Durango - Energy Listening Session Summary

The fourth listening session was held in Durango on Thursday, August 1, 2013. The session was attended by 16 industry participants and four 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.

Energy Efficiency Trends – Discussion Points

- Access to capital is a barrier for energy efficiency projects in the region involving both business and residential facilities. The banking industry could be engaged to better address this barrier. Local banks could be a resource for capital. The target audiences for this particular type of education might include banks, realtors, and homeowners.
- Greater education is needed to demonstrate the economic sense of energy efficiency upgrades. Educational efforts could open/expand markets by making the economic case for both low cost measures and higher cost capital investments.
- Small businesses frequently lease their offices, and many are located in multi-use zoning areas that are composed of older houses. These small businesses present opportunities and challenges for energy efficiency projects.
- Incentives are an important factor to ensure that energy audits are being conducted in the region. Xcel Energy, Black Hills, and Empire Electric provide audit incentives. La Plata Electric Association is considering an incentive for such audits.
- Among counties in the region, only La Plata County has a unified building codes department that is based on the 2003 International Energy Conservation Code. Some other towns in the region also have unified building codes departments.
- Solar projects on properties that are leased are very difficult to develop. The lessee currently lacks an incentive to implement any upgrades. A long term lease with the property is generally required to create an opportunity for project development.
- Higher income residents in the region are less interested in making energy efficiency improvements in their homes. The monthly energy bills for higher income families do not pose a great financial burden, and there is a reluctance to conduct an energy assessment or audit that would expose areas of energy waste or needed upgrades. Energy efficiency rebates in the region are generally being used by low income families to make upgrades.
- Education throughout the system is needed to expand energy efficiency in the region. The system includes energy consumers, builders, and local government.
- The restaurant industry presents a good target market for energy efficiency in the region. They have many energy uses to consider for energy efficiency improvements. Tailoring an energy education program specific to the restaurant industry would be helpful to advance energy efficiency projects.
- Education for accountants on energy efficiency tax incentives would support the market and provide benefits to their clients.
- Real estate appraisers and realtors are important occupations for supporting energy efficiency in the region. Some real estate appraisers are learning how to value energy efficiency, but more expertise

is needed in this area. The Multiple Listing Service (MLS) for marketing real estate should be examined for including a Home Energy Rating System (HERS) Index score on a home.

Advancements in Production – Discussion Points

- Natural gas producers are seeing more regulation being presented at the local level (primarily among counties in the Southwest region) that may duplicate other rules at the state or federal levels. It would be helpful for local governments to be more engaged with energy producers on the development of local regulations to prevent duplication of regulatory requirements. Local policies can develop very quickly without a formal, inclusive planning process.
- Some small communities lack the capacity in terms of staff and resources to deal with complex regulations on natural gas production and provide education to the community. County commissioners are facing many questions and concerns from residents, but do not have adequate staff and funding to address the issues. It is important for the region and state to consider education initiatives and funding for smaller communities to build more capacity to handle energy development issues.
    - After a well is drilled, it may take an entire year for a county to receive tax revenue from the production. Thus, smaller communities may lack the upfront funds to adequately deal with development and production regulation.
    - A potential revenue source for local government could come from the creation of a natural gas and oil impact fee to support local capacity.
    - ConocoPhillips has created a team that meets directly with local government to provide information. Perhaps this is a model that can be replicated by other entities elsewhere.
    - Increased coordination between the Colorado Oil and Gas Conservation Commission (COGCC) and county governments may be necessary to avoid duplication of regulations. A protocol involving communication with COGCC could be developed for counties to follow when they consider changing rules for natural gas and oil production. A protocol mandating more communication would insure that county and state regulations align.
- With natural gas prices remaining low, opportunities are being explored by natural gas companies to convert coal power plants to natural gas.
- Utilization of Compressed Natural Gas (CNG) is an important opportunity for the region; however, there is currently no infrastructure to use the local natural gas product. The region should explore opportunities for converting cars and fleets to CNG. Additionally, the infrastructure needed to develop the market from local natural gas includes storage tanks, compressor stations, pipelines, and maintenance facilities. Education initiatives are also needed for CNG adoption. The state and natural gas producers are potential areas to explore for funding and sponsorship.
    - The State of Oklahoma provides CNG rebates and subsidies that should be examined to expand the use of CNG stations.
- The State should continue to work directly with federal government agencies on regulatory issues. A large share of the duplicative regulations exists between state and federal regulations. There are a number of key federal regulations that the State could engage on, including fracking and sage

