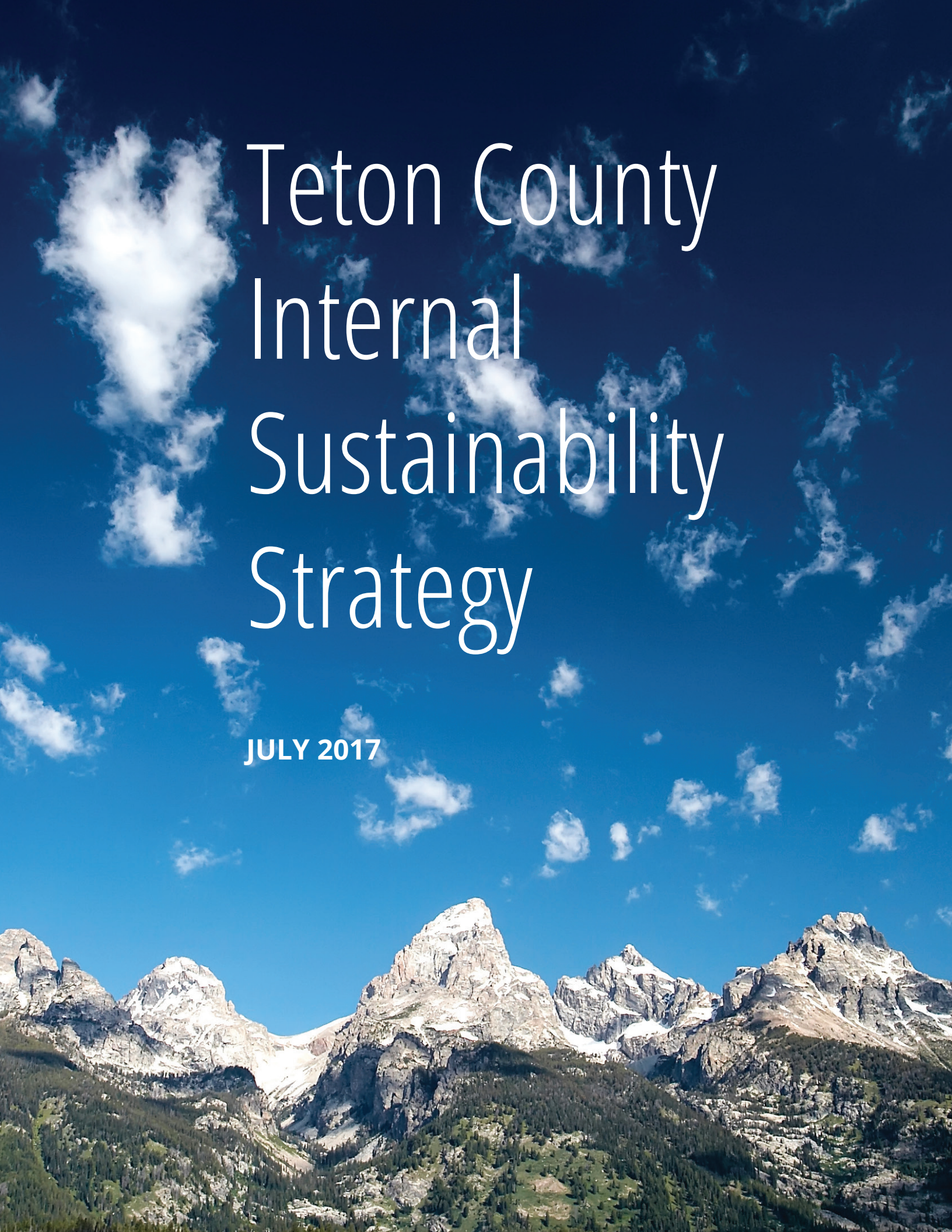

Teton County Internal Sustainability Strategy

JULY 2017

Acknowledgments

Many individuals within and outside Teton County collaborated on the development of this Internal Sustainability Strategy. We would especially like to thank the following Teton County leadership and staff members who participated in workshops, interviews, and development of the strategy. Creating the strategy would not have been possible without their professional expertise and hard work.

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Board of Commissioners

Barbara Allen
Greg Epstein
Natalia Macker
Mark Newcomb
Smokey Rhea
Paul Vogelheim

We would also like to thank Energy Conservation Works and the Town of Jackson for their input and ideas.

This strategy was compiled by Cascadia Consulting Group with support from Deanna Harger of Teton County Administration, Katy Hollbacher of Beyond Efficiency, Inc., Arne Jorgensen of Hawtin Jorgensen Architects, and Alicia Cox of Yellowstone-Teton Clean Cities.

To the Reader:

Teton County is a unique and truly special place. Unrivaled in its abundance of rugged beauty, ecological diversity, and recreational opportunities, the area provides visitors and residents alike the rare chance to experience the outdoors in many of its purest forms.

In large part, Teton County owes its open and accessible lands and waters to the prudent stewardship of generations of leaders focused on conserving the valley's rich heritage. Today, we are proud to carry on that legacy. Like those before us, we are committed to achieving responsible management practices and policies that will preserve the region's resources and natural splendor well into the future.

The Sustainability Strategy is an important step towards that mission. It offers a pragmatic framework to further position Teton County as a national leader in sustainability efforts. It will help guide the County's ongoing work to balance economic, environmental, and social considerations that will continue to evolve alongside the community.

The Sustainability Strategy is the culmination of a tireless effort by the County's public servants over the past nearly two years. We are proud of the hard work and dedication these men and women invested in this project, and of their continued devotion to its long-term success.

As a roadmap forward, the Sustainability Strategy is a starting point—not an end in and of itself. There is a lot of work ahead. But by pursuing the objectives outlined here, Teton County has an opportunity to reduce its environmental footprint, mitigate operating costs, improve efficiency and productivity, and embody the community's values and priorities throughout public works—all towards the ultimate goal of conserving the area's long heritage for generations to come.

The Teton County Board of Commissioners is proud to present the Teton County Sustainability Strategy. And we look forward to working with stakeholders from across the community to implement these goals and priorities.

Best regards,

Mark Newcomb
Teton County Commission, Chair

Natalia Macker
Teton County Commission, Vice Chair

Greg Epstein
Teton County Commissioner

Smokey Rhea
Teton County Commissioner

Paul Vogelheim
Teton County Commissioner

Table of Contents

Executive Summary

*Teton County's **vision** for sustainability is to be a national leader in sustainable operations, with County government programs, policies, and practices that minimize the use of resources, encourage interdepartmental collaboration, and **provide a healthy and resilient environment** for employees and residents to live, work, and play.*

Teton County attracts nearly one million visitors each year to experience the region's abundant natural beauty and recreation opportunities. With its longstanding legacy of environmental stewardship, County government has an obligation to reflect that ethic through sustainable operations. This **Sustainability Strategy** presents a foundation and roadmap for the Teton County government ("County") to be a national leader in sustainability, with operations that maximize environmental, social, and economic benefits for future generations of enjoyment.

Sustainability makes sense. It provides the County with an opportunity to save money by reducing resource costs and avoiding costly cleanups. Sustainability improves efficiency in both resources and operations, increasing productivity of County staff and enhancing job satisfaction. It builds a culture of moral responsibility that reflects community values and priorities. It drives innovation through new technologies and solutions.

Specifically, this strategy strives to achieve the following:

- **Articulate the County's definition and vision for sustainability** and **voice the County's commitment** to protecting the economic, social, and environmental quality of our community.
- **Present a brief history** of sustainability in Teton County and a look into what the future can hold.
- **Provide an integrated and strategic path forward** for achieving the County's sustainability vision, in place of a project-by-project approach.
- **Inspire a cultural shift within the organization** to more sustainable operations.
- **Identify future sustainability research needs** for the strategic investment of Energy Mitigation Policy funds.
- **Provide a potential launching point for a larger community-wide conversation** on environmental priorities to help us develop shared resources and practices to achieve regional sustainability goals.

This Sustainability Strategy represents the culmination of a **collaborative planning process** across Teton County departments. Staff and leadership came together over the course of a year to build a plan from scratch that **leverages Teton County government's distinctive features and values**. The goals and strategies were **hand-picked and vetted** to fit the County's size, geographic position, priorities, and vision.

This strategy is designed to be a **living document** that guides **iterative monitoring and evaluation** of sustainability progress over time. Implementation of the strategies and attainment of the goals will require an ongoing effort by Teton County's elected officials, department heads, and staff. Teton County will begin this work with an initial **foundational phase** that focuses on establishing a coordinated implementation structure, completing baseline inventory activities, and developing policies and practices to inform future actions. While much of this foundational work will not immediately result in measurable progress toward sustainability indicators, it is necessary for success. Progress may be slower as we lay the foundation and then speed up over time as our focus shifts from data collection and policy development to action implementation. The bulk of action implementation will take place during the **latter two phases** of implementation: 1) 2020-2025; and, 2) 2025-2030.

WHAT IS SUSTAINABILITY?

*To Teton County, **sustainability** means making decisions, taking actions, and using resources in a manner that perpetuates a healthy and resilient community, economy, and environment for future generations.*

*Being a **national leader in sustainability** means moving toward best practices that have a net zero or positive environmental impact.*

Goals and Strategies Summary

The strategy takes into consideration all aspects of internal operations actively managed by Teton County and is divided into three major sectors: **Climate & Energy**; **Procurement & Waste**; and **Water, Air Quality & Ecosystem Health**. Within each sector are goals, measurable targets, and strategies that will help achieve Teton County's sustainability vision. The goals and strategies are summarized here, and the targets and strategy details are described in the body of this document.

Climate & Energy

Reduce energy use and greenhouse gas emissions from County facilities, fleets, and employee commuting.

Overview

- The majority of County greenhouse gas emissions (approximately two-thirds) are from facility energy use, with natural gas contributing to over half of that amount.
- Over half of County facility energy use comes from three facilities: the recreation center, library, and courthouse.
- Annual greenhouse gas emissions from Teton County operations have declined by 10% since fiscal year 2011.
- Fleet fuel use has shown no clear decrease or increase over time.
- The Sheriff's office has the largest fleet and accounts for almost half of all County fleet emissions.
- Most employees reported driving alone to work as their usual means of commuting.

Goals

- Move toward net carbon neutral fleet and facilities.
- Move toward net zero energy use capability in County facilities.
- Optimize overall County fleet efficiency and minimize miles driven by County employees.
- Ensure Teton County's resilience to climate change impacts and other natural hazards.

Strategies

- Make existing facilities more energy efficient using holistic approaches, benchmarking, and improved evaluation criteria.
- Develop stricter performance standards for new facilities.
- Increase on-site renewable energy generation capacity.
- Develop fuel economy guidelines and encourage alternative fuel options for replacement and new vehicles.
- Encourage interdepartmental vehicle sharing.
- Increase diversity of vehicle types in the fleet.
- Develop alternative fuel infrastructure.
- Educate and engage County staff across departments and levels.

Procurement & Waste

Lower the impact of goods and services the County purchases, along with the waste it generates and disposes.

Overview

- Teton County currently pays for disposal of approximately 1,700 cubic yards of solid waste each year.

Goals

- Reduce County waste production and increase waste diversion to minimize landfill disposal.
- Practice sustainable purchasing and disposal of goods and services within all County activities.

Strategies

- Conduct a waste characterization study.
- Develop a County-wide environmentally preferable purchasing policy.
- Develop sustainable practices for construction and demolition waste for County capital projects.
- Purchase higher recycled-content or 100% post-consumer recycled printing paper.
- Identify opportunities to increase use of electronic documents and records management.
- Continue moving toward virtual cloud-based technology.

Water, Air Quality & Ecosystem Health

Safeguard water quality and quantity, protect indoor and outdoor air quality, and reduce environmental health impacts associated with County infrastructure, services, and operations.

Overview

- Teton County is lacking data in this area. Currently, the County has:
  - Limited data on facility water use.
  - No data on irrigation water use.
  - No data on pesticide, herbicide, or chemical use.
  - No standard for evaluating air quality or water use impacts of outdoor equipment.

Goals

- Maintain clean and healthy indoor air in all County facilities.
- Sustain and improve ecosystem health on County-owned and managed lands.
- Optimize water use efficiencies at County facilities and for County activities.
- Minimize outdoor air pollution due to County activities such as outdoor equipment use.

Strategies

- Continue working to define key performance indicators and establish baselines for water, air quality, and ecosystem health.
- Develop sustainable best practices around operation and maintenance of facilities and management of County lands.
- Move toward cleaner and more efficient outdoor equipment.

Introduction

How Teton County government conducts its day-to-day business dramatically affects its environmental footprint and impact on the community it serves. As a resort community, Teton County has many part-time residents and is host to nearly a million visitors each year from all over the world. Accordingly, the County government actions are an opportunity to be a model for the world. People who live here or visit even for a short time will be introduced to a rare intact ecosystem and how to live in a sustainable manner. The County government has long demonstrated a commitment to sustainability through its investments in energy efficiency, recycling and solid waste reduction, and multimodal transportation infrastructure. The County's Comprehensive Plan also establishes many goals directly related to sustainability, such as Principle 1.2 "Preserve and enhance water and air quality." It is the County's vision to be a leader in sustainable operations and to be a role model that inspires other governments and communities to do the same.

The strategy defines a vision to ensure a healthy and resilient environment for current and future residents and employees of Teton County. It presents a clear approach to enable all 11 County departments and 8 elected offices to work together toward shared sustainability goals. The strategy summarizes current conditions of the County's operations, key performance indicators, and actions for achieving sustainability goals and targets.

Teton County's Internal Sustainability Strategy was developed with input from both a **Working Group** composed of staff from across the County and a **Leadership Group** composed of elected officials and directors. The process involved a series of workshops that enabled collaboration and cross-pollination of ideas across departments and professions. The resulting strategy was built from opportunities and actions identified through the hard work of staff and leadership, which will continue to support its implementation and success going forward.

The Teton County's Internal Sustainability Strategy covers three key sustainability sectors, shown below. It is intended to present a vision for sustainability in Teton County and set goals that will guide how the County conducts its work for years to come. To ensure it remains relevant over time, the strategy is designed to evolve as it is implemented using an adaptive management approach. Because the strategy is a long-term initiative covering multiple sectors, adaptive management will help the County continue to make informed choices based on data and best practices. The vision and goals will remain constant, and the targets and actions will be evaluated and updated two years after adoption and then every four years going forward. This reevaluation will consider advances in technology, lessons learned, new events, and challenges. This approach allows Teton County to move forward now, even as it continues to address gaps by gathering information or adopting new policies and practices. The **Implementation Plan** in Appendix A provides guidance on timing, funding, responsibilities, and next steps.

Climate & Energy

Reduce energy use and greenhouse gas emissions of County facilities, fleets, and employee commuting.

Procurement & Waste

Lower the impact of the goods and services the County purchases, along with the waste it generates and disposes.

Water, Air Quality & Ecosystem Health

Safeguard water quality and quantity, protect indoor and outdoor air quality, and reduce environmental health impacts associated with County infrastructure, services, and operations.

*For Teton County, **sustainability** means making decisions, taking actions, and using resources in a manner that perpetuates a healthy and resilient community, economy, and environment for future generations.*

Teton County Sustainability Priorities

Several principles of the County Comprehensive Plan set sustainability goals for Teton County, including:

- Preserve and enhance water and air quality (Principle 1.2)
- Reduce consumption of non-renewable energy (Principle 2.1)
- Reduce energy consumption through transportation (Principle 2.3)
- Increase energy efficiency in buildings (Principle 2.4)
- Conserve energy through waste management and water conservation (Principle 2.5)

*Our **vision** is that Teton County is a national leader in sustainable operations, with programs, policies, and practices that minimize the use of resources, encourage interdepartmental collaboration, and provide a healthy and resilient environment for employees and residents to live, work, and play.*

Sustainability at a Glance

Teton County signs greenhouse gas resolution

Teton County Commissioners signed a **greenhouse gas resolution** expressing concern about global warming and its potential to harm the health, safety, and welfare of Teton County and its residents. The County also formed a **Green Team** and a **Green Building Team** to explore and advance sustainability initiatives in the county, including improved building and energy codes.

'04

Energy efficiency projects begin

Teton County and the Town of Jackson formed an **Energy Efficiency Advisory Board**, tasked with improving energy efficiency in local government operations. The County also signed a Memorandum of Understanding with Jackson and Lower Valley Energy to form **Energy Conservation Works**, a collaboration that aims to reduce energy use through the provision of residential, commercials, and public agency loan programs for energy efficiency projects. The County supplemented its energy conservation codes with the **Energy Mitigation Fund**, which seeks to offset disproportionate energy consumption of large buildings with a conservation or renewable energy installation on-site or paid in-lieu.

'07

'06

10x10 resolution sets aggressive energy reduction goal

The Green Team traveled to Aspen for a Canary Initiative conference, inspiring the **10x10 initiative,** which committed to a 10% reduction in electricity use and a 10% reduction in fossil fuel consumption below 2006 levels by the year 2010—a goal that also served as the County's commitment as part of the U.S. Mayors' Climate Protection Agreement.

Teton County begins purchasing 100% renewable energy

Teton County signed the **100% Renewable Green Energy Partnership Agreement,** allowing the County to purchase all of its electricity from Lower Valley Energy's Swift Creek hydroelectric project, which is located in Lincoln County.

Zero Waste Program launches

Teton County launched the **Zero Waste Program**, which aimed at reducing the amount of recyclable materials the community throws away as garbage.

Zero Waste Resolution adopted

In 2014, Commissioners adopted a **Zero Waste Resolution** with the goal of diverting 60% of communitywide waste from the landfill by 2030.

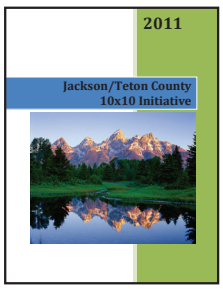
Internal Sustainability Strategy adopted

Teton County completed its first-ever comprehensive sustainability inventory, and adopted this Internal Sustainability Strategy. The strategy articulates the County's vision of environmentally sustainable operations and provides a blueprint for achieving sustainability goals.

'09 '11 '13 '14 '15 '17

Final 10x10 project report issued

The 10x10 initiative resulted in the implementation of several energy efficiency projects, which collectively reduced energy use by 3% compared to 2006 levels, according to the initiative's final report.



Funding approved for Internal Sustainability Strategy

To assess progress to date, identify gaps, and recommend sustainability actions, the Board of Commissioners approved funding in FY 2016 to develop this **Internal Sustainability Strategy**.

