



PUEBLO COUNTY STRATEGIC SUSTAINABILITY PLAN



2012





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Energy: Energy Efficiency and Renewable Energy

Energy impacts the residents of Pueblo County in a myriad of ways. Generation of energy from traditional as well as renewable sources provides jobs to residents of Pueblo County. Depending on the process, the production of energy can negatively impact natural resources such as air and water. The availability of reliable, affordable energy helps attract economic development. Utility rates impact individual households and affect operational costs. Increases to energy costs can impact the level of public service that can be provided, and some are passed directly to the consumer.

Pueblo County has a vested interest in pursuing energy efficiency and renewable energy development opportunities. The County government has demonstrated leadership through actions including the installation of solar arrays, conducting energy audits on County owned facilities, implementation of energy efficiency retrofit projects at County owned facilities through an Energy Performance Contract (EPC), and by obtaining grant funding from the Governor's Energy Office (GEO) for the Community Energy Coordinator (CEC). The CEC's role is to assist the County with a strategic sustainability plan (Strategy) and to help position the community for future energy efficiency and renewable energy opportunities.

A *County Energy Assessment* was completed for Pueblo County as part of the County's commitment to the grant funding provided by GEO. The assessment is included in the Appendix of this plan. It focuses on energy consumption, energy efficiency and renewable energy. Data was collected from companies supplying electricity, natural gas, and propane for residential, commercial, industrial, agricultural, and governmental sectors. Current consumption of energy at County facilities is detailed in the assessment and compared to best practices.

In addition to the data collection and assessment, the process included multiple meetings between the planning team and Pueblo County staff, stakeholders, and energy providers. Both the Community Action Group and Advisory Committee reviewed a presentation of initial findings in December, 2011. Additional discussion in March 2012 refined the goals and objectives related to energy efficiency and renewable energy initiatives for Pueblo County. Two main goals were developed to guide future actions:

Goal: Establish a County-wide Comprehensive Energy Efficiency Program

Goal: Advance Pueblo County as a Statewide Leader in Renewable Energy Generation



Sustainability Strategies

These over-arching goals have been broken into key objectives. Specific actions have been identified to achieve the objectives and successfully meet the goals. Per the grant requirements set forth by the GEO, the following actions are included within this plan:

- Residential and commercial building audits and retrofits
- Outreach and education plan to inform and educate the public and provide a call to action of energy efficiency (EE) and renewable energy (RE)
- Plan to attract new EE and RE businesses to the community
- Plan to identify and address gaps in EE and RE training within the community
- Plan to identify and explore residential, commercial and utility scale renewable energy opportunities within the community

ENERGY EFFICIENCY

Goal: Establish a County Comprehensive Energy Efficiency Program

Pueblo County Government Operations

Pueblo County's inventory of buildings and properties reflects the complexity of multiple departments. No centralized system of record keeping exists at the County, so data collection was very challenging. Information was collected from specific departments, gas and electric providers.

Objective: Establish a central point of coordination for County-wide comprehensive energy efficiency and renewable energy projects and programs and to liaison with local utility providers

- o **Action:** The current Sustainability Committee will become a permanent body. The group will be led by a partnership of Pueblo County and the City of Pueblo, with co-chairs elected by the members. Leadership duties may eventually be assigned to a staff member.
- o **Action:** Consider designating a Community Energy Coordinator either as an internal position or as ongoing consultant services.
- o **Action:** Centralize utility billing and tracking for all county facilities, including production from on-site renewable energy installations. Consider ENERGY STAR's free Portfolio Manager tool, www.energystar.gov/istar/pmpam or a similar system. Utilize paperless billing to reduce waste. Generate reports and monitor use on an ongoing basis.

Sustainability Strategies

According to the data, the total number of kilowatt-hours used by the County in 2010 was 12,256,490 kWh. This is approximately 32 percent of the total government sector energy use reported for all public operations within Pueblo County. One of the main electricity costs to the County is associated with street lights and traffic lights.

Objective: Achieve a 5% reduction in energy consumption for County owned and operated buildings by 2015 through energy efficiency improvements, thus increasing air quality and reducing GHG emissions.

Track and monitor energy use and costs.

