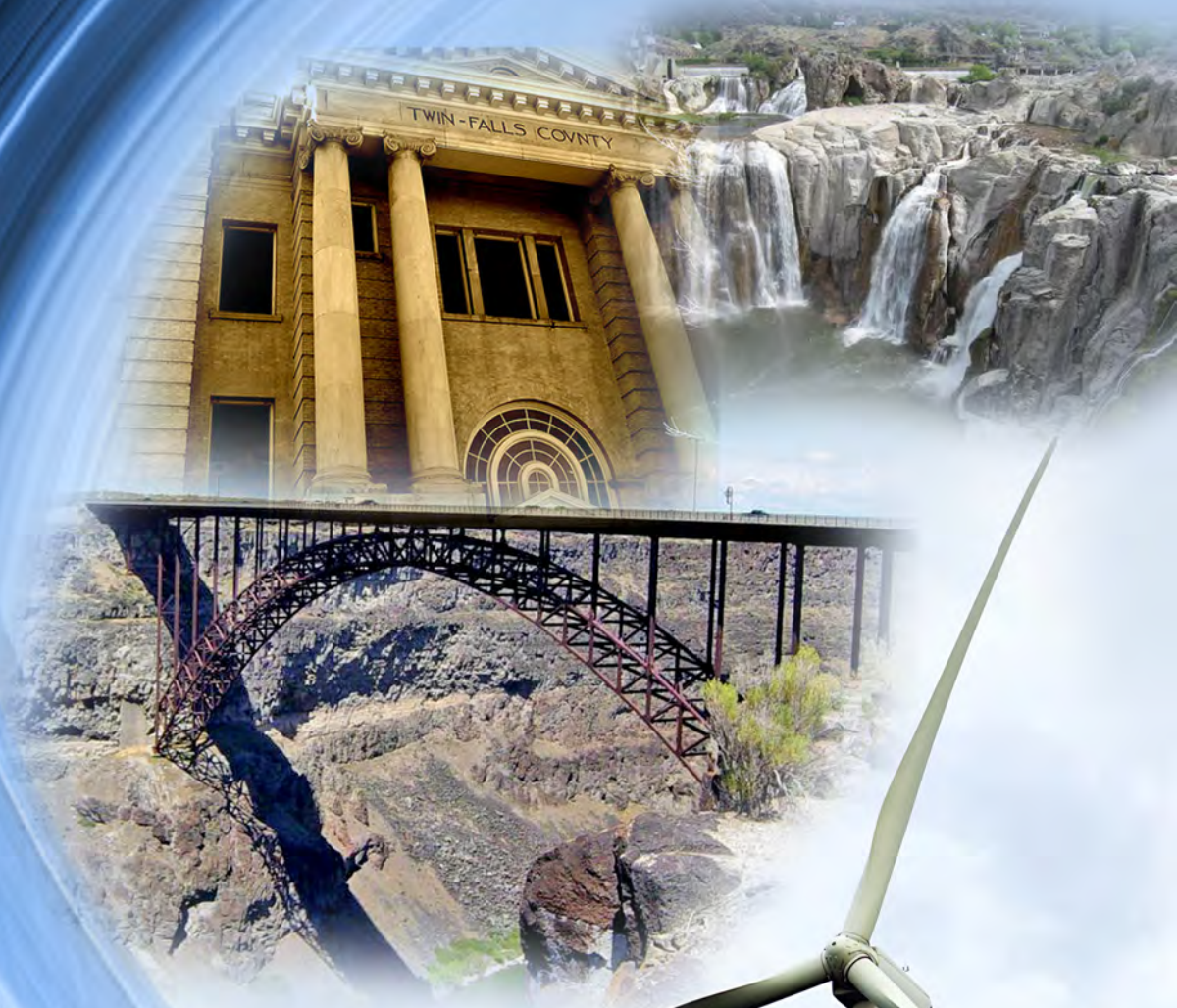




# Twin Falls County

## Energy Efficiency & Conservation Strategy (EECS)



January, 2010



# Twin Falls County Energy Efficiency and Conservation Strategy (EECS)

## The Strategy

*In order to take steps towards improving energy efficiency, transparency, accountability, and innovation of local government, Twin Falls County has decided to conduct an **Energy Efficiency and Conservation Strategy (EECS)**. This EECS outlines Twin Falls County's long-range plans to integrate sustainability, resource conservation, enhancing air quality, and reducing greenhouse gasses of County government operations.*

## What prompted the EECS?

The EECS emerged as a result of federal funding through the Energy Efficiency and Conservation Block Grant (EECBG) program administered by the Department of Energy (DOE). Key goals of the program are to transform the nation's economy and uphold new global priorities for green energy, green jobs, and the reduction in Greenhouse gas (GHG) emissions. These priorities were fulfilled by the County Commissioners' vision and commitment to create a long-range Strategy that would help to guide the County's energy future.

## What was the Planning Process?

Twin Falls County decided to pursue the goals of the EECBG program through a planning process that prioritizes funding and energy savings, while meeting federal requirements. The County engaged in a visioning and analysis process to make these goals a reality. County Commissioners were periodically debriefed and consulted for direction on steps forward during the planning process. This allowed a system of internal checks and balances, policymaker buy-in and stakeholder ownership in the Strategy's final outcomes. A schematic of the planning process is shown on page 4.

## Will the Strategy be Incorporated into Existing Plans?

In order to ensure planning coordination and integration, the County intends to align this Strategy with their ongoing planning efforts. Many of the goals identified by this Energy Strategy should be considered for integration into the County's Comprehensive Plan, Development Code, operational policies, or other long-range planning documents.

## Was There Regional Coordination?

The policies and programs identified in this Strategy should be used to shape the changing goals that define the region. Regional agency coordination will help to ensure area acceptance and verification of adjacent energy-related policies and plans. This Strategy will be submitted to the State Office of Energy Resources to ensure statewide dissemination of the County's energy goals and ongoing projects.





In order to solidify their position as an energy leader, Twin Falls County will plan and implement sustainable projects, initiatives, and policies that improve the efficiency and transparency of government operations.

### **What are the Guiding Energy Objectives?**

Through the planning and coordination process of the Energy Strategy, key objectives were identified by County staff and approved by County Commissioners that are meant to guide the County in its future decisions toward improving energy efficiency and conservation. The County's Energy Objectives are:

1. Increase resident quality of life by encouraging sustainability, energy efficiency, and improved air quality
2. Increase water and energy efficiency and energy independence
3. Reduce County energy consumption over the long-term
4. Lower the cost of public services for County residents
5. Increase the energy efficiency of County facilities

### **Are there Supporting Policies and Programs?**

A number of policies and programs are outlined in this Strategy that target sustainable building practices, long-range energy and cost savings, and the conservation of resources. Each of these programs and policies should be pursued for implementation and adoption to launch County sustainability efforts. Policies and programs are identified on pages 11 and 12.