Climate & Energy

Energy is essential to the functions of Teton County. Energy in the form of electricity, gas, and other fuel heats and cools our buildings and provides the County with the goods and services needed to operate. These services are especially important in Teton County, where an extreme climate brings a greater dependence on energy for heating and cooling. While critical to our society, the production and use of energy emits harmful pollutants such as particulates and greenhouse gases that contribute to climate change and reduced air quality. Emissions from energy generation and fuel combustion typically make up the majority of local government greenhouse gas emissions footprints.

Changes in temperature, precipitation, and sea level from human-caused climate change will affect public health and our economy, including how much energy is produced, delivered, and consumed in the United States. In the future, Teton County could face more extreme heat conditions, water scarcity, and more extreme weather events.

Efforts to reduce energy use and its emissions will provide benefits within and beyond Teton County's borders. Such reductions contribute toward global efforts to mitigate harmful climate change impacts and make for a cleaner and healthier world.

Key Terms

- **Energy use intensity (EUI)**: This measure of building energy efficiency is expressed as energy usage per square foot per year and is calculated by dividing the total annual energy use of a building by its total floor area.
- **Carbon neutrality**: No net emissions of carbon dioxide, a key greenhouse gas, into the atmosphere; emissions can be reduced, eliminated, and offset by other actions that remove carbon dioxide from the atmosphere, such as planting trees.
- **Corporate average fuel economy (CAFE)**: A federal standard for vehicle fleet fuel efficiency for automakers. The rules in 2016 require 38 miles per gallon for cars and 29 mpg for light-duty trucks.

How is Teton County government doing?

Energy Use

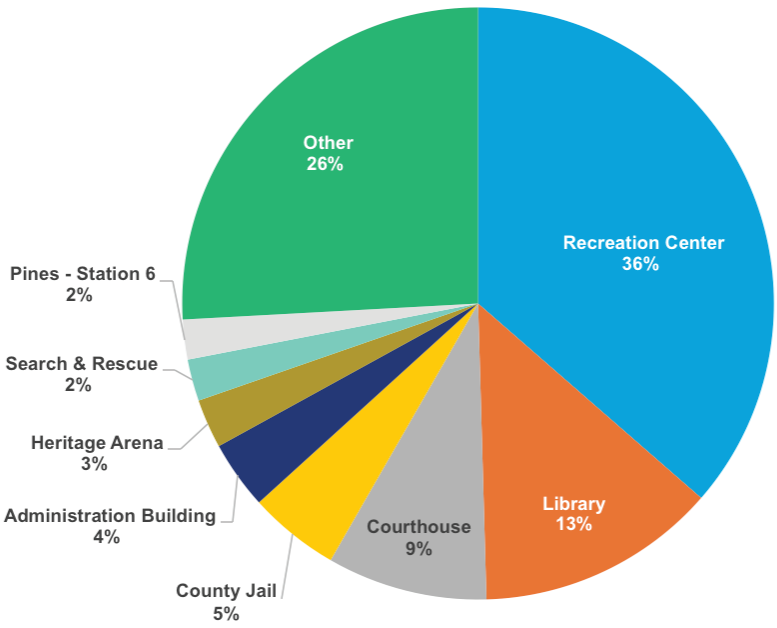
Facilities

- Over 50% of all facility energy use comes from three facilities: **the recreation center, library, and courthouse**. The County has two **LEED Gold-certified buildings**: Teton County Library and Rafter J Daycare Center.
- The County maintains grid-connected **solar panels** on four facilities, with a combined generating capacity of 134 kilowatts.

Grid-tied solar panel installations at Teton County facilities
(Sources: Sunny Portal, Creative Energies, Deanna Harger)

Emergency Operations Center	28	46,822
Fire Hall 7	23	7,207
Library	37	337,114
Recycling Center	46	Unknown

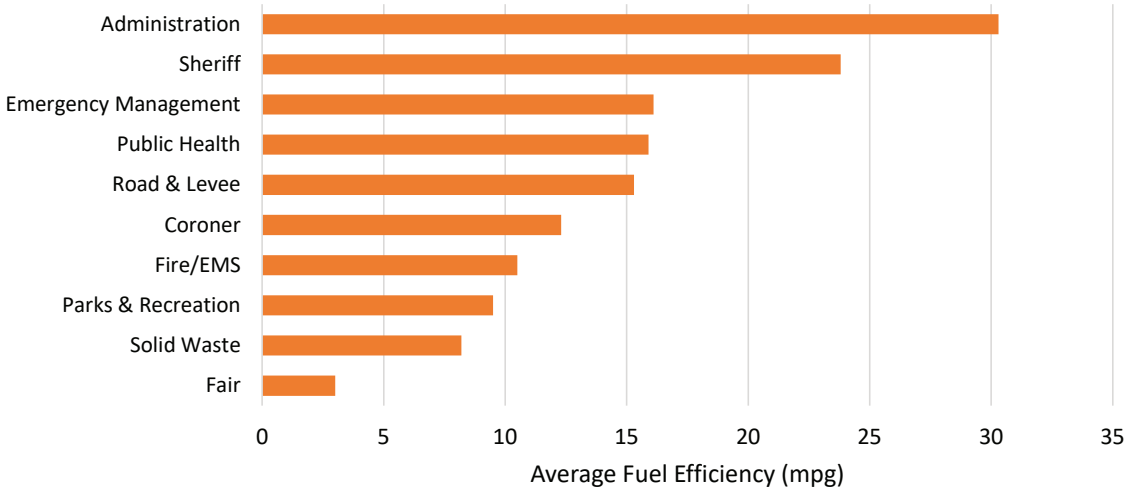
Teton County energy use by facility in FY 2015
(measured in mBTU; Source: Planet Footprint, 2016)



Fleets

- Fuel use associated with the County's 168 vehicles shows **no clear trend over time**.
- The Sheriff's office accounts for the most greenhouse gas emissions among Teton County departments, contributing 45% of all fleet emissions over a six-year time period.
- The most abundant vehicle types in the County fleet are **light trucks** (30%) and **heavy trucks** (18%). The majority of light trucks are located within the Administration, Fire/EMS, and Parks and Recreation departments.
- Currently, the County has three **hybrid** vehicles: two Toyota Priuses and one hybrid Ford Escape.

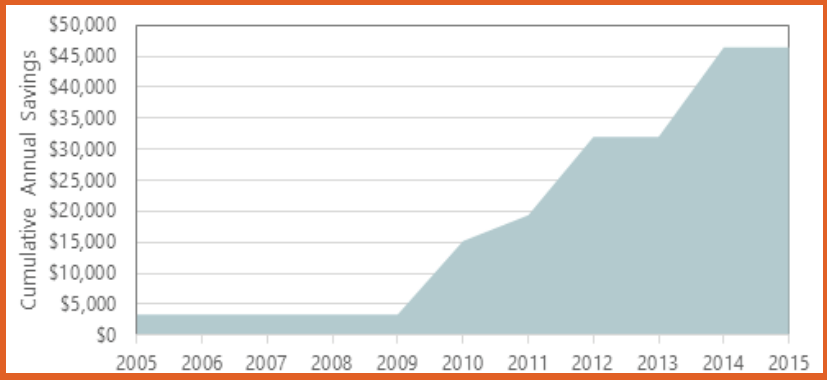
Average estimated fleet fuel efficiency, by department
(Source: Gasboy, 2016)



Energy Efficiency Projects

The 10x10 resolution was a joint Town of Jackson-Teton County collaboration that committed to a 10% reduction in electricity use and a 10% reduction in fossil fuel consumption below 2006 levels by the year 2010. As a result, Teton County has invested in approximately 23 energy efficiency measures since 2005, resulting in energy cost savings estimated at $46,448 each year. These measures include installing high-efficiency boilers, upgrading insulation, and retrofitting lighting with efficient lamps.

Energy efficiency projects in Teton County receive funding support from two innovative local programs. Energy Conservation Works is a collaboration between the Town of Jackson and Lower Valley Energy that aims to reduce energy use through the provision of residential, commercial, and public agency loan programs for energy efficiency projects. The County supplemented its energy conservation codes with the Energy Mitigation Fund, which seeks to offset disproportionate energy consumption of large buildings with a conservation or renewable energy installation on-site or paid in-lieu.

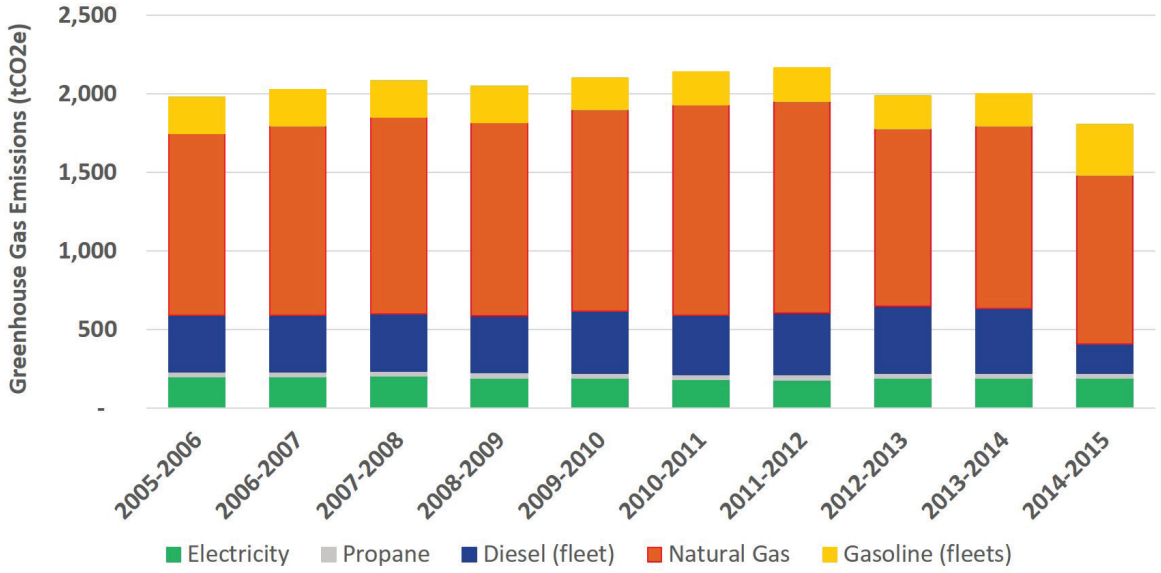


Estimated annual energy cost savings from investments in energy efficiency at Teton County facilities
(Source: Planet Footprint, Honeywell)

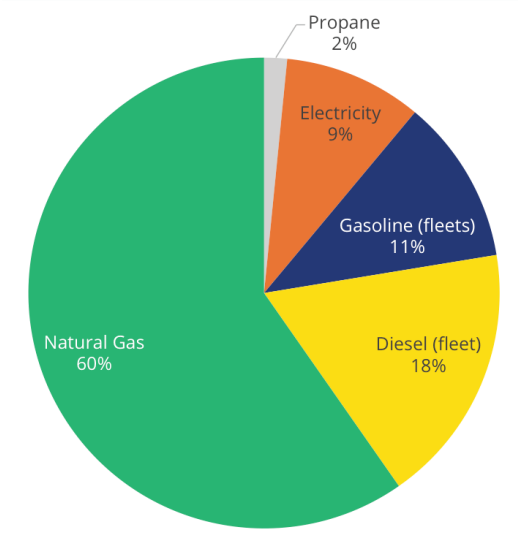
Greenhouse Gas Emissions

- Teton County has tracked greenhouse gas (GHG) emissions from energy use in its buildings and fleets since 2006. Total emissions from facilities and fleets have **declined by 9%** over the past 10 years.
- The majority of County greenhouse gas emissions are from **natural gas** use at facilities (60%).

Teton County internal operations greenhouse gas emissions trends, by source
(Source: Planet Footprint, 2016)



Teton County greenhouse gas emissions by fuel source for FY 2015
(Source: Planet Footprint, 2016)



Employee Commuting

- Of Teton County employees surveyed, 71 percent reported **driving alone to work** as the usual means of commuting (mode changes by season).
- The majority of surveyed Teton County employees commute **1 to 10 miles** into work.

Goals

Minimize greenhouse gas emissions from County operations.

Advance net zero energy use in County facilities.

Optimize overall fleet efficiency and minimize miles driven by County employees.

Ensure County resilience to climate change impacts and other natural hazards.

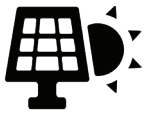
2030 Targets

Reduce facility and fleet greenhouse gas emissions by 40%.

Teton County greenhouse gas emissions have declined by about 10% since FY 2006. Preventing significant climate impacts will require ambitious action to cut emissions.

Reduce the average energy use intensity (EUI) of County facilities by 40%.

The energy use intensity measures the energy use per square foot of conditioned space. Although not currently tracked by the County, this metric provides a way to compare the relative efficiency of buildings across facilities and jurisdictions.



Increase renewable energy generation capacity by 30%.

The County currently has over 160 kilowatts of generating capacity from solar installations. This target calls for increasing that capacity to demonstrate leadership and build energy resilience.

Reduce fleet fuel use by 40%.

Total fleet fuel use has ranged between approximately 59,400 to 65,600 gallons from 2010 to 2015, with no clear decreasing or increasing trend over time. This target aims to reduce fleet fuel use through more efficient vehicle use and fewer miles traveled.

Reduce the proportion of employees who predominantly drive alone to work by 40%.

A survey of Teton County employees revealed that 71% of employees drive alone as a usual means of commuting. This target calls for this proportion to decrease by 40% by 2030.

Strategies - Facilities

CE-1. Make existing facilities more energy efficient.*

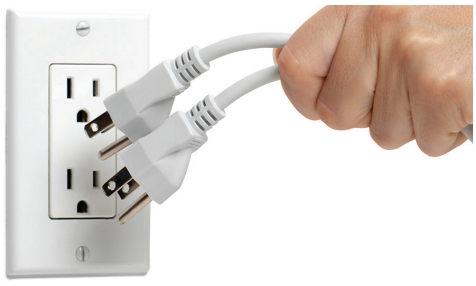
Facilities contribute the majority of County energy use and greenhouse gas emissions. To date, the County has taken a project-based approach to building efficiency. This strategy calls for taking a more holistic, system-scale approach to building energy efficiency improvements that considers benchmarking approaches such as energy use intensities and lifecycle project evaluation criteria that move beyond simple payback thresholds.

CE-2. Develop stricter performance standards for new facilities.

Much of a building's energy use is already determined within the initial building design phase. Facility and equipment performance standards such as LEED, ENERGY STAR, and the Living Building Challenge help consistently incorporate energy best practices into facility design. Development and adoption of equivalent standards customized for Teton County facilities would boost energy savings and minimize the costly retrofits down the road.

CE-3. Increase on-site renewable energy generation capacity.

On-site renewable energy production demonstrates County sustainability leadership and ensures that the County energy mix remains clean and low-carbon. The County currently has 162 kilowatts of generating capacity from solar installations at the Emergency Operations Center, Fire Hall 7, Library, and Recycling Center. This strategy calls for the County to continue building on-site renewable energy capacity such as through solar panel or geothermal energy system installations.



CE-4. Educate and engage County staff at multiple levels around best practices.

Facilities energy use involves all Teton County staff who operate or work in County owned or managed buildings. While some energy use is inevitable due to the inherent inefficiencies of equipment and building structure, practices such as turning off computers and lights at the end of the day or programming thermostats can make a big difference. This strategy calls for educating and engaging County staff on the energy efficiency of facilities they use and on best practices for minimizing their energy impact.

*Foundational Step

Strategies - Fleets

CE-5. Develop fuel economy and vehicle replacement guidelines.

The average County vehicle travels 14 miles per every gallon of fuel used. Finding opportunities to lower the average fuel economy would save energy and lower fuel costs. Vehicle replacement guidelines can call for new vehicles to have optimized fuel economies based on the intended vehicle use.

CE-6. Encourage interdepartmental vehicle sharing.

Some County departments only use their designated vehicles sparingly or for diverse purposes. The County could optimize its fleet stock by identifying interdepartmental vehicle-sharing opportunities. This action could lower vehicle purchase costs and allow County staff to right-size their vehicle use to their needs so that heavy trucks are not being used for basic personnel transportation.

CE-7. Diversify the County's vehicle fleet.

The majority of Teton County vehicles are trucks. Diversifying the County's fleet to include more efficient and alternative fuel vehicles would help match vehicle use to needs. Unless large loads are anticipated, in many cases small sport utility vehicles or all-wheel drive sedans could be viable alternatives that can also handle harsh road conditions.

CE-8. Develop alternative fuel infrastructure.

Signing of the 100% Renewable Green Energy Partnership in 2013 meant that the bulk of Teton County electricity is from renewable hydropower. The County could leverage this arrangement by building alternative fuel infrastructure for its vehicles such as electric vehicle charging stations. In addition to building a foundation for future alternative fuel vehicles purchases by the County, this action also publicizes the County as a sustainability leader and would provide community members with additional electric vehicle charging options.

Procurement & Waste

Almost 40,000 tons of waste is generated in Teton County each year by residents, businesses, visitors and institutions. Teton County's remote location surrounded by public lands can make waste disposal expensive and environmentally impactful. Approximately 66% of generated waste in Teton County is sent over 100 miles away for landfill disposal at a cost of $115 per ton.

The environmental impacts of material consumption and disposal extend far beyond the landfill. From raw materials acquisition to manufacturing, transport, use, and disposal—products have environmental consequences throughout their entire material lifecycle. For example, the U.S. Environmental Protection Agency reports that 42 percent of all U.S. greenhouse gas emissions can be attributed to the provision of goods and food. Landfills can also pose environmental risks like groundwater contamination.

Improving the sustainability of materials management requires both reducing waste through recycling, composting, and waste prevention as well as reducing the lifecycle impacts of materials through manufacturing design and consumption choices. Teton County started recycling in 1990 through a local nonprofit organization. Since then, the County has realized notable environmental and financial benefits. In the 2015 fiscal year, Teton County saved an estimated $925,000 in disposal fees from recycling and composting.

How is Teton County government doing?

Consumption

- Based on a sample of paper purchasing in the County, we estimate that Teton County purchases about one-third 30% recycled-content paper and two-thirds 0% recycled, all-virgin-content paper.
- **Digitization**, or "going paperless," has become a priority for multiple departments in the County, including Planning, Treasury, and Public Health. The Human Resource department has decreased the amount of paper required for the onboarding process through the use of an online information system.