grouse. Sage grouse regulations under the U.S. Fish and Wildlife Service could impact transmission and renewable energy development in the region.
    - The State could identify areas where they can enter into MOUs with the federal government providing a form of an agreement in which state-level regulations are adequate.
- Solar PV incentives have now stabilized in the region after the infusion and decline of federal stimulus funds. The market is no longer focused on receiving upfront rebates in order to install a solar project. Other incentives that currently support the market include the federal tax credit, local REC payments, and net metering policies.
    - Leasing models are not occurring in the region, in part because solar is not a priority among businesses. The business community should focus on specific sectors and determine opportunities for future project development.
    - Colorado manufacturing of solar equipment could be supported through a "tax credit bonus" for installation of locally produced equipment.
    - Permitting of projects has improved in the region.
    - Local communities are working to be designated as "Solar Friendly Communities."
- The geothermal opportunities that are being pursued in the region are defined as low-temperature, binary projects. These types of projects are not in the category of Enhanced Geothermal Systems (EGS). EGS projects have a high cost of exploration and a 60% success rate for finding the resource. Currently there are capital issues for geothermal development that stem from the need to provide a proven resource.
- Biomass energy development in Archuleta County is receiving support from private interests. A technology that is being pursued for harvesting feedstock involves a large wood chipper that can consume whole trees and provide water as a bio-product from the trees. The feedstock would not come from a beetle kill forest, but would help create healthier forests by thinning existing areas to 40 trees per acre. The technology could support a 5 MW project in the near future. Additional smaller biomass processes are being explored in the region to develop projects.
- Utilities including Empire Electric are developing solar garden projects in the region. La Plata Electric has determined that solar PV projects have reached grid parity in recent months. There are various business models to consider for developing a solar garden. A model for larger utility-scale solar in the region may require installation of additional infrastructure. Solar gardens could advance from projects on small rooftops to larger "solar farm" type projects. Large solar projects (>1 MW) could potentially export power through transmission that interconnect to the local Rural Electric distribution systems.
- Small and micro-hydro opportunities exist for the region, including a potential pumped-energy storage facility at Lake Nighthorse. Additional opportunities exist for micro-hydro in the region. The Cortez area has projects with a capacity of 150 KW or less. A primary barrier for the development of hydropower on many creeks and canals in the region is that they only run six months out of the year and cannot produce power during the winter months. Other barriers to small hydro development include:

  - The regulatory process under the Federal Energy Regulatory Commission (FERC) can take a long time. Two federal bills will likely be passed by Congress that may address FERC review issues related to micro-hydro.
  - It is difficult to interconnect to a transmission/distribution line from a ditch or canal that may not be in close proximity to a power systems infrastructure. Additionally, meeting state electrical inspector requirements for UL listed equipment has been difficult. The emerging market of micro-hydro technologies are not likely UL listed for hydro energy. The equipment may be UL listed for other technologies including solar or wind power systems.
- Local governments may not have adequate permitting and zoning in place for alternative energy projects which results in lengthy time delays for development. The State could work with counties and municipalities to get ahead of future development opportunities by providing local permitting templates.
- All energy sources should be evaluated and regulated for potential local impacts and safety issues. Solar panels may create safety hazards for planes that fly nearby or create reflections that are a nuisance. Additionally, royalties from renewable energy projects on federal lands are an issue to explore.
- Coal production remains an important resource to keep sustainable enough to expand through the development of new uses. Some coal from the region is delivered to New Mexico for the production of cement. Expanded opportunities could be explored for the use of coal in cement production and other areas.
- Waste to energy is another energy resource in the region that could be used both to fuel vehicles and for other purposes.
- Helium production from natural gas presents another opportunity for the region that could address a helium shortage in hospitals.

