Twin Falls County

Energy Efficiency & Conservation Strategy (EECS)

January, 2010
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.
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 EECBG 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 EECBG 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 EECBG 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 EECBG allocation and projects that are more appropriate for competitive grants, utility payback programs, incentives, etc.

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

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

1. A Baseline Energy Inventory was created that outlined current consumption and cost parameters across County facilities.

2. Guiding County Energy Objectives were developed to evaluate projects and programs as well as guide future energy-related decision-making efforts.

3. A brainstorming session was conducted with representatives from various departments and disciplines to develop a list of energy-related projects and programs that were desirable to County staff and Commissioners.

4. A project matrix was created to evaluate identified projects and programs against key measurement goals identified by the DOE and the County.

5. Success indicators and key energy measures were developed as part of the matrix to provide a consistent and measurable approach to evaluating energy projects.

6. Twenty projects were evaluated, measured, and prioritized according to potential energy savings, project costs, and feasibility measures. One key project was identified to utilize the current EECBG funding allocation. Remaining projects will be eligible for future funding opportunities.

7. The County Commissioners approved the project prioritization process, the Energy Strategy, and the projects that will apply for funding through the EECBG program.

8. Policymaker-approved projects and the Strategy are submitted to the DOE to continue the process of the current funding opportunity. Annual progress reports are conducted to ensure ongoing success and verification. The Energy Strategy will be updated as necessary to reflect current energy opportunities.

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

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.
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: $269,169

Total Greenhouse Gas Emissions: 2,264 MTCO₂

*Based on 2008 population estimates, US Census Bureau

TOTAL EXISTING ENERGY USE AND COST BY SECTOR (MBTU)

<table>
<thead>
<tr>
<th>Sector</th>
<th>MBTU's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheriff</td>
<td>126</td>
</tr>
<tr>
<td>Parks</td>
<td>448</td>
</tr>
<tr>
<td>Central Campus</td>
<td>7,005</td>
</tr>
<tr>
<td>Remote</td>
<td>2,461</td>
</tr>
<tr>
<td>Jail</td>
<td>6,807</td>
</tr>
<tr>
<td>Other</td>
<td>30</td>
</tr>
<tr>
<td>Fleet</td>
<td>5,539</td>
</tr>
</tbody>
</table>

