their usefulness?

### ***Steamboat Springs***

*Date and Time:* Tuesday, September 11, 2007, from 7-9 p.m.  
*Location:* Yampa Valley Electric Association, Community Room, 32 Tenth St.  
*Attendance:* 24  
*Special Guests:* Mrs. Geneva Taylor, on behalf of Senator Jack Taylor. (Note: Senator Taylor also submitted a letter which is included in the Appendix.)

In addition to concerns about rural electric cooperatives' lack of support for renewable energy initiatives (discussed more generally below), citizens attending the Steamboat Springs town meeting focused on renewable energy. Many were concerned that the cost of coal-fired generation does not portray the "true costs" to society of electric generation because cost calculations traditionally have not included the costs of environmental and health impacts, etc. Participants further expressed concern that these traditionally calculated costs that don't include costs of environmental and health impacts are used as a basis for setting rates, effectively insulating consumers from the "true costs" of coal-fired power.

There was extensive conversation about whether current incentives are enough to bring down the cost of developing renewable energy resources (e.g., photovoltaic panels) as well as questions as to why the incentives for individual homes have not been promoted, particularly for low income consumers. Participants suggested that the Commission look to the model in Germany, where the government has taken a leading role in promoting renewable energy, particularly solar technologies.

One participant, in discussing his personal travels from Douglas, Wyoming to Gillette, Wyoming, stated that he believes that there is no such thing as “clean coal” and proposed that utilities should consider building nuclear plants instead of coal as a base load resource. While believing that more education regarding nuclear waste may be required before building any nuclear plant, he stated that a nuclear power plant should be included in the Colorado portfolio.

While many concerns were expressed about coal-based technology, a representative from a local mining operation reminded his fellow citizens that coal mining provides substantial economic benefits to the area and has provided security and reliable energy source to power the system. Instead of rushing to replace coal, he suggested people should consider a balanced approach including all feasible energy sources, a mixed portfolio of coal, energy efficiency, and renewable energy.

### **Montrose**

*Date and Time:* Wednesday, September 12, 2007, from 7-9 p.m.  
*Location:* Delta Montrose Electric Association, Meeting Room, 11925 6300 Road  
*Attendance:* 65

The atmosphere at the Montrose meeting can best be described as celebratory as members of the local cooperatives shared details of their experience that demonstrates that progress on renewable energy resources in Colorado is achievable. Hosted at the Delta Montrose Electric Association (DMEA) building, much of the conversation focused on local initiatives.

Their success stories include:

- *an effective cooperative-sponsored compact florescent bulb program;*
- *renewable energy applications for their members,*
- *exploring potential geothermal applications for their members, including spearheading the Geo-Powering the West initiative;*
- *micro-hydro storage applications;*
- *Habitat for Humanity Construction (with DMEA) that is over 97% energy efficient, including construction that includes energy star appliances and the first Habitat home to use a geothermal heat pump;*
- *working with local officials to change building code standards, as it is significantly more cost effective to design buildings for energy efficiency, rather than retrofitting buildings;*
- *USDA is funding various small-scale renewable energy projects including installing photovoltaic equipment on barns, small scale generation, and solar heating for car wash.*

LaPlata Electric Association shared that it started energy efficiency programs in 1973. It is currently interested in net metering programs and solar rebates that are more equitable to the customer. It also explained that while its members' focus on renewable energy sources has increased, a recent member survey identifies that customers' desires (in order) are: 1) reliability, 2) rates, 3) quality of service – with renewable energy a bit further down the list. In contrast, Delta-Montrose Electric Association indicated that their customer opinion survey has changed over the years with environmental concerns moving from 3<sup>rd</sup> place to 2<sup>nd</sup>, with reliability staying at 1st.

Many participants in the Montrose discussion expressed concerns that renewable energy credits and power purchase programs need to be better balanced (more fair) between the utility and customer. There was significant feedback from the attendees voicing displeasure with renewable energy purchase agreements and net metering plans with Tri-State and Xcel Energy. They expressed concern that incentives for installing such facilities without more accurate purchase pricing results in renewable energy systems being too costly for customers to install.

Many, if not most, of the attendees believed that a portfolio of 25% renewable energy sources by 2025 was too little renewable penetration into the overall resource portfolio. They also stated that energy policy should start at the state level, but be enacted and enforced at local level. They encouraged the PUC to do its part in moving renewable energy initiatives forward. In response to citizen questions, Chairman Binz explained the PUC's role in approving resource plans that meet the criteria established by laws enacted by the legislature (*e.g.*, electric resource plan and renewable portfolio standards) and the multiple methods available to the public to apprise the Commission of issues, concerns, and suggested solutions. These methods include local hearings, the PUC's website and web casts, and the PUC's consumer assistance organization.

Concerned citizens also sought answers from the Commission on how emissions issues will ultimately be addressed. Chairman Binz acknowledged that is an unknown depending upon future national and state legislative policies, but also opined that the economics of supply and demand will likely drive part of the answer. He indicated that he expected that: costs of fossil fuel generation will rise and somehow go back to the public; all technologies will become more competitive as all costs are included in the price of electricity; wind won't replace coal; and that different solutions, like plug-in hybrids, could and should play an important role in the nation's energy picture going forward.

In response to comments by the Chairman and others, the environmental manager for a local coal mine reminded the audience that coal still plays a prominent part in the nation's and in Colorado's energy portfolio. He also reminded the audience that the coal industry provides many jobs to Coloradoans (see 2006 report) and provides a significant part of Colorado's energy. He also stated that China's coal use for electricity generation is growing at a tremendous rate, and without a global response to emissions, the problem won't be solved. He also stated that energy costs are rising due to global demand for coal, steel, concrete, and other materials used in the industry.

In response to a question as to why the PUC protects utilities and prevents customer choice, the Chairman explained that electric monopolies are the law of land in Colorado, which only

legislation can change. In addition, he shared that a competitive framework does not guarantee success, as witnessed by events in California, Ohio, Illinois, and Maryland, where customer choice of electric providers was allowed. He opined that it is likely still cheaper to have a regulated monopoly with carve outs for renewable energy sources, than to move to a competitive framework.

## ***Vail***

*Date and Time:* Thursday, September 13, 2007, from 7-9 p.m.  
*Location:* Donovan Pavilion, 1600 S. Frontage Rd.  
*Attendance:* 7  
*Special Guests:* Rep. Gibbs

The theme in Vail was that the current focus on renewable energy is not enough, but rather that additional initiatives should be undertaken to increase renewable energy development and to increase energy efficiencies.

The message from some citizens attending the Vail meeting was that energy as a whole is too cheap. They believe that consumers are willing to pay more for energy. They suggested that the standard rate structures do not reflect the total cost of energy (that is, don't include environmental and health impacts), and therefore policies should be established to charge for extra energy consumptions and use the additional revenues to develop renewable energy. They expressed concerns that many cross subsidies exist for customers with high usage. Instead, they recommended rate structures that require high use customers to pay much more. They did, however, state that if the exporting of energy to other states will cause rates to rise for Colorado consumers, we should not export.

Other citizens suggested that while there are many opportunities to develop renewable energy, our first priority should be energy efficiency as it may be our best chance to meet energy requirements. They also suggested the Commission should facilitate power line development, but should also encourage distributed generation to minimize long transmission lines.

## ***Side Trips***

- *ARPA Wind Farm*

The Commission's first side trip was to The Lamar Wind Energy Project. It is located southeast of Lamar, Colorado and is comprised of four 1.5 megawatt wind turbines. The turbines are owned by the Lamar Utilities Board and the Arkansas River Power Authority. The Project supplies wind-generated power to the City of Lamar and other communities in the Arkansas Valley. The turbines are 260 feet tall (almost the length of a football field) and have three blades, each 111 feet long. The Commissioners viewed the inner workings of the machines and were able to view the on-line equipment that monitors and controls the system.

- *SunEdison's Solar Installation*

The Commissioners also opted to visit SunEdison's solar facility currently under construction (and now partially operational) north of Alamosa. The installation is adjacent to Public Service Company's transmission line, which carries the power throughout the San Luis Valley. The Commissioners viewed construction of both tracking photovoltaic panel technology and concentrated tracking photovoltaic technology. The facility, when fully operational, will provide 8 megawatts of capacity to the Valley. The solar operation was in varying stages of completion throughout the site, allowing the Commissioners to see multiple phases of construction. Discussions with solar experts managing the construction revealed that one of their key goals is to identify construction, engineering and operational innovations and efficiencies at this site that can be used to increase the economic viability of future solar installations.

- *WAPA*

On September 13, 2007, the Commissioners visited the Western Area Power Administration (WAPA) power trading operations in Montrose. The Montrose center is the Administration's energy management and marketing offices for its Colorado River Storage Project (CRSP). The Montrose operation also schedules and delivers firm electric service from several WAPA projects located in Wyoming, Utah, Arizona and New Mexico in addition to scheduling and delivering energy and capacity for the Colorado River Storage Project. Ms. Kathy Crane of WAPA provided an overview of core business activities for the Montrose operation, including determining daily load and resources balances (supply and demand) and supporting control area management functions. In Colorado, the WAPA projects primarily provide power to rural cooperatives, municipal utilities, and some federal government facilities located in Colorado (*e.g.*, the Air Force Academy).

- *Shoshone Plant*

The Commissioners also visited Public Service Company of Colorado's (PSCo's) Shoshone's hydro power plant site on September 13. The 16 megawatt facility, built in 1908, is located along I-70 near Glenwood Springs. Two penstocks convey water to a turbine to generate electricity. On June 20, 2007, one of the two penstocks ruptured and washed sand, soil and rock into the powerhouse and over the Shoshone Dam and Hanging Lake rest area. PSCo plant personnel gave a tour of damage around the powerhouse and discussed their plans to repair the powerhouse, replace electrical and control equipment, and fix the penstocks. PSCo's goal is to have Shoshone back online in 2008.

## ***Common Themes and Issues***

### ***Utility Rates***

The rate impact for Colorado consumers was discussed at virtually every location, but there seemed to be no consensus on whether consumers are willing to pay more to reduce carbon emissions and increase reliance on renewable energy. While citizens at some locations suggested

that rate increases may be acceptable, others urged caution, particularly when affecting rates of low-income consumers. Other citizens urged that the Commission move deliberately, but cautiously, to shift the percentage of renewable energy sources in the portfolio. They urged caution because they were concerned that significantly higher rates for renewable alternatives may cause a negative backlash toward the renewable efforts.

There was more agreement generally that the existing rates for electricity generated from fossil may not currently reflect the total societal costs. The consensus seemed to be that the environmental and health costs have not traditionally been included when establishing rates, but perhaps they should in the future. Parallel concerns were raised about some renewable energy technologies: that sometimes customers think that wind and solar are free; that the costs for such technologies must consider their “availability” at critical periods and should consider the cost of ratepayer funded subsidies. If cost calculations are expanded to include other societal costs, citizens unanimously wanted any increased revenues targeted toward renewable and energy efficiency measures, not as more profit to the utilities. Additionally, many expressed concern that such an evaluation was difficult, and that care should be taken to ensure that the process includes all cost impacts, not a selective few.

Throughout the tour, there was general agreement that rate structures should be reviewed to ensure that we are not encouraging unwise use of energy. However, there was also considerable concern that, absent special programs, low-income customers would be hardest hit by both increased rates and revised rate structures. Additionally, there was concern that low-income customers were least likely to receive the benefits of energy efficiency programs because they could not afford the “upfront” costs of equipment and measures that would result in improved efficiencies.

Throughout the locations, there were many suggestions that additional incentives are necessary to focus development and innovation in a number of areas – transmission construction, solar installations (both large-scale and customer-owned), wind development, energy efficiency measures, cleaner coal technologies, methane farms, development of storage technologies, development of large-scale geothermal and increased deployment of geothermal heat pumps, applications to shave peak usage and to store energy for peak periods, research, etc. However, there was less discussion about how these initiatives should be funded. Perhaps not surprisingly, individual locations focused on incentives to be applied to the resources of their localities, with the goal of enhancing the economic development in their locality.

### *Customer Satisfaction*

Throughout the tour, in general, the number one area of dissatisfaction for citizens seemed to be the slow pace at which the utilities were exploring and making available energy efficiency programs and renewable sources of energy. This concern was especially pronounced in the areas served by cooperative electric associations, although there were exceptions like DMEA.

In response to these concerns, cooperative managers and representatives urged the Commission to view cooperatives individually. While they acknowledged that some cooperatives and the

Colorado Rural Electric Association (CREA) historically have opposed some renewable initiatives, they noted that not all cooperative electric associations agreed with CREA positions, and argued that in fact some cooperatives are ahead of investor-owned utilities in deployment of renewable and energy efficiency initiatives. At a number of locations, the local association explained how they are aggressively pursuing renewable energy, energy efficiency, peak power reduction, and cost containment.

They also often suggested that members of cooperatives who are dissatisfied with the focus of their local cooperative should run for election and change the direction provided to their local managers because the “customers are the company” under a cooperative structure. At least one cooperative representative expressed his belief that it will need “grass-root” support to change coop view regarding the energy efficiency, not the lone voice of a few members.

### ***Colorado’s Energy Portfolio: Traditional Sources of Electric Generation, Renewable Energy, Demand-Side Management, and Energy Efficiency***

It’s easy to draw the conclusion from the town meetings that consumers generally support a shift in the Colorado energy portfolio mix towards greater renewable energy and away from the current percentage of fossil-fuel based resources. Many participants supported increased energy efficiency efforts as well.

However, across the board, members of the public recognized the challenges inherent in such a goal. Citizens know that the wind doesn’t blow all the time and the sun doesn’t shine all the time. They also know that, in many cases, increasing renewable energy in the mix may cost more, at least compared to what utility rates have been. Consequently, they concluded that a two-tier approach was necessary. First, we need to continue to research and develop alternative energy technologies, including storage technologies, and second, we need to recognize that coal and gas fired generation will remain an important part of the Colorado equation.

Many participants indicated that they are not opposed to re-looking at nuclear generation in Colorado, but recommended that standardized designs like those operational in France should be considered. Many participants were okay with new construction of traditional coal plants, albeit their preference was for efficient coal plants with reduced emissions. Several in the audience said the Integrated Gasification Combined Cycle technology was too experimental and hadn’t yet been proven enough for them to support that technology. While some indicted a preference to gas-fired generation over coal-fired generation because the emissions were better, the price and longer-term limits of gas supplies were a concern. While Liquefied Natural Gas was discussed as a possible solution long-term supply solutions, no specific conversation about applications directly applicable to Colorado were identified.

In several locations, the audience was asked what the PUC Commissioners should consider in their decisions about utility resources acquisition plans. The audiences certainly felt the cost of the resource should weigh heavily in the decision because that would affect other economic development efforts of the state and drive the cost for customers. On the other hand, other considerations such as the legislative mandated portfolio standards, green-house gas emissions,

and societal costs of environmental and health impacts were also frequently identified as items that the Commission should consider. Additionally, many meeting participants supported a broad portfolio of resource options, believing that the ability to substitute lower cost alternatives based on dynamic market prices for the various fuels would better position Colorado consumers for lower costs in the long term.

There was a concern raised by some that energy efficiencies should be market driven and not mandated. Some participants identified the need for additional educational programs; they viewed consumer awareness of simple things (such as the bulbs distributed free at the meeting) as key to demand reductions. Additionally, there was strong support for modifying building codes as an effective means to minimize energy demand, as it generally costs less to design efficiencies into buildings rather than retrofit buildings to meet new standards.

### ***Transmission***

Transmission was identified as a primary barrier to developing additional renewable energy sources, as well as an issue with the export of both traditional and green power outside the state. The matter of who ultimately benefits from increased transmission investment compared to who initially pays for it is a tough issue to solve. Many, but not all, participants indicated that they would favor siting new transmission lines in their localities.

Attendees expressed diverse opinions on transmission issues and about exporting power to other states. An often-expressed sentiment was that Colorado should seek to meet its own needs and not export power unless the state benefited significantly. At least one attendee stated that electric power transmission should be governed strictly by economics, not by incentives. In contrast, another attendee suggested that Colorado should build far more transmission and electric power capacity than we now think we will need. If we grow faster than predicted, we can use all the extra energy, and if we don't, we can sell all the extra energy we produce.

### ***Rural Electric Association Issues***

As noted earlier, the leading area of dissatisfaction for participants is the perceived slow pace at which some rural electric cooperatives are exploring renewable energy and making energy efficiency programs available to members.

When members expressed frustration with the direction taken by local rural electric associations and Tri-State, representatives from those utilities generally responded to the comments. The response usually included that the cost of building new infrastructure was a critical part of the utilities' decision-making; they often identified recent utility activities supportive of renewable efforts, including discussion of the proposed High Plains Express transmission line and/or the local cooperative's efforts to replace incandescent light bulbs with compact florescent bulbs.

Specific policies enforced by Tri-State and some coops were criticized in the meetings, including the net metering policies, utility buy-back provisions, ownership of the renewable energy credit,

and contract terms and conditions that cap the amount of renewable energy that can be sold. Participants raised questions about whether these actions triggered self-fulfilling prophecies -- effectively leading to market dominance of coal generation to the detriment of other alternatives. More than one cooperative, for example, expressed concern that it cannot sell more renewable-based energy and energy credits to other utilities due to terms of existing agreements and standard contract language with Tri-State.

Coop members at multiple locations inquired about the PUC's jurisdiction over Tri-State and the relationship between Tri-State and its member associations. Chairman Binz explained that by law the PUC's jurisdiction over Tri-State is limited to facility extensions and that it would require a legislative change to place Tri-State or any coop under PUC jurisdiction.

