Town of Parachute | City of Rifle | Town of Silt
Town of New Castle | City of Glenwood Springs
Town of Carbondale | Garfield County
Roaring Fork Transportation Authority
Colorado Mountain College

Managed by CLEER: Clean Energy Economy for the Region / (970) 704-9200 / P.O. Box 428, Carbondale, Colorado 81623

Memo to: Roaring Fork Transportation Authority Board of Directors
From: Garfield Clean Energy Collaborative Board
Date: October 8, 2015
Re: **Garfield Clean Energy 2015 update**

Garfield Clean Energy expresses its thanks to RFTA for being actively involved as a member of Garfield Clean Energy and its predecessor, the Garfield New Energy Communities Initiative, since 2008.

By joining together with other local governments in this effort, **RFTA directly benefits** from energy savings in its buildings and facilities, and from programs aimed at reducing the region's dependence on petroleum through transit, alternative fuel vehicles and active transportation. RFTA's annual membership contribution to GCE is focused on three key program areas and projects:

- **Energy Efficiency for Governments**, for direct energy consulting services for RFTA facilities in Glenwood Springs, Carbondale and Aspen, and for online facility energy usage monitoring using the Building Energy Navigator.
- **Active transportation**, for helping to expand bike, walking linkages to transit, safe routes, and promoting walking, biking, transit and multi-modal transportation.
- **Alternative fuels**, for building knowledge and market demand for CNG and electric vehicles and fueling infrastructure.

These projects align with RFTA's mission and values in three important ways:

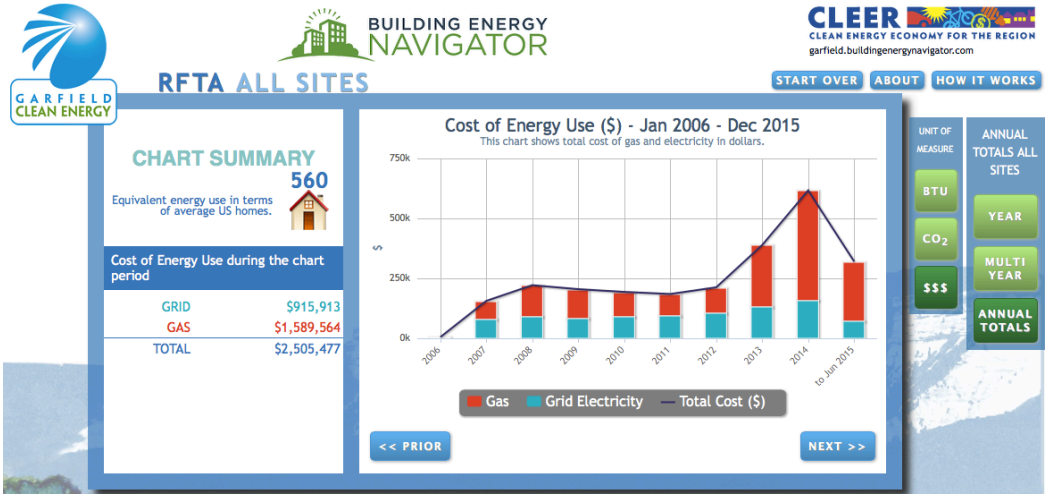
- RFTA's mission of **connecting and supporting vibrant communities** is enhanced by the achievements of Garfield Clean Energy, which works with households, businesses and local governments across the region to increase energy efficiency and renewable energy and reduce dependence on petroleum.
- RFTA's value of **efficiency** is directly aided by the active energy management services provided by Garfield Clean Energy, with the aim of reducing energy use at RFTA facilities and growing use of CNG as a transportation fuel in the public and private sectors.
- RFTA's value of **sustainability** is strengthened by its active membership in a multi-jurisdictional clean energy authority, which is working to help our region reach adopted energy efficiency, renewable energy goals.

To see GCE's full scope for the coming year, please see the 2016 Strategic Plan. *(Attached)*