Waste Generation and Disposal

- Teton County currently pays for the disposal of approximately **1,706 cubic yards** of solid waste each year.
- **Recycling containers** can be found in most County facilities, and the County has maintained a **low contamination rate** for recycled materials.
- The Parks and Recreation department participates in the County's **composting program**, and the planned addition to the Recycling Center will have a **demonstration site for a backyard composter**. The Parks department composts all of its **grass clippings and organics.**
- Thanks to Teton County Integrated Solid Waste and Recycling (ISWR), the county is one of only three communities in Wyoming that has a permanent **Household Hazardous Waste Collection Facility**.
- **Demolition debris** from the Recycling Center construction is currently sorted and recycled, and scrap wood from the library expansion was recently used to make new bookshelves.

The Road to Zero Waste

In 2009, Teton County launched the Zero Waste Program, which aimed at reducing the amount of recyclable materials that the Teton County community throws away as garbage—including materials from Teton County government's own operations. In 2014, Commissioners adopted a Zero Waste Resolution with the goal of diverting 60% of the community's waste from the landfill by 2030.

The County government is currently working to develop a Zero Waste Plan that articulates a pathway toward achieving this ambitious goal. Achievements made through this initiative will help Teton County government improve the management of its waste and materials and reduce the lifecycle environmental impacts associated with material consumption and disposal.

Goals

Reduce County waste production and increase waste diversion to minimize landfill disposal.

Practice sustainable purchasing and disposal of goods and services within all County activities.

2030 Targets

Reduce per-employee County waste production by 20%.

Teton County currently pays for the capacity to dispose of approximately 1,700 cubic yards of solid waste each year. This is the amount the County pays to dispose—it is unknown how much waste the County is actually throwing away, as bins often are not 100% full at time of disposal. A waste characterization study would help identify actual waste production by County activities. Reducing the County's production of waste will minimize lifecycle impacts of production, use, and disposal of goods and materials, as well as reduce County disposal costs. Achieving a 20% reduction in County waste production will require the County to use resources wisely, invest in longer-living products, and reuse products where possible.

Divert a minimum of 60% of the County's internal waste from landfills.

The County's waste diversion rate—the proportion of waste that is recycled or composted instead of going to the landfill—is currently unknown. A waste characterization study would reveal how much recyclable and compostable waste the County produces and what proportion of that waste actually goes to beneficial reuse. The County's Road to Zero Waste plan calls for an overall county diversion goal of 60% by 2030. This target calls for County activities to mirror that goal, providing community leadership and demonstrating the County's commitment to "walking the talk."

Establish and implement a County-wide environmentally preferable purchasing policy.

Purchasing products and services that minimize lifecycle environmental impacts and harmful chemical exposure helps squeeze the most benefit out of each County dollar. This target calls for development and implementation of a formal County-wide policy around procurement and purchasing of sustainable products and services, providing a consistent and standardized approach to County purchasing. Ecolabels and certifications such as ENERGY STAR, EPA WaterSense, and USDA Organic make identification and purchasing of sustainable products easier than ever, and many cases, can help the County save money through reduced resource use and improved product quality.

Strategies

PW-1. Conduct a waste characterization study to target diversion opportunities.*

Obtaining a baseline measure of what and how much waste the County is disposing will facilitate the identification and implementation of waste prevention and diversion opportunities. Studies involve taking samples from waste bins and sorting into categories such as recyclables and compostables.

PW-2. Develop an environmentally preferable purchasing policy.*

Purchased materials and equipment carry embedded lifecycle environmental and social impacts. For example, copy paper requires energy to grow the trees, manufacture the paper, transport it to the vendor, and dispose it after use. A County-wide environmentally preferable purchasing policy would ensure that purchasing decisions across County operations take into account these lifecycle impacts and costs in a consistent and standardized manner.

PW-3. Develop sustainable practices for construction and demolition waste for County capital projects.

Construction and demolition (C&D) debris make up about one-third of typical community waste. The County currently reuses debris from some C&D projects, but not all. This strategy calls for development of a set of accepted practices for minimizing environmental impacts from C&D waste generated by County activities.

PW-4. Identify opportunities to increase use of electronic documents and records management.

Transitioning documents from paper to electronic versions can save space for paper storage, time to generate and organize the documents, and money for printing and storing. Digital storage can also streamline processes and facilitate information sharing with the public or among departments. This strategy calls for the County to explore opportunities to increase use of electronic documents for meetings, permitting, and other County activities.

*Foundational Step

Water, Air Quality & Ecosystem Health

The abundance and clarity of Teton County air, water, and ecosystems are not just an environmental issue—they are matters of public health. Air pollution from the burning of fossil fuels and production of fine particulate matter can strain respiratory and cardiovascular systems, presenting serious risks to those with asthma, allergies, respiratory diseases, and suppressed immune systems. As most people spend 90 percent of their time indoors, indoor air quality is also important. According to the United States Environmental Protection Agency, studies have found that indoor levels of air pollutants may be two to five times higher than outdoor levels.

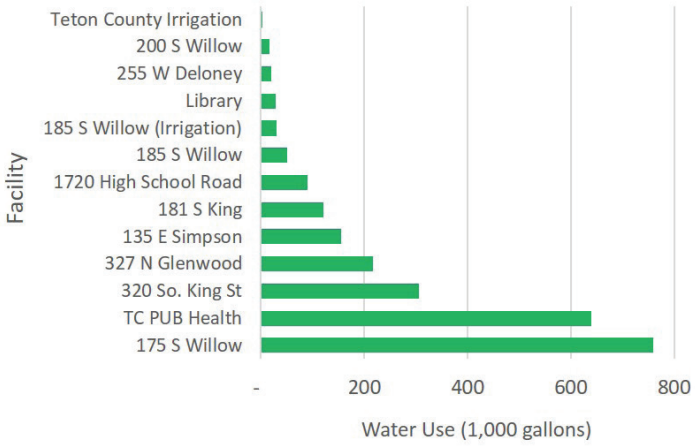
Climate change, population growth, and development will put additional strain on air, water, ecosystems, and other resources in Teton County into the future. Abundant, clean water for human consumption and healthy ecosystems will require that we manage chemicals appropriately, maintain landscapes in a sustainable manner, and minimize water consumption to the extent possible. People come to Teton County for the beautiful landscapes and habitats, and so it is imperative that the County support, improve, and maintain its water, air, and ecosystem resources through sustainable internal policies and operations.

How is Teton County government doing?

Water Quality

- In 2015, Teton County facilities for which data were available consumed a total of **2,435,000 gallons** of water.
- Parks department practices **sustainable land care** where possible, including improved irrigation control systems, a cycle soak irrigation process, and as-needed spot application of herbicides.
- The County Engineering department implements rigorous **erosion control measures** as part of the permitting process, which are considered effective in reducing sediment loads in local waterways.
- **Water-efficient fixtures** have been installed in some County facilities, including the recreation center.

2015 water use for available Teton County facilities
(Source: Town of Jackson)



Air Quality

- **Air exchange units** installed at Solid Waste facilities monitor air quality and help insulate during the winter season.
- The Road and Levee department performs **gravel road dust mitigation**.

Sustainable Landcare

Sustainable landscaping is the work of designing, constructing, and maintaining landscapes to conserve and regenerate water, air, soil, plant and wildlife resources, and protect and enhance human health and well-being. Sustainable best practices focus on the environment while striving to be socially equitable and economically feasible.

Best practices include designing with plants that invite pollinators and reduce watering, designing to increase air flow and reduce the "heat island effect," building soil with compost, using grading techniques that have minimal impact on the soil, mulching for weed control and water conservation, and using Integrated Pest Management techniques to reduce chemical pesticide use.

Goals

Maintain clean and healthy air in all County facilities.

Optimize water use efficiencies at County facilities and for County activities.

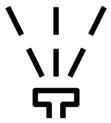
Sustain and improve ecosystem health on County-owned and managed lands.

Minimize outdoor air pollution due to County activities.

2030 Targets

Reduce potable water use by 20%.

Large water-using facilities at the County include the Jail, Public Health building, and County staff facilities. Opportunities to reduce water use at these and other facilities include behavior adjustments and installation of more water-efficient equipment and fixtures.



Optimize efficiency of irrigation systems.

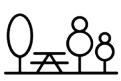
The Parks department uses efficient irrigation control systems and processes. A comprehensive evaluation of all irrigation systems will ensure that all potential water and cost savings are being realized through improved County practices.

Optimize outdoor equipment to reduce emissions from harmful air pollutants.

Outdoor equipment such as leaf blowers and mowers can emit harmful air pollutants. This target calls for the County to assess its current outdoor equipment and associated practices for opportunities to limit air pollution.

Develop sustainable best practices around indoor air quality.

Development of a set of accepted best practices for facility construction and maintenance can minimize indoor air pollution such as from volatile organic compounds (VOCs).



Develop sustainable best practices for actively-managed County lands.

Formalizing a set of best practices for County management of lands, including proper use of pesticides and sediment control techniques, would ensure consistent and effective sustainable land management across the County.

Strategies

WA-1. Define performance indicators and establish baselines.*

Teton County currently has limited data on water use, water and air quality, and other ecosystem health indicators associated with County activities and lands. Establishing indicators and baseline conditions around these sustainability targets would improve the County's ability to monitor progress and make improvements.

WA-2. Identify facility best practices for water and air quality management.

County facilities have systems, fixtures, and materials that affect water and air quality and use. Formalizing and incorporating best practices will optimize County facility water and air quality management for the health and wellbeing of building inhabitants. Materials from the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), which has developed extensive guidelines and best practices around managing indoor air quality (IAQ) of buildings, could serve as a guide.

WA-3. Move toward cleaner and more efficient outdoor equipment.

Gas-powered equipment such as for lawns and gardens emits significant levels of toxic and carcinogenic pollutants. Use of this equipment by schools and parks could increase worker and public health risks. This strategy calls for the County to evaluate its current inventory of non-vehicle outdoor equipment and identify opportunities for limiting emissions and exposure to those emissions.

WA-4. Formalize best practices around sustainable management of County lands.

The County manages a variety of public lands, including parks, facilities grounds, and rights of way. The County could consider integrating additional sustainable practices to those lands, such as reintroducing native grasslands and landscapes, practicing integrated pest management, and managing polluted runoff from impervious surfaces such as roads. The County could also consider using compost produced by the County's solid waste department for landscaping.

*Foundational Step

Next Steps

The goals, targets, and actions set forth in this Sustainability Strategy signify an ambitious step forward for Teton County.

Strategies range from the development of new policies, to employee education and empowerment, to capital projects. Implementation of the actions and attainment of targets will require a coordinated and dedicated effort by all County departments and staff. The Implementation Plan in Appendix A describes each strategy in more detial, including possible implementation options and timeframes.

Progress toward meeting the sustainability targets in this strategy will be closely monitored by Teton County staff. Although the monitoring frequency and level of detail will vary for each action and indicator, overall progress reports will be produced annually to allow for timely progress evaluation and course correction. Through this system, the County will stay on track toward meeting and exceeding sustainability goals and ensuring that its operations reflect the latest understanding of sustainable best practices and technologies.

This Sustainability Strategy intentionally focuses on Teton County's internal options, as opposed to a community-wide plan. By integrating sustainable practices and policies within its own operations first, the County will establish a strong foundation for development of a more comprehensive sustainability strategy that enhances the environmental, social, and economic future of the broader Teton County community.

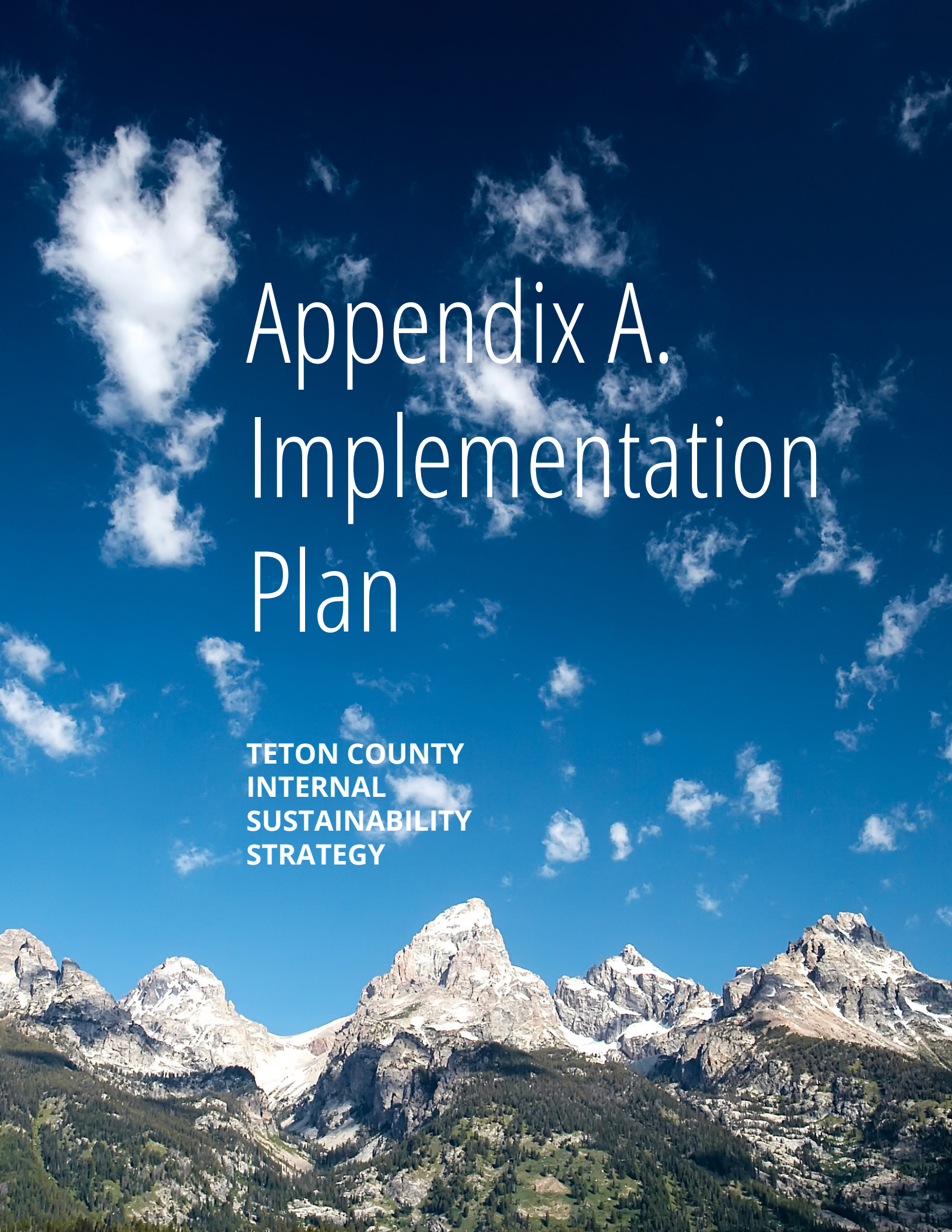
Appendices

Appendix A

Implementation Plan

Appendix B

Baseline Sustainability Inventory Report



Appendix A. Implementation Plan

TETON COUNTY INTERNAL SUSTAINABILITY STRATEGY

Implementation Plan

The following implementation table summarizes potential actions the County could pursue in implementing the Internal Sustainability Strategy, organized by timeframe. This plan and accompanying strategy is intended to be a living document—goals, strategies, and actions will be reviewed and adjusted annually by the County working and leadership groups. These groups will also develop a structure for ongoing planning, implementation, monitoring, and evaluation of the sustainability strategy, including assignment of responsible departments and reporting structures for tracking progress.

Foundational Phase (Present to FY2019)

Action	Connected Strategy
Inventory energy use intensities (EUI) of County facilities.	CE-2
Conduct a comprehensive energy audit for the Recreation Center and Court House.	CE-1
Establish a system for evaluating and prioritizing facility projects based on triple bottom line and sustainability criteria.	CE-1
Establish sustainable building best practices.	CE-2
Develop sustainable vehicle purchasing best practice/policy.	CE-5
Update data collection and tracking systems for fleet fuel use.	CE-5
Identify and implement system-wide employee best practices that reduce energy, water, and resource consumption at facilities.	CE-4
Collect data on County solid waste generation and disposal.	PW-1
Develop a County-wide environmentally preferable purchasing policy that includes standardized language for vendor contractors and requirements.	PW-2
Collect data on County potable and non-potable water use.	WA-1

Phase I (FY2020 to FY2024)

Action	**Connected Strategy**
Consider greenhouse gas impacts in all County operational decisions.	CE-4
Develop and train staff on stricter building performance standards for new buildings and existing upgrades based on Energy Use Intensity (EUI) metrics, ensuring flexibility and creativity while also establishing minimum best-practice requirements.	CE-2
Develop and adopt a policy to address post-construction and post-upgrade phases of a facility to track energy usage, indoor air quality (IAQ), and occupant satisfaction trends.	CE-2
Perform audits of top energy-using facilities to understand energy demand and end uses and reveal the most strategic investments.	CE-1
Continue enforcement of the County no-idling policy.	CE-5
Promote and enable interdepartmental sharing of fleet vehicles.	CE-6
Develop a standard fleet policy by which replacement vehicles must be more efficient and use alternative fuels, if possible, based on vehicle application.	CE-5
Implement a new fleet management system that tracks miles traveled, fuel usage, vehicle make and model descriptions, maintenance costs, and fuel costs.	CE-5

Phase I (FY2020 to FY2024), Continued

Action	Connected Strategy
Implement environmentally preferable purchasing policy.	PW-2
Minimize operations waste with provision of onsite recycling areas and dedicated in-office bins.	PW-1
Establish a plan for diversion of construction and demolition (C&D) waste that includes 1) Minimizing construction waste with resource-efficient design, 2) increasing recycling and reuse of C&D waste, including through enhanced materials surplus recovery and sale, and 3) requiring construction and demolition waste management system plans in all construction contracts.	PW-3
Continue moving toward virtual cloud-based desktop applications and electronic records storage and management, including digitization of the building development and permitting system, time and attendance systems, and payroll stubs.	PW-4
Develop and maintain information about environmentally preferable products recommended in the environmentally preferable purchasing policy for use by departments, agencies, and contractors whenever possible.	PW-2
Install more water bottle filling stations at public buildings, especially at parks and recreational facilities.	PW-1
Develop guidance for best practices around pursuing zero waste at County-hosted events that includes donation of edible leftover foods and alternatives to bottled water and disposable plates and utensils.	PW-2
Develop a green building policy that specifies standards for facility design, construction, and maintenance, and includes consideration of 1) increased recycled materials in construction, procurement, and design; 2) minimum space requirements for recycling collection in facility design; and 3) lifecycle considerations of materials.	CE-1, CE-2, PW-2
Explore and educate employees on options for proper e-waste disposal.	PW-1
Develop a sustainable landscape policy and practices that guide best practices around water conservation, native plants, environmentally friendly herbicides and pesticides, and integrated pest management.	WA-4
Establish standards related to indoor ventilation, interior finishes and fixtures, and indoor air quality.	WA-2
Develop and deploy outdoor air quality standards for construction.	WA-2
Identify and educate staff on best practices for constructing and maintaining outdoor ice rinks.	WA-2
Evaluate installation of green roofs on County buildings.	WA-2
Track the efficiency of heavy equipment such as mowers, forklifts, and snow blowers.	CE-5, WA-3