### *Appendixes*

- *Typical Presentation Made by PUC (Appendix 1) and OCC (Appendix 2)*
- *Sample News Release, including Commission-Issued Questions (Appendix 3)*
- *Letters from Legislators (Appendix 4)*
- *Written Public Comments (Appendix 5)*
- *Materials Provided to Commission at Lamar Wind Farm (Appendix 6)*
- *Materials Provided to Commission at WAPA (Appendix 7)*

**Colorado's New Energy Economy Town Meetings  
Appendix 1**

Typical PUC Staff Presentation  
on the Town Meetings 'Listening Tour'

# **An Energy Town Meeting in Springfield, Colorado**

Part of the 'Listening Tour' of the  
Colorado Public Utilities Commission  
And the Office of Consumer Counsel

August 28, 2007

# Caveats

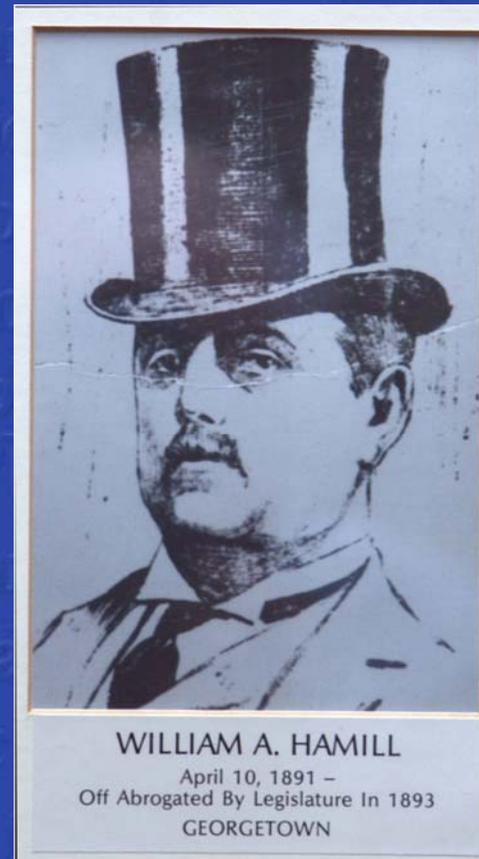
- We are three independent, equal commissioners
- We are confused by many things and have not made up our minds about much at all
- We don't even agree with some of the things we say
- Good advice: don't believe everything you think

# The Colorado PUC

*The Public Utilities Commission's mission is to achieve a flexible regulatory environment that provides safe, reliable and quality services to utility customers on just and reasonable terms, while managing the transition to effective competition where appropriate.*

- Independent agency, created in the constitution
- Three Commissioners, appointed by the Governor
- Four year terms
- Partly judicial, partly legislative
- Ninety-member staff is an agency within the Department of Regulatory Agencies

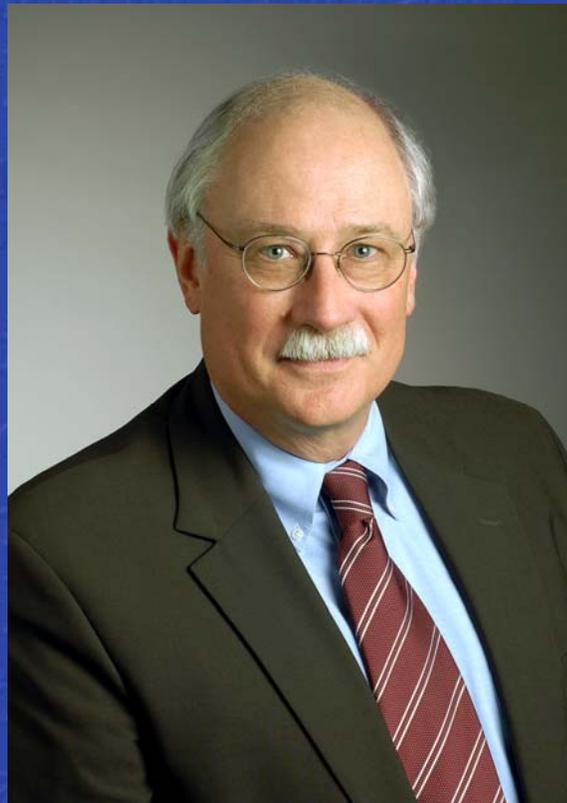
# Predecessor Agency: The Railroad Commissioner



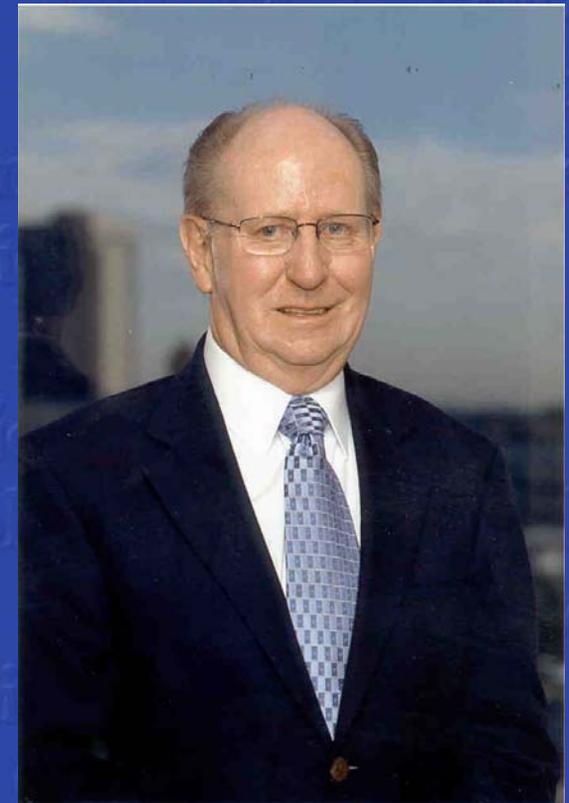
# Colorado Commissioners



Polly Page



Ron Binz



Carl Miller

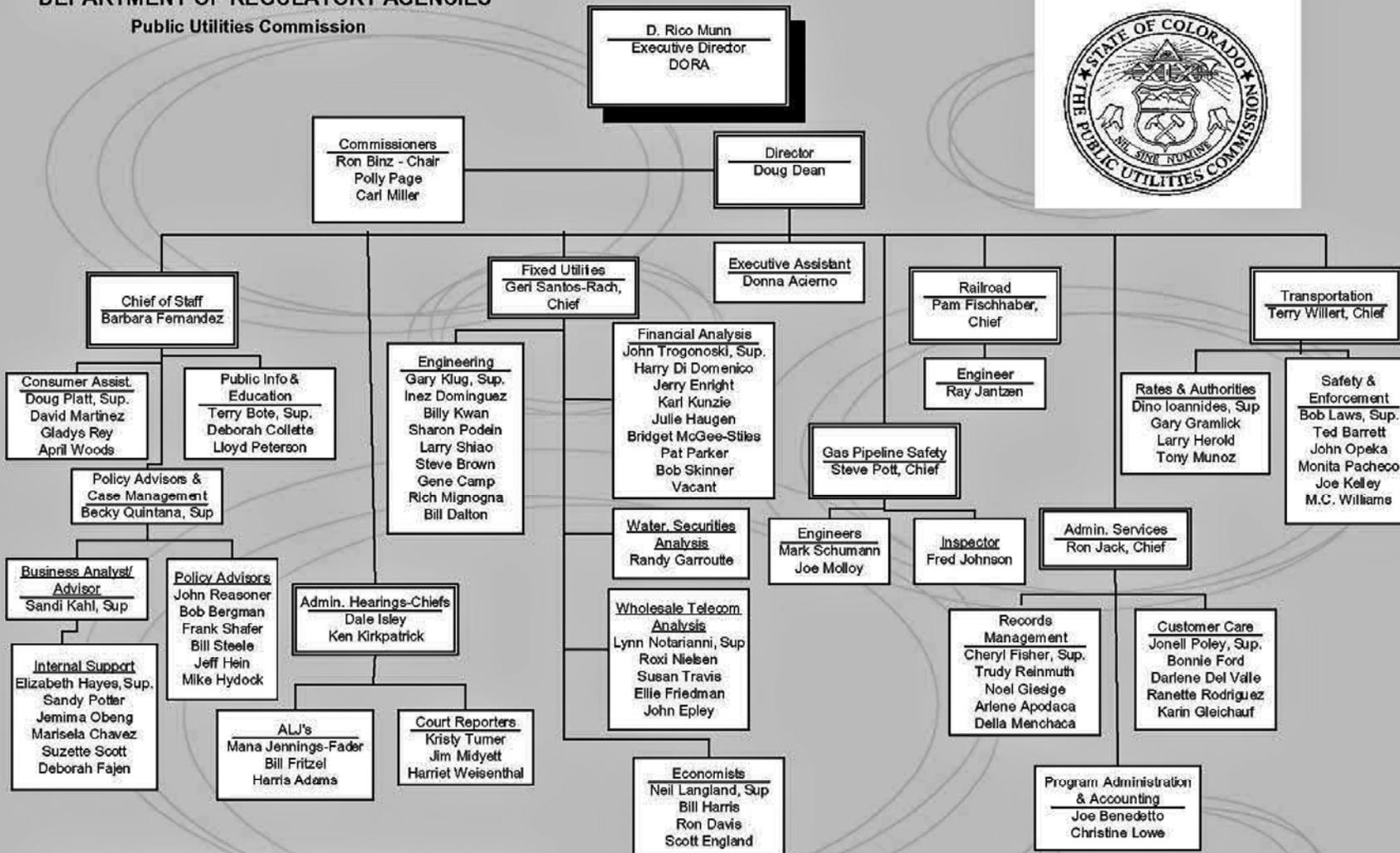
# What do we regulate?

- Some electric utilities
- Most natural gas utilities
- Intrastate natural gas pipelines
- Water utilities
- Some telecommunications carriers & services
- Passenger transportation
- Railroad crossings
- Pipeline safety
- Colorado Relay service for the hearing impaired

# Organization of the PUC

**DEPARTMENT OF REGULATORY AGENCIES**

**Public Utilities Commission**



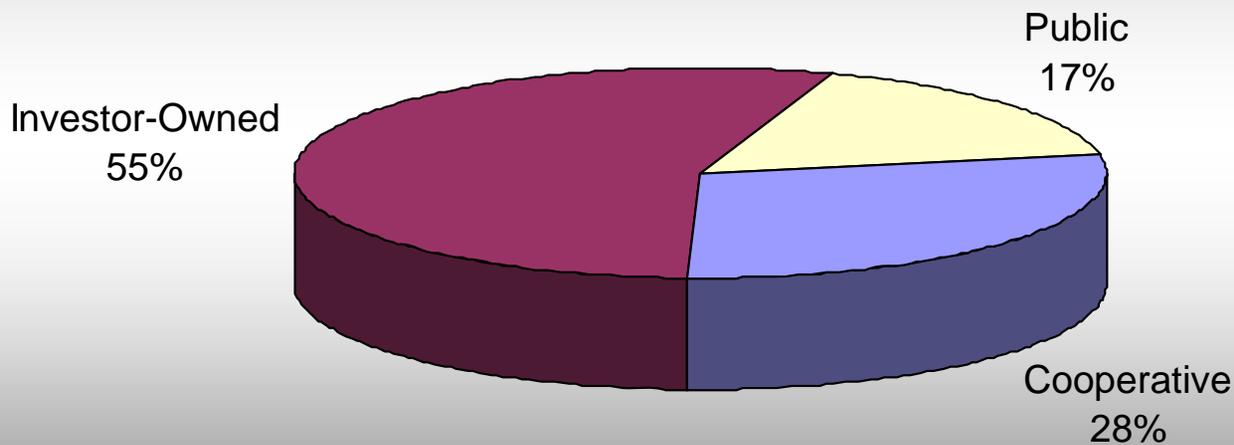
*The mission of the PUC is to achieve a flexible regulatory environment that provides safe, reliable and quality services to utility customers on just and reasonable terms, while managing the transition to effective competition where appropriate*

# Our Energy Challenges

- Working with Governor Ritter and the Legislature to develop an integrated state energy policy
- Meeting Colorado's projected energy demand
- Shaping consumers' energy demand
  - Energy efficiency
  - Pricing
- Developing Colorado's renewable resources
  - Renewable portfolio standard
  - Transmission planning
- Integrating environmental concerns
- Enabling economic development
- Keeping prices reasonable and equitable