Direct benefits to RFTA

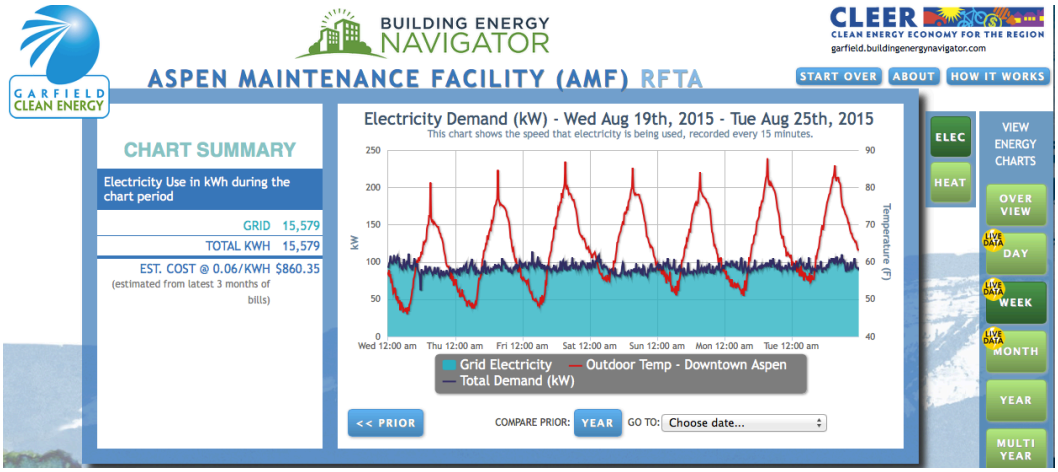
Building Energy Navigator. RFTA has energy data from seven facilities posted on GCE's Navigator website. Of these, three sites feed live energy data to facility managers, providing next-day data on energy use.

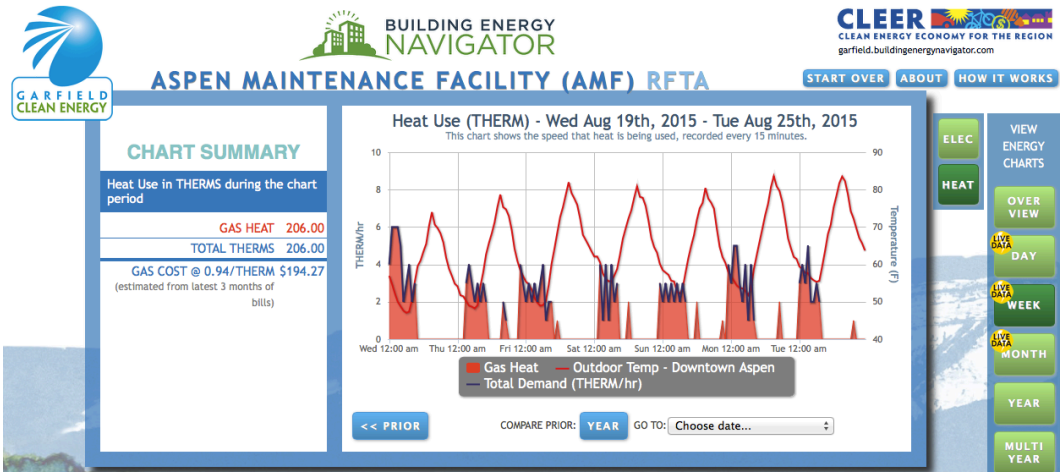
The Navigator is a valuable tool for tracking energy use and energy spending over time, making time period comparisons, and proving energy savings resulting from facility upgrades. For live data sites, it also provides real-time feedback for deliberate energy use adjustments, and displays the energy usage impacts of changing weather, facility demands and, in RFTA's case, use of the CNG compressor.



The screenshot above illustrates Navigator's big-picture energy data tracking, showing annual energy usage totals for all RFTA facilities tracked on the Navigator. The natural gas usage spike is the result of converting 22 buses to CNG. Electricity consumption is also higher to power the CNG compressors. Figures for 2015 energy use are through June.

The screenshot below and on the next page illustrate drilled-down energy usage data at the Aspen Maintenance Facility during the week of August 19-25, 2015. The screenshot below is electric usage; the screenshot on the next page is gas usage.





The Navigator can be accessed from any internet browser at Garfield.BuildingEnergyNavigator.com. A direct link to the Navigator is on every page of the Garfield Clean Energy website, www.GarfieldCleanEnergy.org.

Set-up costs for putting RFTA facilities on the Navigator were covered in previous years. Ongoing costs accrue from the entry of monthly natural gas and electric bill data, handled by Utility Management Services, and from management of the Navigator website and ongoing improvements to the system, handled by CLEER. This activity occurs on a monthly basis throughout the year. **RFTA's bill data costs are covered by its membership contribution to Garfield Clean Energy.**

Active Energy Management. RFTA staff works closely with Garfield Clean Energy to improve the energy efficiency of its facilities in Aspen, Carbondale and Glenwood Springs. Projects year-to-date include:

- **Aspen Maintenance Facility**: GCE used the Building Energy Navigator to measure and verify long-term energy usage and savings compared to the original design engineer's estimates. The results of our study showed that actual energy savings were in line with the engineer's estimates of about 40% savings, compared to the previous facility.
- GCE also analyzed the Aspen facility's energy consumption to provide RFTA staff with data needed to apply for a CORE TRUE grant to install a geo-exchange field.