Phase II (FY2025 to FY2030)

Action	Connected Strategy
Explore other on-site renewable energy generation sources in addition to solar, such as wind and geothermal.	CE-3
Explore the feasibility of purchasing alternative fuel mowers, such as propane.	CE-8
Consider alternative fuels for heavy-duty equipment.	CE-8
Evaluate, as appropriate, the environmental performance of vendors in providing products and services.	PW-2
Expand list of materials accepted at County facilities as ISWR collection capabilities increase.	PW-1, PW-3
Install or update water-efficient irrigation systems, including water pumps and weather-based controllers.	WA-4
Develop and implement an indoor air quality and mold monitoring program.	WA-2
Optimize efficiency of outdoor equipment, such as inefficient two-stroke engines.	WA-3
Upgrade to more water-efficient fixtures in County facilities.	WA-2
Research the air quality and water quality costs and benefits associated with paved versus unpaved roads.	WA-4
Explore opportunities to improve water quality management at County-owned parking lots.	WA-4
Reintroduce native grasslands and landscapes to County-managed lands.	WA-4

Appendix B. Baseline Sustainability Inventory Report

TETON COUNTY INTERNAL SUSTAINABILITY STRATEGY

Teton County Sustainability Inventory

Cascadia Consulting Group

April 2017

Acknowledgments

We would like to thank the following Teton County staff for their contributions and assistance in the preparation of this inventory:

1. Deanna Harger, formerly Administration
2. Rick Smith, Facilities
3. Andy Fleck, Parks and Recreation
4. Heather Overholser, Integrated Solid Waste and Recycling
5. Richard Ochs, Emergency Management
6. Amy Ramage, Engineering
7. Matthew Redwine, Fire/EMS
8. Dan Bowen, Information Management
9. Kevin Chatham, Library
10. Eric Baird, Public and Environmental Health
11. Dave Gustafson, Road and Levee
12. Donna Baur, Treasurer
13. Stacy Stoker, Jackson/Teton County Affordable Housing

This report was compiled by Cascadia Consulting Group with support from Deanna Harger formerly of Teton County Administration, Katy Hollbacher of Beyond Efficiency, Inc., Arne Jorgensen of Hawtin Jorgensen Architects, and Alicia Cox and Daniel Kenah of Yellowstone-Teton Clean Cities.

Table of Contents

Executive Summary

The Teton County government provides key services to its community and residents. To provide these services—ranging from law enforcement and emergency management to parks and recreation—the County operates more than 60 facilities, uses 168 vehicles and equipment, and employs more than 220 staff members.

Teton County is committed to providing its services in a sustainable, environmentally friendly, and efficient manner. To date, the County has completed about 50 energy-saving projects that save more than $46,000 each year. In 2016, the County is developing a **sustainability plan** to articulate Teton County's vision of environmentally sustainable operations and provide a blueprint for achieving sustainability goals through its internal operations. Conducting an inventory of existing practices, activities and impacts to establish a baseline and identify opportunities for improvement is a key step in developing this plan to support the County's sustainable future.

Methodology

The **sustainability inventory** addresses operations within the County's sphere of control and management. It does not include facilities or services that are owned but not managed by the County or for which the County does not have financial control; it does not include the Town of Jackson's operations, START bus, or residents of Teton County. Data were collected from existing documents as well as staff input from interviews and workshops.

This sustainability inventory summarizes the current state of Teton County operations with regard to the following impact areas:

- Climate impacts (greenhouse gas emissions)
- Energy use, including facilities and fleets
- Procurement and waste
- Water, air quality, and ecosystem health
- Sustainable workforce

Climate Impacts and Energy Use

Climate change threatens Teton County's residents, economy, as well as its precious natural resources. Since 2005, the County's greenhouse gas (GHG) emissions from building energy use and fleet fuel consumption have declined by about 9% overall. Currently, buildings contribute about two-thirds (71%) of these emissions, while fleet vehicles represent about one-third (29%). Piped natural gas used for building and water heating contributes more than half (60%) of GHG emissions. Over 50% of all facility energy use comes from three facilities: the recreation center, the library, and the courthouse.

Recent efforts to save energy and reduce GHG emissions include installing grid tied solar panels, retrofitting County buildings to increase energy efficiency, installing high-efficiency boilers, upgrading County fleet vehicles to more fuel-efficient models, monitoring energy use for fleets and facilities, and purchasing renewable energy. Since 2006, Teton County's energy use has decreased 3%, despite a 15% increase in resident population over the same period. That equates to a 15% reduction in per-capita energy use compared to 2006 levels.

Procurement and Waste

Teton County currently pays to dispose of more than 1,700 cubic yards of solid waste each year. In 2014, the County adopted a goal of diverting 60% of its waste from landfills by 2030. Many County departments aim to purchase sustainable products, ranging from recycled content paper to efficient IT systems and advanced system controllers. Recycling, composting, and waste prevention are part of the County's operations, but expanded implementation and better tracking of these activities is needed.

Water, Air Quality, and Ecosystem Health

Water use in County facilities is not currently tracked, and water pumped from wells for irrigation is not monitored. Among the water meter data available at the time of this inventory, overall water use declined by 15% from 2014 to 2015. Efforts are in place to prevent storm water pollution, reduce sediment loads in local waterways, and protect groundwater from contamination. Water-efficient fixtures have been installed in County facilities, including the recreation center. Current County air quality efforts focus on road dust mitigation; indoor air quality could be considered in County buildings in the future.

Sustainable Workforce

In addition to health and wellness benefits such as free gym access and discounted ski passes, Teton County currently owns 17 housing units for employees. An employee survey showed that 70% of Teton County employees live within the County, and in a 2016 survey, 71% of County employees reported driving alone as their usual means of commuting to work, and half of workers reported commuting 10 miles or more.

Next Steps for Advancing Sustainability

This baseline inventory helps identify the current state of Teton County's operations with regard to sustainability as well as to identify areas where improved tracking is needed. This report includes **key performance indicators (KPIs), accomplishments, and potential opportunities** for further consideration. Together, this information provides a solid foundation for Teton County's next steps toward developing a sustainable operations plan and advancing sustainability throughout its diversity of operations and public services.

Introduction

Teton County has demonstrated a commitment to providing its services in a sustainable, environmentally friendly, and efficient manner. The County has completed about 50 energy-saving projects generating $46,448 each year. Now, with the development of its Road to Zero Waste Plan and its Internal Sustainability Plan, the County finds itself at a critical point to steer toward a sustainable future for its operations, employees, and the residents who depend on its services.

This sustainability inventory summarizes the state of sustainability within Teton County operations. It catalogues accomplishments, commitments, trends, gaps, and remaining needs in Teton County's resource use and services. Specifically, it addresses the County's sustainability footprint as it relates to the following impact areas:

- Climate change and greenhouse gas emissions
- Energy use and generation, including facilities and fleets
- Procurement and waste
- Water, air quality, and ecosystem health
- Sustainable workforce

This document provides an inventory of sustainability projects and measures that Teton County has already implemented in its operations and compiles initial ideas from Teton staff on how to increase the County's sustainability in the future. We divide each chapter into three sections:

- **Key Performance Indicators**: Metrics of current sustainability performance.
- **Accomplishments**: Actions the County has taken to advance sustainability in each area.
- **Potential Opportunities**: Ideas and suggestions compiled from Teton County staff and advisors on ways the County could be more sustainable in the future.

Methodology

This inventory includes a baseline assessment of sustainability actions and progress relevant to Teton County operations and within the County's sphere of control and management. It does not include facilities or services that are owned but not managed by the County, or for which the County does not have financial control. Table 1 below summarizes these inventory boundaries.

Table 1. Inventory boundaries

Included in this Inventory	Excluded from this Inventory
• County operations	• Town of Jackson operations • Residents of Teton County • START bus • Wastewater and stormwater treatment and management

Data for this inventory were collected from available documents and data and input received during staff interviews and workshops. Primary documents and data sources included the following:

- Jackson/Teton County 10x10 Initiative Final Report (2011)
- Planet Footprint™ facilities energy use tracking platform
- Gasboy™ fleet energy use tracking platform
- Sunny Portal™ and Creative Energies™ solar technology monitoring systems

Interviews were conducted with Teton County staff across multiple departments and positions. We prioritized staff who were most familiar with sustainability actions completed to date as well as current needs and priorities. Table 2 lists staff members who were interviewed during this process.

Table 2. Teton County staff interviewed for sustainability inventory

Department	Interviewee
Facilities	Philip Delaney
Parks & Recreation	Rick Smith
Parks & Recreation	Andy Fleck
Parks & Recreation	Brian Sell
Integrated Solid Waste & Recycling	Heather Overholser
Emergency Management	Rich Ochs
Engineering	Amy Ramage
Fair	Tracy Ross
Fire/EMS	Matt Redwine
Fire/EMS	Dave Meagher
Housing Authority	Stacy Stoker
Information Management	Dan Bowen
Library	Kevin Chatham
Public & Environmental Health	Eric Baird
Pathways	Brian Shilling
Road & Levee	Dave Gustafson
Treasurer	Donna Baur
Assessor	Andy Cavallaro
Planning	Susan Johnson
Sheriff	Todd Stanyon

Sustainability Overview

Teton County has a rich history of demonstrated leadership in sustainability. In 2004, Teton County Commissioners signed a **greenhouse gas resolution** expressing concern about global warming and its potential to harm the health, safety and welfare of Teton County and its residents. The County also formed a **Green Team** and a **Green Building Team** to explore and advance sustainability initiatives in the county, including improved building and energy codes. This group triggered the **10x10 resolution**, which committed to a 10% reduction in electricity use and a 10% reduction in fossil fuel consumption below 2006 levels by the year 2010—a goal that also served as the County's commitment as part of the U.S. Mayors' Climate Protection Agreement.

To help achieve this goal, Teton County and the Town of Jackson formed an **Energy Efficiency Advisory Board**, tasked with improving energy efficiency in local government operations. The County also signed a Memorandum of Understanding with the Town of Jackson and Lower Valley Energy to form **Energy Conservation Works**, a collaboration that aims to reduce energy use through the provision of residential, commercials, and public agency loan programs for energy efficiency projects. The County supplemented their energy conservation codes with the **Energy Mitigation Fund**, which seeks to offset disproportionate energy consumption of large buildings with a conservation or renewable energy installation on-site or paid in-lieu.

The 10x10 initiative resulted in the implementation of several energy efficiency projects, which according to the initiative's final report, collectively reduced energy use by 3% compared to 2006 levels. In 2013, the County signed the **100% Renewable Green Energy Partnership Agreement**, allowing Teton County to purchase all of its electricity from Lower Valley Energy's Swift Creek hydroelectric project, which is located in Lincoln County.

In addition to energy-focused initiatives and programs, the County has also committed to reducing the environmental impact associated with waste. In 2009, Teton County launched the **Zero Waste Program**, which aimed at reducing the amount of recyclable materials that County employees throw away as garbage. In 2014, Commissioners adopted a **Zero Waste Resolution** with the goal of diverting 60% of Teton County's waste from the landfill by 2030.

To assess progress to date, identify gaps, and recommend sustainability actions, Teton County's Board of Commissioners approved funding in Fiscal Year 2015-2016 to develop an **Internal Sustainability Plan**. The plan will articulate Teton County's vision of environmentally sustainable operations as well as provide a blueprint for achieving sustainability goals. This inventory report serves as the baseline for development of that plan.

Key sustainability milestones in Teton County are summarized below:

2004	Teton County signed Greenhouse Gas Resolution
2006	Green Team traveled to Aspen for a Canary Initiative conference, inspiring the 10x10 initiative
2007	Teton County and Town of Jackson sign Memorandum of Understanding 10x10 resolution signed committing to a 10% reduction (from 2006 benchmark) in fuel use and electricity consumption Energy Efficiency Advisory Board established Town and County energy efficiency projects began
2009	Zero Waste Program launched
2010	Final 10x10 data collected
2011	Final 10x10 project report issued
2013	Teton County began purchasing 100% renewable energy
2014	Commissioners adopted a Zero Waste Resolution with the goal of diverting 60% of Teton County's waste from the landfill by 2030
2015	Funding approved for development of an internal Sustainability Plan
2016	Teton County conducted sustainability inventory and initiated development of Sustainability Plan for internal operations

Climate

Climate change represents a risk to Teton County's residents, economy, as well as its precious natural areas and resources. Teton County sustainability efforts related to climate change entail two components:

- **Mitigate Emissions:** Teton County can reduce its contribution to climate change through a reduction in greenhouse gas (GHG) emissions from County operations, particularly energy use from fleets and facilities.
- **Build Resiliency**: Teton County services are crucial to the wellbeing of its residents. One essential component of ensuring that County operations are sustainable into the future is to understand and prepare for possible changes in the natural environment resulting from climate change.

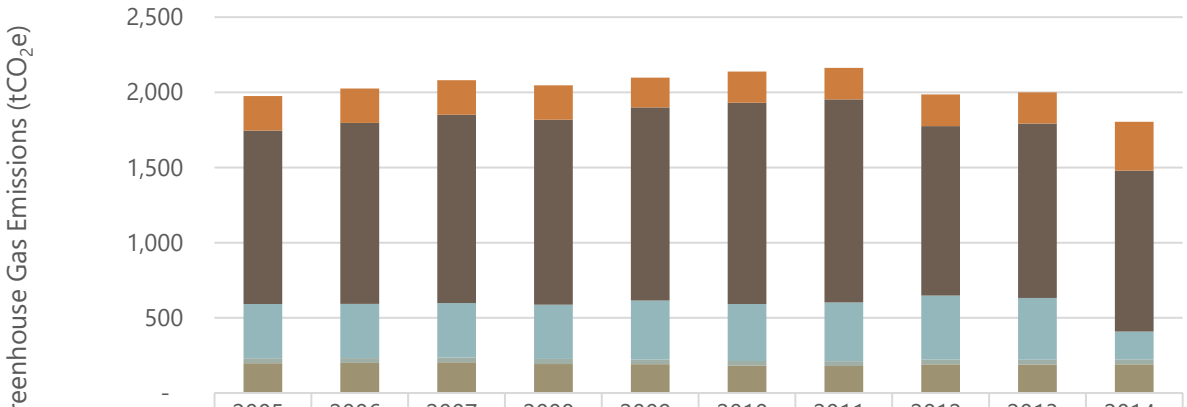
Key Performance Indicators

Teton County has tracked GHG emissions from energy use in its buildings and fleets since 2006 (see Figure 1 and Table 2 below). Although GHG emissions also result from consumption, waste disposal, and refrigeration, these emissions are not included in this inventory due to limited data availability.

Emissions from facilities and fleets reveal the following key trends:

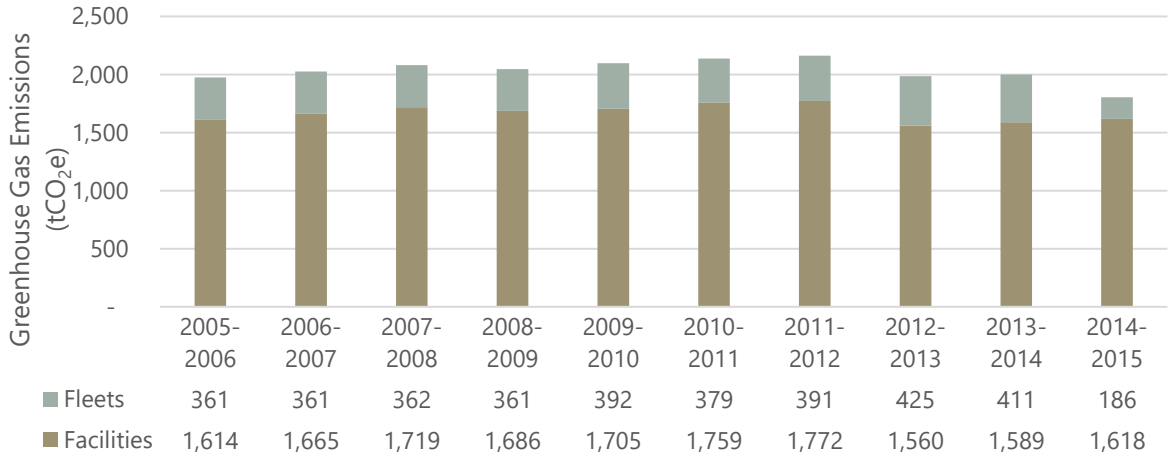
- Total emissions from facilities and fleets have declined by 9% since the first year of tracking, FY 2005 to 2006—averaging about a **1% reduction each year**.
- The most pronounced year-to-year reduction was between FY 2013-2014 and FY 2014-2015, during which emissions declined by 10%.

A preliminary analysis of Teton County commuting trends reveals that the County employees emit 21,000 $MTCO_2e$ each year from commuting.



	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Gasoline (fleets)	229	229	230	229	198	207	210	210	207	324
Natural Gas	1,154	1,203	1,253	1,230	1,285	1,338	1,350	1,127	1,160	1,071
Diesel (fleet)	361	361	362	361	392	379	391	425	411	186
Propane	32	32	32	34	31	30	32	32	32	32
Electricity	199	200	204	192	192	183	180	191	189	191

Figure 1. Greenhouse gas (GHG) emissions in tons of CO_2 equivalent from Teton County operations, by source and fiscal year. (Source: Planet Footprint, 2016)



	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Fleets	361	361	362	361	392	379	391	425	411	186
Facilities	1,614	1,665	1,719	1,686	1,705	1,759	1,772	1,560	1,589	1,618

Figure 2. Greenhouse gas (GHG) emissions in tons of CO_2 equivalent from Teton County operations, by sector and fiscal year. (Source: Planet Footprint, 2016)

Breaking these emissions down by sector for the FY 2014-2015 period reveals that 29% of emissions in this period came from fleets and 71% from buildings. GHG emissions from natural gas account for the majority of building-related emissions, in part due to the large share of renewable energy used to generate the region's electricity.