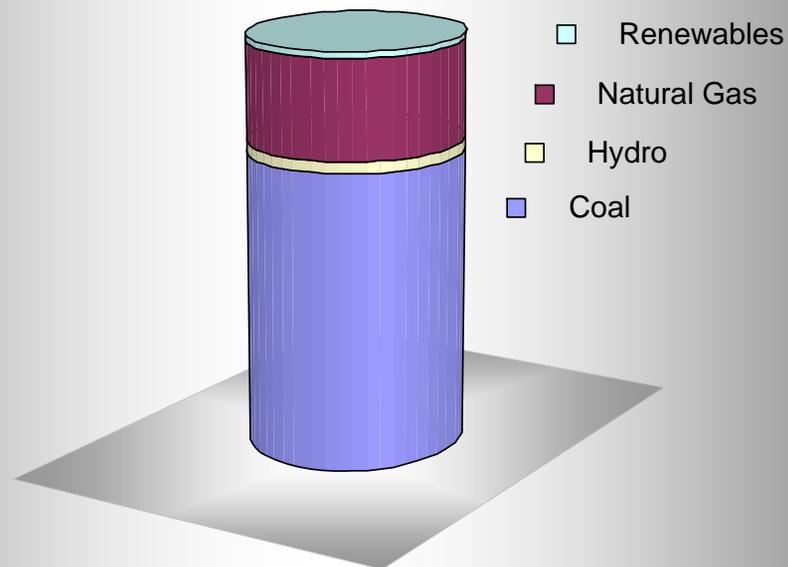
# Types of Colorado Utilities

**Colorado Energy Sales  
by Type of Utility**

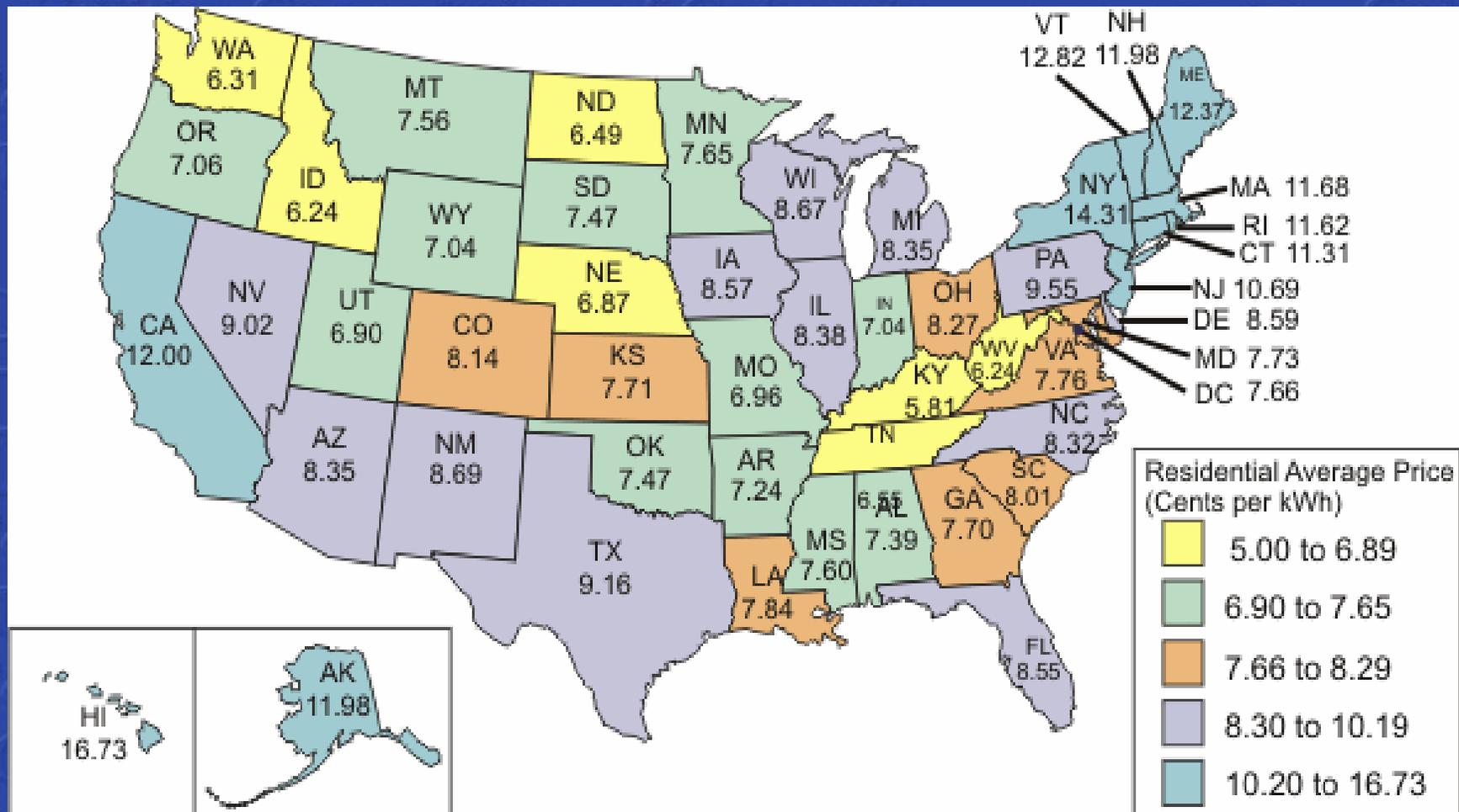


# Colorado Electric Generation Fuels and Sources

**Colorado Electric Generation  
by Fuel Type -- 2005**

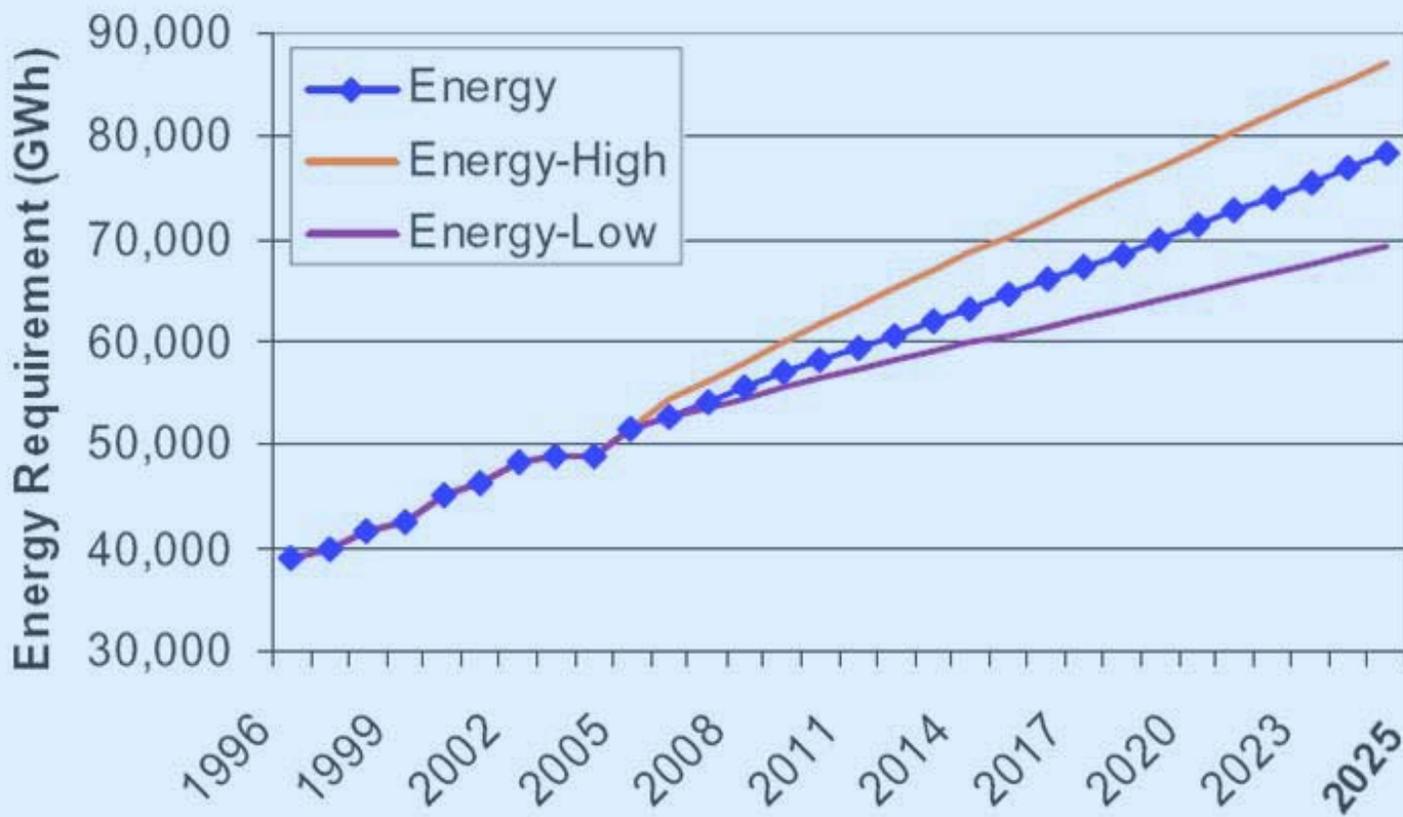


# Price of Residential Electricity in US by State -- 2003



Source: Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

# Projected Colorado Electric Energy Growth 2007-2025



# An Emerging State Energy Policy

**NOTE: This bill has been prepared for the signature of the appropriate legislative officers and the Governor. To determine whether the Governor has signed the bill or taken other action on it, please consult the legislative status sheet, the legislative history, or the Session Laws.**

# An Act

HOUSE BILL 07-1281

BY REPRESENTATIVE(S) Pommer and Witwer, Benefield, Borodkin, Buescher, Butcher, Casso, Cerbo, Fischer, Frangas, Gagliardi, Garcia, Gibbs, Green, Hicks, Jahn, Kefalas, Kerr A., Kerr J., Labuda, Levy, Looper, Madden, Marostica, Marshall, Massey, McFadyen, McGihon, McKinley, Merrifield, Peniston, Primavera, Rice, Riesberg, Roberts, Solano, Summers, Todd, Vaad, Carroll M., Carroll T., Hodge, Romanoff, Sonnenberg, Soper, Weissmann, Gallegos, Liston, Stafford, and White; also SENATOR(S) Schwartz, Bacon, Boyd, Fitz-Gerald, Gordon, Groff, Johnson, Keller, Kester, Morse, Romer, Shaffer, Tapia, Tochtrop, Tupa, Veiga, Williams, and Windels.

CONCERNING INCREASED RENEWABLE ENERGY STANDARDS.

*Be it enacted by the General Assembly of the State of Colorado:*

**SECTION 1.** 40-2-124, Colorado Revised Statutes, is amended to read:

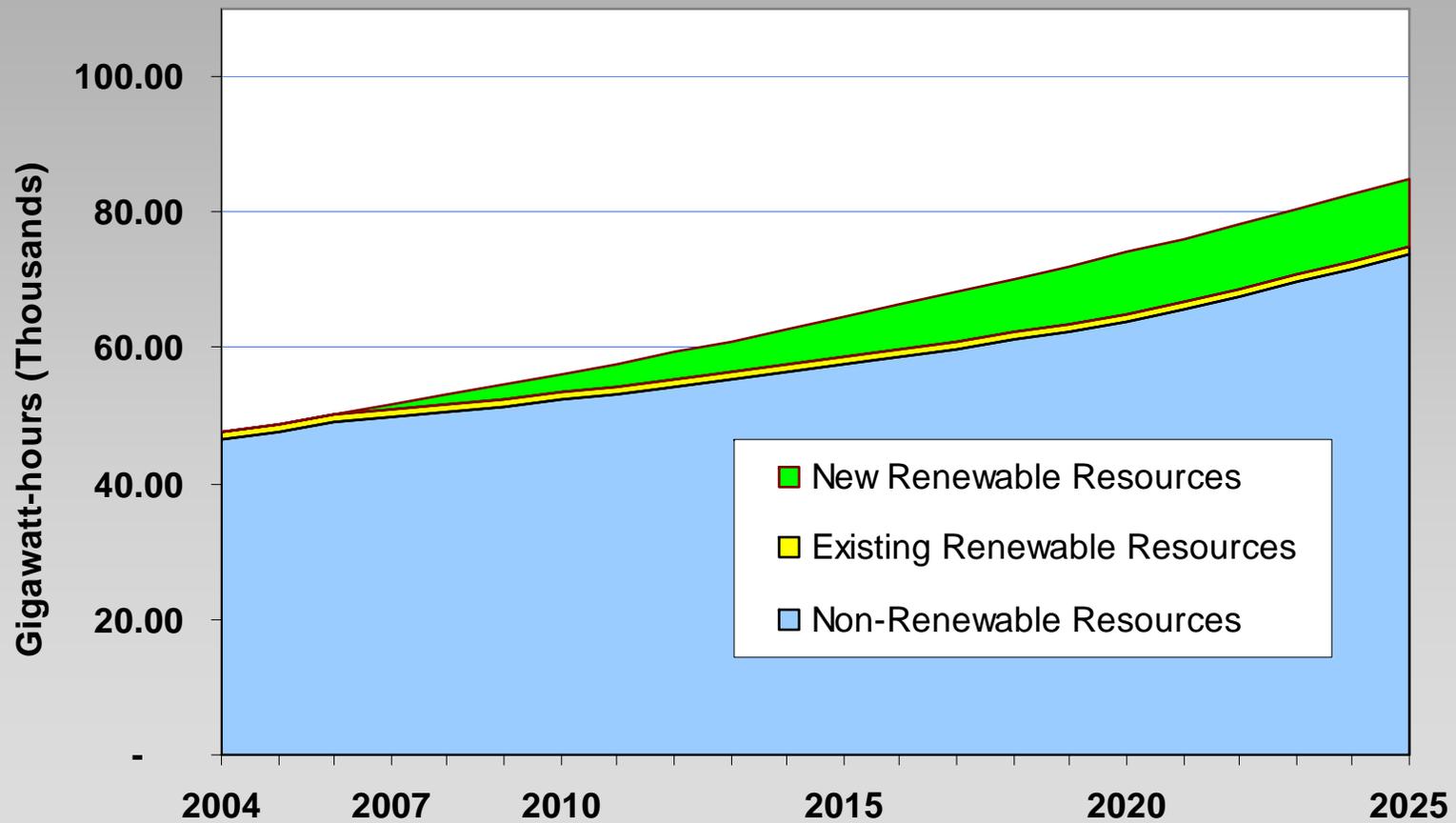
**40-2-124. Renewable energy standard.** (1) Each provider of retail electric service in the state of Colorado, ~~that serves over~~ OTHER THAN MUNICIPALLY OWNED UTILITIES THAT SERVE forty thousand customers OR LESS, shall be considered a qualifying retail utility. Each qualifying retail utility, with the exception of cooperative electric associations that have

*Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.*

# HB 1281 – Colorado's New Renewable Energy Standard

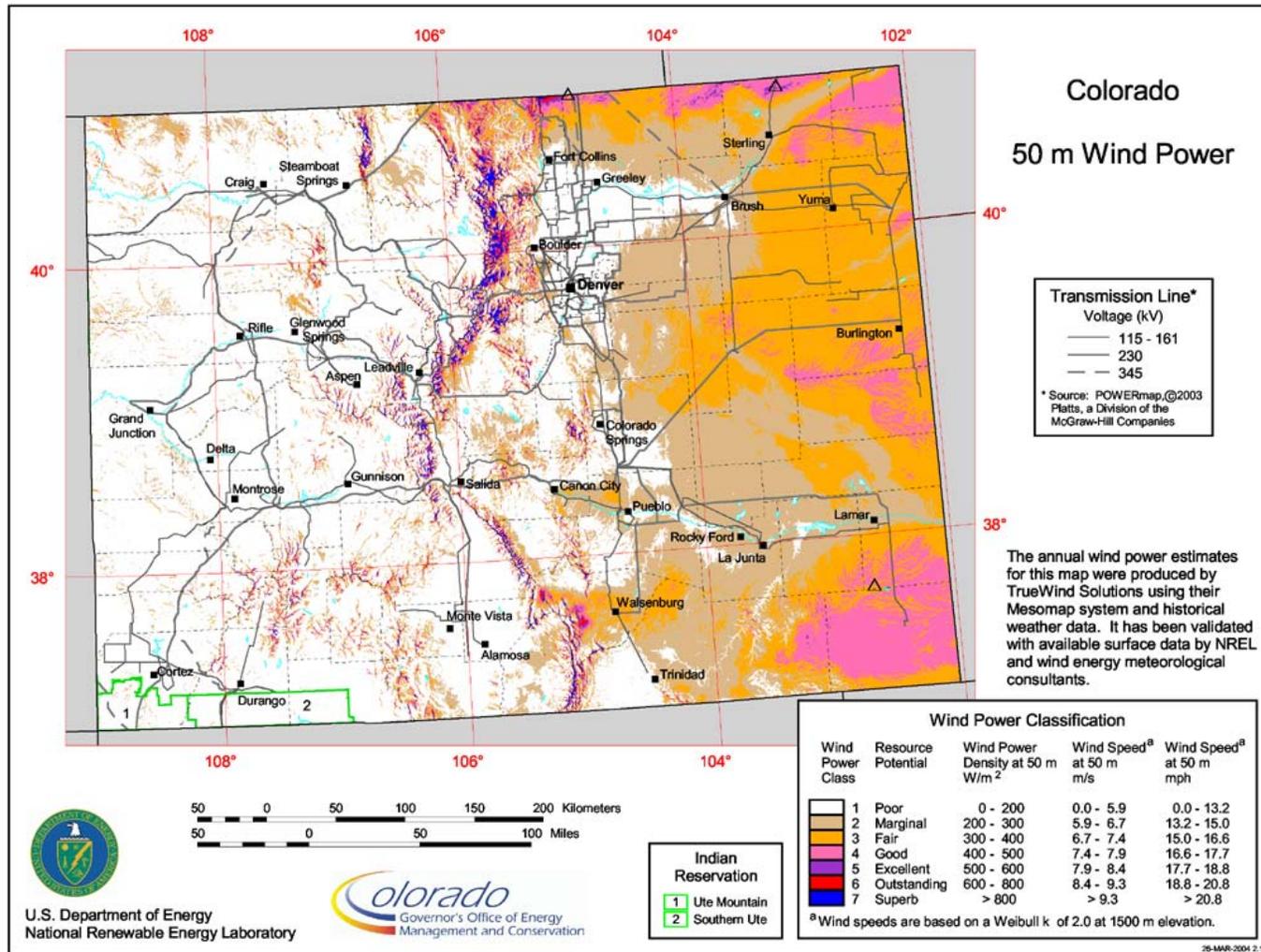
- IOUs -- 20% renewables by 2020
- REAs, Munis -- 10% renewables by 2020
- For IOUs, 4% of renewables must be solar, half on-site
- 1.25x for in-state resources
- 3.0x for REAs use of solar
- Maximum rate impact 2% for IOUs, 1% for Munis and REAs

# Renewable Resources Required by HB 1281

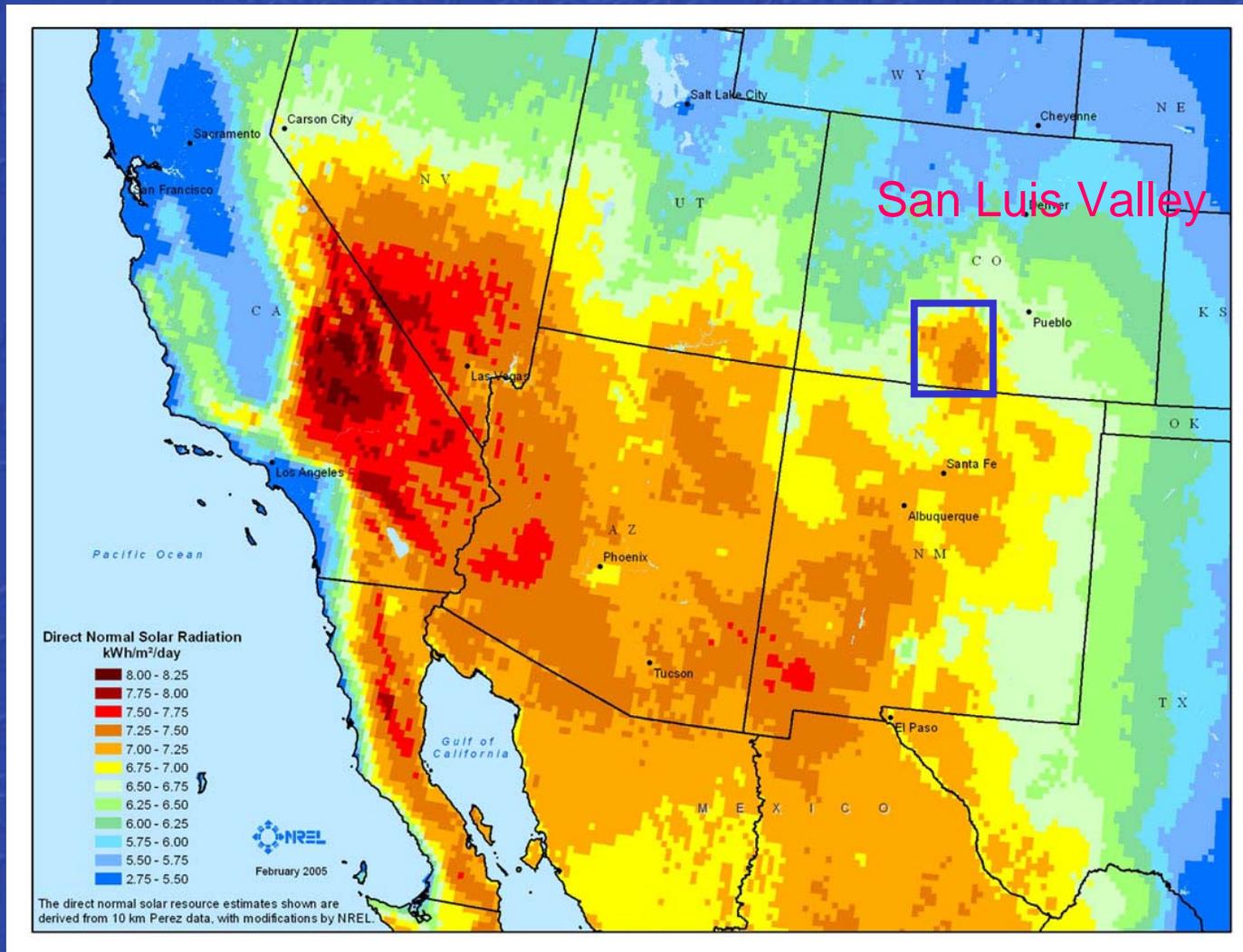


# Colorado's Renewable Resources

# NREL Wind Resource Map



# NREL "Insolation" Map



# Getting Renewable Resources to Market

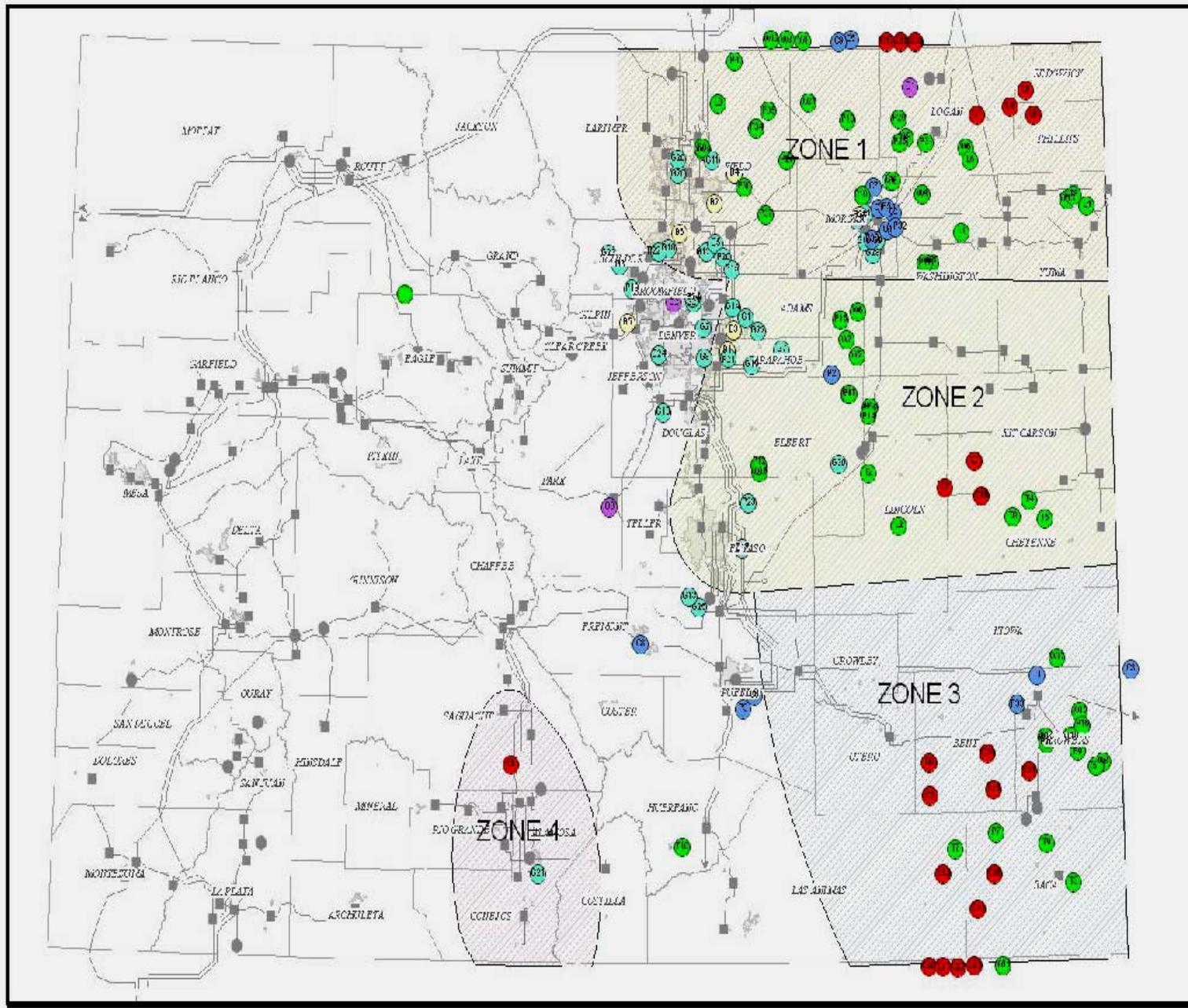
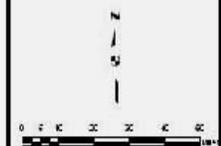
All Locations  
 (LGIP, All Source,  
 SB100 Comments)