- **Glenwood Maintenance Facility**: GCE provided a facility walkthrough and advised RFTA staff energy savings estimates for the proposed facility remodel. RFTA used this documentation for a TIGER grant application.

- **Other facilities**: GCE is consulting with RFTA staff to identify facilities that consume significant energy but don't currently have live energy monitoring and could benefit from that level of energy usage data.

- **CNG**: GCE provided energy consultation on new public fueling options emerging in Glenwood Springs and Rifle. GCE has also used RFTA's experiences with CNG to help rural transit agencies in Gunnison, Mesa and Montrose counties understand the benefits and real-world application of CNG buses.

- **Renewable energy**: GCE is working with RFTA staff to determine how to capture solar energy production from RFTA's portion of the Clean Energy Collectives Sunnyside array for graphic display in the Building Energy Navigator.

Future projects: By nature, active energy management is opportunistic, and projects can vary depending on facility needs and available budget. GCE has also recommended projects for future upgrades, including lighting, more efficient compressor equipment, and building sensor adjustments.

Transportation programs that help fulfill RFTA's mission

Active Transportation. For 2016, GCE is planning three projects to support regional efforts to create a strong multi-modal system and increase use of all transportation options. These projects help the valley work towards petroleum independence and deal with regional traffic congestion and road and bridge construction.

1. **Support efforts to strengthen active transportation and multi-modal infrastructure**. Work with strategic community partners to make progress on infrastructure for bicycle and pedestrian travel, and link biking and walking routes to transit.
2. **Bike and Walk to School Challenge**. A spring event focused on K-12 schools throughout Garfield County encouraging students to walk, bike, carpool or ride the bus to school.
3. **Ride Garfield County**. A summer multi-partner event, using the National Bike Challenge website, local events and marketing for a countywide bike- and bus-riding campaign for residents of all ages. Ride Garfield has a Team Challenge component and encourages communities to plan and host bike-oriented events. This event builds support for transit and trails.

Alternative Fuels. For 2016, GCE will continue two successful projects that are building market demand for alternative fuels and developing fueling infrastructure for CNG and electric vehicles.

1. **West Slope CNG Network.** Public CNG stations are open for business in Parachute and under construction in Glenwood Springs. A proposed Rifle station has been awarded grant funding and is expected to open by summer 2016. With this marked expansion of public CNG fueling infrastructure, the network will educate fleets and individual motorists about the advantages of CNG vehicles. GCE will also continue to assist member governments in planning and applying for DOLA vehicle purchase grants.
2. **Electric Vehicles.** To ramp up adoption of electric vehicles, GCE will continue its work to introduce motorists and fleets to EVs through ride-and-drive events, and assist governments and businesses in installing more public and workplace charging. As charging units become more widespread, and as area auto dealers feature more battery-electric and plug-in electric vehicles on their lots, more drivers and fleet managers will see EVs as a preferred option for passenger cars.

Garfield Clean Energy Collaborative
2016 Strategic Plan

INTRODUCTION

Members of the Collaborative are Garfield County, the Town of Parachute, City of Rifle, Town of Silt, Town of New Castle, City of Glenwood Springs, Town of Carbondale, Roaring Fork Transportation Authority and Colorado Mountain College.

These partners have joined together to use energy efficiency, renewable energy and alternative fuels to build a stronger, more resilient and energy-secure economy. Households, businesses and governments across Garfield County are cutting energy bills, and local businesses are benefitting from contracts and sales.

Garfield Clean Energy Collaborative grew from a previous organization, Garfield New Energy Communities Initiative, which operated as an intergovernmental committee under the authority of Garfield County from 2009 through 2011. Garfield Clean Energy established itself as an independent, intergovernmental authority in 2012.

Accomplishments 2009 through August 2015

Private sector

- 295 businesses and 378 homes invested in upgrades: $1 million in savings to date.
- One-stop-shop website tallied 88,300 visits, 177,500 page views, 33% return rate.
- $300,000 Residential Revolving Loan Fund created; 27 active loans, $134,000 available.

Government sector

- 27 solar arrays on government buildings generating 8.4 gigawatt-hours per year.
- 9 local government partners using ongoing energy consultations for energy efficiency.
- Energy use monitored online for 90 government buildings.