### **How will Funds be Leveraged?**

Numerous projects identified in this Energy Strategy can be supplemented by local utility incentives or federal and state funding opportunities. Moreover, the cost savings from improving the energy efficiency of government operations can be re-invested in new energy projects and policies. Additional funding sources for key energy projects are outlined on page 14.

### **How will the County Measure Progress?**

Annual and quarterly reporting of energy-related savings will demonstrate the success of the County's ongoing energy-related projects and programs. Additional projects will be implemented over time to continue the success and benefits of the Energy Strategy. Maintaining an energy baseline from year to year will enable the County to track changes in energy costs and the benefits of implementing projects.

### **What is the Implementation Timeline?**

One key energy efficiency project has been identified for application of EECBG funds. This project is the first step toward improving the County's long-range energy goals. Yet, as part of this Strategy, a broad inventory of energy efficiency projects and programs, as well as a provisional timeline for completion of these projects, is also included in the EECS. The project timeline is on page 17.

Project costs have been obtained for some of the projects in the Energy Strategy. This will allow quick implementation when additional funding becomes available. These efforts will guide the County towards accomplishing current goals and setting the framework for implementation of future energy projects.

## The Strategy

Twin Falls County, Idaho developed this Countywide Energy Strategy as a guide for achieving both short-range and long-range objectives for energy efficiency, the reduction of greenhouse gas emissions, and the creation of sustainable jobs. Short-range energy goals will be achieved by allocating existing EECSBG funding towards one showcase project that will begin the process of accomplishing these goals. A comprehensive list of future energy projects is included in this report that demonstrates the County's long-range commitment to energy efficiency. The energy-related projects, programs, policies, and implementation measures identified in the planning process of this Strategy will facilitate Twin Falls County's long-range energy success.

The purpose of the Energy Strategy closely follows the requirements of the EECSBG program to:

- Characterize current energy use in the County
- Identify practical projects and programs that will best achieve energy goals for analysis and inclusion as part of the County's long range energy strategy
- Meet EECSBG funding and documentation requirements
- Define metrics to assess project potential including:
  - Jobs created
  - Energy saved
  - Installed capacity
  - Greenhouse gas emissions reductions
  - Cost estimates and savings
  - Other funds leveraged
- Develop appropriate methodologies and templates for monitoring progress
- Identify projects that are most appropriate for the EECSBG allocation and projects that are more appropriate for competitive grants, utility payback programs, incentives, etc.

***The Twin Falls County Energy Efficiency and Conservation Strategy should be responsive to new ideas, partnerships, technologies, and changes in funding opportunities.***



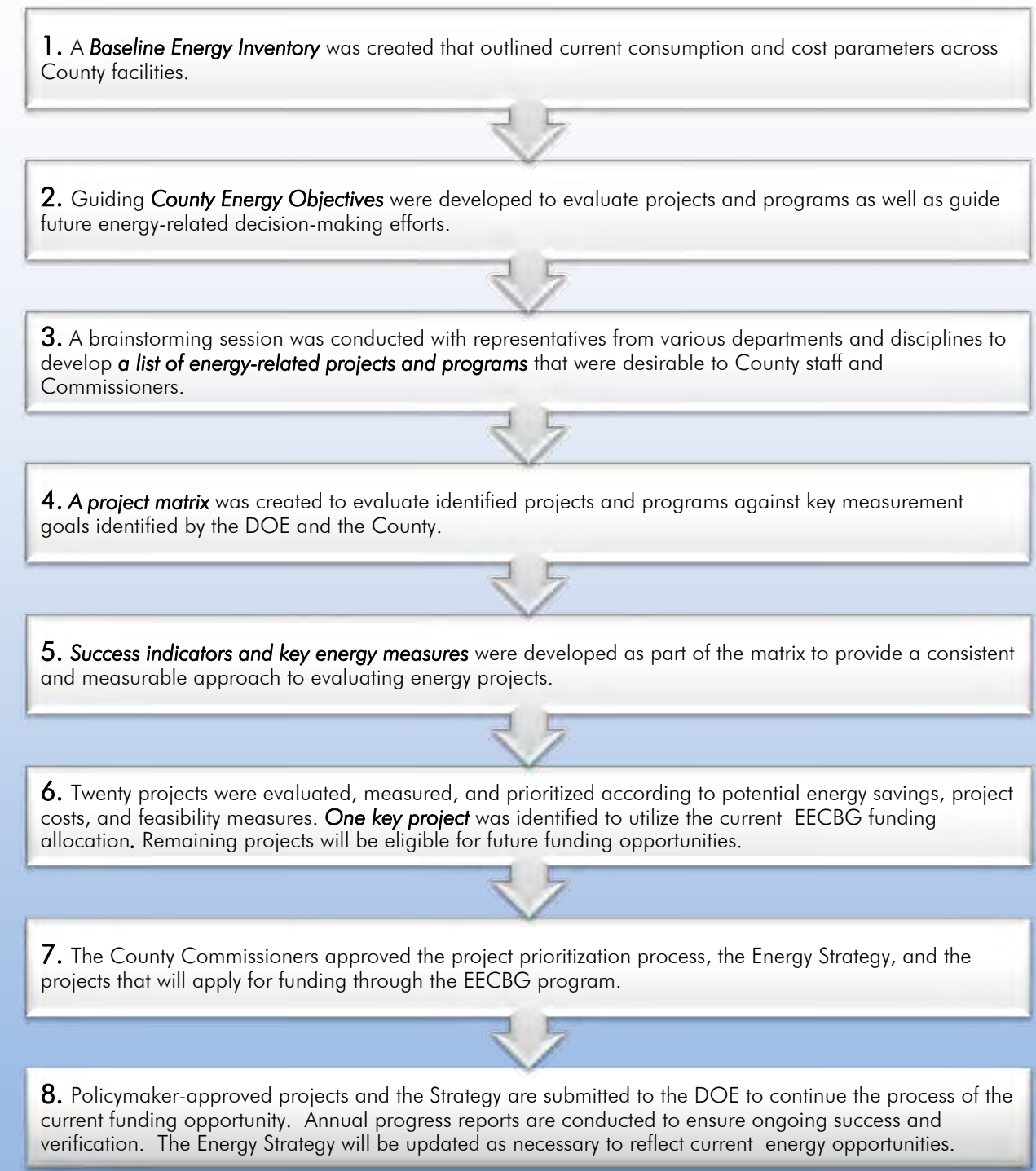
***This report includes a comprehensive list of future energy projects that demonstrate the County's long-range commitment to energy efficiency.***

***The Energy Efficiency and Conservation Strategy for Twin Falls County is a living document that should change with the County's needs and technological innovations.***

***This Energy Strategy outlines goals that distinguish Twin Falls County as a leader and proponent of energy efficiency, sustainability, and resource conservation***

## The Energy Strategy Planning Process

The following flowchart outlines the planning process that was followed to produce the Twin Falls County EECS.



