

## **Loveland - Energy Listening Session Summary**

The fifth listening session was held in Loveland on Monday, August 12, 2013. The session was attended by 20 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.

### **Energy Efficiency Trends – Discussion Points**

- On-bill financing for energy efficiency improvements is an area of interest to rural electric associations (REAs) and municipal utilities in the region. Challenges for implementing an on-bill financing program include concerns that customer defaults would place a burden on other utility customers; the continuation of financing when a customer closes an account; and the difficulty of a utility in conducting banking activities, such as credit checks. There could be a role for the state and banks to support utility on-bill financing programs by providing banking services to qualify customers for financing. Fort Collins Utilities has implemented an on-bill financing program in 2012.
- Landlords with tenants do not generally make energy related improvements in the region. In many cases, tenants are responsible for their utility bill which prevents a landlord from calculating a payback on an investment. Additionally, there may be an assumption for some tenants that they don't have to pay their last bill, and when they choose not to it causes a negative impact on utilities in the region.
- Low-income customers may not consider investing in energy conservation devices because many are not homeowners and the associated costs are barriers to making energy improvements. It is important for the region to explore ways to bring energy efficiency improvements to non-homeowners.
- Utilities in the region find it challenging to provide customers information that will result in greater awareness of energy efficiency opportunities. Currently, only a small number of utility customers will read a newsletter with energy efficiency information. There is a need to create new ways of communication with utility customers.
- Increased energy efficiency in the region could provide an important benefit if it reduces a utility's peak load. REAs will be able to save their members money if they can reduce the amount of power that is purchased on the peak power market.
- Fort Collins Utilities is developing seasonal pricing, increasing block rates (i.e., higher energy use will result in a higher rate), and planning to implement time of use rates in the next two years. There is a collaborative effort involving Platte River Power Authority and the four municipal utilities it serves to develop enhanced demand response that will result in a virtual power plant model.
- A "collaboration model" between a wholesale power provider and distribution utilities may be a better model for advancing energy efficiency than a "competition model" found in other regions of the country. The utilities are better able to gain advantages from the differences between each utility system in a collaboration model. The Platte River Power Authority is owned by the four member municipal utilities it serves, which forces collaboration. A competition model creates winners and losers, which is not as effective for the region.

## **Advancements in Energy Production – Discussion Points**

- Both United Power and Poudre Valley Rural Electric Association (PVREA) have established power purchase agreements with BluBox Energy to install several 200 kW generation systems in the region that converts natural gas flaring from oil wells into power for their electric distribution systems. United Power has currently contracted for 3 MW of total capacity. The region's BluBox Energy projects bring the regions energy industries together to reduce air emissions. Additionally, United Power has recently developed a 3 MW landfill gas-to-energy project in the Town of Erie.
- There is concern that the recent passage of SB13-252 will take away the ability of REAs to implement creative distributed energy projects. Tri-State G&T is required to meet SB13-252's renewable energy requirement. REAs in the region, however, are not required to. There is also a concern in the region that the bill defines "recycled energy" too narrowly by not allowing the capture of natural gas flaring from oil production to be a qualifying project.
- There is a concern that the current "all of the above" approach to energy development is failing to include nuclear and coal energy. A national energy policy is needed that provides greater fuel diversity as its focus. Coal currently provides over 50% of Colorado's power and it may be difficult to replace it with other sources of energy. Colorado may be placing too much emphasis on natural gas and renewable energy sources to replace current coal-based power facilities. Colorado is uniquely situated in the nation with a diversity of energy sources. We need to use all of the energy sources that are available to us in Colorado.
- It is important to focus on energy sources that provide system balancing benefits for increased integration of renewable energy resources. Reliance on coal and nuclear energy alone does not provide system balancing.
- Hydraulic fracturing (fracking) used in oil production is a major concern for the region's urban areas. Fracking is currently considered an industrial application that cannot be permitted by local governments. A city's planning initiatives become very challenging to carry out in areas where oil wells are located. A well may result in a "dead zone" in a city's future planning efforts. There is an interest to work with oil producers to more effectively use available technologies that would locate wells away from homes and potentially capture 100% of volatile organic compounds (VOCs) within urban areas. There may be additional technologies to apply to fracking activities in urban areas that would differ from those in rural areas.
- AcroOptics, LLC, is a startup company in the region developing LED and daylighting technologies. Currently, access to capital and identifying early adopters are critical issues for their business development.