- o **Action:** Plan for additional Energy Performance Contracting (EPC) to implement additional energy efficient improvements, also known as Facility Improvement Measures (FIMs) to County-owned facilities by 2015.
- o **Action:** In addition to EPC projects, identify FIMs that the County will implement on an ongoing basis. Include details for specific improvements and commit to funding in annual budget.

Objective: New construction of County-owned facilities should be built to meet or exceed LEED standards and must be designed to current Energy Star standards

- o **Action:** All new construction projects shall include a procurement or contract requirement for consultants to design and build a facility that meets or exceed LEED certification and current Energy Star standards
- o **Action:** Consider retrofitting existing buildings to meet or exceed LEED standards

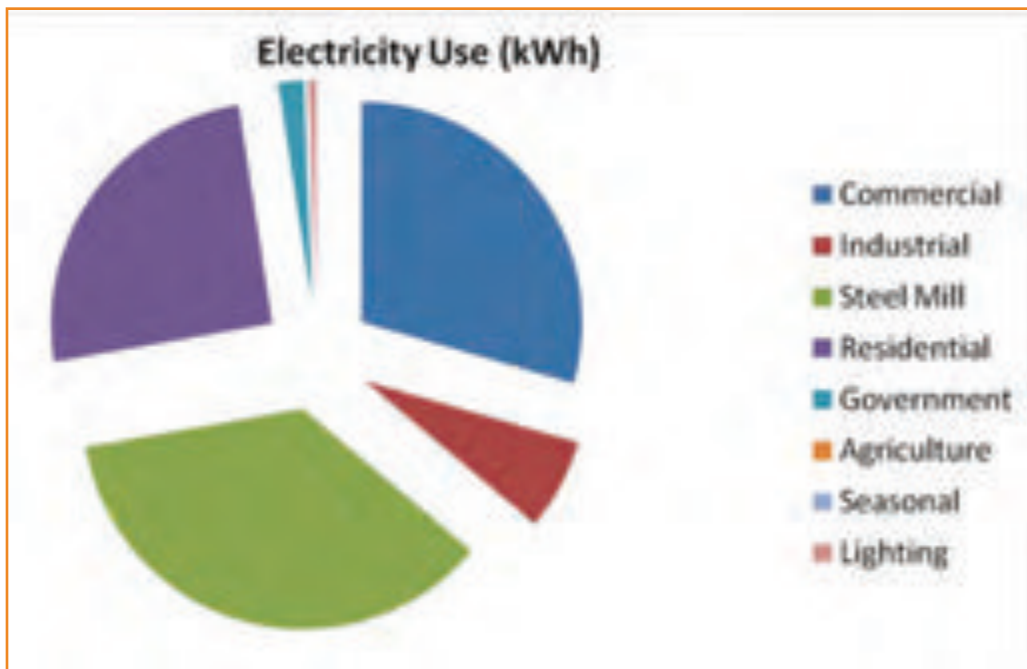


Sustainability Strategies

Residential, Commercial, and Industrial Uses within Pueblo County

Pueblo County can most easily influence the operations and practices under its direct control, which is the logical first step of the plan. The majority of energy consumed in Pueblo County is within the Residential, Commercial, and Industrial sectors; therefore a broader effort will be necessary in order to achieve significant reductions.

Energy efficiency measures provide benefits to the overall community and to individual consumers by reducing costs and conserving resources. Development of businesses geared for audits, retrofits, and other emerging best practices provides economic value to the community.



Objective: Develop an outreach and education plan to inform and educate the public and provide a call to action for energy efficiency and renewable energy initiatives. Provide energy efficiency education and information to the community by working in partnership with the local utility providers. Encourage consumer conservation of energy consumption. Encourage installation of innovative efficiency measures.