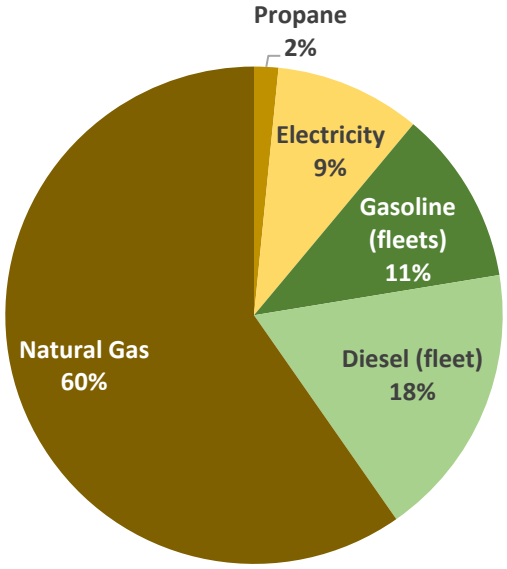


Figure 3. Teton County greenhouse gas emissions by fuel source for the 2014-2015 fiscal year. (Source: Planet Footprint, 2016)

Teton County has not yet performed an assessment of the resiliency of its operations to the impacts of climate change, such as increased temperatures, reduced snowpack, and severe weather.

Accomplishments

In the last decade, Teton County has implemented numerous measures that have reduced GHG emissions from its facilities and fleets. These efforts, detailed in the *Facilities* and *Fleets* sections below, include the following:

- Installation of onsite renewable energy, including a solar thermal system and 134 KW in photovoltaic panels.
- Retrofitting County buildings to increase energy efficiency.
- Upgrading County fleet vehicles to more fuel-efficient models.

- Monitoring energy use across both these sectors.
- Purchase of 100% renewable energy.
- Decreased the amount of waste sent to the landfill through recycling.

Potential Opportunities

Teton County's GHG reductions to date represent a significant step in mitigating its contribution to climate change and leading the way for peer communities. Moving forward, County staff have identified four opportunity areas to improve County operations with regard to climate change.

CLIMATE MITIGATION

- **Expand GHG Accounting**: GHG monitoring for the County currently accounts for only the emissions that result from energy use in buildings and vehicles, but there are other sources of emissions from County operations. These include emissions associated with employee commuting, County water use, non-vehicular equipment such as forklifts and lawnmowers, and the lifecycle emissions associated with the procurement and disposal of goods. Tracking emissions from these sources would allow the County to manage its comprehensive carbon footprint and make more informed decisions on where to invest future emissions reductions efforts.

- **Establish an Emissions Reduction Target:** The County's emissions reductions to date have been largely driven by goals to reduce electricity and fossil fuel use.[1] Going forward, the County could adopt new goals that specifically address other GHG emissions sources, such as consumption, refrigeration, and solid waste management. A GHG emissions reduction target would not only give the County the basis to pursue measures outside of the facilities and fleets sectors but also to evaluate which measures maximize GHG reductions as well as energy use.

CLIMATE RESILIENCY

- **Assess Vulnerabilities:** The County could benefit from an in-depth assessment of the vulnerability of County operations and residents to climate change. An assessment of this nature would first seek to identify Teton County's most likely changes in the natural

[1] Jackson/Teton County, *10x10 Initiative Final Report*, 2011.

environment that could result from climate change, such as increased frequency and severity of forest fires or changes in snowpack due to temperature increases. The assessment could also evaluate how these changes would affect specific County operations or assets.

- **Develop a Resiliency Plan:** The County could also develop and implement a plan and timeline to increase its resiliency to the changes identified in the vulnerabilities assessment noted above. This work might take the form of developing additional system redundancies, reducing reliance on at-risk resources, or monitoring risks.

Energy

Energy use drives all County operations and services—from the amenities at recreation center facilities to the fire and EMS vehicles. Energy use associated with these activities collectively have a significant impact on Teton County's environmental, social, and economic sustainability. Opportunities to reduce energy use and improve energy sourcing at the County will be critical to enhancing long-term sustainability.

Key Performance Indicators

- **Total Energy Use:** Total energy use has remained **fairly constant** over time, ranging between 40,000 and almost 44,000 mBTU between 2006 and 2015 (Figure 4). Specifically, overall energy use has **declined 3%** compared to 2006.
- **Per Capita Energy Use:** Since 2006, Teton County's energy use has decreased 3%, despite a 15% increase in resident population and increase in part-time residents over the same period. That equates to a **15% reduction in per-capita energy use** compared to 2006 levels.
- **Electricity:** Electricity use has **increased 3%** since 2006 (Figure 6).
- **Natural Gas:** Natural as use **decreased 7%** compared to 2006 levels (Figure 7).
- **Benchmarking:** The County has used ENERGY STAR's Portfolio Manager for select facilities to examine energy use intensities and allow for comparison among facilities and similar jurisdictions.
- **Onsite Renewable Energy Production:** The County has 134 KW of generating capacity from solar installations at the Emergency Operations Center, Fire Hall 7, Library, and Recycling Center.

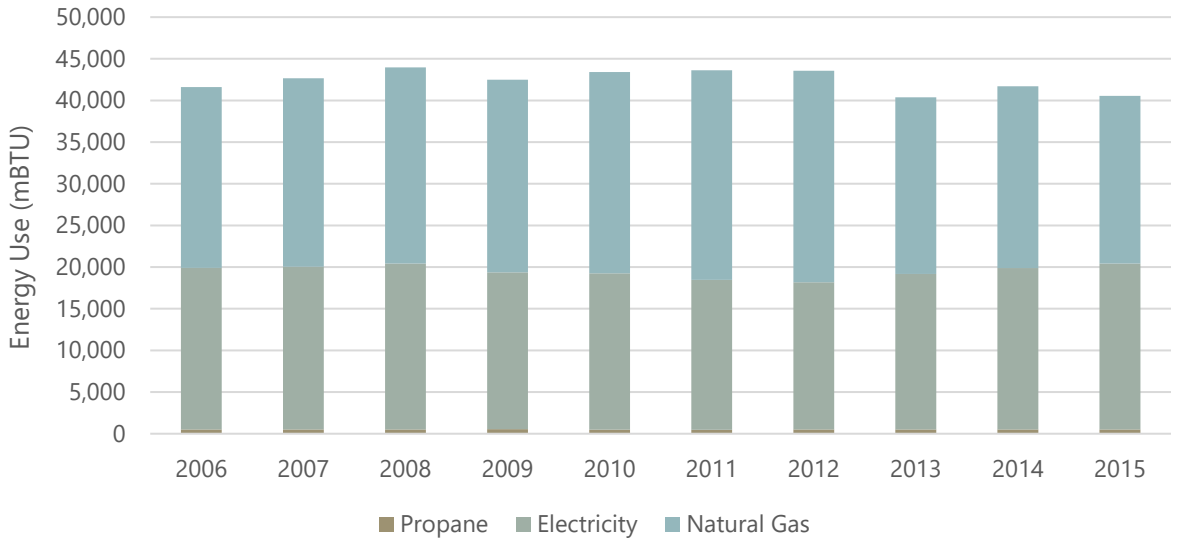


Figure 4. Teton County aggregate energy consumption across facilities from 2006 to 2015, by energy source. (Source: Planet Footprint, 2016)

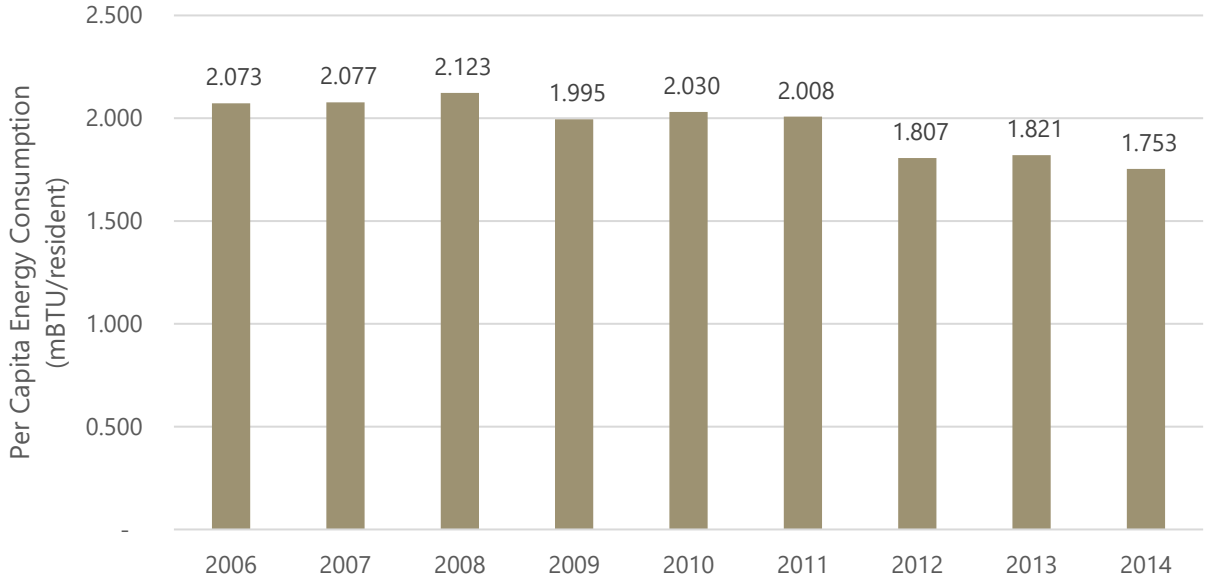


Figure 5. Per-capita energy use trends across Teton County facilities from 2006 to 2015. (Source: Planet Footprint, 2016; US Census Bureau)

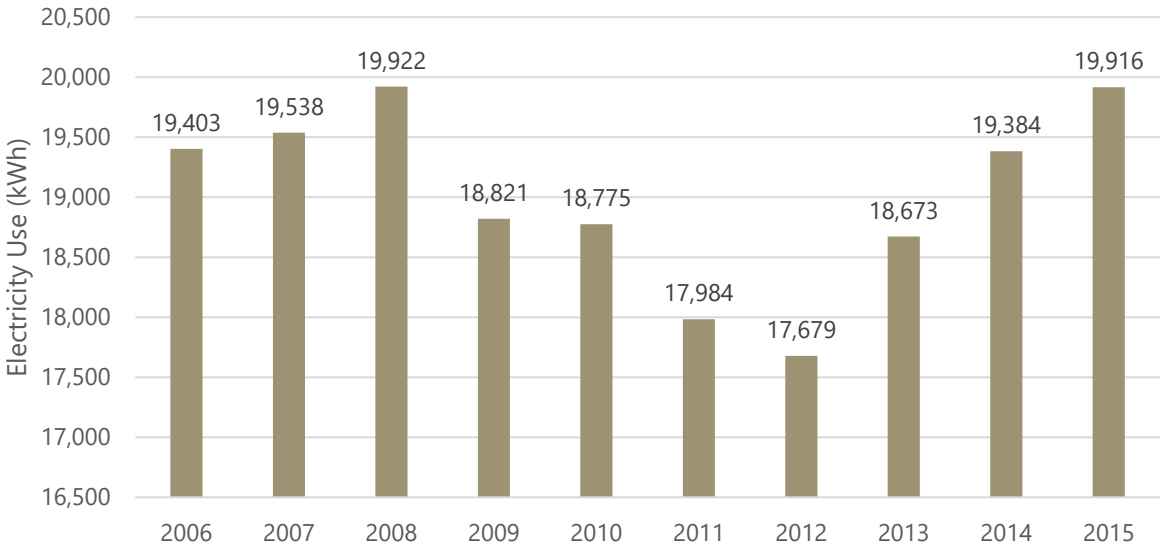


Figure 6. Teton County electricity use across facilities from 2006 to 2015. (Source: Planet Footprint, 2016)

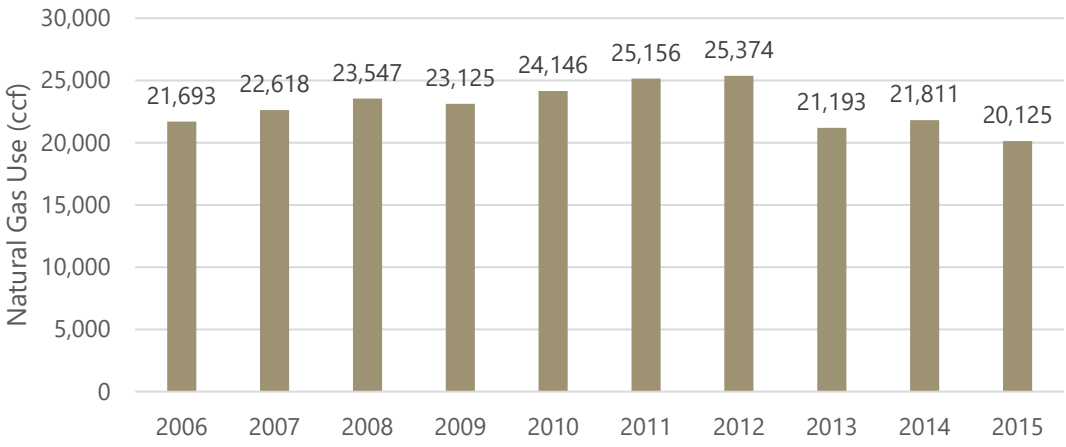


Figure 7. Teton County natural gas use across facilities from 2006 to 2015. (Source: Planet Footprint, 2016)

Accomplishments

MONITORING

- Teton County uses the Planet Footprint™ energy and carbon monitoring platform for all of its facilities. This system provides the County with data to quantify its energy use, identify abnormalities, and track progress.
- The County also monitors energy use in its fleets through the fleet management service Gas Boy™.

ENERGY USE REDUCTIONS

- In 2006, the County's Board of Commissioners adopted the aggressive goal of reducing energy consumption 10% below 2006 usage by 2010. Initially delayed by contractual issues, these efforts reportedly achieved a 3% reduction in energy use by 2010. This reduction was particularly impressive given that energy use was forecasted to increase 6% by 2010.[2]
- Environmental Stewardship is one of four priorities highlighted in the Board of Commissioners strategic plan.
- Teton County's energy consumption has decreased 7% since 2011, despite a 10% increase in population over the same period.

Potential Opportunities

Teton County staff have expressed the desire to build on its momentum in energy use reductions through several mechanisms:

- **Update energy goals:** Teton County could define a new set of goals for future energy use reductions across these and other sources of emissions, such as equipment and employee commuting.

[2] Jackson/Teton County, *10x10 Initiative Final Report*, 2011. Due to differences in energy tracking methodologies, the energy trends presented in this report vary slightly from those reported in the 10x10 initiative.

- **Communicate and educate:** staff members expressed the need for increased communication between management and County staff to communicate best practices and priorities for energy use in buildings and fleets.
- **Introduce new standards:** Adoption of performance standards for all County facilities would ensure that all facilities are built and operating at optimal levels for sustainable operations.
- Define **space allocation standards** and **space planning guidelines** for all County facilities to ensure appropriately sized offices and facilities. Evaluate existing facilities against defined standards to ensure County operations are housed in an efficient manner with an aim to use space more efficiently—saving costs, reducing energy, and allowing for material reuse.

Facilities

KEY PERFORMANCE INDICATORS

Building Energy Use

Teton County manages over 100 energy using facilities and installations. Over 50% of all facility energy use comes from three facilities: the recreation center (36%), library (13%), and courthouse (9%); see Figure 8 and Figure 9.

Metrics specific to County facilities include the following:

- **Facility energy use:** Facility energy use has averaged 42,394 MBTU from 2006 to 2015. In the last full reporting year, FY2014-2015, Teton County used 40,548 MBTU of energy (19,915 kWh of electricity, 507 gallons of propane, and 20,125 ccf of natural gas). Since 2006, total facility energy use has declined by 2.5% compared to 2006 levels.
- **High-performance buildings:** The County currently has three **LEED-certified buildings**: the public library, 5-2-5 Hall (housing development), and day care center that is leased by the Children's Learning Center. Compared to industry averages, Teton County facilities are generally using less energy per square foot than other similar facilities (see Table 3). Exceptions include the Recreation Center and Pines Fire Station 6, which in 2015 used **813% and 48% more energy per square foot** than the industry standard.
- **Lighting upgrades:** The County currently does not have LED lighting throughout any of its facilities; however, plans are in place to upgrade lighting at the County Jail, Administration Building, and the Courthouse. All exterior lighting has been upgraded to LED.