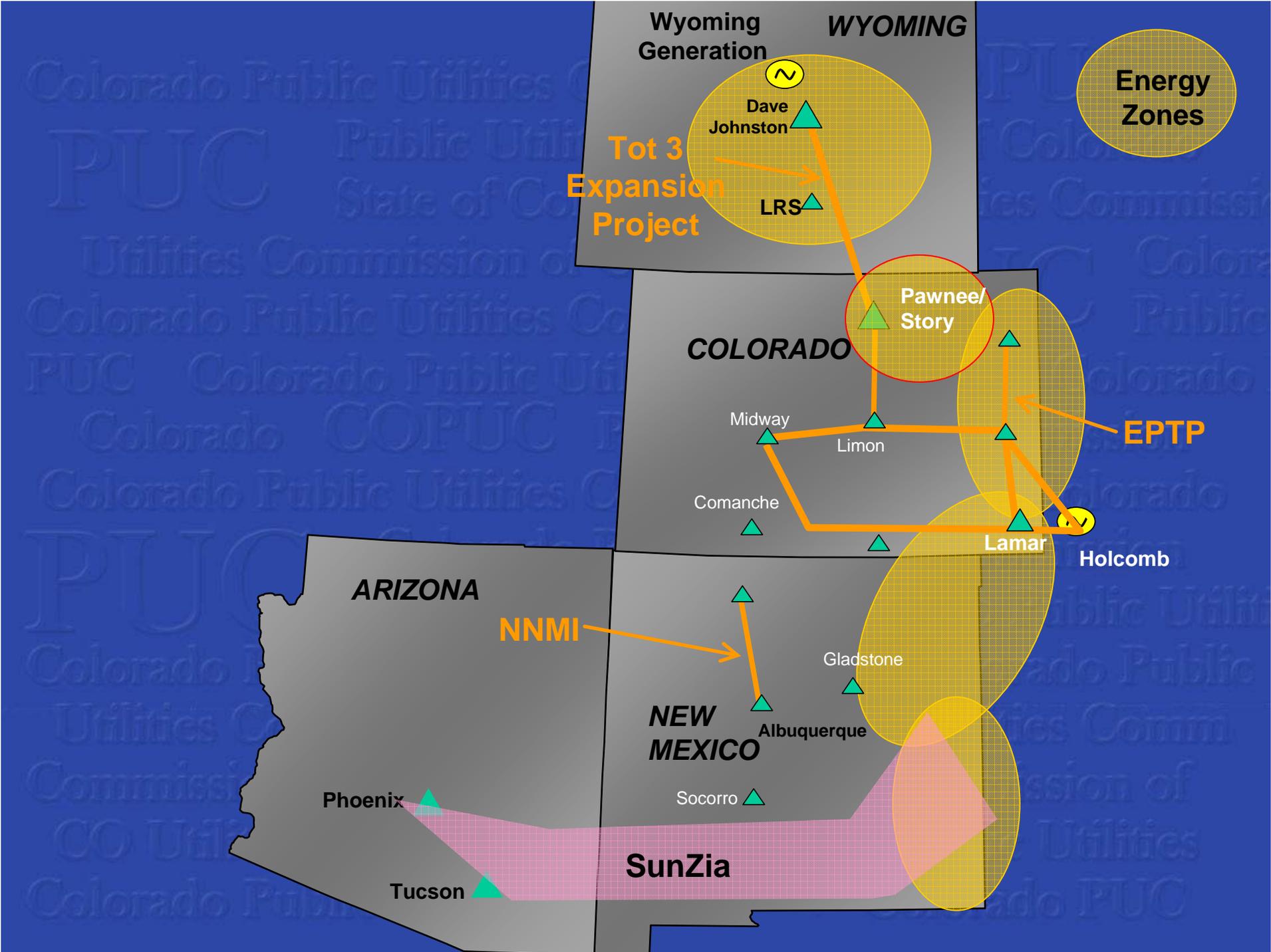
**Legend**

- WIND
- OTHER
- GAS
- COAL
- BIOMASS
- SB100

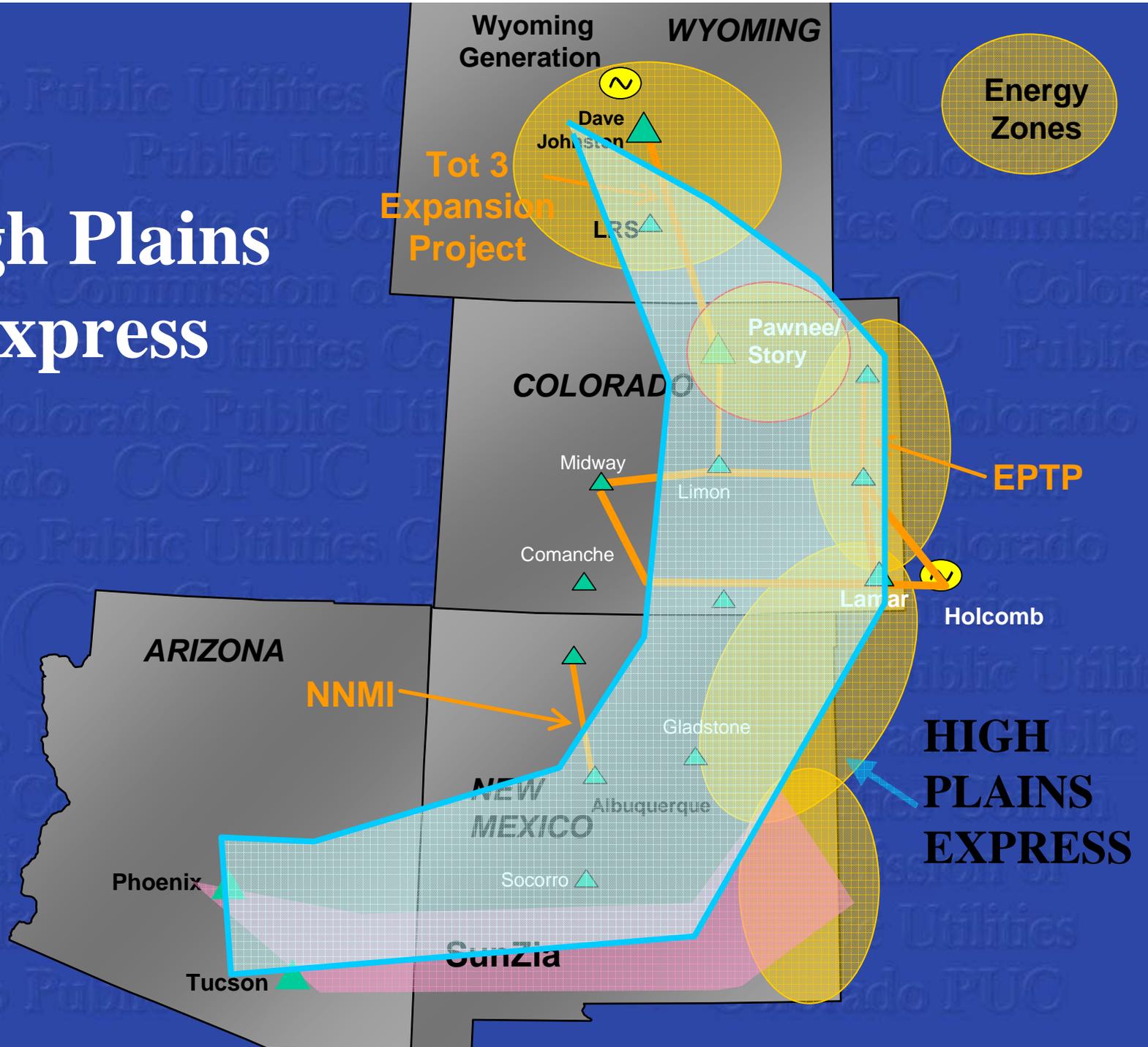
P = PSCo  
 T = Tri-State  
 L = Loveland WAPA

May 30, 2007

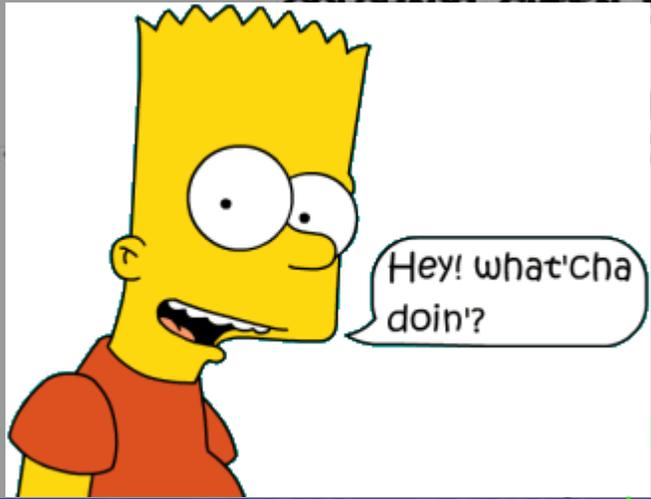
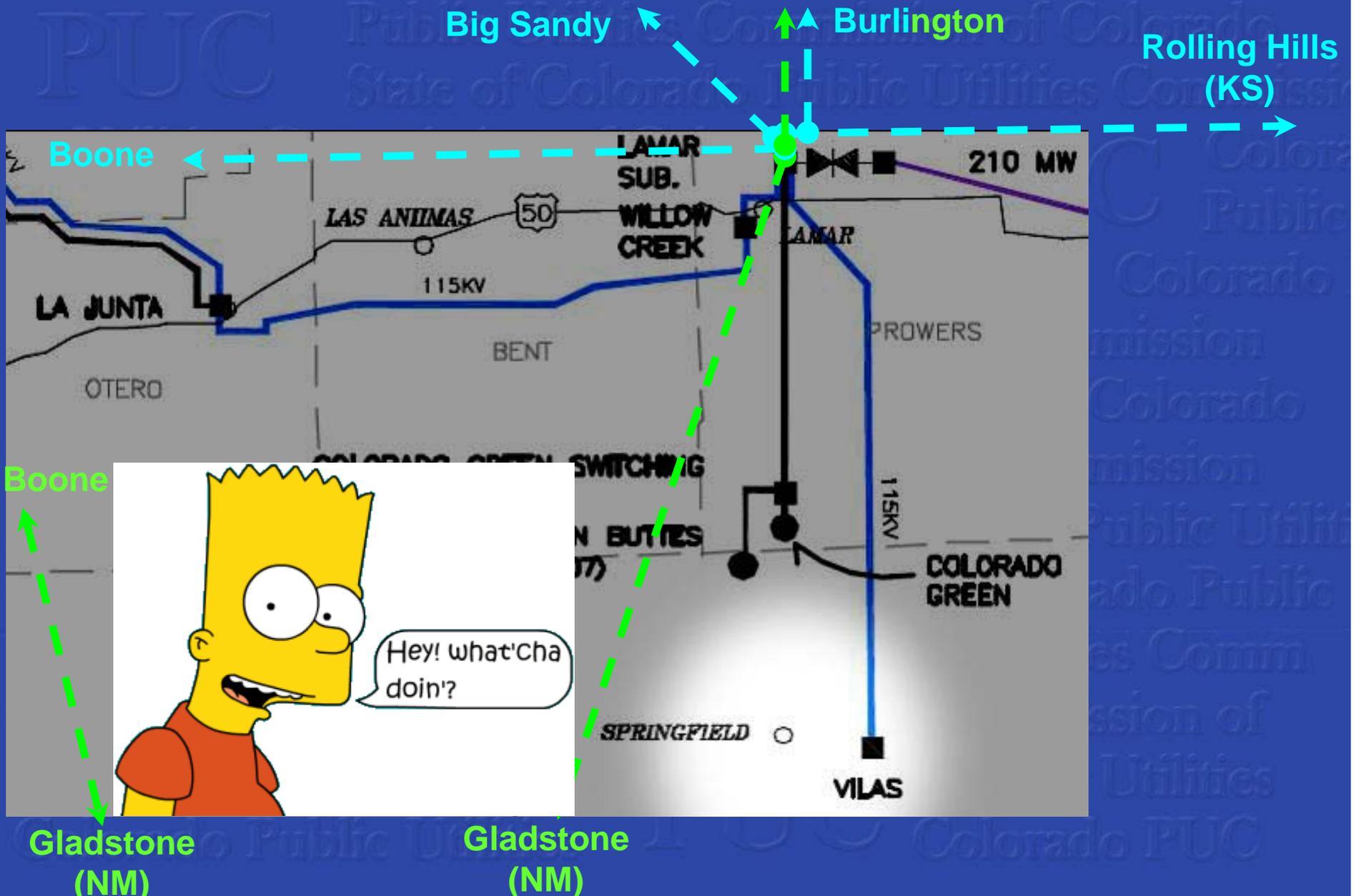




# High Plains Express



# Springfield Area Transmission Projects



# New Alamosa Photovoltaic Generation Facility

- **Alamosa Solar Generating Station**
  - **8MW combined concentrating PV and flat plate (nominal 16,800 MWh/yr)**
  - **Developer: SunEdison**
  - **Online: December 2007**
  - **Committed Solar Energy: 16,836 MWh, decreasing 0.55%/yr**
  - **Price: \$224/MWh flat for 20 years**



# PUC Proceedings of Note

- Implementation of HB 1281 (20% by 2020)
- **Decision to exercise jurisdiction over TriState's Eastern Plains Transmission Project**
- PUC Emergency Amendments to Resource Planning Rules
- **Xcel Energy's 2007 LCP Filing (October 31, 2007)**
- Xcel's Proposal to build an IGCC plant
- **Ruling in transmission siting disputes**
- Rate cases
- **Reliability and quality of service issues**
- Everything else...

# Fall Energy Conference

- Tuesday, Oct. 30  
Marriott City Center  
Denver
- Sponsored by the PUC,  
Governor's Energy  
Office, OCC and Energy  
Outreach Colorado



Register now at:

[www.dora.state.co.us/puc](http://www.dora.state.co.us/puc)

# PUC/OCC Energy Town Meetings

The PUC and OCC will travel around the state this summer on a “listening tour” to hear from Coloradans about important energy issues.

Please join us at one of the following meetings:

Aug. 14 – Windsor

Aug. 21 – Yuma

Aug. 28 – Springfield

Aug. 29 – Alamosa

Aug. 30 – Canon City

Sept. 11 – Steamboat Springs

Sept. 12 – Montrose

Sept. 13 -- Vail

For more information, visit at the PUC home page at:

[www.dora.state.co.us/puc](http://www.dora.state.co.us/puc)

# Some discussion ideas...

- Are you satisfied with service from your local utilities?
- How do you feel about the prices for electricity and natural gas that you pay as a consumer: “too high”, “about right”, “OK to go higher if there’s a good reason”?
- Are you willing to pay more in rates so that your utility can buy more renewable energy like wind and solar power?
- Are you willing to pay more in rates to reduce carbon dioxide and other emissions from fossil fuel plants?

## Some discussion ideas...

- What do you think about the topics of climate change and global warming? How should the PUC respond to these issues?
- Colorado is an important coal-producing state and a major gas producing state, but also an important wind and solar resource state. How should the Commission use these facts when making its decisions about future power plant construction?
- Some say that Colorado must build new transmission lines to serve our state and to export renewable energy to other states. Do you agree? How should we decide where to place new transmission facilities?