Each of the steps outlined in the above chart is discussed in the following sections of the Strategy.

## Baseline Energy Inventory

Energy Baseline Categories	<i>Twin Falls County Energy Sectors</i>
	<b>Parks</b>
	<b>Jail</b>
	<b>Remote</b>
	<ul style="list-style-type: none"> <li>Juvenile Detention</li> <li>Juvenile Probation</li> <li>CDC</li> </ul>
	<b>Central Campus</b>
	<ul style="list-style-type: none"> <li>Courthouse</li> <li>Planning &amp; Zoning</li> <li>Judicial</li> <li>Adult Probation</li> <li>DMV</li> <li>Public Defender</li> <li>TARC</li> <li>SRBA</li> </ul>
	<b>Sheriff</b>
	<b>Other</b>
	<b>Fleet</b>

To better understand existing energy consumption, the County analyzed their energy baseline for 2008. This provided the most current annual energy use information that was available including seasonal variations and monthly cost fluctuations. The energy baseline included a compilation of all available energy costs and energy measures across each of the assets owned and operated by Twin Falls County. Energy use was calculated for Kilowatt hours, thermal units, and fuel consumption. In many cases, buildings or specific County-owned assets used both Kilowatt hours and therms. In order to represent a common equivalent energy unit, each of these energy measurements was converted to British Thermal Units (BTU's) in order to calculate the total energy consumption for each building or asset.

To effectively categorize energy use by business class or department, the County's assets were split into sector classifications as shown above. The Energy Sector Classifications for Twin Falls County

were organized and agreed to by County staff and County Commissioners.

Baseline energy use data helped to identify the facilities with high existing energy use. The buildings or facilities that represented high comparable energy consumption were considered for further evaluation in the project or program evaluation process. After the energy baseline was calculated for all energy sectors, an Energy Baseline Scorecard was created to provide a graphic representation of the County's 2008 energy use. The Twin Falls County Energy Baseline is provided on the following page. The full energy baseline calculations and template are provided in the Appendix.

Twin Falls County consumed 26,488 million BTU's (MBTU) in 2008. BTU's are a standard unit of energy measurement used to denote energy consumption. The County's MBTU consumption is equivalent to 2,651,000 kilowatt hours of electricity, 78,962 therms of natural gas, and 83,334 gallons of fuel. The total annual energy cost to operate the County in 2008 was approximately \$435,425. This cost is equivalent to \$5.86 per capita based on 2008 population estimates. The highest consuming energy assets of the County are its vehicle fleet, the buildings that encompass the Central Campus, and the County Jail.



The energy baseline template will enable the County to annually update their energy consumption and track fluctuations in cost and usage over time. Comparing energy use of County facilities from year to year will permit energy reporting of the costs and benefits associated with specific projects.





# Twin Falls County, ID Energy Consumption Baseline

## ENERGY BASELINE (2008)

Total Annual Energy Consumption: 26,488 MBTU

Total Annual Energy Cost: \$435,425

Per Capita Cost: \$5.86\*

Electricity: 2,651,000 Kwh

Cost: \$95,245

Natural Gas: 78,962 Therms

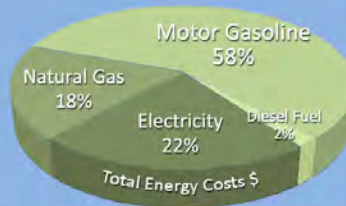
Cost: \$81,011

Gasoline & Fuel: 83,334 gallons

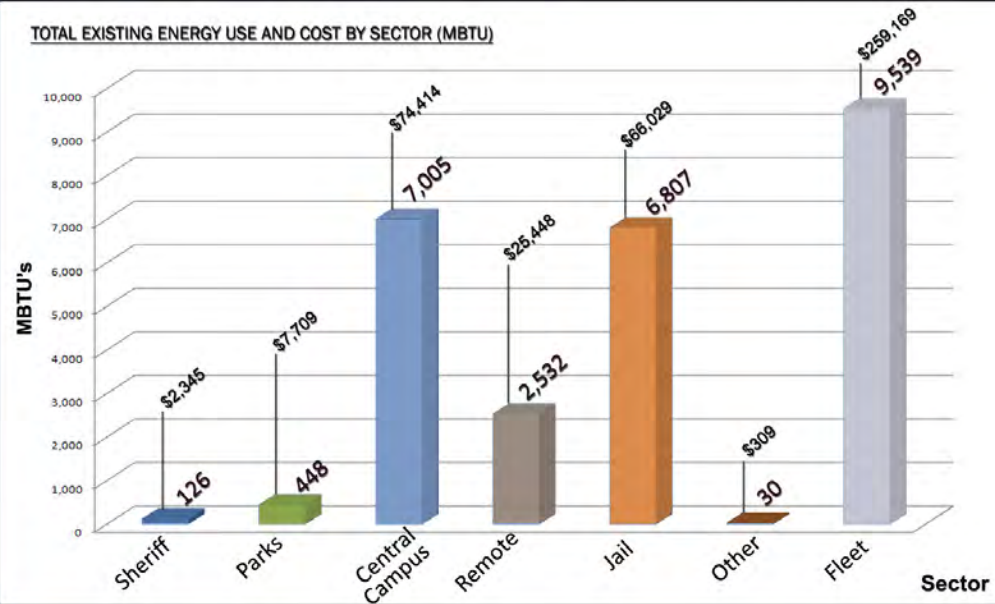
Cost: \$259,169

Total Greenhouse Gas Emissions: 2,264 MTCO<sub>2</sub>

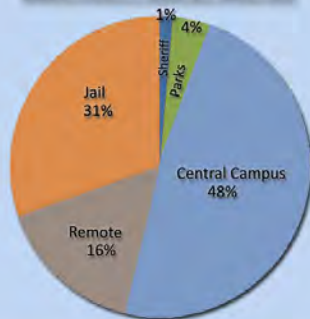
\*Based on 2008 population estimates, US Census Bureau



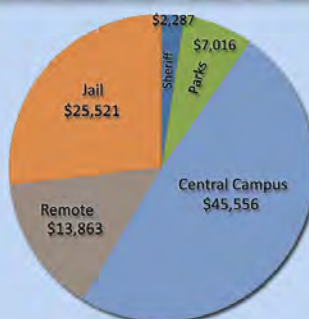
TOTAL EXISTING ENERGY USE AND COST BY SECTOR (MBTU)