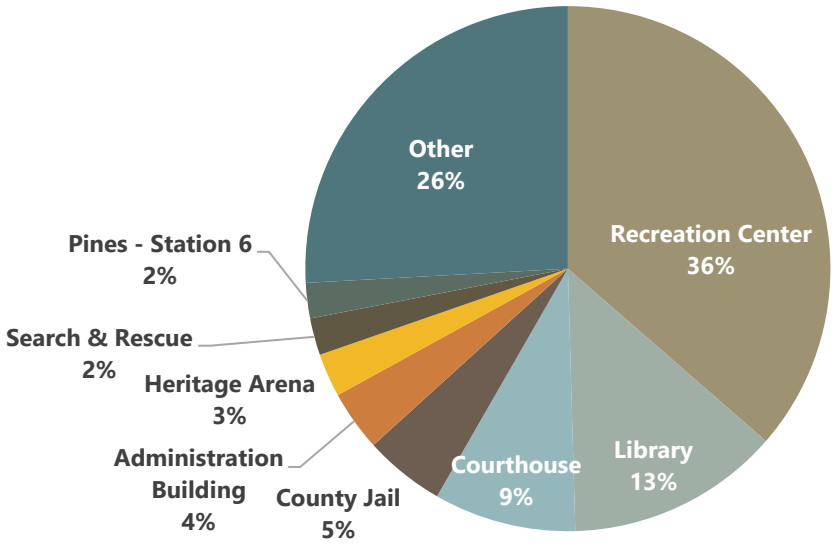


Figure 8. Teton County energy use by facility in the 2014-2015 fiscal year (measured in mBTU). (Source: Planet Footprint, 2016)

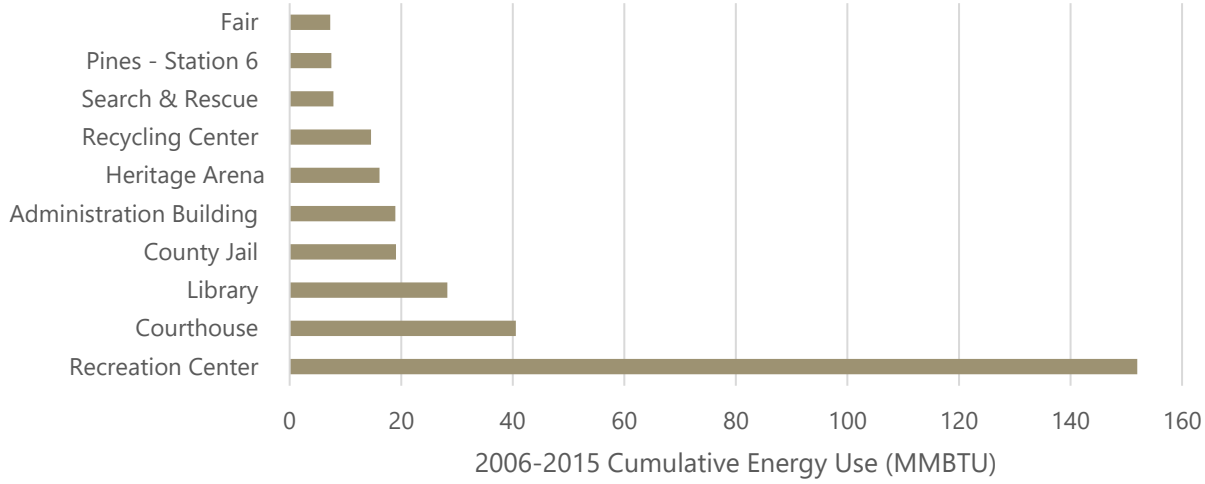


Figure 9. Cumulative 10-year energy use (2006 to 2015) for the top 10 highest energy facilities. (Source: Planet Footprint, 2016)

Table 3. Teton facility 2015 energy use intensities compared to industry standards. (Source: Teton County, Energy Star, 2016)

Facility	EUI (kBTU/SF)	Industry Category	Industry Standard (Site EUI)	Difference
Recreation Center	376.04	Recreation	41.2	813%
Pines - Station 6	131.09	Fire Station	88.3	48%
Library	129.87	Library	91.6	42%
County Jail	111.92	Prison/Incarceration	93.2	20%
Moran Fire Station 4	104.84	Fire Station	88.3	19%
Courthouse	104.78	Courthouse	93.2	12%
Search & Rescue	74.98	Other - Public Services	78.8	-5%
Public Health	40.16	Medical Office	44.4	-10%
Administration Building	56.15	Office	67.3	-17%
Adams Fire Station 7	72.77	Fire Station	88.3	-18%
Jackson - Station 1	67.63	Fire Station	88.3	-23%
Wilson Fire Station 2	67.27	Fire Station	88.3	-24%
Hoback Fire Station 3	65.18	Fire Station	88.3	-26%
JH Fire Administration	49.39	Fire Station	88.3	-44%
US District Court	51.58	Courthouse	93.2	-45%
Social Services	38.01	Other - Public Services	78.8	-52%
Heritage Arena	19.70	Indoor Arena	45.3	-57%
Juvenile Detention Facility	10.00	Prison/Incarceration	93.2	-89%
Scale House	8.36	Other - Public Services	78.8	-89%
Old Library	8.34	Library	91.6	-91%

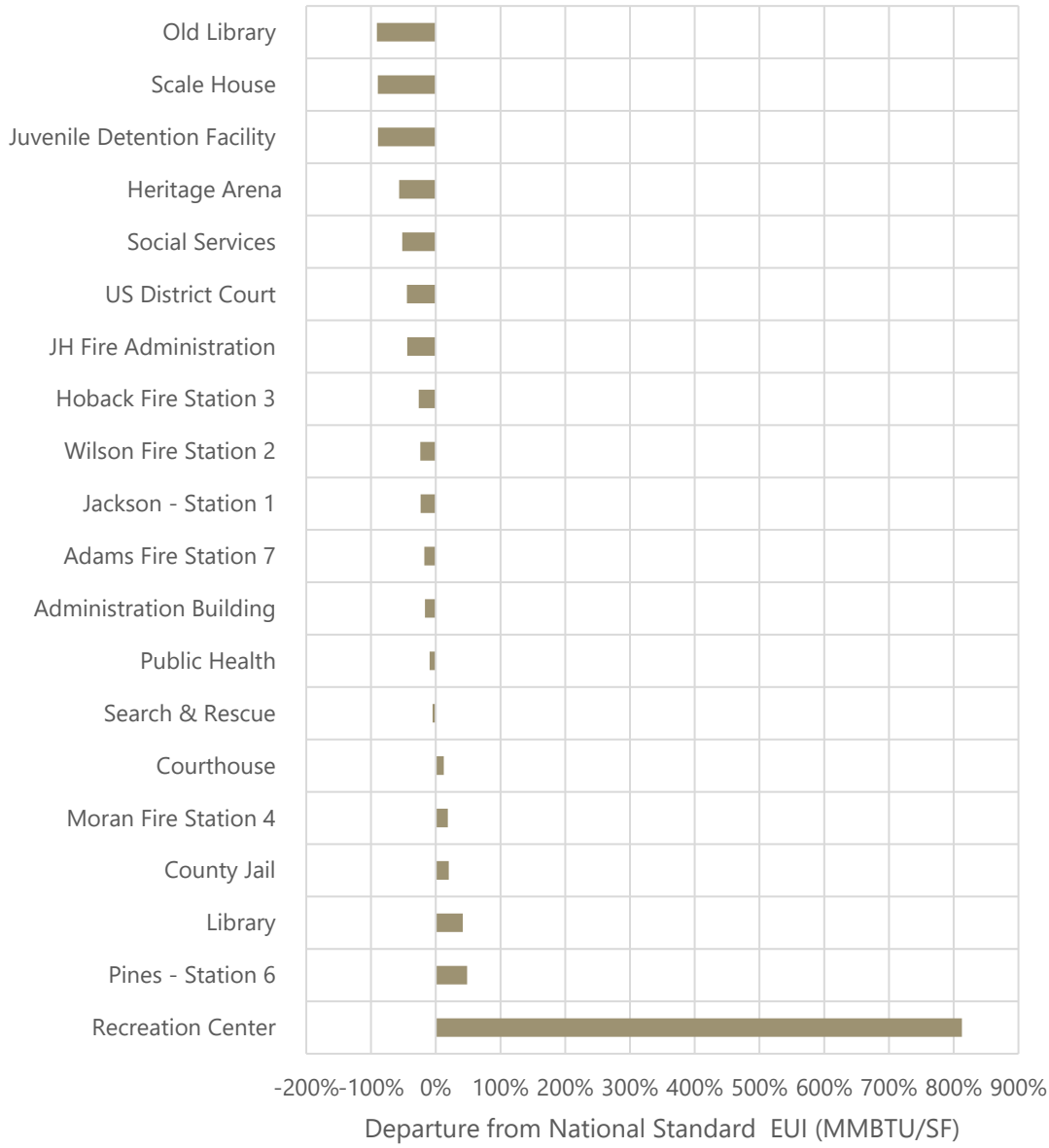


Figure 10. Difference between Teton County 2015 facility EUI and national standards. Negative values represent facilities that are using less energy per square foot than the national standard, and positive values represent facilities that are using more energy per square foot than the national standard. (Source: Planet Footprint, 2016; Energy Star, 2016)

Renewable Energy Generation

Teton County has invested in generating its own renewable energy on-site with the installation of grid-connected solar panels on five facilities. Collectively, these installations have resulted in generation of over 391,000 kWh of energy—equivalent to the electricity used by 37 homes in a single year.

Table 4. Grid-tied solar panel installations
(Sources: Sunny Portal, Creative Energies, Deanna Harger)

Facility Name	Generating Capacity (kW)	Lifetime Generation (kWh)
Emergency Operations Center	28	46,822
Fire Hall 7	23.3	7,207
Library	37	337,114
Recycling Center	46	Unknown
Total	**134.3**	**391,143+**

ACCOMPLISHMENTS

The 10x10 initiative and programs, activities, and policies that followed have resulted in substantial advancements in reducing facility energy use. Key accomplishments related to the 10x10 initiative and other sustainability activities are summarized below.

Energy Cost Savings

The County has invested in approximately 23 energy efficiency measures since 2005, resulting in energy cost savings estimated at $46,448 each year (see Figure 11 below). These measures include installing high-efficiency boilers, upgrading insulation, and retrofitting lighting with efficient fluorescent and/or LED lamps. Selected energy use reductions are presented in Figure 12.

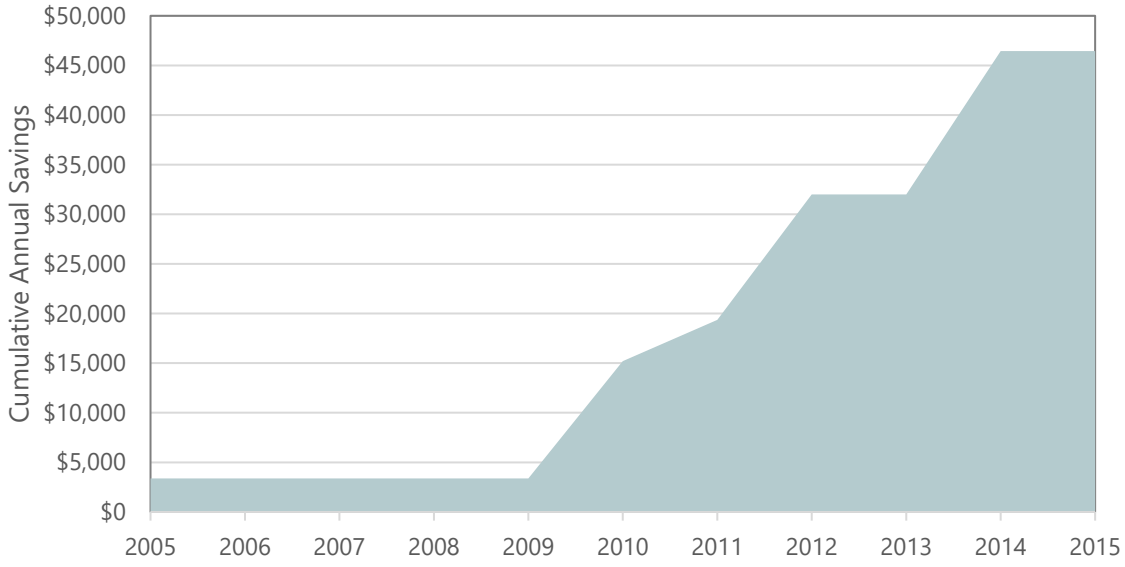


Figure 11. Estimated annual energy cost savings from investments in energy efficiency at County facilities. (Source: Planet Footprint, Honeywell Project Documents)

The County Information Management department has recently **consolidated the County servers** and **moved computers to virtual desktops** to reduce energy use and cooling needs. As a result, the server room that previously drew 4,000 to 5,000 Watts was reduced to 3,000 Watts in a few months. The department is also pursuing transfer of its servers to cloud computing; however, slow internet speeds in the county make this transition challenging.

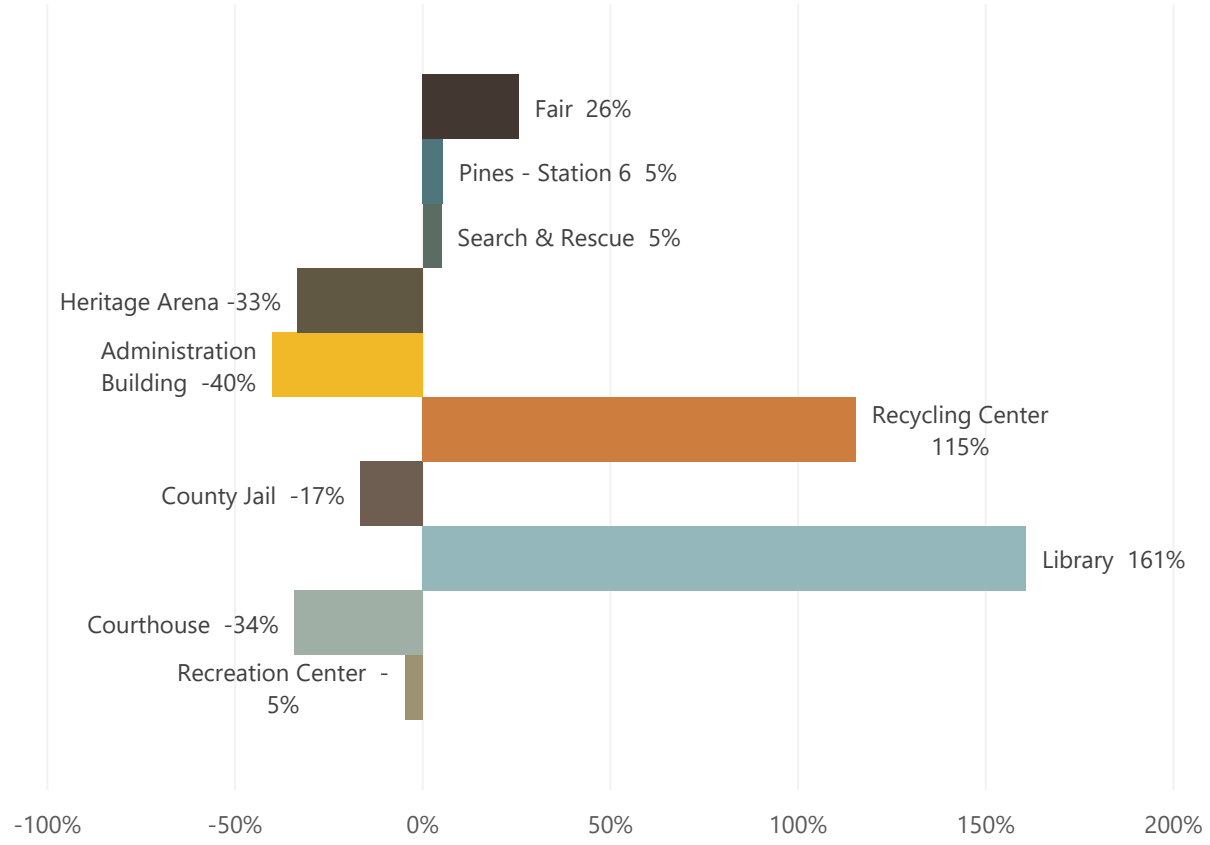


Figure 12. Energy use changes for top energy-using facilities between 2006 and 2015. (Source: Planet Footprint, 2016)

Sustainable Design

Notable achievements in sustainable design include the following:

- In 2013, the Teton County Library was awarded **LEED Gold certification. The Raft J Daycare Center is also LEED certified**, and the county just finished collaborating on the design for a second day care center that is expected to be almost 50% more energy efficient than current code requirements.
- In January 2012, the County adopted **new building energy codes** that encourage greener energy investments. The program uses a revised building permitting structure

to encourage more efficient building practices, and the building permit fees are then allocated to solar panel construction.

- The County installed a solar thermal **hybrid heating system** for the recreation center that supplements standard boilers with a solar thermal system to reduce natural gas usage. Current savings from this system exceed 1.5 million BTUs.
- The County recycling center has planned a new addition to its facility, the design of which will incorporate **passive heating and cooling measures** as well as a backyard demonstration composter.

Funding

In 2011, Teton County was awarded a Wyoming state grant to retrofit HVAC systems in County buildings. This grant funded a range of energy efficiency upgrades, including thermostat upgrades for more efficient temperature control in County facilities.

POTENTIAL OPPORTUNITIES

Revised Project Criteria

To date, facility energy efficiency projects have been evaluated only on the basis of simple payback. County staff expressed interest in shifting to more long-term Return on Investment (ROI), life cycle analysis (LCA), and/or "triple bottom-line" criteria for evaluating and selecting future energy efficiency projects. Triple bottom-line (TBL) accounting considers social and environmental benefits in addition to financial benefits associated with a candidate project. ROI and TBL would enable Teton County to implement numerous efficiency measures that would increase sustainability and benefit the community more broadly.

Holistic Approach

County staff and advisors focused the discussion of future opportunities on the need for a more holistic approach to energy efficiency. Rather than pursuing only "swap-out" measures such as replacing light bulbs, a new approach could, for example, address optimal lighting design that incorporates appropriate fixtures, lighting densities, and controls that are best suited for spaces and occupancy schedules. To implement such an approach, the County could start by establishing specific performance goals followed with more holistic energy analyses that consider occupant needs and behavior, operational habits, and ROI.

Benchmarking

Efficiency benchmarking, or comparing a building's energy performance on a per square foot basis to buildings serving a similar function in peer counties, allows building managers to track trends, identify which buildings are underperforming relative to national standards, and drive motivation and action for improvement. Benchmarking requirements have been enacted by a variety of municipalities nationwide, and consistently benchmarked buildings have been shown to make reductions in energy use year over year. Teton County could launch a benchmarking program for its facilities to provide a consistent method for quantifying the impacts of its energy efficiency projects and inspire other building owners to follow suit.

Adopt New Standards

Teton County could adopt stricter building performance standards for future design. Options include commissioning requirements; above-code lighting power densities (LPDs) and controls; above-code requirements for wall insulation, window performance, and envelope air tightness; energy use intensity (EUI) design and performance targets, and or LEED or ENERGY STAR certification for all new County buildings and commercial buildings larger than a specified size. The County could also consider adopting building maintenance standards for existing facilities.

Expand On-Site Renewable Generation Capacity

In addition to solar energy production, the County could explore other on-site renewable energy generation sources such as geothermal, wind, and hydropower.

Fleets

Fleets are the second largest contributor to the County's energy use. Investments in greener fleet vehicles, technologies, and policies would demonstrate County leadership to the community and reduce the emission of harmful greenhouse gases and criteria air pollutants.