Transportation sector

- 24 CNG transit buses, 2 Traveler vans and CNG fueling station based at RFTA's Glenwood Maintenance Facility.
- 3 CNG stations opening: Parachute in 2013, Glenwood Springs in 2015, Rifle in 2016.
- 7 public electric vehicle charging stations.
- Leadership for alternative fuels infrastructure development in neighboring counties.

Economic development results

- Energy cost savings from all tallied projects: $1.8 million per year.
- 172 contractor and supplier businesses benefitting from work and product sales.
- Initial DOLA grant funding stimulated $14 million in private and public investment in clean energy upgrades, equipment and vehicles, benefitting the local economy.

GARFIELD CLEAN ENERGY COLLABORATIVE
VISION, MISSION AND GOALS

Garfield Clean Energy Vision Statement

Garfield County will be the most energy efficient county in the country.

Garfield Clean Energy Mission Statement

The mission of the Garfield Clean Energy Collaborative is to provide energy efficiency solutions, education and alternative and renewable energy opportunities to all individuals and organizations, in order to build a stronger, more resilient economy benefiting citizens of Garfield County.

Garfield Clean Energy Goals

Goal No. 1: Increase per capita energy efficiency by 20% by 2020, over a baseline 2009, as a means to a stronger, more resilient and energy-secure economy.

Goal No. 2: Reduce petroleum fuel consumption 25% by 2020, over a baseline 2009, as a means to a stronger, more resilient and energy-secure economy.

Goal No. 3: Obtain 35% of our energy from renewable sources by 2020 as a means to a stronger, more resilient and more energy-secure economy.

Goal No. 4: Identify and implement adequate and sustainable funding for Garfield Clean Energy by Dec. 31, 2016, to achieve our mission.

Garfield Clean Energy Strategic Plan Goals and Actions 2016

Goal No. 1: Increase per capita energy efficiency by 20% by 2020, over a baseline 2009, as a means to a stronger, more resilient and energy-secure economy.

PUBLIC BUILDINGS AND FACILITIES

Energy efficiency leadership, policies and practices

- Help partner governments establish energy efficiency goals for specified buildings and facilities, along with time frames for improvement.
- GCE members to collaborate on goals they have set for buildings, in order to learn from each other and maintain momentum for energy savings.
- Expand knowledge of what governments in other communities have achieved in energy efficiency.

Energy data management

- Collect and upload building utility data to the Energy Navigator website every month. Use Navigator data to guide actions that achieve gains in energy efficiency.

Benchmarking / ENERGY STAR ratings for buildings and facilities

- Continue efforts started in 2015 to benchmark GCE partner buildings. Present benchmarking reports to the GCE board as they become available.

Active energy management

- Consult with facility managers and use Energy Navigator data to cut 2016 energy use in specified buildings by at least 10% from 2014 use levels.
- Identify each member's highest energy-using building or facility and implement a strategy for achieving efficiency goals.
- Provide recommendations to each member's board and staff for specific efficiency projects. Seek the member board's commitment for funding these projects in the upcoming year's budget and completing the projects.
- Pursue streetlight change-out opportunities across the county.
- Prepare and present customized annual building energy reports for each member's governing board.

Trainings

- Provide trainings or roundtable meetings for facility managers and their staff.
- Provide refresher trainings or webinars for facility managers and decision-makers to take full advantage of Building Energy Navigator data.

Grants and member funding to make improvements

- Assist member governments in seeking funding from grant sources, or create funding sources to make energy improvements.

BUSINESSES AND HOUSEHOLDS

Increase availability of energy rebates and incentives throughout Garfield County

- Seek out external sources of funding and develop internal sources that can be used to supplement utility rebates.
- Seek out sources of funding that can increase rebates in western Garfield County to provide countywide parity in rebate offerings.

Energy advising and education

- Provide energy advising and education services to businesses and households, with the goal for helping each client reduce energy use by at least 20% by carrying out energy efficiency upgrades.

Marketing & outreach

- Maintain up-to-date lists of energy efficiency rebates, incentives and financing options for commercial and residential customers and post to GCE website.
- Deliver effective marketing and outreach to drive energy efficiency actions by businesses and households that result in at least 20% efficiency savings.
- Host an exciting campaign or challenge to create community awareness of energy efficiency gains and drive action by more households.
- Write and publish relevant success story case studies or fact sheets.

Contractor training and support

- Update efficiency contractors on new or changed rebate offers, financing programs and new efficiency technology and equipment through an annual contractor workshop, and through email messages through the year.

Program reporting and data tracking

- Enter data for all participants to track cumulative countywide energy savings and program effectiveness.
- Report on program results in four quarterly reports and via other communications channels.

