Grand Junction – Energy Listening Session Summary

The seventh listening session was held in Grand Junction on Friday, August 16, 2013. The session was attended by 21 industry participants and 4 staff from partner agencies. The attendees are listed in the table below. Please note that this summary does not reflect the opinion of the State of Colorado, but rather provides a summary of comments from attendees that were with businesses and other non-state agency organizations.

State Profile – Discussion Points

- The energy industry employment data shows an overall increase between 2004 and 2013; however, it also indicates the total number of energy jobs has declined since 2007 and has not recovered to peak amount of energy industry jobs. There is an interest in understanding the causes of the recent employment decline for the region.
- Employment activity has increased recently in the Ouray area with some new jobs.

Energy Efficiency Trends – Discussion Points

- A focus on agricultural irrigation efficiency programs may not be a good fit for the region; it is probably a better focus area for the Eastern Plains region. In Mesa County ditch irrigation systems are gravity fed.
- In order to advance smart grid infrastructure in the region, there will need to be different pricing signals from wholesale energy providers to retail providers. Without these pricing signals justification for smart grid infrastructure will not exist.
- There may be more effective ways of gaining efficiency than through rebates for specific applications. Rebate programs can lag in covering technologies and they may not encourage the most optimized way to make energy efficiency gains. A more flexible or dynamic approach to incentivize energy efficiency through utilities would be helpful. This approach would involve smarter building technology and energy management.
- An important goal of rural electric associations (REAs) is to support energy efficiency for members. REAs in general may be missing a third party to come in with the expertise to really make a big difference at the residential customer level. The third party could provide expertise in using meter data to identify which specific items should be addressed for energy improvements. Fort Collins is developing a more effective pool of contractors for efficiency through certification programs. Additionally, several publications on energy efficiency provide a good amount of data, but there is need to get this data to the contractors to help expand information sharing in the industry.
- There are many utilities in Colorado with each having specific customer niches to address. There are concerns among utilities about addressing peak loads, but there seems to be a lack of programs to address this issue.
- The City of Grand Junction lacks a funding source and infrastructure to sustain an energy efficiency program. The City is exploring an approach involving the management of a program through a non-profit organization. The nature of the program involves funding that goes through “start and stop” phases that lack consistency for the market.

- There is a boom and bust cycle with energy efficiency funding and rebates. Clean Energy Economy for the Region (CLEER) works with five utilities - all with different rebates and these rebates change at different times. California Energy Commission's *Upgrade California* initiative has developed a rebate structure that provides more consistency across utilities.
- Utilities in the region are working with a small percentage of customers on energy efficiency improvements. It may be that only 3-5 percent of business and residential customers work with utilities in the region on efficiency. It is difficult to increase interest for some business customers when energy costs make up a small percentage of a business's total costs. For example, in some cases a business that reduces energy use by 25% may realize an overall cost savings of less than 1% after reviewing their budget's total expenses. This low amount of overall savings for a business is due to energy expenses making up a low percentage of their overall business expenses prior to the implementation of energy improvements. In addition, the future pricing of energy from the wholesale provider will be important to driving future efficiency programs at the retail level by utilities.
- Sustainability in energy efficiency services will be driven by a solid customer base involving adopters. It is important to determine how the market can drive energy efficiency. The current system does not seem to allow the market to drive energy efficiency.

Advancements in Energy Production – Discussion Points

- There seems to be a focus on increasing oil and gas production in North Dakota. There may now be a lack of focus on increasing energy production in the Western Slope region of Colorado due to production increases in other parts of the state.
- Colorado doesn't have a mechanism to evaluate the economic impact of delays caused by federal regulations and other obstacles to development. The Colorado Energy Office (CEO) may be well suited, from a statutory perspective, to do this analysis on the economic impact of regulatory delays. The CEO role could assess the revenue implications of federal decisions on gas development. The analysis might be limited to development on public lands.
- The geology of the region may be another cause of production delays and challenges to overcome that are outside of regulations.
- There is a need to have a better integration of policies that are directed toward development. An approach that assessed the integration would establish a greater awareness of the appropriate state regulation.
- The region is active in solar development with many jobs but it's a small part of the energy pie. The solar industry experiences some challenges with permitting.
- There is a need to better understand employment growth that occurs from specific types of energy projects in the state. The state should look to quantify job creation from new energy projects with standards applied across sectors. An analysis of direct, indirect, and induced job growth information would be helpful. Labor codes and industries could be tracked by the state for new energy jobs and industries.