# Some discussion ideas...

- What are you doing personally to use energy more efficiently?
- What role should the PUC have in encouraging energy efficiency?
- What role is there for your local utility in energy efficiency?
- Would you support the construction of a new nuclear power plant in Colorado?
- What are your predictions about residential and commercial energy use twenty years from now?

Thanks for those  
compact fluorescent  
light bulbs...



Governor's  
Energy Office



Thanks for your hospitality,  
Springfield

We look forward to the  
conversation...



# Production Credits

## *Thanks to...*

- Jeff Hein
- Steve Brown
- Larry Shiao
- Inez Dominguez
- Ron Davis
- Rich Mignogna
- Frank Shafer
- Becky Quintana
- Billy Kwan
- Bob Bergman

**Colorado's New Energy Economy Town Meetings  
Appendix 2**

Typical Office of Consumer Counsel Presentation  
on the Town Meetings 'Listening Tour'

# PUC/OCC Town Meetings

Jim Greenwood  
Director, Office of Consumer Counsel (OCC)  
1560 Broadway, Suite 200  
Denver, Colorado 80202  
303.894.2121  
[www.dora.state.co.us/OCC/](http://www.dora.state.co.us/OCC/)

# PUC/OCC Town Meetings

- OCC Established in 1984
- CCR 40-6.5-102

# PUC/OCC Town Meetings

- Mission Statement –
- *The OCC's mission is to represent the interests of residential, small business and agricultural energy and telecommunication consumers by promoting affordable, reasonably priced, high quality, reliable service.*

# PUC/OCC Town Meetings

- OCC Staff -
  - PB Schechter
  - Cory Skluzak
  - Dennis Senger
  - Rob Trokey
  - Tim Villarosa
  - Chere Mitchell
  - AG's Office – Three Attorneys and one paralegal
- Budget – Approx. \$1.3 million

**Colorado's New Energy Economy Town Meetings  
Appendix 3**

Typical News Release for the  
Town Meetings 'Listening Tour'

*'PUC TO TRADE LIGHT BULBS  
FOR BRIGHT IDEAS'*



## Public Utilities Commission

### News Releases

August 3, 2007

For Immediate Release

#### **PUC TO TRADE LIGHT BULBS FOR BRIGHT IDEAS**

DENVER -- Members of the public who attend a town meeting on energy issues in Windsor will be able to trade their bright ideas for energy-efficient light bulbs.

The Colorado Public Utilities Commission (PUC) and the Colorado Office of Consumer Counsel (OCC) of the Colorado Department of Regulatory Agencies are hosting the meeting, which begins at 7 p.m. on Tuesday, Aug. 14, at the Windsor Community Center, 250 11th St.

The first 50 people who show up at the town meeting will receive a free compact fluorescent light bulb. The PUC and OCC have teamed up with Lowe's hardware stores and the Governor's Energy Office to sponsor the light bulb giveaway.

Along with the rest of the nation and the world, Colorado is facing unprecedented change in terms of selection of electric generation resources, transmission, and clean energy goals. Utilities are making planning choices now that will have economic and environmental implications for decades to come.

The PUC and OCC want to hear from consumers about these and other important energy issues. The agencies also are interested in hearing consumers' thoughts about the impact that PUC decisions on these issues might have on consumers' electric and natural gas bills.

PUC Chairman Ron Binz, Commissioner Polly Page, Commissioner Carl Miller, OCC Director Jim Greenwood and PUC Director Doug Dean will attend the meetings, along with other PUC and OCC staff members. Local governmental, legislative and economic development leaders have been invited to participate.

"With its new Vestas windmill blade factory, and its proximity to windy areas and to electric transmission corridors, Windsor is on the front lines of the debate about our future energy resources," Binz said. "If ever there was a time for public input into our energy future, this is it. We look forward to hearing from the citizens of Windsor."

The meeting in Windsor is the first of eight town meetings that will be held around the state in August and September. The rest of the schedule is as follows: **Yuma** (Aug. 21), **Springfield**, (Aug. 28), **Alamosa** (Aug. 29), **Canon City** (Aug. 30), **Steamboat Springs** (Sept. 11), **Montrose** (Sept. 12) and **Vail** (Sept. 13).

[A list of questions that the PUC is interested in soliciting consumer opinions about is attached.](#)

###

1560 Broadway, Suite 250, Denver, CO 80202  
(303) 894-2000 - General Issues Phone  
(800) 888-0170 - General Issues Toll Free  
(303) 894-2070 - Consumer Issues Phone  
(800) 456-0858 - Consumer Issues Toll Free  
Complaints E-Mail  
(303) 894-2065 - General Fax  
(303) 894-2071 - Transportation Fax  
E-Mail

*The Colorado Public Utilities Commission is traveling around the state on a “listening tour.”*

*We’re very interested in your opinion about some important energy issues. Please join us at a town meeting and tell us what you think. Here are suggestions for issues to tell us about...*

---

How do you feel about the prices for electricity and natural gas that you pay as a consumer: “too high,” “about right,” “OK to go higher if there’s a good reason”?

Are you satisfied with service from your local energy utilities?

Are you willing to pay more in rates so that your utility can shift toward more renewable energy like wind and solar power? Are you willing to pay more in rates to reduce carbon dioxide and other emissions from fossil fuel plants?

What do you think about the topics of climate change and global warming? How should the PUC respond to these issues?

Experts say that Colorado must build new transmission lines to serve our state and to export renewable energy to other states. Do you agree? How should we decide where to place new transmission facilities?

Colorado is an important coal-producing state and a major gas producing state, but also an important wind and solar resource state. How should the Commission use these facts when making its decisions about future power plant construction?

Do you think Colorado should become an exporter of renewable energy to other states in the West? What if that means building more transmission lines?

What are you doing personally to use energy more efficiently?

What role should the PUC have in encouraging energy efficiency? What role is there for your local utility?

Would you support the construction of a new nuclear power plant in Colorado?

How should the Commission consider external factors (such as state economic development, jobs, environmental concerns, needs of low-income persons) when setting utility rates and deciding the location of generation and transmission facilities? How should the Commission quantify these external factors?

What are your predictions about residential and commercial energy use twenty years from now?

---

Next Town Meeting: Windsor, Colorado  
Windsor Community Center, 250 11<sup>th</sup> St.

**Colorado's New Energy Economy Town Meetings  
Appendix 4**

Letters of Legislators regarding the  
Town Meetings 'Listening Tour'



State Representative  
**CORY GARDNER**  
P.O. Box 86  
Yuma, CO 80759  
Home: 970-848-2232  
Capitol: 303-866-2906  
Fax: 303-866-2218  
E-mail: [cory.gardner.house@state.co.us](mailto:cory.gardner.house@state.co.us)

**COLORADO**  
**HOUSE OF REPRESENTATIVES**  
STATE CAPITOL  
DENVER  
80203

MINORITY WHIP

Member:  
Agriculture, Livestock, &  
Natural Resources Committee  
Education Committee  
Legislative Council Committee

August 21, 2007

Mr. Ron Binz, Chairman  
Colorado Public Utilities Commission  
1560 Broadway, Suite 250  
Denver, Colorado 80202

Dear Chairman Binz,

Please accept my sincerest gratitude for traveling to the high plains of Colorado to discuss our energy future. As a rural member of the legislature, the Commission's efforts to reach out across the state are greatly appreciated.

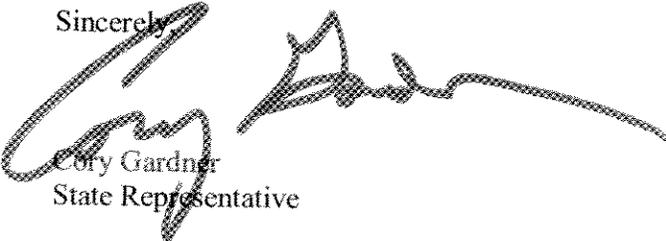
Profitability in agriculture depends on access to low-cost, readily available energy sources. From the electricity that runs our irrigation pumps to the natural gas used in fertilizers, farmers and ranchers depend on a strong, vibrant state and national energy policy, one that can be relied upon to deliver power when it is needed, where it is needed. But profitability goes far beyond mere consumption of low-cost energy.

Emerging in the fields of Colorado farms and ranches grow new opportunities to revitalize rural America. A harvest of wind turbines, bio-mass, ethanol, thermal energy, and more captivate imagination and generate hope for a brighter future. Renewable energy development presents unparalleled opportunities for rural Colorado's future.

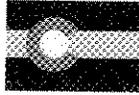
The key to a successful energy policy is balance. Yuma County boasts the newest ethanol plant in the state of Colorado. It also ranks third in the state for the number of permits it has issued to drill. Both provide excellent jobs and economic benefit. Energy derived from renewable sources is an important, and thankfully, growing, component. However, traditional energy development must not be sacrificed as renewable energy and renewable energy technologies mature. Unreasonable laws, rules and regulations drive the cost of fuel and electricity higher, making it difficult for families to afford the Colorado dream and for businesses to survive and thrive. Free market incentives and policies will boost renewable energy without tipping the cost-scale against traditional energy.

Again, thank you for your leadership and your effort to improve the quality of life in Colorado. Please let me know how I may be of assistance as you pursue beneficial energy policies.

Sincerely,



Cory Gardner  
State Representative



**JACK TAYLOR**  
State Senator  
P.O. Box 775656  
Steamboat Springs, CO 80477  
Home: (970) 879-1880  
Capitol: (303) 866-5292  
Business: (970) 879-3600

Senate Chamber  
State of Colorado  
Denver

COMMITTEES

Chair of:  
Legislative Audit  
Member of:  
Agriculture, Natural Resources & Energy  
Finance  
Water Resources Review  
Tourism Board

September 9, 2007

Members, Public Utilities Commission (Via Fax 303-894-2065)  
1560 Broadway, Suite 250  
Denver, Colorado 80202

Dear Commissioners:

I am unable to attend your meeting in Steamboat Springs on Tuesday, September 11 due to meetings in Denver. However, as you know, I have long supported coal as a generation fuel for supplying electricity. Northwest Colorado, the area which I have represented in the Colorado General Assembly for 15 years, is an important provider of coal and electricity for Colorado citizens.

While the State has undertaken ambitious goals in terms of supplying renewable energy during the past two years, it is important to remember that requirements for baseload electricity continue to increase and demand a reliable and affordable supply of power for our homes and businesses. Right now, coal provides more than 72% of our electricity in Colorado. Certainly natural gas is an important resource, and renewable energy will continue to grow, along with energy saved as a result of efficiency and conservation. Nevertheless, I think it is important to recognize that coal must continue to remain an important part of the energy supply.

Affordable electricity from coal provides a huge benefit to Colorado citizens, companies and our economy. Studies by Penn State University have shown that coal-based electricity generation is projected to increase Colorado's economic output by \$19 billion by 2015. Conversely, displacement of coal by other resources could cost Colorado from \$4 to \$6 billion dollars, depending on the amount of displacement. Three hundred seventy thousand Colorado households (22.9%) already qualify for energy assistance under federal guidelines. We must ensure that electricity remains affordable to all Coloradans. Continuing to generate electricity from coal helps us achieve that goal.

In Colorado we benefit from coal mine employment and investment as well as from the electricity produced. In 2006, Colorado coal mines paid more than \$210 million in wages and benefits to their employees. Coal mines also paid over \$10 million in property taxes. Severance taxes and federal mineral lease payments from coal support our schools, roads, and local government services. In short, coal must remain an important part of the mix for generating electricity.

Sincerely,

Senator Jack Taylor

**Colorado's New Energy Economy Town Meetings  
Appendix 5**

Written Comments from Associations, Cities,  
Companies, and Individuals on the  
Town Meetings 'Listening Tour'



Box 397 Telluride, CO 81435 (970) 728-3071  
FAX (970) 728-3078

September 10, 2007

Colorado Public Utilities Commission  
& the Colorado Office of Consumer Counsel (PUC/OCC)  
1560 Broadway, Suite 250  
Denver, CO 80202

**RE: Town of Telluride Comments for the PUC/OCC Energy Town Meetings**

Dear Sir or Madam:

On behalf of the Town of Telluride, the Telluride Town Council would like to submit its ideas for the PUC/OCC Energy Town Meeting, which is taking place September 12<sup>th</sup> in Montrose. It is our understanding that the PUC/OCC is soliciting input on the following topics: selection of new electric generation resources, siting new transmission lines, encouraging energy efficiency measures, low-income issues, and other energy issues that are important to Colorado utility customers.

The Town of Telluride is committed as a matter of policy and decision making to working toward decreasing its Carbon Footprint, becoming a more sustainable community, and protecting its air and water quality. Having signed onto the Mayors Climate Protection Agreement in 2005 and the Rocky Mountain Climate Organization in 2006, funding one third of a regional Sustainability Initiative, passing a resolution requesting that San Miguel Power Association not extend its power purchase contract with Tri-State Generation and Transmission—a coal-fired power energy source, and passage of the State's renewable energy standard by over 80 percent of the Telluride community, our town has made tremendous steps toward meeting these Master Plan goals. As a next step, our government is currently working very hard to use less energy overall and to obtain more of the energy we use from renewable and alternative sources. For example, our consulting engineers are investigating the possibility of including a hydropower component to our future water treatment plant.

A serious commitment by the Public Utilities Commission and the Colorado Office of Consumer Counsel to obtain more energy from renewable sources and to improve efficiencies would help Telluride reach these same goals. To this end, we request that the PUC/OCC strongly weigh renewable resources, such as wind and solar energy, when it undertakes selection of new electric generation resources. Likewise, our Town would like to see strong encouragement of energy

efficiency measures and even mandated efficiencies for appropriate technologies. Energy generation is just one part of the equation, wise and efficient energy use is the second part.

Finally, we appreciate the opportunity to share our ideas with you. Thank you for your time and consideration.

Respectfully,

John Hans Pryor, Mayor

A handwritten signature in cursive script that reads "John Hans Pryor". The signature is written in black ink and is positioned to the right of the typed name.

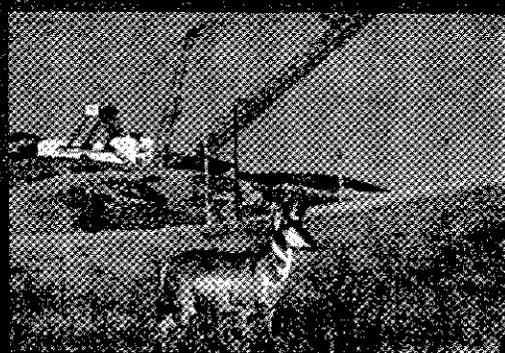
# 2006 Coal Production & Employment

presented by the  
Colorado Mining Association

Clean, Abundant  
and Affordable,  
Colorado Coal Keeps  
the Lights Shining!



Contact: Stuart A. Sanderson, President  
Colorado Mining Association  
216 16th Street, Suite 1250  
Denver, CO 80202  
303/575-9199 Fax: 303/575-9194  
[www.coloradomining.org](http://www.coloradomining.org)  
[colomine@coloradomining.org](mailto:colomine@coloradomining.org)



# Colorado: A Clean Coal Fueled Economy

Total Coal Produced	36,012,756 Tons
Total Coal Sold In State	11,753,424 Tons
Total Coal Sold Out of State	23,416,512 Tons
Number of Employees	2,246
Total Payroll & Benefits	\$210,220,372
Average Pay & Benefits per Employee	\$93,598
Property Taxes	\$10,275,856
Severance & Sales Taxes	\$ 9,189,160
Black Lung Taxes	\$28,394,385
Abandoned Mine Land Fees	\$ 6,890,083
Federal/State Royalties	\$64,447,102
Total Taxes and Payroll	\$329,416,958
Royalties Paid to Private Landowners	\$571,355
Total Sales Value of Production	\$883,980,199

**Colorado coal producers purchased over \$293 million in services and supplies during 2006.**

Coal severance taxes contribute millions of dollars for local/state governments.

More than half of Colorado's share of federal mineral royalties (coal, oil and gas) is paid to the state school fund and local school districts.

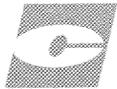
**Coal, which is high in BTU or energy content and low in sulfur, accounts for 72% of Colorado's electricity needs.**

**Coal is the state's most abundant and lowest cost electricity fuel. At current production rates, there is enough coal to power Colorado for 250 years.**

**27% of the world's coal is located in the United States.**

Photos: 1) Electricity from coal lights the Denver night skyline (courtesy Ted Orf). 2) Mule deer graze on reclaimed lands at New Horizon Mine in Nucla (courtesy Western Fuels Association). 3) Antelope graze on reclaimed land with dragline in the background (courtesy Trapper). 4) A variety of native seed mixes are used in reclamation. 5) Wildflowers bloom on reclaimed lands.

Source: Colorado Mining Association Survey of Coal Producers (2006)

 **Climax Molybdenum**  
A Freeport-McMoRan Company

COLORADO OPERATIONS

Henderson Mine  
P.O. Box 68  
Empire, CO 80438  
Phone (303) 569-3221  
Fax (303) 569-2830

October 3, 2007

Public Utilities Commission  
1560 Broadway  
Suite 250  
Denver, Colorado 80202

**RE: Town Meetings, Renewable Energy**

Dear Chairman Binz and Commissioners Page and Miller:

As General Manager of Climax Molybdenum Company's Henderson Mine (Climax), I regret that we were unable to attend the Commission's statewide renewable energy scoping meetings in person through the month of September. Climax asks, however, that this letter be added to the public record for your consideration in the Commission's evaluation of renewable energy for Colorado.

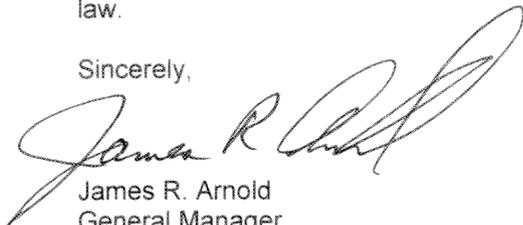
Electricity is a large component of our operating costs for mining and milling molybdenum ore, accounting for approximately 8% of our annual operating budget. Climax is a large industrial user of electricity and we work on a daily basis to contain our energy costs and use energy efficiently. Under several demand side management efforts, Climax has lowered peak energy loads and restructured site wide power use to optimize energy conservation. This included the deployment of controlled start-up and shut-down processes, seasonal and operational adjustments in site heating, ventilation and cooling, and the use of precise level control programs in water management.