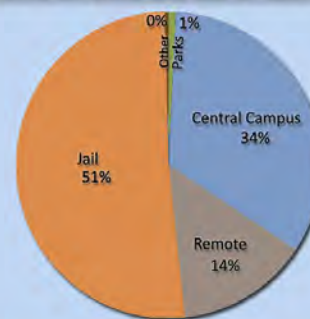
ELECTRICITY USE BY SECTOR



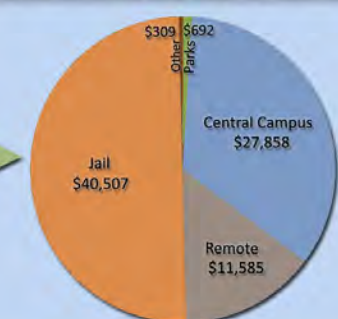
ANNUAL ELECTRICITY COST BY SECTOR



TOTAL NATURAL GAS USE BY SECTOR



TOTAL NATURAL GAS COST BY SECTOR



HDR

ONE COMPANY  
Many Solutions™



## Success Indicators and Objectives

Twin Falls County identified a series of objectives that would guide their decisions for future energy projects and programs. Through this approach, personal success indicators and evaluation measures were integrated into the Strategy's goals and outcomes.

The energy objectives for Twin Falls County were developed by County staff based on current energy demands, ongoing County projects, and the desire to set sustainable goals. The objectives were then presented to the County Commissioners and were approved on September 19, 2009.

The objectives for Twin Falls County will help to evaluate specific energy-related projects or programs that are identified by the County over time. As energy needs and opportunities change, the objectives can also change. Particularly, shifts in technology, funding, or project opportunities may motivate these changes. If energy objectives change, policymaker approval should occur.

### **Twin Falls County Energy Objectives:**

- 1. Increase resident quality of life by encouraging sustainability, energy efficiency, and enhanced air quality**
- 2. Increase water and energy efficiency and energy independence**
- 3. Reduce County energy consumption over the long-term**
- 4. Lower the cost of public services for County residents**
- 5. Increase the energy efficiency of County facilities**

*Local energy objectives should not be static; they should change over time with shifts in technology and current funding or project opportunities.*





*In order to analyze a large number of potential projects, a planning-level analysis was conducted that estimated many of the measures included in the project matrix. This approach provided a relative comparison of project costs, benefits, and general feasibility.*

## Project Brainstorming

In order to encourage County departments to further consider energy efficiency, an internal request for ideas was sent out to County staff. Department heads and staff were encouraged to brainstorm any projects or programs they would like to pursue that could be associated with energy efficiency. A project brainstorming session was conducted that outlined the projects and programs that would be analyzed in the Energy Strategy. In total, **twenty project** ideas and **eight program or policy** ideas were submitted for consideration in the Strategy. The list of projects that were evaluated for energy efficiency is shown on page 11.

To begin ranking and analyzing the initial list of projects that were envisioned by County staff, a project matrix was created that included all the measures required by the DOE as part of the EECBG funding, as well as additional metrics such as County energy objectives, anticipated project costs and savings, and additional funding sources. The matrix summarizes a planning-level analysis that measured the costs and benefits of each project or program to prioritize them for current and future funding opportunities.

In many cases, the County departments that suggested certain projects had cursory cost estimates and concepts of energy savings posed by the projects. In these cases, the available project information was populated into the matrix. The projects that did not have initial cost or energy information were estimated based on engineering and planning-level analysis. Some key project considerations included environmental, historical or implementation issues that could delay the quick and efficient use of the funding. These issues were highlighted in the matrix in order to flag them for comparison against other projects that may not have similar issues.

*The programs and policies identified in the brainstorming process were separated from the projects. The identified programs and policies are recommended as part of the County's procedural approach to improving energy efficiency of its day-to-day operations. Example policy options and associated reference materials are provided in the Strategy that will facilitate successful implementation. Example policy or program options should be tailored to meet the County's specific priorities and needs.*

## Project Prioritization

After the initial list of projects and programs was compiled, a project prioritization meeting was conducted. At this meeting, all available information regarding the projects was populated into the matrix, including any project constraints that would hinder the quick and successful completion of the project.

Once the matrix was populated, an internal team of professionals, engineers, electricians, and energy consultants prioritized the projects. The projects that were costly, had limited foreseeable savings, or posed significant obstacles were moved to the bottom of the list. The projects that provided quick payback, significant energy or cost savings, and fit into the County's long-range energy vision were moved to the top of the list.

A high-level analysis of the prioritized projects was then conducted including a detailed compilation of measures for each project. The information that was obtained for each project included:

- Existing energy use
- Approximate investment
- Potential energy saved
- Potential costs saved
- Estimated jobs created or retained
- Associated greenhouse gas emissions reduced
- Additional funding opportunities (funds leveraged)

After the high-level analysis of the 20 proposed projects, four were chosen to compete for application of the EECBG funding. The combination of these projects had costs beyond the current EECBG funding opportunity, which required a detailed prioritization of energy measures and needs.

The matrix with the twenty prioritized projects is shown on the following page. The project that was chosen to apply the EECBG funding is outlined in detail later in the Strategy.



*Projects identified in an initial brainstorming session were included in the County's Energy Strategy. This provided a list of long-range projects that can be pursued over time.*