Energy Inventory

- Educate the community about results of the 2015 energy inventory to maintain awareness of energy costs and potential for savings through efficiency and spur effective actions.

Goal No. 2: Reduce petroleum fuel consumption by 25% by 2020, over a baseline 2009, as a means to a stronger, more resilient and energy-secure economy.

Active transportation

- Work with strategic community partners to improve infrastructure for bicycle and pedestrian travel.
- Organize the annual Bike and Walk to School Challenge involving schools in all three public school districts in Garfield County; solicit prize money from private sector donors; hold an awards event for winning schools.
- Collaborate with local government entities on Ride Garfield County event to increase bicycling, walking and use of public transit throughout the year by residents of all ages.
- Focus on gaps in trail infrastructure and on developing more trails and safe routes in western Garfield County.

West Slope CNG Network

- Educate the public about the benefits of CNG as a transportation fuel through events and campaigns associated with CNG stations in Parachute, Rifle and Glenwood Springs.
- Assist GCE partners in pursuing DOLA funding for CNG vehicle purchases.

Electric and plug-in vehicles

- Help eligible entities in Garfield County apply for funding assistance to install more EV charging stations.
- Assist GCE partners in pursuing DOLA funding for electric vehicle purchases.

Efficient vehicles & fleets

- Provide energy coaching to GCE partners and to public and private fleet operators to employ best management practices for fleet efficiency.

Marketing/outreach

- Organize an educational event or campaign, or make presentations in support of active transportation, alternative fuels and/or petroleum independence.

Energy Inventory

- Educate the community about results of the 2015 energy inventory to maintain awareness of energy costs and potential for savings through vehicle efficiency and spur effective actions.

Goal No. 3: Obtain 35% of our energy from renewable sources by 2020 as a means to a stronger, more resilient and energy-secure economy.

Local power generation

- Conduct a resource inventory and publish a plan for how Garfield County can achieve Goal No. 3 by developing local renewable energy sources as identified at the April 2015 strategic planning retreat. The inventory and plan should also evaluate the potential for unique energy sources, such as burning coal seams and coal bed methane.
- Seek grant funding to pay for this inventory and plan from a source, such as the Garfield Federal Mineral Lease District.

Policy

- Develop a policy resolution for each member entity to consider adopting aimed at becoming net-zero for electricity consumption in all its buildings and facilities by a date certain.

Technical assistance / project implementation

- Identify optimal locations for new solar installations in the county. Reach out to high-potential property owners to discuss solar options.
- Provide technical support to GCE partners to install enough renewable energy capacity to meet their net-zero policy goals.

Energy data management

- Track and report electrical generation from solar collectors for GCE partner buildings equipped with Building Energy Navigator data loggers.

Financing

- Publicize use of the Residential Revolving Loan Fund to finance residential solar PV and solar thermal installations.

Education

- Organize an educational event, campaign or series of presentations to build knowledge of renewable energy in the community.
- Sponsor at least 1 educational program, such as Solar Rollers, that educates public school students in Garfield County about the science of renewable energy.

Energy Inventory

- Educate the community about results of the 2015 energy inventory to maintain awareness of energy costs and potential for savings through renewable energy.

Goal No. 4: Identify and implement adequate and sustainable funding for Garfield Clean Energy by Dec. 31, 2016, to achieve our mission.

Build upon and implement a funding plan

- Adopt a long-term funding plan.

Evaluate various funding methods and models

Fee for service

Investigate models to charge fees for energy advising customers and for contractors that benefit from GCE programs and services. Identify a means to implement this model.

Severance tax revenues

Consider a policy for GCE partners to dedicate a percentage of annual severance tax revenues, derived from energy development, to fund GCE operations.

Garfield Federal Mineral Lease District

Continue discussions with the Garfield FML District board and staff regarding dedicated funding for Garfield Clean Energy.

Apply for an FMLD grant to assist with funding for projects identified in the GCE Strategic Plan.

Public benefit fee

Determine the process for establishing a fee on energy utility bills. If this concept is viable, seek community support and necessary approvals to levy the fee.

State-level funding options

Continue discussions with state agencies and legislators to identify state-level funding to support community-based clean energy programs. If this concept is viable, seek agency or legislative action to make funds available.

Regional collaboration

- Actively engage with organizations that have similar missions; explore options for regional collaboration or expansion.

Increase availability of energy rebates and incentives throughout Garfield County

- Seek out sources of funding and use GCE revenues to supplement utility rebates and to provide countywide parity in rebate offerings.