- In the region there are many solar panels installed on gas compressors which provides an example of how two energy sectors are working together. The state needs to move past the "*one industry over another*" mentality.
- The region's energy training programs are located at Colorado Mountain College, Rifle energy campus, and a mobile educational lab for energy topics recently launched.
- Mining is an important industry for the energy industry. Energy projects and energy development may always require material that comes from mining. For example, the energy industry uses silver and tellurium for the manufacturing of such products as solar panels. Zinc and gallium are other important metals for the energy industry. The Western Slope has these resources that can be produced through mining. There is currently an effort from stakeholders in the region to create more mining activity in an environmentally responsible manner.
- Key regulations to focus on for mining include the Environmental Protection Agency's (EPA's) water regulations. Water in the region is naturally acidic and contains heavy metals. The Department of Reclamation has begun meeting with the EPA and talking through the issues to identify what is important and necessary. Developing an approach to meet and identify priorities can be very beneficial.
- Oil shale holds a great amount of development potential in the region but there may not be a way to produce it safely and in a manner that is environmentally sound. The CEO could support the research of oil shale resource development. There is an estimated five trillion barrels of oil within the region's oil shale formation.
- Uranium resources are an important natural resource in the region to consider for supporting nuclear energy development. A mining project in Montrose County was permitted, but the permit for a uranium mill was taken away. The inability to secure a uranium mill permit was viewed as having a severe economic impact to the towns of Nucla, Norwood, and Naturita.
- Additional development opportunities of small hydro should be explored. Two federal bills were recently passed that facilitate the permitting of small hydro facilities. The advancement of streamlined small hydro regulations brought the Federal Energy Regulatory Commission (FERC) and the state together. The CEO organized a small hydro working group, which partnered with Trout Unlimited and other agencies, and was very successful in getting stakeholders together. The new legislation is a great example of good policy to streamline the regulatory process.
- There is a federal bill being considered for small hydro projects on non-public land that could impact agricultural producers seeking to use hydro electric power for running farm equipment.
- Aspen recently completed a small hydro project that ran into several issues with maintaining stream flow. The projected demonstrated how small hydro projects on an irrigation system can be complicated.
- There is a methane capture to energy project at coal mine located in Somerset. Aspen Ski Company and Holy Cross Electric participated in development of this project. The technology provides energy to a small market today, but it has the potential to be used on several other sites – potentially supplying up to 35 megawatts of electricity.

- Many in the region view rebate programs negatively as the government picking winners and losers. There is an interest to have a more market driven approach to technology selection that would be more responsive to consumer needs.

Federal and State Regulations – Discussion Points

- Currently the permitting process for mining and other natural resource development activities has a great amount of uncertainty and could take as long as 10 years or more. This lack of certainty in permitting has negative impacts on companies pursing opportunities in the region. Most companies in the industry would like to see a permitting process that can be completed within two years.
- Colorado has developed a reputation for being the most volatile state for natural gas regulation which is having a negative impact on production. State legislation on natural gas development in the last legislative session seemed to be driven by Front Range interests whose issues don't necessarily fit the needs of Western Slope communities.
- The State of Wyoming may provide a good example of effective state government coordination to influence more appropriate regulations involving the federal government. Wyoming coordinates across state agency lines to engage on the federal regulatory planning process. All Wyoming agencies are brought together by a convening group and they coordinate throughout the entire process.
- There are other factors beyond regulation to consider when identifying challenges to natural gas development. One important factor at work has been the drop in natural gas prices in recent years. Commodity prices play a role in the increase or decline of development.
- In 2007 the number of energy jobs in the region peaked. The drop in jobs since 2007 may be the result of regulatory changes for the oil and gas industry in the region. There were additional hurdles for permits which may have caused companies to pull out of Colorado and focus on other locations.
- Oil shale production in the region has the potential to produce lithium as a residual product. However, it seems the state has made rules that prevent research and development of the oil shale resource and the positive impacts it may have on the energy industry.
- Congressman Scott Tipton is working on a healthy forest bill that would open up greater opportunities for woody biomass to be used as an energy fuel. The bill addresses permitting and litigation issues that are currently challenging to overcome. The proposed bill also seeks to promote unique methods of foresting without damaging the surrounding ecology (e.g., a wire based transportation system to move trees out of a forest).
- In order to advance the development of biofuel generation facilities in the region, the Forest Service will need to provide a sufficient number of logging permits to address adequate supply issues. Logging permits are currently a challenge at the federal level. State Representative Bob Rankin is seeking to address the issue by having the state work together with the federal agencies.
- Water quality is an important issue for mining in the region. The region's water is naturally degraded in some areas. There is a need for developing water quality baselines in the region to support water quality testing and accurate comparisons of the impact from mining activities.
- The regulatory process for many energy development projects seems to lack clear definitions. This lack of clarity has resulted in the EPA spending a great amount of time and resources to settle

lawsuits. EPA regulations are litigated under the Equal Access to Justice Act. The Act was established to allow recreational activities for the disabled and the elderly; however, there was an unintended result of allowing entities to litigate on other issues through the Act.