Information				Objectives				Measures							
#	Project Title	County Department	Brief Project Description	Improve air quality and reduce greenhouse gas emissions	Reduce County expenses over the long-term and promote energy tracking and accountability in Government expenditures	Incorporate the most effective sustainable practices into the County's day-to-day operations	Support and actively promote the development of renewable energy resources	Existing Annual Energy Use	Approximate Investment (\$)	Savings (\$)	Jobs Created/Retained	Potential Annual Energy Saved	Annual GHG Reduced (Metric Tons/yr)	Annual Costs Saved	Potential for Additional Funds
Projects															
1	Energy Efficiency and Conservation Strategy	All Departments	Hire a consultant to conduct an Energy Efficiency and Conservation Strategy to prioritize and assess projects for energy eligibility	X	X	X	X	Plan	\$35,300						
2	Replace Cooling Tower in County Jail	Jail	Replace existing cooling tower and ventilation system in the County jail building. Existing tower is near failing which could result in exorbitant emergency costs.	X	X			282,368 kWh	\$86,300	If 15-25 yrs or older can be 20% to 60% savings depending on unit. 40% is assumed	0.96	112,947 kWh	47	\$7,906.29	Potential incentive of \$75 per ton of cooling capacity, if units meets the Consortium for Energy Efficiency (CEE) High-Efficiency Commercial Air Conditioning and Heat Pumps Initiative (HECAC) Tier I minimum specifications.
3	Hybrid Vehicles Replacement Program - Sedans	All	Replace existing County cars with more efficiency hybrid vehicles. Priority depts include: police administration, assessors, & status offender transfer cars. Mid-size cars are needed	X	X	X		83,334 gallons annually; Sedans=	Assume \$22,000 per car	Civic=26 mpg more efficient	0.28 per car	569 gallons per car or 4,552 gallons for all cars	40	\$1,536 per car or \$12,290 for all cars	Eligible for EECBG Retrofit and Ramp Up Program - Topic Area 1
4	Hybrid Vehicles Replacement Program - SUV's	All	Replace existing County cars with more efficiency hybrid vehicles. Priority depts include: police administration, assessors, & status offender transfer cars. Mid-size cars are needed	X	X	X		83,334 gallons annually; SUV=	Assume \$26,000 per car	Escape= 17 mpg more efficient	0.28 per car	516 gallons per car or 4,128 gallons for all cars	36	\$1,393 per car or \$11,145 for all cars	Eligible for EECBG Retrofit and Ramp Up Program - Topic Area 1
5	Building Scoping Energy Audits	All County	Conduct building energy audits on priority County buildings to identify energy retrofit and improvement opportunities.	X	X	X		2,080,900 kWh; 66,024 Therms	\$15,000 - \$20,000	Can save between 5% to 15% of total energy use, depending on measures	0.19	104,045 kWh to 312,135 kWh + 3301 therms to 9903 therms	61 to 183	\$9,990 to \$29,969	Idaho Power will conduct a preliminary building assessment for free. IP may pay up to 50% of scoping audit depending on measures
6	Building Lighting Upgrades - DMV	All County	Replace indoor lighting in County DMV building to increase energy efficiency.	X	X			77,553	\$5,440	Avg payback of 2-3 yrs; 6-10 X more life per bulb	0.06	25,900 kWh	11	\$1,813.33	Potential Idaho Power Incentive rebate of \$5,186.00
7	Building Lighting Upgrades - Juvenile Probation	All County	Replace indoor lighting in County Juvenile Probation building to increase energy efficiency.	X	X			105,780	\$8,400	Avg payback of 2-3 yrs; 6-10 X more life per bulb	0.09	40,000 kWh	17	\$2,800.00	Potential Idaho Power Incentive rebate of \$7,116.00
8	Building Lighting Upgrades - Planning & Zoning	All County	Replace indoor lighting in County P&Z building to increase energy efficiency.	X	X			76,840	\$6,960	Avg payback of 2-3 yrs; 6-10 X more life per bulb	0.08	33,143 kWh	14	\$2,320.00	Potential Idaho Power Incentive rebate of \$6,612.00
9	Windows in Department of Motor Vehicles building	Dept of Motor Vehicles	Replace existing low efficiency windows with more efficient windows.	X	X			104,460kWh + 1,253 therms	\$45,000 to \$60,000	Potential for 15%-25% savings if Energy Star double-pane windows used	0.57	20,892 kWh+ 251 therms	10	\$1,668.26	Idaho Power \$.50 per sq ft installed area if Ufactor of .30. Equal to \$450.
10	HVAC in County Courthouse	Central Campus	Update the HVAC system in the County Courthouse	X	X			50% of buildings energy use. 244,020 kWh + 7,205 therms	\$250,600	If 15-25 yrs or older can be 15% to 20% savings. Assume 20% b/c of age	2.72	48,804 kWh + 1,441 therms	28	\$4,597.90	Potential Idaho Power incentive of \$75 per ton of cooling capacity if meets HECAC specs
11	Solar Water Showers in Jail	Jail	Replace the showers at the jail with more efficient, renewable energy solar water showers.		X	X	X	Avg use of 250 therms per yr per shower. 3,750 therms for all	\$15,000 for all	3-5 yr typical payback	0.16	2,460 therms	13	\$3,000.00	Eligible for EECBG Retrofit and Ramp Up Program - Topic Area 1
12	Landfill Methane Project - County Consortium		Install a methane capture facility in Southern Idaho Solid Waste District Regional Landfill that would generate energy and sell back to IP. Twin Falls owns 62% of landfill.	X	X		X	None	\$3,000,000-\$6,000,000	Costs generated from methane capture.	32.6 to 65.2	5,000,000 kWh to 6,000,000 kWh		\$400,000 to \$500,000 + money from carbon credits	USDA Rural Development Bioenergy Program. Consortium - pooled funding.
13	Wind Power Plant		Install a wind power generation facility near Southern Idaho Solid Waste District Regional Landfill. Feasibility study is currently underway.		X		X	None	\$3,500,000	Generate 2.5 million kwh & income of \$200,000/yr	38.04	Generate 2.5 million kwh & income of \$200,000/yr	1,045	\$200,000	Consortium - pooled funding.
14	Detention Center Building Retrofit	Detention Center	Retrofit the existing Detention Center building to improve energy efficiency over the long-term	X	X			4,910 therms or 192,800 kWh	Conduct audit to confirm measures for Retrofit	Can save up to 15% of total energy use, depending on measures	More info needed.	28,920 kWh + 736 therms	16	\$2,627.92	Numerous Idaho Power incentives for EASY building upgrades. Can qualify for up to \$100,000 per building.
15	Clinic Building Retrofit	Clinic	Retrofit or remodel the existing Clinic building to improve energy efficiency over the long-term. May be remodeled into new office space where energy efficient measures can be integrated	X	X			No info available	No info available	Can save up to 15% of total energy use, depending on measures	No info available	No info available	No info available	No info available	Numerous Idaho Power incentives for EASY building upgrades. Can qualify for up to \$100,000 per building.
16	Planning and Zoning Building Retrofit	Planning and Zoning	Retrofit the existing P&Z building to improve energy efficiency over the long-term. This building has already been upgraded to some degree. Windows will be a priority	X	X			125,720 kWh + 833 therms	Conduct audit to confirm measures for Retrofit	Can save up to 15% of total energy use, depending on measures	More info needed.	18,858 kWh + 132 therms	9	\$1,428.30	Numerous Idaho Power incentives for EASY building upgrades. Can qualify for up to \$100,000 per building.
17	Hire Mechanical Building Inspector	All County	Hire a full-time building and construction inspector to decrease costs and time associated with state inspections	X		X		88 miles roundtrip - 250 times a year. 22,000 vmt	\$36,000 per year salary	Assume 16 mpg would equal about \$3,713 per year in gasoline costs; 1,375 gallons	0.39	22,000 vmt	12	\$3,713 in gas + increased efficiencies, etc	None
18	LED Outdoor Park Lighting	Parks	Replace bulbs with LED lights or consider timers on current street lights at County Parks. Can reduce energy use by up to 70%.	X	X			Assume 12 hour usage for 365 days; 4,358 kWh	\$3,029	estimates of up to 50% reduction; depends on luminaires	0.03	2,179 kWh + reduced maintenance costs	1	\$153	There are no Idaho Power incentives for outside lighting.
19	Computerized Irrigation System	Parks	Install a computerized weather monitoring system that regulates County landscaping irrigation.		X										None
20	Install Variable Frequency Drives on Irrigation Pumping Systems	Parks	Install more variable frequency drives on existing irrigation system motors.	X	X			6-3HP Irr pumps; 1-0.5HP Well Pump; 2-1.5 HP well Pump; 1-1HP well pump; 2-2.5 HP Irr Pump; 1-5HP well pump	Assume \$120 per HP. Approximately \$4000	Potential for 20% savings. Motors below 5HP are unlikely to qualify or necessitate VFD.	0.04	14,043	6	\$983	There are a couple of Idaho Power incentives for this type of upgrade. If over 10K cost IP could pay up to 50%.