Federal and State Regulations – Discussion Points

- The regulatory process involving local, state and federal entities for some regulated activities requires that the same information be collected and applied to multiple forms instead of submitting a single form. In general, regulatory procedures should examine where the information is already available in the process and then reduce the amount of forms that are submitted with duplicative information.
- Within the same federal agencies, the process can vary significantly between different state offices in the Four Corners Region. This can become a barrier to developing an understanding of the different processes within each state.
- The Colorado Department of Transportation (CDOT) oversees regulations that can impact the energy industry's growth in the region.
- More education is needed for the general public on regulations applied to the energy industry. In some cases there may be an inaccurate perception that the energy industry is under regulated.

Infrastructure Modernization – Discussion Points

- Empire Electric installed Advanced Meter Reading (AMR) equipment before Advanced Metering Infrastructure (AMI) was available. It will take some time before Empire Electric can make the investment for an AMI system. AMI allows for two way communication between the customer and the utility on a real time basis. The City of Cortez has installed an AMI system.
- La Plata Electric Association (LPEA) has installed 500 AMI meters in their service territory. They are planning for a whole system AMI to be implemented within the next two years. A new e-bill system called Smart Hub will be able to run on the new meters. The benefits of the AMI system for LPEA include:
    - Cost savings from meter readings being done remotely – reduces driving expenses.
    - Customer service will be improved through identification of appliances that are causing high energy bills.
    - More efficient management of 40,000 meters that may have as many as 20,000 account changes during a year. The new system will allow LPEA to remotely disconnect and re-connect a meter.
    - Will allow for customers to install a smart phone to track energy use on a daily base.
- Permitting is an issue for LPEA and Empire Electric when dealing with construction of new distribution lines and and substations. Currently, Tri-State is working on the San Juan Basin Energy Connect project that involves bringing transmission from New Mexico into Ignacio.

Alternative Fuel Vehicles – Discussion Points

- Solar installers are now working with homeowners to size projects for the addition of electric vehicles (EVs). Tesla now provides a calculator for determining the size of a PV system required to meet a location's EV fueling needs.
- EV batteries could provide energy storage and have the potential to interact with the grid as backup energy systems.
- It is important to include Liquefied Natural Gas (LNG) as an alternative fuel for the region. There is an LNG plant in the region that transports the fuel to Phoenix.
- There is currently a disconnect among consumers in that natural gas is regarded as a safe resource for heating the home, but perceived as an unsafe resource for fueling vehicles.
- There is a need to develop partnerships in the region for the development of CNG and LNG infrastructure.

General Business Development – Discussion Points

- The need for greater education is a common thread for advancing energy technologies and business development opportunities in the energy sector.
- The development of a rail system is important to the region for hauling both oil and coal. A rail system has the advantage of being able to carry multiple resources, whereas a pipeline can only carry one energy resource.
- San Juan Basin College in New Mexico provides a valuable model for training. The college is able to respond in a timely manner to train people for the skills needed in the energy industry and other industries. The energy training programs have been developed and are led by industry.

- Other innovative training programs in the region to explore include welding programs that were taken to communities in a truck by Southwest Community College.
- Training programs don't have to come with college credit to be successful for workforce development. Certification programs may be very valuable to support the energy industry.
- The energy industry in the region can work with local colleges to help commercialize new technologies. In some cases, new technologies can be adapted for use in the energy industry.
- The region may need to focus more on technical skills instead of high-end engineering degrees.
- There is a need to create interest amongst kids for jobs related to energy. The energy industry needs to be presented in a manner that represents the whole system and does not divide it between clean energy and other energy sources.
- The region's energy industry requires a drug free workforce which involves drug testing for marijuana. Applicants that test positive for marijuana will not be hired. Some companies do not believe they can find a drug free workforce in the region and therefore seek to source a large portion of the workforce from outside the state.