- o **Action:** Form a County and local utility partnership program to provide information and education to the community regarding demand-side management programs
- o **Action:** Work with local industry to permit heat capture/recycling from industrial processes

Objective: Plan to attract new energy efficiency businesses to the community

- o **Action:** Connect local business with local energy audit and retrofit efforts

Objective: Promote 5% energy efficiency in community for residential and commercial properties by 2020 to ensure energy reliability and maintain or decrease costs to ratepayers. Note: this objective supports the PUC requirement that Black Hills Energy has to meet 5% energy efficiency by 2020

- o **Action:** Implementation of IECC 2009 or greater for Regional building code to support energy efficiency (see *Land Use and Built Environment* section for building standards)
- o **Action:** Develop mechanism to promote residential and commercial building energy audits and retrofits

RENEWABLE ENERGY

Goal: Advance Pueblo County as a Statewide Leader in Renewable Energy Generation

Renewable energy reduces dependence on fossil fuels. The Governor’s Energy Office (GEO) provides support and funding to Colorado communities interested in the environmental and economic benefits of renewable energy. According to the GEO’s Renewable Energy Development Infrastructure (REDI) report, Colorado has 10 generation development areas capable of more than 96,000 MW of wind generation and 26,000 MW of solar generation. The potential of this capacity compares to the current installed capacity of 13,964 MW available in Colorado in 2008.

Pueblo County is already a major exporter of energy, specifically electricity produced by the Comanche Power Plant (Xcel Energy). Of the plant’s maximum capacity, 1,400 MW, Evraz Rocky Mountain Steel uses approximately 90 MW. Therefore, at peak generation Comanche (Xcel) exports approximately 1,310 MW of electricity from Pueblo County to communities across Colorado.

The opportunity to build on this legacy of large scale energy production lies primarily within development of the County’s wind and solar resources. Projects could be located at the existing industrial sites to provide power directly to the user and channel excess production to the grid via the existing transmission network. Other installations could be located in more remote locations of the County served by the transmission lines.

The GEO’s REDI report recommends several actions to address the gap between emissions and existing goals. Actions include:

- Invest in demand-side management, demand response, and conservation
- Increase investment in renewable energy development, particularly utility-scale wind and solar
- Accelerate high-voltage transmission lines to deliver renewable energy from renewable resource generation development areas to major markets
- Strategically use natural gas-fired generation to provide new power and integrate naturally variable renewable resources
- Consider early retirement or decreased utilization of the oldest and least efficient coal-fired plants



Sustainability Strategies

Objective: Strengthen economic development and create jobs through energy efficiency and renewable energy development in conjunction with Southwest Solar Transformation Initiative (SSTI) , Governor’s Energy Office (GEO), and Department of Energy (DOE) efforts

- o **Action:** Optimize development opportunities for renewable energy by the following:
 - Large scale to take advantage of existing transmission lines
 - District or industrial-scale installations to offset major users
 - Pueblo Memorial Airport Industrial Park demonstration project for an energy district renewable energy development
 - Site-specific renewable energy applications
 - Colorado State Fairgrounds or other public facilities
 - Evraz Rocky Mountain Steel Mill
 - Vestas
 - Lake Pueblo

- o **Action:** Work with local utility providers to provide net metering to both residential and commercial consumers

- o **Action:** Track individual solar installations within the County using an existing database tool such as www.sunnyportal.com

- o **Action:** Develop ongoing partnerships for community outreach, workforce development, and new business development centered on energy efficiency and renewable energy

- o **Action:** Continue ongoing education efforts focused on efficiency and renewables similar to storm water education. Serve as a resource for smaller communities.

Smaller scale efforts at the County level can offset annual utility fees, support ongoing development of local renewable energy installers, and contribute to development of a workforce skilled in new technologies. Looking specifically at County facilities with the highest electric use in 2010, opportunities exist at the following locations:

- Justice Plaza (Jail and Dorm) (6,041,000 kWh)
- Courthouse (1,658,000 kWh)
- Department of Social Services (1,030,200 kWh)

Sustainability Strategies

The Arts Center would also be a top consumer if all the buildings were added together (1,170,390 kWh). These facilities are located in close proximity to one another in Downtown Pueblo. This zone is the area of most concentrated electrical use for County facilities. With rooftop solar arrays, these centrally located buildings provide an opportunity for a new localized renewable energy source to reduce the environmental impact of the buildings electrical use.

Objective: Increase implementation of renewable energy in County-owned facilities

- o **Action:** Identify County-owned facilities that would be recipients of renewable energy applications every year (minimum two facilities per year)





Sustainability Strategies

ENERGY GOALS, OBJECTIVES AND ACTIONS

ENERGY EFFICIENCY

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Sustainability Strategies

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 - Pueblo County reservoir

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