ELECTRICITY USE BY SECTOR

ANNUAL ELECTRICITY COST BY SECTOR

TOTAL NATURAL GAS USE BY SECTOR

TOTAL NATURAL GAS COST BY SECTOR
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.
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.
<table>
<thead>
<tr>
<th>Project Title</th>
<th>County Department</th>
<th>Brief Project Description</th>
<th>Objectives</th>
<th>Measures</th>
<th>Potential Savings</th>
<th>Annual GHG Reduction (lbs CO\textsubscript{2}eq)</th>
<th>Potential Annual Earnings</th>
<th>Annual Cost Saved (before tax)</th>
<th>Potential for Additional Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Efficiency and Conservation Strategies</td>
<td>All Departments</td>
<td>Have a mechanism to connect to local energy efficiency and Conservation projects to promote and assess projects for energy viability.</td>
<td>X X X X</td>
<td>More $165,300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replace Cooling Tower in County Jail</td>
<td>Jail</td>
<td>Replace existing cooling tower and variable speed system in the County Jail building. Existing tower is near end of its useful life which could result in increased energy costs.</td>
<td>X X</td>
<td>282,368 kWh</td>
<td>$86,300</td>
<td>20% savings from existing cooling tower over 10 yrs</td>
<td>0.06</td>
<td>1,123,974 cafd</td>
<td>67</td>
</tr>
<tr>
<td>Hybrid Vehicle Replacement Program - Buses</td>
<td>All</td>
<td>Replace existing County buses with more efficient hybrid vehicles. Priority fleets include: police administration, public safety, and officers transfer. Buses are used in a variety of roles.</td>
<td>X X X X</td>
<td>85,586 gallons annually</td>
<td>Assume $2.50 per gal</td>
<td>Escape 7,980 more efficient</td>
<td>0.28 per car</td>
<td>616 gallons per car, $1,000 per all cars</td>
<td>40</td>
</tr>
<tr>
<td>Hybrid Vehicle Replacement Program - Trucks</td>
<td>All</td>
<td>Replace existing County trucks with more efficient hybrid vehicles. Priority fleets include: police administration, public safety, and officers transfer. Trucks are used in a variety of roles.</td>
<td>X X</td>
<td>85,586 gallons annually</td>
<td>Assume $2.50 per gal</td>
<td>Escape 7,980 more efficient</td>
<td>0.28 per car</td>
<td>616 gallons per car, $1,000 per all cars</td>
<td>40</td>
</tr>
<tr>
<td>Building Sprinkler Energy Audits</td>
<td>All County</td>
<td>Conduct building energy audits on priority county buildings to identify energy-saving opportunities and measure future energy savings.</td>
<td>X X X</td>
<td>2,000,768 kWh</td>
<td>60,000</td>
<td>10% savings from existing cooling tower over 10 yrs</td>
<td>0.19</td>
<td>$54,965,888</td>
<td>66</td>
</tr>
<tr>
<td>Building Lighting Upgrades - County</td>
<td>All County</td>
<td>Replace indoor lighting in County building to increase energy efficiency.</td>
<td>X X</td>
<td>77,516</td>
<td>$5,402</td>
<td>25% savings from existing lighting over 4 yrs</td>
<td>0.06</td>
<td>25,900 kWh</td>
<td>11</td>
</tr>
<tr>
<td>Building Lighting Upgrades - Alternatives</td>
<td>All County</td>
<td>Replace indoor lighting in County facilities to reduce energy consumption.</td>
<td>X</td>
<td>159,761</td>
<td>$8,400</td>
<td>25% savings from existing lighting over 8 yrs</td>
<td>0.08</td>
<td>8,400 kWh</td>
<td>12</td>
</tr>
<tr>
<td>Windows in Department of Motor Vehicles</td>
<td>Dept of Motor Vehicles</td>
<td>Replace existing low efficiency windows with more efficient windows.</td>
<td>X</td>
<td>100,480,000 + 1,216,400 = 88,066</td>
<td>$30,000</td>
<td>0.4 million kWh captured per year</td>
<td>0.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC in County Courthouse</td>
<td>Courthouse Campus</td>
<td>Update the HVAC system in the County Courthouse</td>
<td>X</td>
<td>40% of energy usage</td>
<td>2,895,000 kWh</td>
<td>$20,000</td>
<td>40% energy savings per year</td>
<td>0.27</td>
<td>46,984 kWh and 1,411 tons</td>
</tr>
<tr>
<td>Solar Water Heaters in Jail</td>
<td>Jail</td>
<td>Replace the showers in the jail with more efficient, renewable energy solar water heaters.</td>
<td>X X X X</td>
<td>Avg use of 120 litres per person per shower</td>
<td>3,500 litres for all</td>
<td>3 yr typical payback</td>
<td>0.16</td>
<td>2,060 litres</td>
<td>35</td>
</tr>
<tr>
<td>Landfill Methane Study - County Concentrate</td>
<td>County Landfill</td>
<td>Collect methane gas facility in southwestern Idaho landfills. Existing Idaho Power landfill gas system which would generate energy and sell back to Idaho Power. Two tanks in each of the landfill.</td>
<td>X X</td>
<td>None</td>
<td>$1,000,000</td>
<td>$15 per barrel of gas</td>
<td>3.6 to 6.5 $/gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wind Power Plant</td>
<td></td>
<td>Study a wind power generation facility in southwestern Idaho near the Mountain Home Air Force Base. Potential facility is in the current planning.</td>
<td>X X</td>
<td>None</td>
<td>$9,000,000</td>
<td>Generate 2.5 million kwh and income of $608,000 per year</td>
<td>16.08</td>
<td>Generate 2.5 million kwh</td>
<td></td>
</tr>
<tr>
<td>Defender Center Building Retrofit</td>
<td>Defender Center</td>
<td>Retrofit the existing Defender Center building to improve energy efficiency over the long term. The building has already undergone several renovations. The new retrofit will increase efficiency.</td>
<td>X X</td>
<td>5,832,745 litres</td>
<td>$150,000</td>
<td>Conduct audits to confirm materials for retrofit</td>
<td>More info needed</td>
<td>20,900 kWh and 736 tons</td>
<td>36</td>
</tr>
<tr>
<td>Clinic Building Retrofit</td>
<td>Clinic</td>
<td>Retrofit the existing clinic building to improve energy efficiency over the long term. The building has already undergone several renovations. The new retrofit will increase efficiency.</td>
<td>X</td>
<td>None</td>
<td>$50,000</td>
<td>Generate 40% of total energy use, depending on treatment</td>
<td>More info needed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning and Design Building Projects</td>
<td>Planning and Design</td>
<td>Replace existing piece building to improve energy efficiency over the long term. The building has already undergone several renovations. The new retrofit will increase efficiency.</td>
<td>X X X</td>
<td>275,783 litres</td>
<td>$850,000</td>
<td>Conduct audits to confirm materials for retrofit</td>
<td>More info needed</td>
<td>30,000 kWh and 132 tons</td>
<td>48</td>
</tr>
<tr>
<td>Retro Mechanical Building Upgrades</td>
<td>All County</td>
<td>Retrofit a full time building and construction inspection to decrease costs and time associated with outside inspector.</td>
<td>X X</td>
<td>88,000,000 + 257,000 litres</td>
<td>$2,000,000</td>
<td>Monitor and save on all buildings</td>
<td>More info needed</td>
<td>40,000 kWh and 2,500 tons</td>
<td>50</td>
</tr>
<tr>
<td>Outdoor Parking Lot Lighting</td>
<td>Parks</td>
<td>Replace outdoor parking lot lights with more efficient designs for better design. The new parking lot lighting is to be installed at the jail.</td>
<td>X X</td>
<td>Assume 5000 hours per year, 6,900,000 kwh</td>
<td>$6,000</td>
<td>Estimate of $1,500 reduction depends on luminaries</td>
<td>0.06</td>
<td>26,794 kwh</td>
<td></td>
</tr>
<tr>
<td>Compostable Irrigation System</td>
<td>Palisade</td>
<td>Install a compostable irrigation system that reduces County landscape irrigation.</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Install Portable Frequency Drives in Irrigation Pumping Systems</td>
<td>Palisade</td>
<td>Install variable frequency drives on existing irrigation system stations</td>
<td>X</td>
<td>6 HP (nominal) 1:1 sheave pulley 0.5 HP and pulley 1:1 sheave pulley + 0.5 HP</td>
<td>$1,000</td>
<td>Assume 50% reduction</td>
<td>0.06</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Savings:** $1,334,888 per year