The calculations and analysis conducted are planning-level assessments and will be used to prioritize and balance potential projects. More detailed assessment of these project should occur to ensure more precise energy savings and details

Project recommendations are based on a combination of cost, feasibility, energy savings, jurisdictional preference, and potential for cost-share or additional funding opportunities.

1 therm = 29.30722 kilowatt-hours

Cost per kWh = \$0.07; Cost per therm = \$0.82

Avg cost per gallon of gasoline is assumed at \$2.70

Current energy cost estimates are used. Fluctuations in cost may occur over time, which will change payback periods.

Potential energy saved is calculated as a percentage of existing facility energy consumption. The percentage used depends on the proposed project. Where feasible, referenced standards were used





## Energy Programs and Policies

Numerous energy programs and policy options were identified during the brainstorming process that can facilitate energy independence and the long-range efficiency of County operations. The initial costs associated with energy programs and policies are generally minimal. Yet, programs and policies can require a significant level of stakeholder and policymaker support to ensure successful implementation. Outcomes of the specific energy-related programs and policies will hinge on County support for energy efficiency objectives.

In many cases, the conceptual premise of energy policies and programs was identified. Materials to help launch these programs are provided in the Appendix and are outlined under each policy description. The final content of these programs and policies will be reviewed and approved by County Commissioners to ensure applicability and effectiveness. **Target dates have been identified for initiating each of the energy programs and policies. Refer to the 10-year Action Plan for the anticipated periods of attainment.** Where feasible, many of these programs and policies should be considered for integration into the County's Comprehensive Plan, Development Code, Development Strategies, operational policies or other long-range planning documents to ensure their long-term success.

### **Twin Falls County Energy Programs & Policies:**

#### **Fleet Vehicle Usage Policy – FY 2012**

Define and adopt a County policy that sets restrictions for vehicle idling outside public buildings, excessive and inefficient use of public automobiles, maximizing fuel efficiency, reducing vehicle usage, recycling vehicle liquids, and limiting unwarranted wear and tear on County automobile assets. This policy should include the County's plans to integrate a hybrid vehicle replacement program into the future purchasing of fleet vehicles. By the year 2012, the County should begin to draft an outline of a Sustainable and Operational County Vehicle Usage Policy. Compliance with this policy should be required in all quarterly or annual departmental performance reports. This policy may be considered for integration into a comprehensive Sustainable Practices Policy that integrates all County sustainable practices into a comprehensive policy. A sample Sustainable Practices Policy is included in the appendix. Portions of this policy may be modified to best fit the needs of Twin Falls County.

#### **Green Building Programs and Incentives – FY 2014**

Buildings use nearly 40% of all the energy in the United States. Policies to improve building efficiency will help to shift these realities. Twin Falls County has decided to help in the effort to improve building efficiency and operations over the long-term. This policy would include implementing minimum green building requirements for government buildings and providing incentives for green building practices used on the County, such as decreases in development application costs for both residential and commercial construction projects. Green government building standards should include minimum checklist requirements for buildings over a certain size to meet specific Leadership in Energy and Environmental Design (LEED) credits. Approximately 30% of all LEED projects are government buildings. These projects can provide opportunities for government to support and broadcast the incentives associated with green building.

Adopting energy-related programs and policies will help to further enhance long-range energy goals. Numerous energy-related programs or policies have been identified that will require policymaker approval and stakeholder buy-in to ensure future success.



Building codes may also be updated to reflect program recommendations for commercial or residential construction projects. Incentives may be provided for green building projects such as expedited plan review and inspections, reductions in permitting costs, and on-site marketing opportunities for green building practices. Existing green building practices such as LEED should be used as reference points for the possible green building measures that can be encouraged as part of the County's program. Meeting certain LEED green building certifications (i.e. silver, gold, or platinum) may qualify for greater incentives or benefits. A project checklist of LEED credits for New Construction and Major Renovations is provided in the Appendix.

A green building advisory committee should be formed to assist in the implementation of the program. Examples of green building and permitting policies and programs are available nationally that can be resources for ideas on how to shape the Twin Falls County Green Building Program. This policy may be considered for incorporation into a comprehensive Sustainable Practices Policy that integrates all County sustainable practices into a comprehensive policy document. A sample Sustainable Practices Policy is included in the Appendix.

### **Water-Conserving Landscaping Practices – FY 2013**

This policy may best serve as a component of the green building program outlined above. The policy will acknowledge and respect protection of the County's limited water supply and will promote resource conservation. This program should include similar incentives for water-efficient landscaping practices such as xeriscaping, drought tolerant planting, organic agriculture, or native planting techniques. LEED guidelines for water efficient landscaping should be followed for this policy. Certain components of this policy can be integrated into the County's building code requirements if feasible. A sample Sustainable Practices Policy is included in the appendix that outlines sustainable landscaping standards. The LEED checklist provided in the appendix outlines recommended standards for water efficient fixtures and practices.