## **Federal and State Regulations – Discussion Points**

- Regulatory duplication on oil and natural gas production is not viewed as a major issue in the region because the production is not occurring on federal lands. The challenges with duplication primarily stem from duplicative state and federal regulations, which do not apply in the region.
- Communities in the region have developed Memoranda of Understanding (MOUs) with the oil and gas industry to establish some local control. The MOU approach may be a productive, effective way

to address community concerns using a collaborative approach. Arapahoe County and the Town of Erie have developed MOUs with the oil and gas industry.

- Pipeline developers are facing challenges with receiving accurate information at the county level for future pipeline development. This is an issue that is impacting oil and gas development throughout the region. County governments have permitting authority for pipelines and can delay or prevent development. There are similar challenges faced in the development of new transmission lines. Counties in Colorado have “1041 powers” that can be applied to both pipeline and transmission development.

### **Infrastructure Stability and Modernization – Discussion Points**

- With the recent expansion of Advanced Metering Infrastructure (AMI) in the region, cyber security and privacy issues are concerns that are being further investigated.
- By end of 2014, all PVREA customers will have AMI installed. Some of the important benefits to the utility from the data being collected include improved resource planning, improved ability to address voltage issues and other engineering issues. AMI also provides customers the ability to monitor consumption on a daily basis and compare usage to the past consumption. Customer energy data is available through a smart phone or a tablet app with information summarized by year, month or day.
- United Power has installed AMI on 15% of its customers. The primary benefits of AMI are engineering and operational for the utility and the benefits to customers are secondary. AMI has been used for engineering and operational efficiencies and cost savings thus far. AMI meters provide the ability to connect and disconnect remotely, reducing the need to send a technician to read the meters.
- Vendors for AMI installation and hardware are chosen based on data security assurance, technical ability, and price of the hardware and software. It was mentioned that customers who don’t want meters need to have the option to opt-out of the service. The aging utility infrastructure, in some cases 40 to 50 years old, needs to be upgraded, replaced or expanded. This need brings rising cost issues to be addressed.
- Regulation needs a clear purpose that makes sense. In Nucla Colorado, there is a coal plant that has extremely low mercury emissions, but the air regulations are based on percentage of decrease, not measured against a baseline.
- Some utilities in the region are not yet to the point where they can offer time-of-use pricing because the infrastructure is not in place to support it and the financial aspects do not provide the incentive to make the investments.
- Tax exempt status for municipal utilities and public power authorities could be lost in proposed tax reform. This would be a major issue for municipal utilities. In addition, tax incentives do not seem to work for REAs, because they are organized differently than investor-owned utilities.

### **Alternative Fuel Vehicles – Discussion Points**

- The region is working with several groups to identify electric vehicle (EV) charging stations to insure there is a network between Fort Collins and Denver. Fort Collins and Loveland each have city owned

charging stations that are available to the public. EV drivers currently pay for the time used to charge a vehicle at a city station.