Infrastructure Stability and Modernization – Discussion Points

- Grand Valley Power has not invested in Advanced Metering Infrastructure (AMI) because they don't have a need to monitor power quality on their system and do not have price signals from a wholesale provider to justify it. Utilities should look at AMI infrastructure on a case-by-case basis.
- Advances in distributed generation may preclude the need for additional transmission infrastructure in the region.
- Oil and gas producers in the region are using a significant amount of solar equipment to operate production systems. Remote management of the production systems is also occurring. These remote management systems allow for the monitoring of plunger lift, horsepower, and fuels usage. Some of the natural gas infrastructure in the region is about 60 years old and it is constantly being upgraded and expanded. There is not a need for replacement of old infrastructure at this point in time.
- San Miguel REA has implemented AMI for nearly 100% of its customers with only 50 customers opting out of the program. The data being captured and stored from the AMI equipment is viewed as belonging to the customers; both the utility and customer have access to viewing the data, but no other entity is able to review it. By next year San Miguel REA will make it available through an online portal that will allow customers to conveniently view their billing information. Additionally, the utility will be using AMI to monitor system voltage levels and use the data in system planning. AMI will help the utility understand issues occurring from greater distributed generation on the system.
- Several areas in the region do not have meters installed that can provide remote access and management of energy usage data. A solution to these areas lacking AMI infrastructure is to install data logger equipment, which is typically done for large business customers that can identify a substantial controllable load. The information collected from the data loggers can make use of the Energy Navigator website to support energy decisions. The key to using Energy Navigator is data provided by AMI or a data logger. The tool can provide usage data at 15 minute intervals with access to the data.
- The Colorado Energy Navigator website tool is now being used by several school districts and other large customers. It is a market-based approach driven by business and organization leaders that are seeking to save energy and money by better managing their usage. A challenge to the growth of the tool is obtaining access to the energy data. Each utility in the region has a different method for allowing access to customer energy data. CLEER maintains a thick file of hand signed forms that allow it to obtain the data from utilities. A more consistent approach for customer data access would help to expand the use of this tool. The CEO and the Public Utilities Commission could play a role in supporting customer data access issues.
- Natural gas producers are facing challenges from low sign up rates on pipelines that may be caused by the current low cost of natural gas. The low subscription rates on pipelines could result in challenges to moving the gas to market.

- In many cases natural gas producers are not able to electrify large facilities because the local utility is not able to provide the amount of power needed and the cost may be too high. In these situations the producer uses natural gas generators; however, air regulations are making their use more difficult.

Alternative Fuel Vehicles – Discussion Points

- There is a concern that a Compressed Natural Gas (CNG) refueling infrastructure is not being developed to meet the interest and market demand in the region. In Mesa County there are currently no CNG fueling stations in the region that have been developed solely by private entities driven by the market. Local government entities in Grand Junction and Glenwood Springs have each installed stations. A station located in downtown Rifle is owned by a private business, but was substantially funded by a grant from the State of Colorado. Recently, Encana opened a CNG station in the town of Parachute without public funding, the first fully-private CNG station in Garfield County and in all of western Colorado. Outside of the U.S. there are millions of CNG vehicles on the road, but companies and/or government in the U.S. have not developed CNG stations that link the key transportation corridors. Subsidizing two or three CNG stations in key towns along the I-70 corridor could make it possible to cross the entire state on CNG, boosting consumer confidence in the fuel and increasing vehicle purchases sufficiently to support additional private stations.
- The State of Utah has a funding model to facilitate installation of CNG fueling stations. Purchases of natural gas by homes and businesses include a tax that goes toward building CNG stations and subsidizing the CNG fuel cost.
- The Roaring Fork Transportation Authority (RFTA) built its own CNG station for refueling 22 new CNG transit buses. RFTA has offered several other government agencies the opportunity to use RFTA's CNG infrastructure to refuel government fleets until another station is built in Glenwood Springs.
- There is an interest in adding propane fuel vehicles to the list of primary AFVs to advance in the region and state. Propane vehicles have been in use since 1913 and the technology has improved a lot since then. This type of fuel does not require pipelines as it would be sourced locally. Refueling dispenser stations can be installed on site for users. Encana has a propane plant in Fruita, CO and the infrastructure for propane production has been in this region for years. There are currently challenges with dealers not selling propane vehicles and there is a lack of service providers to maintain them. Propane vehicle fueling prices may be lower than residential propane prices, but that is not widely known. Most propane supply companies in western Colorado are not currently listed on the DOE's Alternative Fuels Data Center refueling map and those stations that are listed in Western Colorado are open for refueling on weekdays 8am-5pm only. Additionally, propane safety standards are not well understood by the public. Building owners are having difficulty planning the costs of upgrades to a building that would provide fueling infrastructure.
- The Colorado Propane Gas Association reports that in Colorado less than 25% of locally produced propane is used in the state.

Connecting Businesses to Research – Discussion Points

- There is interest in the region for attracting satellite technology research campuses to Grand Junction. The City has a cost of living advantage over Front Range cities. A strategy could be developed to attract students to colleges on the Western Slope and provide collaboration between the state's universities and research institutions.

- Colorado Mesa University partners with the University of Colorado at Boulder in the energy development field. There is interest in having the CEO support partnership programs beyond the mechanical engineering fields for the region.
- Colorado Mountain College currently has programs in renewable energy and natural gas.
- In addition to research, there is an interest in developing more opportunities for the skills related to the deployment of technologies.
- There is an interest in having community colleges and high schools to develop effective programs that prepare students for the energy industry, establish informed energy opinions, and provide positive perceptions of the energy industry.
- The CEO could be more involved in promoting Colorado as an energy hub - provide a strong message out that we are an energy state. The *Colorado Proud* marketing campaign has been extremely effective with a high return on investment. A similar marketing campaign could be implemented for the energy industry.