### **County Building Energy Auditing Policy – Beginning FY 2013**

Adopt a County policy that requires building energy audits or, at minimum, building energy assessments every 10 years to ensure the long-range efficiency and acceptable operation of County buildings. Over extended periods, buildings can undergo maintenance and operational deficiencies that need to be monitored for energy savings opportunities. Building energy auditing requirements for the County should utilize energy documentation templates that are available and reputable. The Washington State University Energy Audit Workbook is provided in the appendix for reference. When more comprehensive or current auditing checklists become available, requirements should change to meet current industry standards. At a minimum, it is recommended that County energy audits should:

- Establish well-defined operation and maintenance objectives
- Communicate client or end-user objectives with the auditing team
- Identify or evaluate the building energy baseline consumption
- Identify design features that will enhance system maintenance
- Facilitate communication and coordination opportunities between building operators and occupants
- Evaluate compliance of equipment with performance specifications
- Certify that system functionality tests are completed
- Review completeness of equipment operation and maintenance documents
- Recommend maintenance and occupant staff training sessions or uniform policies
- Document energy opportunities for each building



### **Internal County Recycling Program – FY 2010**

Explore a policy for County buildings and facilities that requires recycling bins for cardboard, aluminum, steel, and newspaper at a minimum. The recycling program may be expanded to accommodate additional recyclables based on current processing capabilities of local recycling operations. The Resource Conservation and Recovery Act (RCRA) mandated that federal offices and employees follow specific guidelines on materials and supplies purchasing, disposal and recycling. Newer federal executive orders have provided additional direction towards government recycling and recovery programs. The principles of the RCRA recycling program as well as the recommendations from the Recycling at Work: Creating a Cost-Effective Recycling and Waste Reduction Program for Businesses manual should be used as reference materials for the creation of the County's program. These guidelines will provide detailed direction towards the creation of an effective internal County recycling program. Information on the RCRA program is located here: <http://www.epa.gov/osw/inforesources/online/index.htm>. The Recycling at Work manual is located in the Appendix.

### **Paperless Filing Policy – FY 2010**

Explore a County policy that would minimize the use of paper as part of day-to-day internal operations. The policy may include requirements for paperless files, printing double-sided, and an overall reduction in hard copy files. This policy may be a component of the recycling program outlined above. Computer printing software exists that monitors and can limit employee printing habits from work stations. The County may consider setting policies on maximum monthly paper consumption to encourage electronic filing and over-consumption of hard paper copies. Moreover, paperless document indexing software also exists that can set a framework for a paperless filing switch-over system. A sample paperless filing transition report is included in the Appendix that outlines the costs and benefits of a paperless filing approach.

### **Government Carpooling Incentives – FY 2011**

Explore employee benefits or incentives for carpooling such as priority parking spaces at County facilities, fuel allowances, or monetary incentives to those carpooling over 20 to 30 miles per day. Consider providing vouchers that encourage employees to carpool a minimum number of times on a monthly basis. If the minimum requirement is met, employees may receive a monetary bonus. Fuel allowances could be allocated on a per mile basis over the 20 to 30 mile threshold. This program would encourage employee coordination and interaction and may also support long-range relationships between County staff. Ride-share boards or calendars should be posted at County locations to best coordinate and encourage carpooling among employees.

### **Government Partnership Transit Program – FY 2016**

Provide a commuter service for City and County government employees to decrease single automobile vehicle travel. This would be a collaborative regional transportation program that offers transit services to government employees from key regional commuter locations to the downtown area near key City and County facilities. A partnership with Trans IV busses is a possibility to provide this service for local governments. In order to evaluate the potential of the program, surveys should be conducted to identify employee willingness and priority routes for a potential transit service. The College of Southern Idaho (CSI) could be a source to help conduct and evaluate the surveys. An example vanpool survey to identify the opportunities of transit routes and a transit program is provided in the Appendix. This survey can be modified to fit the specific situation and needs of the program.





One of the goals of this Energy Strategy is to identify a series of projects that qualify for additional funding sources beyond the current DOE allocation. Numerous projects can be leveraged by utility and federal grant matches to increase their economic advantage.

## Additional Funding Sources

In order to further leverage the current funding allocation, additional funding sources have been identified in the Strategy for some of the projects analyzed. In many cases, the utility incentives cover most of the costs for these projects. Each of these buildings and incentives are listed below. The comprehensive list of projects and their potential funding sources is presented below. In cases where similar projects would qualify for the same incentives, they were lumped together to avoid repetition. It will be up to the County to pursue additional funding sources for each project during implementation.

### Energy Projects and Potential Funding Sources:

No.	Project Description	Potential Funding Opportunity
1.	Replace Cooling Tower in County Jail	Eligible for EECBG Retrofit and Ramp Up Program -Topic Area 1
2.	Hybrid Vehicles Replacement Program - Sedans	Eligible for EECBG Retrofit and Ramp Up Program -Topic Area 1
3.	Hybrid Vehicles Replacement Program - SUVs	Eligible for EECBG Retrofit and Ramp Up Program -Topic Area 1
4.	Building Scoping Energy Audits	Idaho Power may pay up to 50% of scoping audit cost depending on measures
5.	Lighting Upgrades - DMV	Idaho Power – \$3,826 incentive
6.	Lighting Upgrades - Courthouse	Idaho Power – \$4,304 incentive
7.	Lighting Upgrades - Juvenile Probation	Idaho Power – \$3,154 incentive
8.	Lighting Upgrades - Judicial Building	Idaho Power – \$6,964 incentive
9.	Lighting Upgrades - Juvenile Detention	Idaho Power – \$3,212 incentive
10.	Lighting Upgrades - Hempleman (P& Z) Building	Idaho Power – \$5,372 incentive
11.	Lighting Upgrades - Jail	Idaho Power – \$7,468 incentive
12.	Windows in Department of Motor Vehicles building	Idaho Power \$.50 per sq ft installed area if Ufactor of .30. Equal to \$450.
13.	HVAC in County Courthouse	Potential Idaho Power incentive of \$75 per ton of cooling capacity if meets HECAC specs
14.	Solar Water Showers in Jail	None
15.	Landfill Methane Project	USDA Rural Development Bioenergy Program. Consortium - pooled funding.
16.	Wind Power Plant – Southern Idaho Solid Waste District Regional Landfill	USDA Rural Development Bioenergy Program. Consortium - pooled funding.
17.	Building Retrofits	Numerous Idaho Power incentives for EASY building upgrades. Can qualify for up to \$100,000 per building
18.	Variable Frequency Drives on Irrigation Pumping Systems	Idaho Power - Up to \$60 per horsepower of VFD installed



## EECBG Project

### Replace Cooling Tower in County Jail

The purpose of this project is to replace the existing cooling tower and ventilation system in the County jail building. The existing tower is near failing which could result in exorbitant emergency costs. The existing unit was installed in 1989 and is nearing its life expectancy. The cost for installation of the cooling tower was estimated at \$86,300. Department of Energy (DOE) estimates predict that building chillers can use up to 35% of a building's electrical consumption during peak usage. Energy Star states that replacing cooling systems which are 15 to 25 years old can result in a 20% to 60% savings. Based on an anticipated savings of 40%, it was projected that replacing the jail chiller could result in an energy savings of approximately 112,947 kWh per year, or a savings of up to \$7,906 annually. This project would result in an annual greenhouse gas emissions reduction of 47 metric tons.