KEY PERFORMANCE INDICATORS

Teton County has 168 vehicles in its fleet that range from light and heavy trucks to snowmobiles and ambulances. Although data on individual vehicle efficiencies are not available, other key sustainability metrics for the Teton County fleet are summarized as follows:

- **Fleet composition:** The most abundant vehicle types among the County fleet are light trucks (30%) and heavy trucks (18%). The County only has five passenger cars in its fleet (3% of the total fleet). Approximately one-third of vehicles are five years of age or less; 12% of the total fleet are vehicles manufactured in 2015. See Figure 13 and Figure 14 below for a complete fleet composition summary. The County has three hybrid vehicles.
- **Fleet composition, by department:** The majority of light trucks are within the Administration, Fire/EMS, and Parks and Recreation departments. Administration (n=3), Fire/EMS (n=1), and Public Health (n=1) operate the County's passenger cars (see Table 5).
- **Fleet use:** Total fleet fuel use has ranged between approximately 7,500 and 8,300 mBTU (59,400 to 65,600 gallons) from 2010 to 2015, with no clear decreasing or increasing trend over time (see Figure 15). Administration and Sheriff's office have the highest average fleet fuel efficiency, at 30.3 and 23.8 mpg, respectively.
- **Fleet emissions:** The Sheriff department accounts for the most GHG emissions among Teton County departments, comprising 45% of all fleet emissions over a six-year time period (see Figure 16).

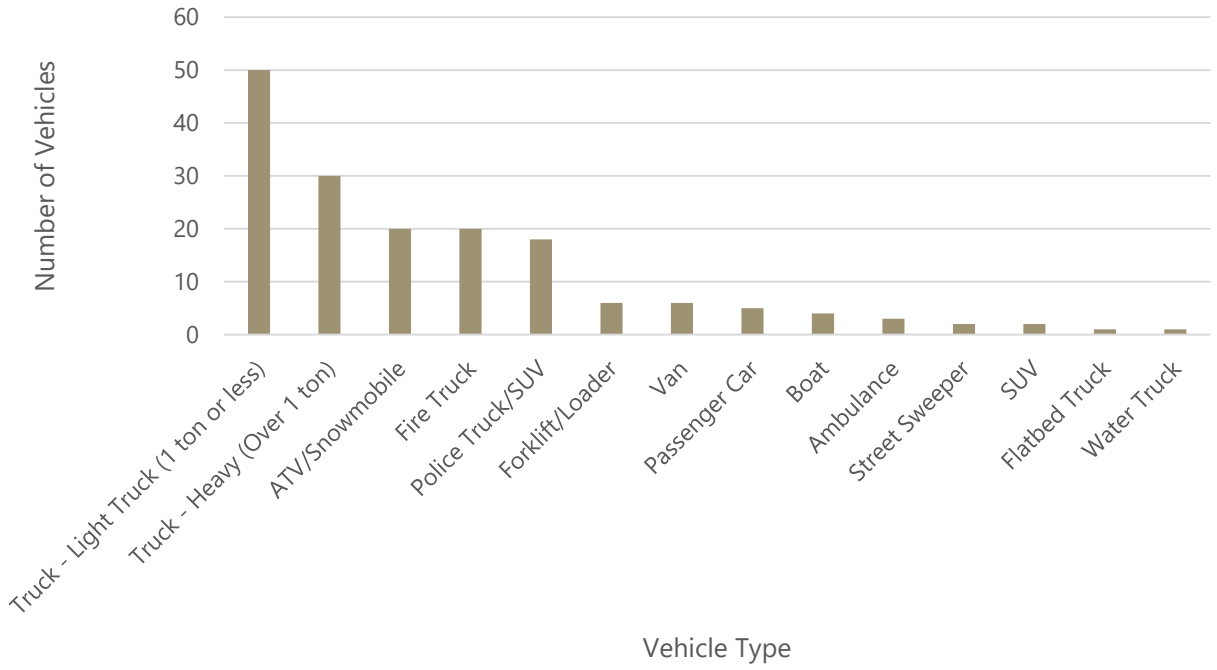


Figure 13. Teton County fleet composition, by vehicle type. (Source: Gasboy, 2016)

Figure 14. Teton County fleet composition, by vehicle age. (Source: Gasboy, 2016)

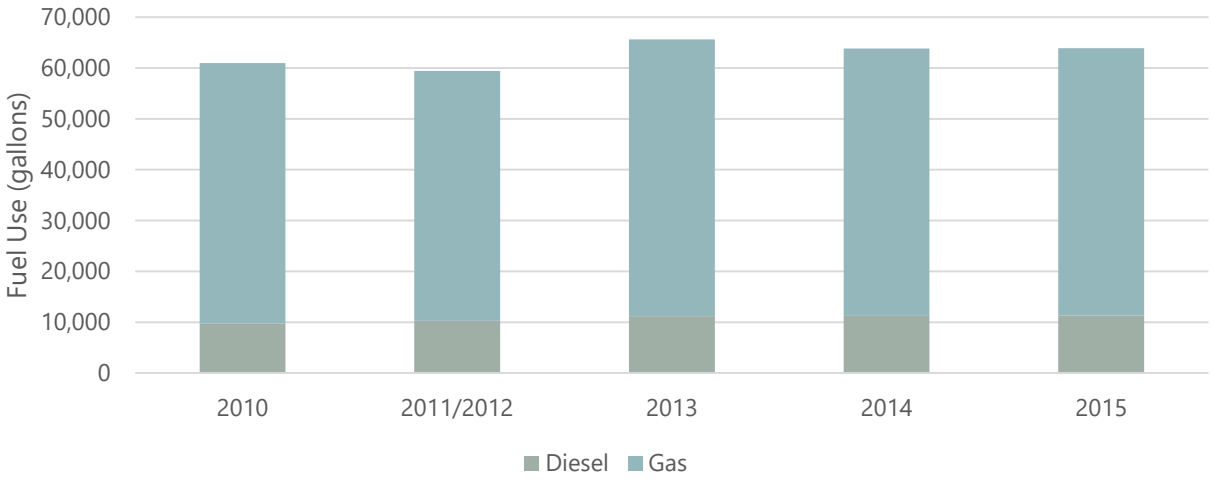


Figure 15. Fleet fuel use over time, by fuel type. (Source: Gasboy, 2016)

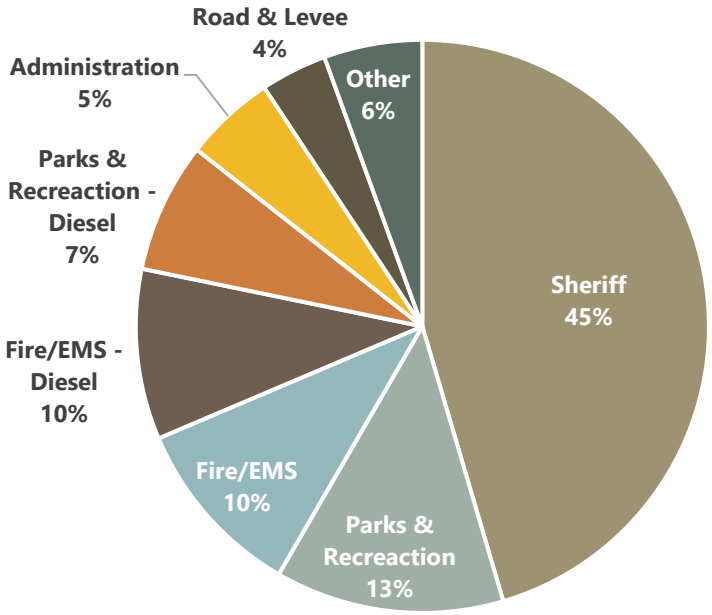


Figure 16. Fleet greenhouse gas emissions cumulated over six years, by department. (Source: Gasboy, 2016)

Table 5. Fleet composition, by department. (Source: Gasboy, 2016)

Vehicle Type	Admin	Fire / EMS	Parks / Rec	Fair	Sheriff (includes SAR)	Road / Levee	Coroner	Em. Mgt.	Public Health	ISWR	Unknown	Totals
Truck - Light Truck (1 ton or less)	12	12	11	2	4	2	2	1	3	1		50
Truck - Heavy (Over 1 ton)		13	7		7	1				1	1	30
ATV/Snowmobile			1	1	17						1	20
Fire Truck		20										20
Police Truck/SUV					18							18
Forklift/Loader			1			2				3		6
Van			6									6
Passenger Car	3	1							1			5
Boat					4							4
Ambulance		2									1	3
Street Sweeper			1								1	2
SUV		1								1		2
Flatbed Truck										1		1
Water Truck				1								1
Totals	15	49	27	4	50	5	2	1	4	7	4	168

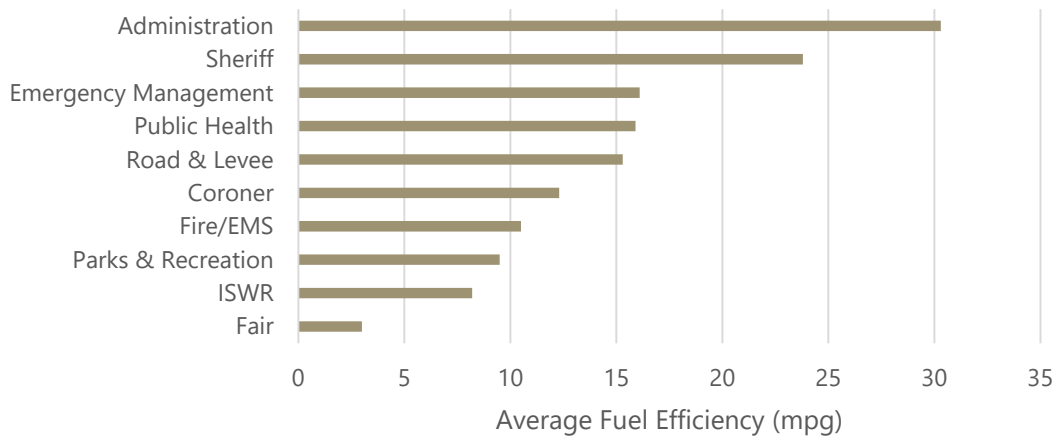


Figure 17. Average fleet fuel efficiency, by department. (Source: Gasboy, 2016)

EMPLOYEE COMMUTING

A 2016 survey of Teton County employees revealed the following commuting trends:

- 71% of employees reported driving alone as the usual means of commuting to work (see Figure 18).
- The most prominent commuting distances are 1 to 10 miles (50% of respondents) and 20 to 40 miles (22% of respondents) (see Figure 19).
- Many employees change the mode of their commute by season (e.g., bike in summer and drive in winter).
- Total greenhouse gas emissions associated with Teton County employee commuting are estimated at 21,000 mt CO_2e.

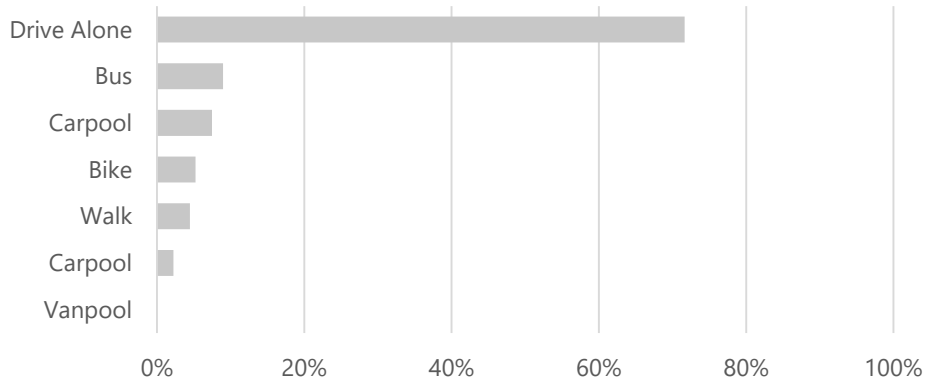


Figure 18. Teton employee usual means of commuting each day (Source: 2016 Employee survey)

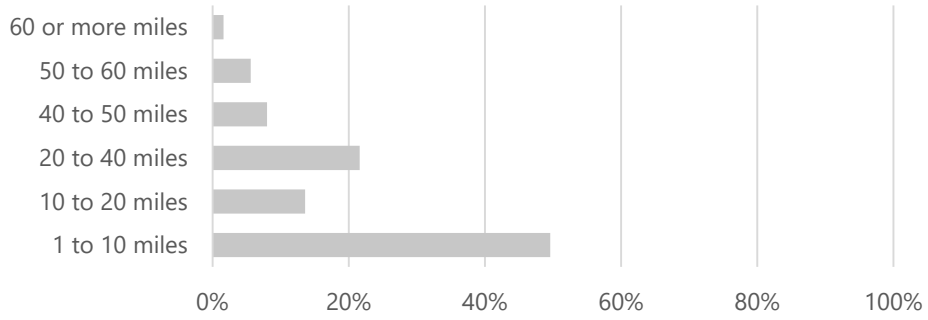


Figure 19. Teton employee daily commuting distances (Source: 2016 Employee survey)

ACCOMPLISHMENTS

Teton County has taken notable actions to improve fleet energy use and efficiency, as summarized below.

Planning for Sustainability

- In 2015, Teton County adopted the **Integrated Transportation Plan** focused specifically on reducing vehicle miles traveled (VMT).
- Teton County promotes pedestrian and bicycle use in the community through its support and maintenance of the **pathway network system**.

Employee Transport

- Teton County **incentivizes employees** to use public transit to commute to work by reimbursing up to half the cost of a START bus pass.
- The County also provides employees free access to an internal **bicycle-sharing program** to enable employees to cycle on trips around town rather than drive.

EMPLOYEE COMMUTING

- As part of inventory, the County conducted its first employee commuting survey.
- TC offers START Bus Pass subsidy for Employees.
- TC has an extensive bike path system from populous areas which provides safe multi modal commute options.
- The County offers an internal bike share program.

Efficient Fleets and Operations

- Between 2006 and 2011, Teton County partnered with the Town of Jackson to reduce fuel use in vehicles 20% by **adopting sustainable fleet principles, practices, and procedures**. Figure 20 below illustrates key contributions from County departments.
- There is a **no-idling policy** within Town limits, and reminder signs in public facility parking lots.
- Many County staff reported that their departments encouraged **efficient travel behavior** such as coordinating trips between staff, vehicle right-sizing when available, trip mitigation, virtual commuting, and idling reduction practices. These policies reduce the County's expenditure and energy use on fleets.
- County staff also reported that fuel efficiency is considered when **purchasing new fleet vehicles**.
- Teton County Waste and Recycling introduced **electric forklifts** and **biodiesel trucks** to reduce fossil fuel use and emissions.
- Parks & Recreation has purchased **smaller hybrid vehicles** and the Parks Department has been investing in **small vehicles that can travel on pathways.**

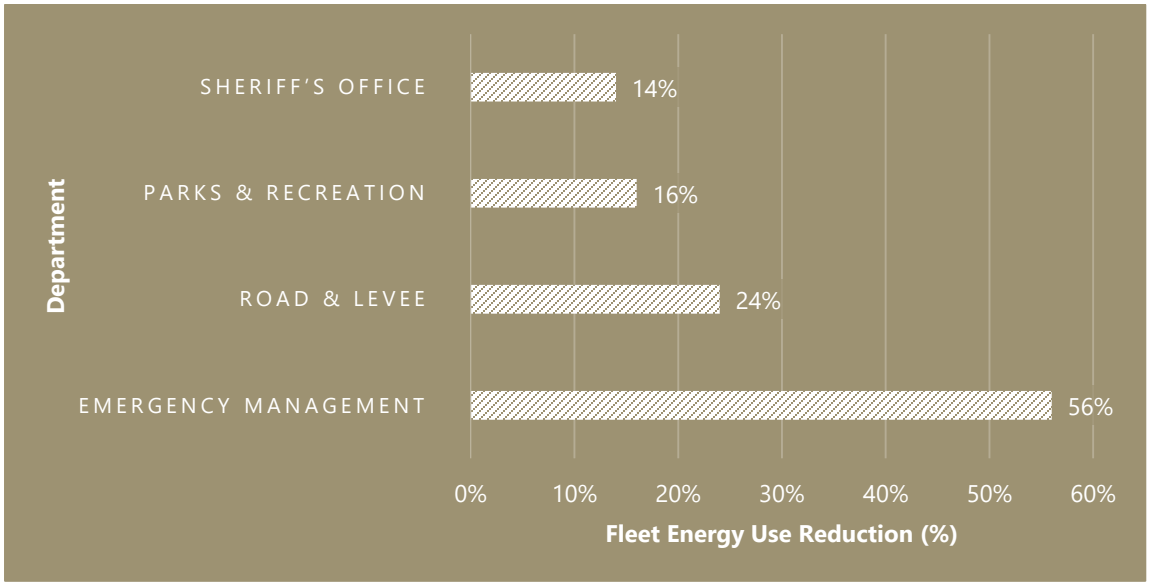


Figure 20. Fleet energy use reductions in four County departments between 2006 and 2011. (Source: 10x10 Initiative Final Report)

POTENTIAL OPPORTUNITIES

Expand Collection of Fleet Use Data

Teton County staff and consultants have indicated that **more information about fleet usage** is needed to maximize fuel use reductions in the future. Additional data would enable fuel use reductions in two ways:

- **Fuel Efficiency:** More complete tracking of fuel efficiency for each fleet vehicle would allow managers to compare performance against efficiency standards for each vehicle class. This data would allow managers to target low-performers first for replacement.
- **Fleet Use Types:** Increased monitoring of fleet usage could record how many fleet vehicle trips require off-road capability (such as with a truck or SUV), 4-wheel drive only (such as a Subaru), or only basic driving (such as a Prius); for short trips, all-electric vehicles (such as a Nissan LEAF) may be feasible. This information would allow managers to determine how many vehicles could be replaced with more efficient vehicle classes.

This type of monitoring could be accomplished by upgrading to a more comprehensive third-party fleet monitoring vendor.

Parks and Recreation Opportunities

- Reduce the amount of turf at County maintained parks in an effort to reduce that amount of mowing required .
- Evaluate lifecycle costs and benefits of using synthetic turf when possible to eliminate the need for mowing.
- Purchase alternative fuel mowers, such as propane.

Enable Sustainable Fuel Use

County staff identified infrastructure as a barrier to both County and resident use of alternative-fuel vehicles such as electric vehicles (EVs) and natural gas vehicles (NGV). **Investing in EV charging or NGV refueling stations** at County buildings could enable department managers to purchase EVs when appropriate as well as enable employees and residents to use these vehicles for personal travel.

Employees also cited that **enforcement of no-idling policies** at public buildings can be a challenge—especially if the members of the public (not County employees) are the ones idling.