We urge the PUC to take every opportunity to avoid imposing unnecessary costs on consumers, whether those consumers are from the residential, commercial or industrial sector. While we understand that renewable energy such as wind and solar offer ways in which to diversify electricity generation and reduce resource inputs, we are concerned about the additional costs, including the costs necessary for integrating these intermittent energy sources into the system.

We support the continuing use of coal-fired power plants as baseload generation. Coal has proven to be an affordable and reliable source of electricity.

Affordable electricity provides a great benefit to the economy and to companies such as Climax Molybdenum as we compete in an international marketplace. Conversely, any action taken by the PUC which imposes additional costs makes it more difficult for us to compete. For these reasons, we urge you to proceed with caution as you implement new laws which now require our supplier, Xcel Energy, to provide 20% of their power from renewable sources. We further encourage you to critically review the specific renewable resources proposed for addition to the system to ensure that they are the most cost-effective generating resources possible under the law.

Sincerely,



James R. Arnold  
General Manager  
Climax Molybdenum Company

RECEIVED  
STATE OF COLORADO  
PUBLIC UTILITIES COMMISSION  
2007 OCT -9 AM 9:18

# PUC Field Hearing

Montrose Colorado  
September 12, 2007

To: Colorado Public Utilities Commission  
Colorado Office of Consumer Counsel

Honorable Commissioners and Representative of the OCC:

Welcome to Montrose, Colorado, and we welcome you to the headquarters of Delta Montrose Electric Association (DMEA). We thank you for giving Delta Montrose Electric Association the opportunity to share our thoughts regarding the vital energy issues of the day.

DMEA is a member owned rural electric cooperative serving approximately 30,000 meters in Montrose and Delta counties. We serve a diverse and growing area. Our roots come from rural ethics of hard work and the desire to be self-sustaining. At DMEA, we find great promise in our future both locally and for the state of Colorado.

***“The Other”* Electric Coop’s Vision:** To provide electricity at the lowest cost

***DMEA’s Vision is:***

1. To keep our owner-member rates as low as is consistent with good service.
2. To be good environmental stewards by minimizing pollution and greenhouse gas emissions through energy conservation and alternative methods of energy production.
3. To remain a politically and economically independent cooperative.

***DMEA’s Strategy is..*** To Lead our Members and Communities to Energy Sustainability

1. We will use best operating practices
2. We will move our members to use energy wisely through efficient energy practices and technology
3. We will actively promote the growth of renewable energy sources for our members and for our nation.

## *What DMEA is doing about efficiency....*

- Developed and implemented a GeoExchange program branded as Co-Z. It is a financing tool that allows a member/owner to be able to save enough money on their energy bill to “afford” to put the energy efficient technologies in their home or business. GeoExchange is a solar technology that uses the ground as its heat source to comfortably heat and cool buildings. It is the most efficient heating and cooling technology available today according to the US Department of Energy.
- We piloted a “Home Energy Makeover Contest” for our members to make it fun to save money. Working toward a “spin-off” whereby a certified “Energy Doctor” would write energy efficient “prescriptions” for each dwelling. Buying “over the counter” energy remedies may be the most expensive purchase decision made by a homeowner. Through this project we demonstrated that energy savings don’t cost, they pay.
- We piloted an Energy Star Compact Fluorescent light bulb promotion using local non-profit groups to sell the “idea” of energy efficiency and light bulbs to their network of friends and acquaintances similar to the Girl Scouts selling cookies in their neighborhoods. In our first year we directly placed 3,000 energy efficient lights on our lines. By installing only 5 CFLs our members will save enough on their electric bills to erase the financial impacts of our past 3 rate increases. More importantly, by spending \$15,000 in efficient lights, our members helped avoid over \$600,000 in new coal-powered generation. Imagine the impact if every home in Colorado installed 5 energy efficient lights. Again our message is that energy efficiency “doesn’t cost....it pays.”
- We work with local developers and builders to encourage them to concentrate on energy efficiency in their work. Many of the energy decisions are made for consumers by their builders or architects long before they can make choices- particularly in the heating and cooling of the space and the construction of the envelope that they will live or work in. To support this effort we built an energy-efficiency learning center.
- We have hosted numerous “no cost” seminars and conferences and participating in home shows whereby members can learn how they can “save money on their energy consumption habits” or just change their habits. Many of these efforts have been done cooperatively with the Governor’s Energy Office, the Department’s of Energy and Agriculture, and other local, Regional, state-wide and national organizations.

## ***Renewables....***

On the renewable (supply side) of the equation, we are looking at ways we can utilize our vast renewable resources to augment our existing base load coal-produced electricity. Some of the projects we are looking at include:

- Water Storage and Micro Hydro Projects – potential for hydro electricity production (up to 5% of our current needs)
- Coal Mine – waste methane electric production opportunities (up to 10% of our current needs)
- Biomass Projects using waste agricultural products to produce steam and electricity at local sawmill (Up to 5% of our current needs).
- Geothermal Electric Generation huge potential- Colorado is nation's 4<sup>th</sup> largest potential supplier of geothermal generation.
- Other Solar early adopters of net metering-continued review of cost affective solar siting.

## ***The Problem...***

Even prior to the RPS laws that have been passed in Colorado, DMEA has been on task to help our rural members develop the renewable energy resources that are so abundant in our area. Unfortunately, we have been limited in success because of contractual obligations we have with our power supplier, Tri-State Generation and Transmission Association (Tri-State). DMEA wants the ability to promote more renewable generation than the existing Tri-State contract will allow. Given this hurdle, DMEA recently decided not to extend our contract with Tri-State for an additional ten years. This decision was made in good faith and in consideration for the long-term benefit of our membership to begin the process of enriching our resource mix with more renewable energy.

Tri-State has notified DMEA that, because we did not extend the contract, we will be subjected to additional costs that will not be imposed on the other members of Tri-State who did sign the contract. DMEA believes that if Tri-State does indeed impose a punitive, discriminatory rate upon the members of Delta and Montrose Counties, that said rate would be unfair, probably illegal and at a minimum, counter to the intention of Colorado Senate Bill 224 that provided for the deregulation of the rural electric cooperatives.

We bring this issue to your attention with the hope that we may have your support to help fend off this kind of action if indeed Tri-State imposes a discriminatory rate upon our members.

Again we thank you for coming and stand willing to assist the Commission and the OCC in any way possible.

## DMEA SUGGESTIONS AND INFORMATION FOR CONSIDERATION BY THE COLORADO PUBLIC UTILITIES COMMISSION

The Delta-Montrose Electric Association (DMEA) strongly believes in an energy future that will improve the financial health of America's farming community, reduces our nation's dependence on imported energy in all forms, provides opportunities for all Americans to reduce their annual expenditures on energy, and lead to a major reduction in emissions that are driving global climate change. DMEA is convinced that the nation's electric cooperatives can become major players in the achievement of this vision. We hereby submit suggestions and information that may be beneficial in helping Colorado and the state's electric cooperatives deliver the full potential promised by renewable energy and energy efficiency.

### **Efficiency Recommendations:**

- Adopt laws that require state owned or financially supported facilities to require the use of life cycle costing to analyze the value of energy efficient technologies before construction contracts are let or renovations are made.
- Adopt a form of public goods funding to be collected by Colorado's gas and electric utilities at the wholesale or retail level to establish base line funding for cost effective energy efficiency and renewable energy generation efforts.
- Create and enforce energy efficient building codes and require contractors to publish the energy efficiency of their dwellings to potential buyers (like the yellow stickers on electric appliances or miles per gallon on new vehicles).

### **Other Related Suggestions:**

#### **Help Change the Rules on "All Requirements Contracts"**

The federal government is a major lender to the Generation and Transmission cooperatives (G&Ts) that build the power plants and transmission lines that serve individual electric cooperatives including DMEA. In the past, in order to protect the taxpayer's investment in this energy system, government regulations required each electric cooperative to sign an "all requirements contract" with their G&T. While this practice has served the nation well, it no longer provides the flexibility necessary to promote homegrown renewable energy generation projects, as distribution cooperatives are prohibited from obtaining power outside of their G&Ts.

The large G&Ts do not have the resources to investigate and support every feasible renewable project in their service areas. They are focused on large-scale fossil fuel powered projects that will bring on many MW of power at a time. Electric distribution cooperatives do have the capability and focus necessary to identify and support local renewable generation projects in their communities. To free up this renewable energy potential, the distribution cooperatives need greater flexibility in their G&T power contracts. Allowing up to 25% of the electricity sold by each distribution cooperatives to come from non G&T renewable energy projects would provide a major boost to locally based renewable electricity generation.

#### **Allow Cooperatives to Earn and Sell Tax and Emission Credits**

One of the major benefits of being a member of an electric cooperative is their not-for-profit status. Cooperatives are not focused on maximizing shareholder returns. They are focused on customer service, community development, and social issues important to their members. This not-for profit status is a

disadvantage in the market when cooperatives are denied the benefits of the tax credits that have inspired for-profit utilities to invest in renewable energy. To level this playing field, electric cooperatives need to be given the ability to sell tax and emissions credits in the marketplace with out risk to their not-for-profit status. Providing cooperatives the same financial incentives as investor owned utilities would encourage them to fully participate in the development of renewable energy and energy efficiency efforts.

### **Recognize Ground Source Heat Pumps as a Renewable Energy Technology**

Ground Sourced Heat Pumps (GSHPs), also called geothermal heat pumps or GeoExchange systems, are a unique heating, cooling and water heating technology. They are the most energy efficient, environmentally clean, and cost-effective space conditioning systems available, according to ENERGY STAR. GSHPs are net producers of renewable thermal energy, and consequently they are a renewable energy resource. According to a Government Accounting Office report, GSHPs are the most energy-efficient means of heating and cooling buildings in most areas of the United States and their wider use could cut energy costs, conserve fossil fuels, and reduce green house gas emissions. Ground source heat pumps can provide Colorado a reduced dependence on imported fuel oil, natural gas and propane.

According to the U.S. Dept. of Energy, nearly 40% of all U.S. emissions of carbon dioxide are the result of using energy to heat, cool, and provide hot water for buildings. This is about the same percentage that the transportation sector contributes. The EPA found that under most electricity generating scenarios, GSHP systems have the lowest carbon dioxide emissions of all technologies analyzed, and the lowest overall environmental cost (source: "Space Conditioning: The Next Frontier"). Recognizing GSHPs as a renewable energy technology and providing the same tax credits and emission savings credits available to other renewable energy technologies will provide a massive boost to the wide spread installation of this technology.

### **Development of Biofuels**

Colorado needs to accelerate the research into and the development of biofuels. DMEA would like to see research and development funding accelerated for cellulose based fuels. Cellulose based fuels have a great potential to power our state's transportation fleet, while avoiding competition for consumer and animal feeds. The beetle kill situation in Colorado's forests clearly demonstrates an opportunity to reduce fuel loads while providing a feedstock for cellulose-based ethanol. The continued support of the National Renewable Energy Lab in Golden, Colorado will guarantee that these development efforts will continue.

### **Require Efficiency as a component in Least Cost Resource Planning**

During the last "energy crisis," the federal government implemented vigorous rules for utility least cost planning. This process required a rigorous analysis of the costs to obtain new energy sources from both supply and demand side options. Over the past decade these rules have become weak. DMEA is convinced that "demand response/efficiency" criteria should be heavily considered in facilities placement decisions.

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STATE OF COLORADO  
PUBLIC UTILITIES

2007 SEP 12 PM 1:26

September 3, 2007

THE COLORADO PUBLIC UTILITIES COMMISSION

1580 Logan Street, Office Level 2

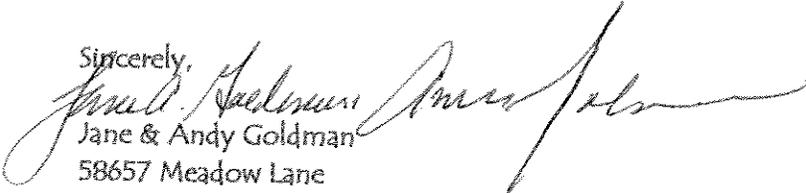
Denver, CO 80203

RE: PUC Western Slope Listening Tour, September 2007.

Dear Colorado Public Utility Commission,

We will be unable to attend the Montrose portion of your upcoming 'listening tour'. We would like you to include our written comments which are enclosed as a part of the public record. Thank you for taking the time to conduct this tour and please let us know when and where the resulting public commentary may be reviewed.

Sincerely,



Jane & Andy Goldman

58657 Meadow Lane

Montrose CO 81401

(970) 249 8771

Cc: DMEA, Montrose  
UVA, Montrose

The Colorado Public Utilities Commission is traveling around the state on a "listening tour."

We're very interested in your opinion about some important energy issues. Please join us at a town meeting and tell us what you think. Here are suggestions for issues to tell us about...

How do you feel about the prices for electricity and natural gas that you pay as a consumer: "too high," "about right," "OK to go higher if there's a good reason"? *Too high.*

Are you satisfied with service from your local energy utilities?

*We are fortunate to have progressive leadership from our electrical co-op, DMEA. However, more effort is needed if we are to turn the tide against rapid global warming. Conservation still remains our biggest source of clean, renewable energy. Much more needs to be done to encourage known conservation techniques with the public at large. Using CFL lighting, upgrading window and door insulation, energy efficient appliances, etc. are simple measures which can produce great benefits at very little cost. This is the important role for our local electrical providers. Each office should dedicate staff and a larger portion of their annual budgets to this end.*

Are you willing to pay more in rates so that your utility can shift toward more renewable energy like wind and solar power? Are you willing to pay more in rates to reduce carbon dioxide and other emissions from fossil fuel plants?

*Yes, we are reluctantly willing to pay more but only when additional premiums can be spent efficiently to produce sustainable and quantifiable results toward reducing CO2 and further development from clean, renewable, non-fossil fuel energy. We do not favor 'carbon trade offs' which are neither sustainable nor do they promote new sources of renewable energy. We also do not endorse new sourcing from coal in any form.*

What do you think about the topics of climate change and global warming? How should the PUC respond to these issues?

*Global warming from climate change is no longer a matter of opinion. It is scientifically based fact. Scientists around the world no longer debate 'if' global warming will occur but how quickly the changes will negatively effect our ability to live and prosper on this planet. I am alarmed by many scientifically based studies which now propose that the changes are taking place much faster than anyone has heretofore predicted. In light of this new information, it is the moral and economic mandate of every PUC to make conservation and development of clean, renewable, non-fossil fuel sources an urgent priority.*

Experts say that Colorado must build new transmission lines to serve our state and to export renewable energy to other states. Do you agree? How should we decide where to place new transmission facilities?

*While some new transmission lines may be necessary, we encourage the PUC to move toward overseeing more local generation and distribution of clean, non-fossil fuel energy where ever economically feasible.*

Colorado is an important coal-producing state and a major gas producing state, but also an important wind and solar resource state. How should the Commission use these facts when making its decisions about future power plant construction?

*#1 Conservation, #2 Solar and #3 Wind should be the natural resources of choice when considering allocation of monies for development of new energy sources. Gas and coal production are already exacting a heavy toll on our state's public lands, water resources and air quality. To continue to push for additional development from gas and coal is not only short sighted but self defeating to our goal of sustainability.*

Do you think Colorado should become an exporter of renewable energy to other states in the West? What if that means building more transmission lines? /  
*do not have enough information to answer this.*

What are you doing personally to use energy more efficiently?

*We use CF light bulbs, dry laundry outside, do not use air conditioning, keep the thermostat off during day and 62 at night. We have much passive solar gain in our home, shaded in summer. Our windows are heavy duty double insulated. We caulk frequently, use heavy drapes over windows and doors in winter, turn off lights when not in a room and use all energy efficient appliances. We drive a hybrid car and recycle almost everything including composting kitchen scraps. We plan to install solar thermal panels on our home and business later this year.*

What role should the PUC have in encouraging energy efficiency? What role is there for your local utility?

*If we recognize that conservation is our biggest source of 'renewable' energy then the PUC and our local Co-ops have very large and important roles to play. I believe that most people already want to make these changes but find the pace and demands of everyday life are holding them back. Education is only the beginning. Consumers will be motivated to make the necessary life style changes sooner rather than later when perks and incentives are included. It is up to the energy companies, co-ops and public sector to help give them the push they need.*

Would you support the construction of a new nuclear power plant in Colorado? NO!

How should the Commission consider external factors (such as state economic development, jobs, environmental concerns, needs of low-income persons) when setting utility rates and deciding the location of generation and transmission facilities? How should the Commission quantify these external factors?

What are your predictions about residential and commercial energy use twenty years from now?

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**From:** Liz Hickman [mailto:ehickman@plains.net]  
**Sent:** Monday, October 01, 2007 6:16 PM  
**To:** Complaints, PUCConsumer  
**Subject:** Yuma hearing

I was unable to attend the Yuma meeting and give commentary, but hoped to add my thoughts in this forum. Like any head of household, I watch my resources carefully. However, my concerns for the long term viability of our planet and the capability of my children and their heirs to live fruitful lives is of even greater importance. I don't believe that addressing problems of sustainability and global warming necessarily require higher energy costs, but if that is what it takes, then so be it. We must use ALL our problem solving capacity, including renewable energy alternatives and conservation to turn the tide. Please add my concerns to that of the Yuma citizenry that were able to attend your forum. Thank you for your time!