- The cost to install EV charging infrastructure is considerable and viewed as a barrier. In some locations, there are no nearby electric lines at the proposed charging station site and requires an added cost to run an electric line. There are many EVs in operation in the area but there is a lack of knowledge about how the vehicles will use a newly installed charging station.
- The resale of electricity is a barrier in some areas of the region for the installation of EV charging stations. Some private entities in the region are not authorized to sell electricity. The situation is different for charging stations that are sited within investor owned utility (IOU) territories that can resell electricity.
- Poudre Valley Rural Electric Association has a rate that is based on time-of-use for charging EVs. The rate structure is designed to have EV owners charge the vehicles at night, at a lower rate.
- The cost of EV charging infrastructure at the residential level depends on whether or not there is a circuit that supports a 220 volt current. If the customer has to install a new 220 volt circuit and a second line, it can be more expensive. The average cost for installing residential charging infrastructure is estimated to be \$2,000.
- CNG fueling stations have a Return on Investment (ROI) of about four years in the region. CNG outreach efforts in the region are focused on corporate fleets, not individual commuters. Fleet vehicles tend to be driven more which create greater benefits for reducing air emissions.
- There is a concern that currently EVs do not generate enough tax revenue to support the state's road and highway infrastructure. EVs may consume no or less gasoline than traditional vehicles and therefore may not generate as much gasoline tax revenue as compared with gasoline and diesel vehicles. State legislation has recently passed that requires EVs provide a \$50/year excise tax on registration. However, there may remain a large imbalance between what the EV excise tax generates than what the gasoline taxes generate. Additionally, increased CAFE standards will lead to significant reduction in gasoline use, which will also have an impact on the revenues collected for road infrastructure maintenance and development.
- Federal and state tax credits for EVs that would provide instant price reductions at the time of sale may increase the sale of EVs. The state should consider a tax rebate incentive that provides a benefit at time of sale to support the EV market.

### **Energy Technology R&D – Discussion Points**

- The City of Loveland currently has a Technology Acceleration and Advancement Program. The program has created inroads with National Renewable Energy Laboratory (NREL) and the National Center for Atmospheric Research (NCAR). The program is charged with developing relationships between companies and technology transfer institutions. The city has hired a consultant to introduce high-tech company technologies to the market for commercialization. In order to qualify for the services of the program, a company must show they are located in Loveland. The consultant connects them with contacts at research institutions to support commercialization. The program also identifies funding opportunities. In the first year, the program had 20 local participating companies. The program also had success in connecting local companies with local suppliers. Not having access to funding for R&D continues to be a barrier for the participants.

- Some companies in the region are working with the University of Wyoming on advanced technologies for coal generation including carbon capture technology. Tri-State is also working on carbon capture technology research.
- The Poudre Valley Rural Electric Association installed a geothermal system as a model to better understand the geothermal energy production and to generate interest in the community. The model was successful in Colorado and could be used for residential and commercial applications in other places.
- United Power's entire office uses geothermal heating and cooling.

### **General Business Development – Discussion Points**

- Wind power development is currently facing issues with “pancaking” of transmission line rates in the region. A key barrier is access to the necessary transmission lines that are not located near the load centers. Losses that occur in transmission and scheduling are others things that have to be taken into account. There is a planned CSU wind project in Akron that will have to go through two or three utilities, creating pancaking issues, i.e., paying charges to pass through each utilities sytem on top of other fees. One possible solution to this issue may be through the use of regional transmission organizations (RTOs) and nodal pricing, which will allow transmission providers to get the return on investment. However, it is possible that the generator will pay congestion charges for being away from the load center under an RTO.
- STEM education is an important issue. Students need to be prepared in K-12 with STEM skills, but also need to be encouraged to go further and get advanced degrees.
- Economic development depends on low industrial electricity rates and regulations may raise the cost of electricity. As the region tries to grow, there is a need for a truly ‘all-in’ approach to energy. Economic development organizations in the region communicate with companies in efforts to recruit them to the area. Some companies are indicating that electricity rates are too high. Regulations increase the price and add complexity to operations. There is a need to look at the entire picture, across all markets.
- There is a need to focus on sustaining the coal industry. Coal provides a large base of employment in Craig, Colorado with jobs that may pay on average \$100,000 a year. Government actions and regulations can cause a boom and bust cycle in Craig.
- The desire for more electric cars will require increased electricity and that needs to be planned for in advance. Rare earth metals and other materials used in constructing EVs will need to be obtained from somewhere as well. There is currently a lack of these raw materials.
- Big picture planning is needed for future energy planning initiatives. There should be a high-level planning effort with a wide perspective for coordination going forward in order to avoid issues between alternative energy types. Currently, energy planning may be too focused on specific alternative energy types.
- There is a need for more communication with the industries that are going to be regulated by proposed legislation. The state could create discussion with industry to understand the long term effects of proposed regulations and laws. This includes the need to assess negative effects of laws

and regulations and their impact on industries. Higher costs resulting from regulations may raise commodity prices for everyone in Colorado.