Share and Lease Fleet Vehicles

Teton County could promote and enable **interdepartmental vehicle sharing** to reduce total vehicle need and enable more frequent right-sizing for trips. Similarly, **vehicle leasing** was cited as a potential measure to affordably provide newer, more efficient vehicles.

Procurement and Waste

Actions to reduce waste and purchase sustainable goods and services can conserve important resources and realize efficiencies, resulting in cost savings and environmental benefits. Every ton of waste recycled instead of landfilled results in 2.79 metric tons of CO_2-equivalent emissions avoided.[3]

Key Performance Indicators

Due to limited availability of waste composition or diversion data specific to Teton County operations, metrics related to the sustainability of procurement and waste practices in Teton County are limited. Available indicators are listed below:

- Teton County currently pays for the disposal of approximately **1,706 cubic yards** of solid waste each year.
- The County uses an estimated **265 pounds of paper** a year—of which about 100 pounds is 30% recycled-content paper, and 165 pounds is 0% recycled, all-virgin-content paper. The footprint of these purchases is equivalent to powering one home for a year, the greenhouse gases associated with one car per year, and 34,500 gallons of water consumption.[4]

Accomplishments

RECYCLING

Teton County staff prioritize the recycling and reuse of materials. Notable policies, programs, and best practices include the following:

- In 2014, the Board of Commissioners adopted its **Zero Waste Resolution**, which has the goal of diverting 60% of the County's waste from landfills by 2030.

[3] Source: EPA Greenhouse Gas Equivalencies Calculator (https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references#vehicles)
[4] Source: Environmental Paper Network (http://calculator.environmentalpaper.org/home)

- Recycling is a part of the day-to-day operations of the County's departments. **Recycling containers** can be found in all County facilities, and the County has maintained a **low contamination rate** for recycled products. Some examples of best practices include the public library, which recycles all old books, magazines, and newspapers that cannot be sold or used any longer; Emergency Management, which properly disposes of radios, batteries, and other electronics; and Information Management, which properly disposes of computers and other IT equipment at the end of their warrantied life.
- Many departments are switching or have switched to using **recycled paper** and/or **reusable products** such as dishware and towels, including Treasury, Library, Public Health, and Waste Services departments.
- **Demolition debris** from the Recycling Center construction is currently sorted and recycled, and scrap wood from the library expansion was used to make new bookshelves.

SOURCE REDUCTION

In addition to recycling waste, many departments are making an effort to reduce waste creation:

- **Digitization**, or "going paperless," has become a priority for multiple departments, including Planning, Treasury, and Public Health. For example, the Board of Commissioners uses digital agendas for their meetings.
- The Human Resource Department has decreased the amount of paper required for the onboarding process through the use of a **Human Resource Information System**. There is a potential to increase the utilization of the HRIS system for payroll and time and attendance.
- Survey results found that many departments try to incorporate sustainability into their **purchasing decisions** whenever feasible. For example, the Road and Levee department considers dust control when purchasing winter road sand or salt. Other departments also place heavy emphasis on product lifespan and obsolescence to avoid any unnecessary re-purchasing. Information Management seeks to purchase long-lasting IT equipment that could be repurposed or properly recycled after its usable life.

HAZARDOUS WASTE COLLECTION

- Teton County Integrated Solid Waste (ISWR) is one of only three communities in Wyoming to provide an **electronic waste** (e-waste) program.

- Funds were recently approved to purchase a **compact fluorescent bulb processing machine** that will increase ISWR capacity to accept and safely ship CFL bulbs.
- ISWR partnered with Leadership Jackson Hole to create, fund and install **water filling stations** at Teton County Parks
- ISWR offers **hazardous waste collection**

COMPOSTING

Several departments are beginning to explore opportunities to enhance composting of materials through their programs and activities. For example, the Parks and Recreation department has a **composting program**, and the planned addition to the Recycling Center will have a **demonstration site for a backyard composter**. Parks & Recreation composts all of their **grass clippings and organics** through the ISWR

Potential Opportunities

WASTE REDUCTION

Teton County can increase the efficacy of waste reduction efforts in its day-to-day operations and procurement policies. However, many departments feel they are currently doing everything they can to reduce waste given certain barriers, like lack of authority to make sustainable purchasing decisions and the inability to recycle certain types of plastic. Opportunities to reduce waste include the following:

- Eliminate sending multiple paper copies of documents whenever possible such as phone vouchers, pay stubs, meeting agendas etc.
- Consider adopting a digital building development and permitting system
- Work with vendors to reduce environmental impacts of service and product delivery
- Consider moving to an electronic time and attendance system
- Install bottle filling stations at all county facilities
- Conduct a waste audit
- Require a construction and demolition waste management system in all construction contracts
- Include minimum space requirements for recycling collection at all County facilities

- Require the use of recycled materials and recycled products by incorporating them in bid specifications where practicable.
- Use cloud storage technology to reduce hazardous waste.

PROCUREMENT

Standardizing sustainable purchasing through County policy on Environmentally Preferable Purchasing (EPP) would help to ensure sustainable options are not just encouraged but prioritized and could clarify purchasing authority for departments. Such a policy would provide guidance with regard to what constitutes a sustainable purchase. It may also be possible to leverage such a policy to develop memoranda of understanding (MOUs) with suppliers to require the use of recycled or reusable shipping materials or to establish partnerships with suppliers that already do so. Other opportunities include the following:

- Develop specifications for the procurement of selected materials based on considerations of recycling, energy and water conservation, life cycle costing and other environmental considerations.
- Develop and maintain information about environmentally preferable products and recycled products containing the maximum practicable amount of recycled materials, to be purchased by departments, agencies, consultants and contractors whenever possible.
- Evaluate, as appropriate, the environmental performance of vendors in providing products and services

Water, Air Quality, and Environmental Health

With its stunning natural surroundings as a major tourist draw and economic driver, Teton County needs to maintain and enhance the health of its natural systems and resources. Clean air, open space, and parks provide areas for recreation and retreat for Teton County employees, residents, and visitors alike.

Key Performance Indicators

Teton County has limited data on facility water use, and no data on irrigation water use. For all available metered accounts, water use declined by 15% from 2014 to 2015. The largest water-using account in 2015 was the Jail at 175 S Willow, which was billed for 760,000 gallons of water use. The largest 2014 to 2015 decline in water use as at the Clifford P. Hansen Courthouse, which used 70% less water in 2015 than 2014.

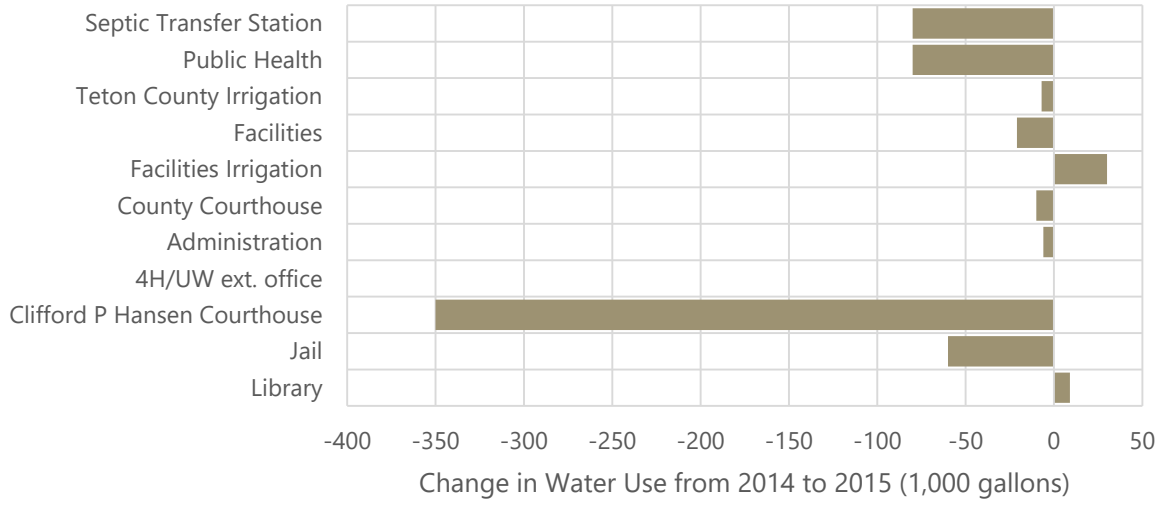


Figure 21. Change in water use from 2014 to 2015 for select water meter accounts (Source: Town of Jackson, 2016)

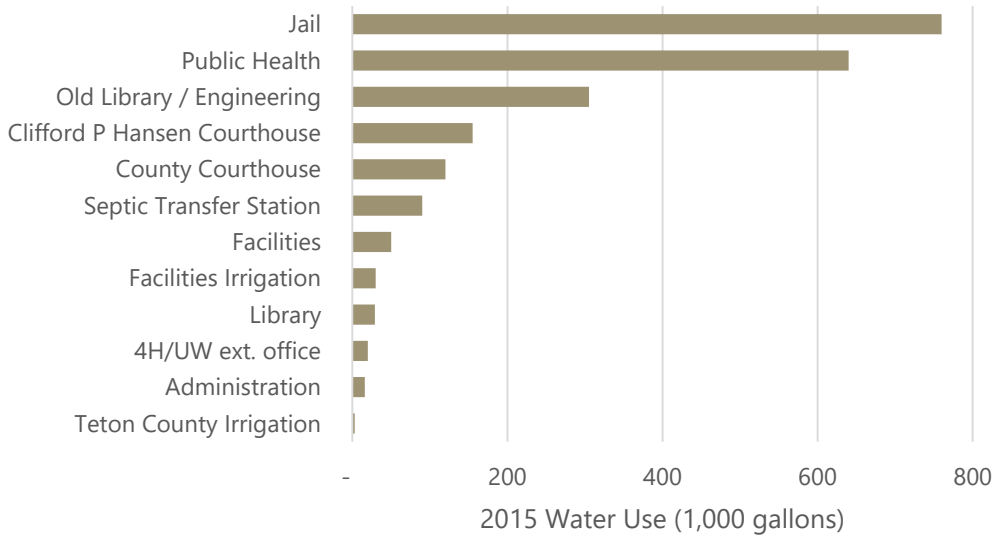


Figure 22. Water use in 2015 for select water meter accounts (Source: Town of Jackson, 2016).

Other potential metrics that could benchmark Teton County water, air quality, and environmental health include the following (not currently available at the time of this inventory report):

- Days achieving federal air quality standards
- County emissions of federal criteria air pollutants
- Water use (current and projected, total and per capita) and projected water availability
- Stormwater discharge compliance with National Pollutant Discharge Elimination System (NPDES) requirements
- Water provider participates in EPA water quality research on emerging contaminants
- Water use intensity of County building stock
- Days exceeding Total Maximum Daily Load (TMDL) of pollutants in local waterways
- Pesticide and chemical use at County facilities

Accomplishments

WATER QUALITY AND CONSERVATION

Actions taken to improve water quality and quantity within the County include the following:

- **Water-efficient fixtures** have been installed in County facilities, including the recreation center.
- Parks Department has improved **irrigation control systems** to quickly address leaks and identified issues.
- Parks Department reduces water waste by using a **cycle soak** irrigation process that applies water to individual zones at short intervals multiple times to allow for complete percolation.
- Parks Department only applies **herbicide** as needed using a spot application.
- The County's Solid Waste division incorporates **stormwater pollution prevention plans** in its operations.
- County Engineering departments implement rigorous **erosion control measures** as part of the permitting process, which are considered effective in reducing sediment loads in local waterways.
- The upcoming landfill closure project will include **capping the landfill** to reduce groundwater contamination.
- **UV light systems** at three County pools reduces the need for chemical treatment and amount of pool draining, which would otherwise need to be processed through the County's stormwater management systems.
- The County Public Health department practices **proper disposal of graywater** at public events.
- The Emergency Management department **regularly tests for leaks and losses** in the water system.
- The **Small Wastewater Facility Resolution** will be completed within the next year, and will likely include a provision requiring "enhanced septic systems" for the West Bank area and Fish Creek watershed to reduce pollution.

AIR QUALITY

Teton County departments and employees implement the following practices to improve local air quality:

- The Road and Levee department performs **gravel road dust mitigation**.
- **Air exchange units** installed at Solid Waste facilities monitor air quality and help insulate during the winter season.

Potential Opportunities

WATER CONSERVATION

County staff suggested the following actions to help monitor and reduce water use in County operations:

- **Monitor water use** in County facilities and irrigation to facilitate water use reduction and management among County staff and departments.
- **Monitor irrigation** use at County maintained parks
- **Upgrade water-using appliances** to more efficient models, such as products with the **WaterSense** label, to reduce facility water use, such as at the recreation center.
- **Install rainwater collection systems** for County facilities for graywater and outdoor uses.[5]
- **Update plans to require water catchment** for increased use of graywater in fire suppression (fire suppression typical uses approximately 20,000 gallons of water per incident).
- Install more **water-bottle filling stations** at public buildings.
- Conduct a **water audit** of County maintained parks and sports fields.
- Install additional **weather stations** at County parks.
- **Update or develop landscape specifications** for curb strips, parks, and county facilities that reduces the use of Kentucky blue grass turf and increases the use of drought resistant and native plants.

[5] Cascadia interview with Heather Overholser (Waste Services)

- Consider more water efficient **irrigation systems for curb strips**, or consider using **artificial turf**.
- Determine and educate staff on the best practices for **creating and maintaining outdoor ice rinks.**

WATER QUALITY

- Create a **special groundwater conservation district** for Fish Creek to monitor and mitigate contamination.
- **Develop in-house ability to test for presence of metals** in water.
- **Adopt a standard policy for sustainable land and lawn care**, such as minimized chemical control and planting of drought-tolerant and native species.
- Conduct **soil testing** and, if needed, implement **soil improvement techniques** to reduce the need for herbicide and pesticide application.
- Adopt **LEED Existing Buildings Operations** certification standards, which outline minimum standards for integrated pest management, erosion control, and landscape management.
- Develop specifications for **environmentally friendly herbicide and pesticide** products.

AIR QUALITY

- **Establish more stringent indoor air quality-related building codes** to address prevalence of indoor air pollutants such as radon, and distribute radon monitoring systems.
- Introduce **comprehensive mold monitoring** in buildings.
- Adopt standards for **interior finishes and fixtures** for new projects and maintenance of facilities.
- Increase **ventilation standards** and/or use LEED standards for ventilation.
- Increase use of **alternative fuel vehicles** with lower tail pipe emissions.
- Increase the use of alternative fuel **commercial lawn equipment**, such as propane mowers.

Sustainable Workforce

A focus on workforce sustainability will provide the County with the human resources it needs to deliver the best possible services to the community in an efficient manner. Sustainable work practices support employee physical and mental health and offers an engaging work culture that allows employees to thrive. Organizations that prioritize the health and well-being of their employees enjoy increased employee performance and reduced overall costs.

Key Performance Indicators

EMPLOYEE PHYSICAL AND MENTAL HEALTH

Teton County employees enjoy the following health and wellness benefits:

- Free access to gym in basement of Town Hall.
- Free admission to recreation center.
- Discounted JH Air ski passes and shared ski passes for all County staff.
- Free annual blood tests through the annual health far.

WORKFORCE HOUSING

Between 2006 and 2010, Comprehensive Housing Affordability Strategy data showed that 20% of Teton County households had severe housing issues—significantly higher than 12% of Wyoming households.

According to a recent employee residence survey, the majority (70%) of Teton County staff members reside in the county. When asked for the reason why employees chose to live where they do, 47% of employees responded that location is the driver, while 41% responded that cost is the primary reason.

The following metrics highlight the state of workforce housing within Teton County:

- **Housing units:** Teton County currently owns 18 housing units, including both single and multi-family housing, and recently secured the rights to four additional units.

Table 6. Teton County employee housing stock compared to 2009 targets[6]

Category	Current Stock	2009 Target
Studio/1-bed units	7	15
2-3 bed units	5	28
Single Family Homes	2	9
Unknown	4	
Total	**18**	**52**

*The County recently secured the rights to four additional units.

Accomplishments

EMPLOYEE HEALTH

Teton County employees enjoy the following health and wellness benefits:

- Free access to **gym** in basement of Town Hall.
- Free admission to **recreation center**.
- Discounted JH Air **ski passes** and shared ski passes for all County staff.
- Free annual **blood tests** through the annual health fair.

HOUSING PROGRAMS

- In fall 2008, the Board of Commissioners established the **Teton County Employee Housing program** to manage the stock of housing for employee use.[23]
- The Teton County Housing Authority (TCHA) commissioned an **Employee Housing Analysis** in 2009 to assess housing needs.
- In 2016, Teton County secured **four new units** to house employees.
- Teton County currently provides **18 employee housing units**.
- Teton County plans to build **additional housing units** at the new Parks and Recreation Shop and Fire Station 1.

[6] Teton County, *Board of Commissioners Staff Report on Employee Housing*, January 5, 2014.

Potential Opportunities

EMPLOYEE HEALTH

- Adopt minimum indoor air quality standards.
- Maintain a tobacco smoke control policy.
- Adopt a Green cleaning policy (see procurement).
- Require LEED for Building Operations and Maintenance and/or similar standards.
- Conduct an occupant comfort survey.
- Benchmark workers compensation claims against similar organizations.
- Track and identify injury trends by department and injury type.
- Offer preventative safety training.
- Offer stress management training.
- Offer healthy food choices in all vending machines.

WORKFORCE HOUSING

Collected data indicate the following opportunities related to affordable housing for Teton County employees:

- **Update needs assessment.** During staff interviews, County staff commented that the need for workforce housing seems to have increased since the 2009 assessment. An updated assessment of needs would allow County Commissioners to quantify current need more accurately.
- **Expand housing.** Almost all interviewed staff emphasized inadequate housing as a priority issue facing the county. Managers in emergency response departments such as Fire/EMS and Emergency Management indicated that lack of available workforce housing could limit recruitment of new staff. The County could consider adding additional quantities and types of employer-provided housing units.

Conclusion

This inventory report presents a baseline of progress and opportunities related to the sustainability of Teton County's internal operations. Findings from this assessment suggest that the County has made considerable progress in several areas—particularly facility energy efficiency, renewable energy sourcing and production, and recycling offerings at public buildings. Opportunities for enhancing sustainable operations include tracking of other sustainability metrics such as water use and waste diversion, identifying and addressing fleet inefficiencies, and encouraging employee wellbeing through affordable housing and commuting incentives. Outcomes and observations included here will be serve as an important foundation for development of a robust, effective, and informed Teton County Sustainability Plan for its internal operations.