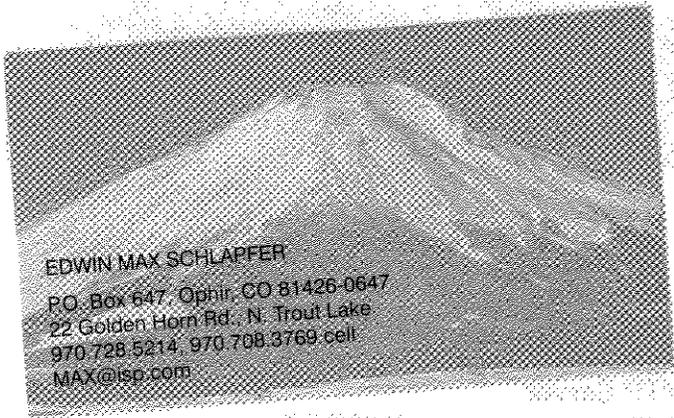
Elizabeth Hickman

Colorado PUC Listening Session  
Steamboat Springs, CO  
September 11, 2007

by Forrest V. Luke

- I appreciate this opportunity to provide input on energy choices for your consideration.
- I would like to start by saying that I think it is very important for Colorado to pursue a diverse supply of energy sources. Renewable energy is a part of that diverse mix. I further agree that energy efficiency and energy conservation are important for Colorado and should be vigorously pursued.
- I also believe very strongly that we need to balance economic, environmental, energy security and social considerations. To that end, keeping affordable coal as an important part of our Colorado energy portfolio is vital to maintaining that balance. I am concerned with what I perceive as a headlong rush to completely replace coal with more expensive and less reliable forms of energy. In my opinion, that would be a recipe for disaster—from an economic standpoint, from a national security standpoint and from an energy reliability standpoint.
- According to the results of a study by Penn State University that looked at the impacts of displacing coal in Colorado with other forms of energy, displacement of 33% of coal generation by 2015 could cost the state \$4 billion in economic output, along with 27,500 jobs and \$1.7 billion in lost household income, even taking into account new investment and jobs from alternative energy sources. Displacement of 66% of coal generation by 2015 could cost the state \$6.4 billion in economic output, along with 45,800 jobs and \$2.8 billion in lost household income.
- Low income households would be the hardest hit by higher energy prices. The percentage of their income required to not freeze in the dark would be many times higher than for middle and high income households. The suggestion that surcharges could be used to assist low income families is just a band aid approach. My lower end middle income family would be strapped to pay higher energy prices that include a surcharge while trying to pay college expenses and save for a modest retirement.

- A better answer than immediately ridding Colorado of all fossil fuel-derived energy is to follow a technology path that is then transferable to countries such as China and India, who aren't likely to voluntarily restrict their use of fossil fuels and whose rapidly growing carbon emissions already dwarf any carbon restriction efforts undertaken in Colorado or the United States in general.
- Clean coal can be a big part of the carbon solution. We need to invest heavily as an industry and as a nation in carbon capture and sequestration technologies that can be commercially deployed and transferred to developing countries.
- If, instead of pursuing a technology solution we put arbitrary caps on CO<sub>2</sub> emissions, all we will do is raise our energy costs, put people out of work, and send our jobs to parts of the world where no emissions are managed, much less carbon.
- My final point—let's look at a cost/benefit scenario. According to climate modeler Dr. Benjamin Zycher, if the U.S. were to reduce CO<sub>2</sub> emissions to 1990 levels under various federal greenhouse gas reduction schemes, the predicted decline in world temperatures in the year 2100, strictly as a result of U.S. actions, would be sixteen one hundredths of a degree Celsius. The reduction for Colorado efforts would obviously be far less, thousandths of a degree.
- Am I saying that that we should not pursue carbon reductions given that our best carbon reduction efforts would offer miniscule results at best? No, that is not what I am advocating. What I am advocating is that we be cautious and deliberate in following a technology path as our best chance to manage worldwide greenhouse gases. As a state, we do not need to damage the Colorado economy and jeopardize energy reliability and national security by imposing draconian restrictions on the current and future use of reliable and affordable coal. That, in my opinion, would be both unwise and irresponsible. As a state we can do our part to reduce carbon emissions without falling on our economic sword.
- Thank you for the opportunity to comment.



OURAY COUNTY  
BOARD OF COUNTY COMMISSIONERS  
2007 SEP 17 PM 3:05

Resolution # 2007-007

**RESOLUTION  
BOARD OF COUNTY COMMISSIONERS  
OURAY COUNTY**

**Re: Encouragement for Tri-State to Pursue  
Alternative Energy Sources**

**Whereas**, the demand for electricity in Ouray County is met by the San Miguel Power Association, Inc. (SMPA); and

**Whereas**, SMPA purchases the power it sells to its retail customers in Ouray County from the Tri-State Generation and Transmission Association, Inc. (Tri-State); and

**Whereas**, Tri-State proposes in its new draft resource plan, published on January 3, 2007, to build two new pulverized coal (PC) power plants totaling 1200 megawatts of capacity to help meet the wholesale demand for power by SMPA and other Tri-State members; and

**Whereas**, in its new plan Tri-State acknowledges the possibility that demand-side and wind power might play a role in helping Tri-State meet its obligations to its members but has not pursued combined heat and power (CHP) and, for the time being, coal gasification technologies; and

**Whereas**, opportunities exist for conservation, energy efficiency, demand-side management, renewable resources, CHP and new coal gasification technology; and

**Whereas**, in 2004 sixty percent (60%) of the votes cast in Ouray County on Amendment 37 were in favor of a state renewable energy standard clearly indicating the majority support for renewable energy; and

**Whereas**, many of the citizens of Ouray County are engaged in individual efforts to reduce greenhouse gas emissions; and

**Whereas**, Tri-State's decision to build two new PC power plants is a risky financial decision in an era in which, during the expected 50- to 60-year lifetime of these new power plants, greenhouse gas emissions are likely to be regulated or taxed; and

**Whereas**, SMPA has an all-requirements contract with Tri-State under which SMPA must purchase all but 5% of its requirements from Tri-State through 2040; and

**Whereas**, Tri-State has asked SMPA by April 1, 2007 to execute a ten-year extension of its power purchase contract with Tri-State to 2050 for the purpose of financing the PC plants;

**Now, Therefore, Be It Resolved**, by the Board of County Commissioners of Ouray County, Colorado to request that SMPA:

1. Seek to have Tri-State continue to work on its plan so that it fully integrates energy efficiency, energy conservation, demand-side management, renewable resources, CHP and new coal gasification facilities capable of economically capturing carbon dioxide, to the degree these facilities are commercially viable,
2. Develop and make available programs that promote energy efficiency and support the use of renewable resources, especially those renewable resources that are available locally,
3. Encourage Tri-State to employ the energy technologies listed above,
4. Use whatever resources SMPA has to protect Ouray County access to power, and
5. Explore avenues that would allow SMPA to purchase other sources of power that would accurately reflect the views of the co-op members.

**Adopted this \_\_\_\_ day of March, 2007.**

**BOARD OF COUNTY COMMISSIONERS  
OF OURAY COUNTY, COLORADO**

Attest

\_\_\_\_\_  
Don Batchelder, Chair

\_\_\_\_\_  
Heidi M. Albritton, Vice Chair

\_\_\_\_\_  
Michelle Nauer, Clerk and Recorder  
By: Linda Munson-Haley, Deputy Clerk of the Board

\_\_\_\_\_  
K. Keith Meinert, Member



**WHEREAS**, many of the citizens of San Miguel County are engaged in individual efforts to reduce their greenhouse gas emissions; and

**WHEREAS**, Tri-State's plan to build two new PC power plants is inconsistent with the Town of Telluride's endorsements of the U.S. Conference of Mayors' Climate Protection Agreement as well as the efforts to reduce greenhouse-gas emissions of San Miguel County citizens who purchase electricity from SMPA; and

**WHEREAS**, SMPA has an all-requirements contract with Tri-State under which SMPA must purchase all but 5% of its requirements from Tri-State through 2040; and

**WHEREAS**, Tri-State has asked SMPA by April 1, 2007 to execute a ten-year extension of its power purchase contract with Tri-State to 2050 for the purpose of financing the PC plants;

**NOW, THEREFORE, BE IT RESOLVED**, by the Board of County Commissioners of San Miguel County, Colorado to request that SMPA:

1. Seek to have Tri-State continue to work on its plan so that it fully integrates energy efficiency, energy conservation, demand-side management, renewable resources, CHP and new coal gasification facilities capable of economically capturing carbon dioxide, to the degree these facilities are commercially viable.
2. Develop and make available programs that promote energy efficiency and support the use of renewable resources especially those renewable resources that are available locally.
3. Encourage Tri-State to employ the energy technologies listed above.
4. Urge SMPA to consider points 1-3 above as it resolves its decision to extend or not extend its contract with Tri-State for the period of 2040 through 2050

**DONE AND APPROVED** by the Mountain Village Town Council at a regular meeting held at Mountain Village, Colorado, on March 15, 2007.

**TOWN COUNCIL  
TOWN OF MOUNTAIN VILLAGE, COLORADO**

By: \_\_\_\_\_  
Davis Fansler, Mayor

ATTEST:

\_\_\_\_\_  
Town Clerk

**RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF  
SAN MIGUEL COUNTY, COLORADO  
REGARDING SAN MIGUEL POWER ASSOCIATION'S CONTRACT EXTENSION  
WITH TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.**

**Resolution #2007- \_\_\_\_\_**

**WHEREAS**, the demand for electricity in San Miguel County is met by the San Miguel Power Association, Inc., (SMPA); and

**WHEREAS**, SMPA purchases the power it sells to its retail customers in San Miguel County from the Tri-State Generation and Transmission Association, Inc, (Tri-State); and

**WHEREAS**, Tri-State proposes in its new draft resource plan, published on 1/3/07, to build two new pulverized coal (PC) power plants totaling 1200 megawatts of capacity to help meet the wholesale demand for power by SMPA and other Tri-State members; and

**WHEREAS**, in its new plan Tri-State acknowledges the possibility that demand-side resources and windpower might play a role in helping Tri-State meet its obligations to its members, but has not pursued combined heat and power (CHP) and, for the time being, coal gasification technologies; and

**WHEREAS**, the U.S. Energy Information calculated that emissions of carbon dioxide attributable to coal combustion by U.S. electric utilities in 2004 was responsible for about 27% of U.S. greenhouse gas emissions; and

**WHEREAS**, Tri-State's proposed two new PC power plants would emit about 7.4 million tons of carbon dioxide annually; and

**WHEREAS**, abundant opportunities exist for conservation, energy efficiency, demand-side management, renewable resources, CHP and new coal gasification technology; and

**WHEREAS**, the Town of Telluride has endorsed the U.S. Conference of Mayors' Climate Protection Agreement, which established the goal of meeting or beating the Kyoto Protocol greenhouse gas emission reduction targets; and

**WHEREAS**, the Town of Telluride has joined the Local Governments For Sustainability's Cities For Climate Protection Program, which will establish regional baseline data through an emissions audit; and

**WHEREAS**, in 2004 seventy-three per cent (73%) of the voters in San Miguel County who voted on Amendment 37 (a state renewable energy standard) voted for the Amendment and thereby indicated their strong preference for the use of renewable energy,

**WHEREAS**, many of the citizens of San Miguel County are engaged in individual efforts to reduce their greenhouse gas emissions; and

2007 SEP 7 PM 3:05

**WHEREAS**, Tri-State's plan to build two new PC power plants is inconsistent with the Town of Telluride's endorsements of the U.S. Conference of Mayors' Climate Protection Agreement as well as the efforts to reduce greenhouse-gas emissions of San Miguel County citizens who purchase electricity from SMPA; and

**WHEREAS**, SMPA has an all-requirements contract with Tri-State under which SMPA must purchase all but 5% of its requirements from Tri-State through 2040; and

**WHEREAS**, Tri-State has asked SMPA by April 1, 2007 to execute a ten-year extension of its power purchase contract with Tri-State to 2050 for the purpose of financing the PC plants;

**NOW, THEREFORE, BE IT RESOLVED**, by the Board of County Commissioners of San Miguel County, Colorado to request that SMPA:

1. Seek to have Tri-State continue to work on its plan so that it fully integrates energy efficiency, energy conservation, demand-side management, renewable resources, CHP and new coal gasification facilities capable of economically capturing carbon dioxide, to the degree these facilities are commercially viable.
2. Develop and make available programs that promote energy efficiency and support the use of local renewable resources especially those renewable resources that are available locally.
3. Encourage Tri-State to employ the energy technologies listed above.
4. Not sign a contract extension with Tri-State for the requested ten years.

**DONE AND APPROVED** by the Board of County Commissioners at a regular meeting held at Norwood, Colorado, on January 31, 2007.

**BOARD OF COUNTY COMMISSIONERS  
SAN MIGUEL COUNTY, COLORADO**

By: \_\_\_\_\_  
Art Goodtimes, Chair

Vote: Elaine R.C. Fischer	Aye	Nay	Abstain	Absent
Art Goodtimes	Aye	Nay	Abstain	Absent
Joan May	Aye	Nay	Abstain	Absent

ATTEST:

RESOLUTION NO 7  
(SERIES OF 2007)

**A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF TELLURIDE, COLORADO REGARDING SAN MIGUEL POWER ASSOCIATION'S CONTRACT EXTENSION WITH TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.**

**WHEREAS**, the demand for electricity in the Town of Telluride is met by the San Miguel Power Association, Inc., (SMPA); and

**WHEREAS**, SMPA purchases the power it sells to its retail customers in the Town of Telluride from the Tri-State Generation and Transmission Association, Inc. (Tri-State); and

**WHEREAS**, Tri-State proposes in its new draft resource plan, published on 1/3/07, to build two new pulverized coal (PC) power plants totaling 1200 megawatts of capacity to help meet the wholesale demand for power by SMPA and other Tri-State members; and

**WHEREAS**, in its new plan Tri-State acknowledges the possibility that demand-side resources and wind power might play a role in helping Tri-State meet its obligations to its members, but has not pursued combined heat and power (CHP) and, for the time being, coal gasification technologies; and

**WHEREAS**, the U.S. Energy Information calculated that emissions of carbon dioxide attributable to coal combustion by U.S. electric utilities in 2004 was responsible for about 27% of U.S. greenhouse gas emissions; and

**WHEREAS**, Tri-State's proposed two new PC power plants would emit about 7.4 million tons of carbon dioxide annually; and

**WHEREAS**, abundant opportunities exist for conservation, energy efficiency, demand-side management, renewable resources, CHP and new coal gasification technology; and

**WHEREAS**, the Town of Telluride has endorsed the U.S. Conference of Mayors' Climate Protection Agreement, which established the goal of meeting or beating the Kyoto Protocol greenhouse gas emission reduction targets; and

**WHEREAS**, the Town of Telluride has joined the Local Governments For Sustainable Cities For Climate Protection Program, which will establish regional baseline data through an emissions audit; and

**WHEREAS**, in 2004, seventy-three percent (73%) of the voters in San Miguel County who voted on Amendment 37 (a state renewable energy standard) voted for the Amendment and thereby indicated their strong preference for the use of renewable energy; and

**WHEREAS**, many citizens of the Town of Telluride are engaged in individual efforts to reduce their greenhouse gas emissions; and

**WHEREAS**, Tri-State's plan to build two new PC power plants is inconsistent with the Town of Telluride's endorsements of the U.S. Conference of Mayors' Climate Protection Agreement as well as the efforts to reduce greenhouse-gas emissions by Town of Telluride citizens who purchase electricity from SMPA; and

**WHEREAS**, SMPA has an all-requirements contract with Tri-State under which SMPA must purchase all but 5% of its requirements from Tri-State through 2040; and

2007 SEP 17 PM 3:05

WHEREAS, Tri-State has asked SMPA by April 1, 2007 to execute a ten-year extension of its power purchase contract with Tri-State to 2050 for the purpose of financing the PC plants;

NOW, THEREFORE, BE IT RESOLVED, by the Town Council of the Town of Telluride, Colorado to request that SMPA:

1. Seek to have Tri-State continue to work on its plan so that it fully integrates energy efficiency, energy conservation, demand side management, renewable resources, CHP and new coal gasification facilities capable of economically capturing carbon dioxide, to the degree these alternatives are commercially viable.
2. Develop and make available programs that promote energy efficiency and support the use of renewable resources especially those renewable resources that are available locally.
3. Encourage Tri-State to employ the energy technologies listed above.
4. Not sign a contract extension with Tri-State for the requested ten years.

RESOLVED, APPROVED AND ADOPTED by the Town Council of the Town of Telluride, Colorado at its regular meeting on March 13, 2007.

TOWN OF TELLURIDE

ATTEST

By John H. Pryor  
John H. Pryor, Mayor

Mary Jo Schillaci  
Mary Jo Schillaci, Town Clerk

TOWN OF OPHIR P.O. BOX 683 OPHIR, CO. 81426

September 11, 2007

Colorado public utilities commission and Colorado office of consumer council  
1560 Broadway suite 250 Denver, CO. 80202

Dear CPUC/OCC,

As Mayor of a small town (Ophir, 175 residents) I can say that many of our residents feel strongly about energy issues and global warming. The burning of fossil fuels does not seem likely to slow down, however the investment in renewable and alternative energies should speed up. We are at a very important period in the history of the planet and the decisions we make today will affect how we live tomorrow. A small town can conserve energy and educate it's residents on these important issues but it will take a change of direction from more than just a small percentage of the population to have an effect. We urge you to consider alternative energies which are so readily available in a state like Colorado. Solar, wind and hydro should be much more available and hopefully will be primary sources of our energy someday soon.