There is a potential local utility incentive for the replacement of the cooling tower. Idaho Power recognizes the significant energy savings that can result from new cooling units. As a result, they will match the replacement cost of the unit at \$75 per ton of cooling capacity, if the unit meets the Consortium for Energy Efficiency (CEE) High-Efficiency Commercial Air Conditioning and Heat Pumps Initiative (HECAC) Tier I minimum specifications.

One key project has been identified in this Strategy that will apply for funding of the EECBG program. A detailed summary of this project and its energy metrics must be submitted to DOE. The adjacent project description and energy information will be submitted to the DOE to allocate project funding.





By identifying and executing appropriate programs, policies, and projects that can facilitate a more efficient County government, enhancements in government transparency, energy efficiency, and long-range sustainability will guide Twin Falls County in the future.

## Future Energy Projects

A list of future projects and programs not funded by the EECBG allocation has been developed as part of the EECS process. A Ten Year Energy Action Plan has been created for both projects and programs to identify clear measurable goals that can help to improve the County's energy efficiency in the long-term.

In many cases, timeframes in the Action Plan have been identified for projects that suggest the earliest possible attainment. In these cases, subsequent years were also highlighted to show a range of time to complete the project. The County will attempt to achieve each project in the most feasible timeframe possible, depending on current funding opportunities and other County priorities.

## Collaborative Energy Projects

Twin Falls County is currently involved in several collaborative energy projects that are major efforts towards enhancing the energy future of the region. These projects were identified during the project brainstorming period, but were not analyzed in detail due to the scope and available information for these projects. These are considerable efforts that the County has undertaken to enhance their regional leadership in energy efficiency and sustainability. The following projects will be key steps towards enhancing Twin Falls County's Energy Future:

### **Southern Idaho Solid Waste District Regional Landfill Methane Capture Project**

*This project would include the installation of a methane capture facility in the Southern Idaho Solid Waste District Regional Landfill that would generate bio-energy to sell back to Idaho Power. Twin Falls County owns 62% of the landfill. This project has potential to generate 5-6million kWh per year with income potential of \$400,000-\$500,000 annually from power sales and \$80,000-\$100,000 from the sale of Carbon Credits.*

### **Wind Power Plant near Southern Idaho Solid Waste District Regional Landfill**

*This project would include the installation of a wind power generation facility near the Southern Idaho Solid Waste District Regional Landfill. A wind feasibility study was currently underway at the time of this report. According to the initial stages of this study, there is an average wind speed of 14.66 mph at a 50 meter tower, which would be sufficient to run a 1.5 megawatt generator. An 80 meter tower and costs to connect to the system are projected at \$3.5 million. This project has potential to generate significant power as well as gain carbon credits at \$.02/kWh or \$50,000 per year.*



Twin Falls County 10 Year Energy Action Plan

Activity	FY 2010 Quarters	FY 2011 Quarters	FY 2012 Quarters	FY 2013 Quarters	FY 2014 Quarters	FY 2015 Quarters	FY 2016 Quarters	FY 2017 Quarters	FY 2018 Quarters	FY 2019 Quarters	Responsible Department	Supporting Department
Projects												
Replace Cooling Tower in County Jail											Commissioners	Jail
Hybrid Vehicles Replacement Program - Sedans											Commissioners	Various Departments
Hybrid Vehicles Replacement Program - SUV's											Commissioners	Various Departments
Building Scoping Energy Audits											Commissioners	Various Departments
Building Lighting Upgrades - DMV											Commissioners	Maintenance
Building Lighting Upgrades - Juvenile Probation											Commissioners	Maintenance
Building Lighting Upgrades - Planning & Zoning											Commissioners	Maintenance
Windows in Department of Motor Vehicles building											Commissioners	Maintenance
HVAC in County Courthouse											Commissioners	Maintenance
Solar Water Showers in Jail											Commissioners	Jail
Landfill Methane Project - County Consortium											SISW District	Commissioners
Wind Power Plant											SISW District	Commissioners
Detention Center Building Retrofit											Commissioners	Maintenance
Clinic Building Retrofit											Commissioners	Maintenance
Planning and Zoning Building Retrofit											Commissioners	Maintenance
Hire Mechanical Building Inspector											Commissioners	P & Z
LED Outdoor Park Lighting											Commissioners	Parks
Computerized Irrigation System											Commissioners	Parks
Install Variable Frequency Drives on Irrigation Pumping Systems											Commissioners	Parks
Programs and Policies												
Vehicle Usage Policy											Commissioners	Elected Officials
Green Building Incentives											Commissioners	P & Z
Xeriscape Building Code Incentives											Commissioners	P & Z
Energy Auditing Policy											Commissioners	P & Z
County Facilities Recycling Program											Commissioners	House Keeping
Paperless Filing Policy											Commissioners	Various Departments
Carpooling Incentives or Subsidies for County Employees											Commissioners	Human Resources
Transit City-County Partnership Program											Commissioners	Human Resources



## Long-Range Energy and Cost Opportunities

The projects analyzed as part of this Strategy are anticipated to save energy, reduce greenhouse gases, and leverage funds to the maximum extent possible. Over the period identified in the Ten Year Energy Action Plan, significant energy savings can be attained, resulting in cost reductions for the County. During this period, energy costs can be expected to inflate, which would increase the actual cost savings. For this assessment, a 3% annual increase in cost is assumed. In order to present the potential energy savings and cost opportunities assessed in this Strategy, the long-range energy and costs savings were calculated for all projects assessed. It should be noted that some projects as well as all programs and policies were not assessed due to data limitations. As this information becomes available, the 10 year savings projections can be updated to represent the complete potential for energy savings. The table below provides a summary of the expected outcomes associated with the proposed projects over a ten year period.

Twin Falls County Potential 10 year Project Savings					
	Gas (Gallons)	Electricity (Kilowatt Hours)	Natural Gas (Therms)	Greenhouse Gas Emission (MTCO <sub>2</sub> )	Financial*
	96,800	5,448,740	149,230	4,430	\$1,267,665

*\*Savings to be added to the table include: Savings and financial benefits generated by the Wind Power Plant and the Landfill Methane Projects at the Southern Idaho Solid Waste District Regional Landfill as well as the savings and economic benefits generated by the implementation of various programs and policies*

The 10 year savings shown above is equivalent to:

- 🌍 Energy operational costs for nearly 3 years of all County assets
- 🌍 Annual greenhouse gas emissions from 847 cars
- 🌍 CO<sub>2</sub> emissions from the electricity use of 575 homes for one year
- 🌍 Carbon sequestered annually by 945 acres of pine forests
- 🌍 Greenhouse gas emissions avoided by recycling 1,492 tons of waste instead of sending it to the landfill
- 🌍 CO<sub>2</sub> emissions from 498,313 gallons of gasoline consumed



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