Sincerely,

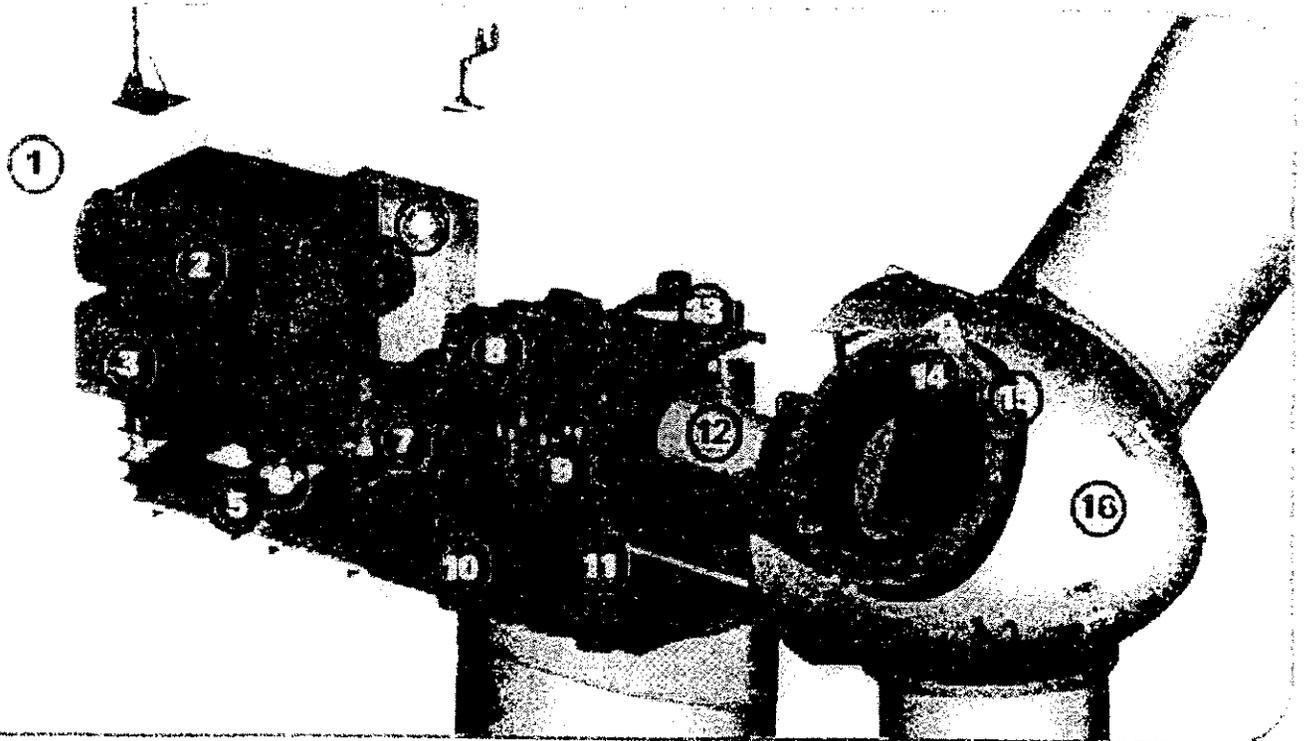


MR. JOHN GERONA  
TOWN OF OPHIR MAYOR

**Colorado's New Energy Economy Town Meetings  
Appendix 6**

Town Meetings 'Listening Tour'  
regarding the Lamar Wind Energy Project

*Lamar  
Wind  
Energy  
Project*



1. Nacelle
2. Heat Exchanger
3. Generator
4. Control Panel
5. Main Frame
6. Impact Noise Reduction
7. Hydraulic Parking Brake
8. Gearbox
9. Impact Noise Reduction
10. Yaw Drive
11. Yaw Drive
12. Main Shaft
13. Oil Cooler
14. Pitch Drive
15. Rotor Hub
16. Nose Cone

## Not your run-of-the-mill windmill

A wind turbine is an efficient machine designed to convert energy from moving air into electrical energy. (Despite a wind turbine's efficiency, some of that energy is lost to heat and sound.) Here's a look inside a turbine designed to produce about 1.5 megawatts of electricity.

### FACING THE WIND

Wind turbines are located in undeveloped areas with strong prevailing winds. They are situated atop towers 15 to 20 stories above the ground (where wind flows faster).

### ROTOR BLADES

Glass- and carbon-fiber reinforced plastic blades can be more than 100 feet long and are designed like airplane wings, producing lift that causes the rotation. Blades rotate at 18 to 30 revolutions per minute.

### SERVICE HATCH

### ROTOR

### PITCH DRIVE

As wind speeds change, a mechanism changes the pitch, or angle, of the blades to control rotation speed. This is also used in combination with the brake inside the turbine to stop the rotor.

### INSIDE THE TOWER

A ladder provides access for maintenance when the turbine is stopped. Electricity runs down the tower through cables.

### REGULATING SPEED

A vane and anemometer measure wind direction and speed. When wind speed reaches 10 knots, an electronic controller starts the turbine. If wind speed exceeds 50 knots, the controller engages a hydraulic brake system. A yaw drive can turn the turbine a few degrees to catch the wind.

### GEAR BOX

Steps up the rotation rate to about 1,500 rpm for the generator.

### VANE AND ANEMOMETER

### GENERATOR

Electricity is typically generated by induction, a technique that spins magnets at great speed inside coils of copper wire. To combat power losses along the grid, a transformer steps up the voltage to 10,000 to 30,000 volts.

### A WIND FARM

A wind farm can consist of dozens or even hundreds of turbines in one location. This small farm in Northern Germany has eight 1.5-megawatt turbines.

Base Diameter = 16 ft.

Blade length = 111 ft.

Height = 260 ft.

Base = 30 ft deep.

110 yards of concrete

# Conversion meters per second to miles per hour

**Meters/sec    miles/hr.**

3.0	6.7	
4.0	8.9	10 minute average, Wind turbines begin generation
5.0	11.2	
6.0	13.4	
7.0	15.7	
7.5	16.8	
8.0	17.9	Average wind speed per Sea West estimates
9.0	20.1	
10.0	22.4	
11.0	24.6	
12.0	26.8	
13.0	29.1	
14.0	31.3	Peak generation capacity
15.0	33.6	
16.0	35.8	
18.0	40.3	
20.0	44.7	
22.0	49.2	
24.0	53.7	10 minute average Wind Turbine stops generation
25.0	55.9	
26.0	58.2	
27.0	60.4	
28.0	62.6	30 second average Wind Turbine stops generation
29.0	64.9	
30.0	67.1	3 second average Wind Turbine stops generation

# Five new wind turbines in Colorado will add 7.5 MW

A 6-MW wind farm near Lamar, Colo., began producing electricity late last month, as did a new 1.5-MW wind turbine in the nearby town of Springfield. The Arkansas River Power Authority collaborated on both projects: it owns one of the four turbines southeast of Lamar and it helped put up the one in Springfield. The Lamar Utilities Board will operate all five turbines from its control room.

The new wind turbine in Springfield is expected to produce about 40% of the municipal utility's requirements, said ARPA General Manager Jim Henderson. The Springfield site is considered to be in the top third of potential wind sites in Colorado and the turbine there is expected to generate electricity approximately 90% of the hours in a typical year, he said.

The project was developed jointly by Springfield and the power authority to provide energy for ARPA members, Henderson said. It also could serve as a catalyst for encouraging a large commercial wind energy project in Baca County, thereby providing jobs, tax base, land royalties, and ancillary business opportunities in a largely rural farming and ranching community, he said. SeaWest Windpower, a California consulting firm, evaluated the Baca County site and found it suitable for a 40-50 MW wind energy facility.

The Lamar Wind Energy Project is the fruit of an idea the Lamar Utilities Board had in 2001. The four turbines were dedicated Feb. 24.

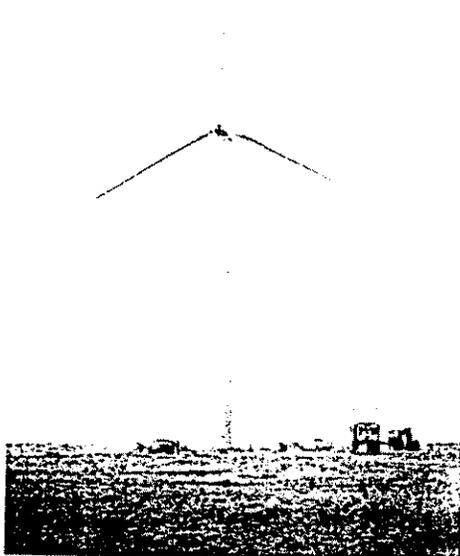
The Lamar project is near a major new wind farm, called the Colorado Green Project, which is the fifth largest wind farm in the United States. That project consists of 108 turbines and is owned by Oregon-based PPM Energy Inc. and Shell WindEnergy. They bought it from GE

Wind Energy last fall. Before that, the project was owned by Enron.

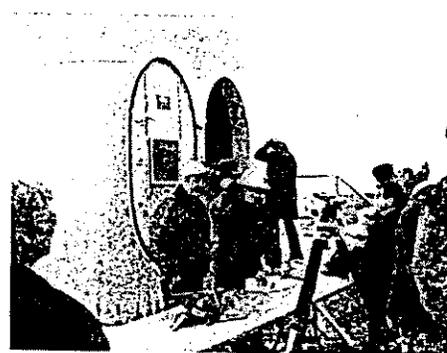
Because GE was delivering turbines for the Colorado Green Project, the Lamar Utilities Board and ARPA saved money by ordering four more for the Lamar project, according to the *Pueblo Chieftain*. The turbines, manufactured by GE Wind Energy, are 260 feet tall, with 111-foot blades.

Colorado has excellent wind power potential because it has an estimated six million acres of windswept lands, especially on the eastern plains, the *Chieftain* reported.

The Arkansas River Power Authority is a joint action agency that provides power to the Colorado communities of Holly, La Junta, Lamar, Las Animas, Springfield and Trinidad and to Raton, N.M. ■



Pictured above is a new 1.5-MW wind turbine in Springfield, Colo. The turbine is expected to produce about 40% of the municipal utility's requirements.



The Lamar Wind Energy Project was dedicated Feb. 24 in a ceremony attended by local officials and representatives of nearby utilities.

## PUBLIC POWER WEEKLY

American Public Power Association  
2301 M St. N.W., Washington, D.C. 20037-1484

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**Colorado's New Energy Economy Town Meetings  
Appendix 7**

Town Meetings 'Listening Tour'  
Western Area Power Administration Presentation

# CRSP – EMMO

## Core Business Activities

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- FIRM ELECTRIC SERVICE CONTRACT OBLIGATIONS.
  
  - CONTROL AREA REQUIREMENTS.
  
  - CONTRACT MERCHANT SERVICES.
- 
-

# CRSP – EMMO

## Core Business Activities

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### □ FIRM ELECTRIC SERVICE OBLIGATIONS. (CRSP and LAP)

1. Schedule/deliver firm electric service energy/capacity. Example: CRSP SHP/WRP firm schedules.
  2. Operate Generation/Reservoirs in most efficient manner practicable to serve firm electric service obligations.
  3. As necessary, negotiate best possible energy purchase price to support firm electric service obligations. Know where the market is and attempt to negotiate down.
  4. When surpluses are present, operate resources to sell surplus energy at best possible price after firm obligations are met.
- 
-



# Tiger 3

## Modify day's request data

- Options
- Report
- Single Day
- Excel Data
- Password
- About Tiger
- Logout

Template : CRSP-LAP REGULATION PB ARH  
 Time Zone : MST  
 Date : 08/07/2006

HR	MW	Curr Saved	HR	MW	Curr Saved	HR	MW	Curr Saved
1			9			17		
2			10			18		
3			11			19		
4			12			20		
5			13			21		
6			14			22		
7			15			23		
8			16			24		

Save Clear  
 Copy Forward





# CRSP – EMMO

## Core Business Activities

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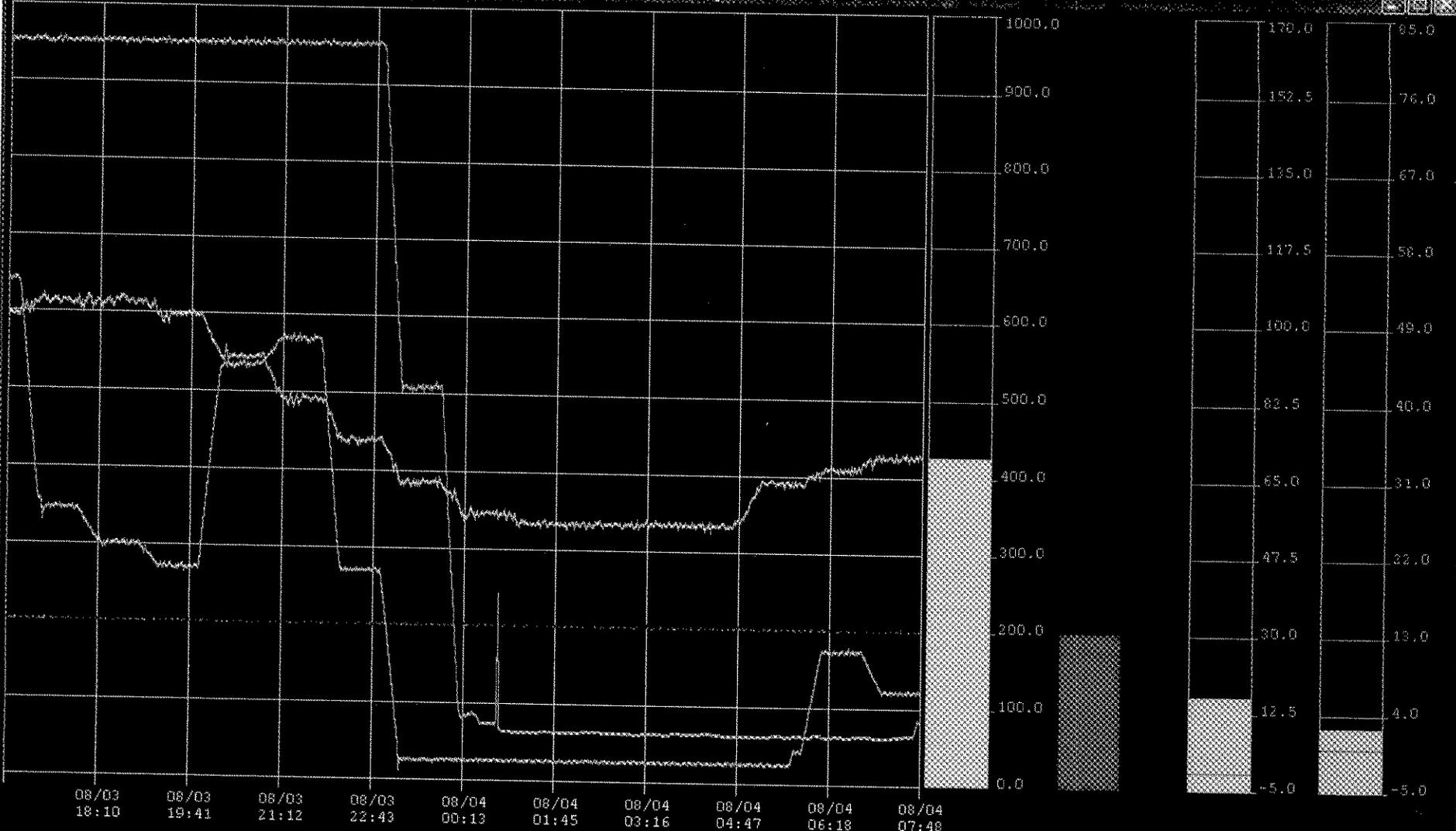
### □ CONTROL AREA ACTIVITIES

1. Maintain sufficient reserve and regulation margins in Merchant scheduled generation resources as required.
  2. Purchase and or sell energy as required by the control area reliability dispatcher to maintain control area balance & reliability criteria.
  3. Re-balance reservoir elevations to daily targets as required.
-

CRSP LAP CRSP Reserves

Data updated at: Fri Aug 04 07:50:35 MST 2006

CRSP Reserves Entity name	Capacity	On-Line Capacity	MW	Spring Reserves	Non Spin Reserves	MV	Elev	CFS	Available
Glen Canyon 345 Unit 1	120	120	107	13		-21			Yes
Glen Canyon 345 Unit 2	121	0	0		121	0			Yes
Glen Canyon 345 Unit 3	119	119	106	13		-22			Yes
Glen Canyon 345 Unit 4	122	0	0		122	0			Yes
Glen Canyon 345 Unit 5	121	0	0		121	-0			Yes
Glen Canyon 345 Unit 6	121	121	106	15		-22			Yes
TOTAL GC 345 GEN			319						
Glen Canyon 230 Unit 7	128	128	105	23		-13			Yes
Glen Canyon 230 Unit 8	121	0	0		121	0			Yes
TOTAL GC 230 GEN			106						
Glen Canyon TOTALS			425				3606	0	
Flaming Gorge Unit 1	45	0	0		45	0			Yes
Flaming Gorge Unit 2	45	0	0		45	0			Yes
Flaming Gorge Unit 3	45	45	25	20		1			Yes
Flaming Gorge TOTALS			25				6024	828	
Blue Mesa Unit 1	40	40	1	39		1			Yes
Blue Mesa Unit 2	40	40	1	39		0			Yes
Blue Mesa TOTALS			2				7513	45	
Morrow Point Unit 1	80	0	0		80	0			Yes
Morrow Point Unit 2	80	80	15	65		0			Yes
Morrow Point TOTALS			15				7155	0	
Crystal	32	32	30	2		0	6741	2092	Yes
Fontenelle	12	12	8	4		-1	6500	1106	Yes
Upper Molna	9	9	0	9				10	Yes
Lower Molna		5	0					11	Yes
Elephant Butte			4						
Deer Creek			5						
Spin / Non-Spin Totals				243	655				



	Latest Value	Scale		Shading		Values At 2006-08-04 07:46:13.0
		Low	High	Low	High	
GC_Gen	419.75	0.0	1000.0	0.0	1150.0	422.24
MP_Gen	14.9265	-5.0	170.0	-1.0	160.0	15.1471
EM_Gen	1.81006	-5.0	85.0	0.0	80.0	1.67786

2006-08-04 07:49:09

# CRSP – EMMO

## Core Business Activities

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### CONTRACT MERCHANT ACTIVITIES (Basin, RMGC, Page, WMPA)

1. Monitor load/resource balance to maintain within operating imbalance limits.
  2. Make energy purchases at best possible price as required to maintain load balance within control area.
  3. Schedule resources as required following guidelines submitted by contractor.
  4. Make surplus sales at best possible price
- 
-

# CRSP – EMMO

## Core Business Activities

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- ❑ After we perform the above activities our next priority is to pursue activities which generate revenues for the Projects such as reserve sales, banking, shaping and storage, and purchase for resale etc.
  - ❑ Our additional marketing activities enhance revenues to keep rates down which benefit our FES customers.
  - ❑ The key is to integrate all these business activities into your daily merchant activities to take advantage of market opportunities as they arise.
-