**Total Annual Energy Served:** 209,094,000 kWh

**Total Annual Cost Saved:** $4,000,000

**Total Potential for Additional Funding:** $1,280,000

**Total Number of Buildings:** 100

**Total Number of Vehicles:** 50
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.

- **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 buildings.
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.
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:

<table>
<thead>
<tr>
<th>No.</th>
<th>Project Description</th>
<th>Potential Funding Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Replace Cooling Tower in County Jail</td>
<td>Eligible for EECBG Retrofit and Ramp Up Program - Topic Area 1</td>
</tr>
<tr>
<td>2.</td>
<td>Hybrid Vehicles Replacement Program - Sedans</td>
<td>Eligible for EECBG Retrofit and Ramp Up Program - Topic Area 1</td>
</tr>
<tr>
<td>3.</td>
<td>Hybrid Vehicles Replacement Program - SUVs</td>
<td>Eligible for EECBG Retrofit and Ramp Up Program - Topic Area 1</td>
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<tr>
<td>4.</td>
<td>Building Scoping Energy Audits</td>
<td>Idaho Power may pay up to 50% of scoping audit cost depending on measures</td>
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<td>5.</td>
<td>Lighting Upgrades - DMV</td>
<td>Idaho Power – $3,826 incentive</td>
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<tr>
<td>7.</td>
<td>Lighting Upgrades - Juvenile Probation</td>
<td>Idaho Power – $3,154 incentive</td>
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<tr>
<td>8.</td>
<td>Lighting Upgrades - Judicial Building</td>
<td>Idaho Power – $6,964 incentive</td>
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<tr>
<td>11.</td>
<td>Lighting Upgrades - Jail</td>
<td>Idaho Power – $7,468 incentive</td>
</tr>
<tr>
<td>12.</td>
<td>Windows in Department of Motor Vehicles building</td>
<td>Idaho Power $5.50 per sq ft installed area if U-factor of .30. Equal to $450.</td>
</tr>
<tr>
<td>13.</td>
<td>HVAC in County Courthouse</td>
<td>Potential Idaho Power incentive of $75 per ton of cooling capacity if meets HECAC specs</td>
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<tr>
<td>14.</td>
<td>Solar Water Showers in Jail</td>
<td>None</td>
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<tr>
<td>17.</td>
<td>Building Retrofits</td>
<td>Numerous Idaho Power incentives for EASY building upgrades. Can qualify for up to $100,000 per building</td>
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<tr>
<td>18.</td>
<td>Variable Frequency Drives on Irrigation Pumping Systems</td>
<td>Idaho Power - Up to $60 per horsepower of VFD installed</td>
</tr>
</tbody>
</table>
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.
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.
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<td>Hybrid Vehicles Replacement Program - SUVs</td>
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<td>Building Scoping Energy Audits</td>
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<td>Install Variable Frequency Drives on Irrigation Pumping Systems</td>
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<td>Carpooling Incentives or Subsidies for County Employees</td>
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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.

<table>
<thead>
<tr>
<th>Twin Falls County Potential 10 year Project Savings</th>
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<tbody>
<tr>
<td>Gas (Gallons)</td>
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<tr>
<td>96,800</td>
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</table>

*Savings to be added to the table include: Savings and financial benefits generated by the Wind Power Plant and the Landfill Methane Project 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
- CO2 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
- CO2 emissions from 498,313 gallons of gasoline consumed
Thank You

Twin Falls County would like to thank the following people and organizations for their involvement and valuable input into the Twin Falls County Energy Efficiency and Conservation Strategy:

George Urie (Twin Falls County Commissioner)
Tom Mikesell (Twin Falls County Commissioner)
Terry Kramer (Twin Falls County Commissioner)
Mark Brunelle (Twin Falls County Research & Development)
Mike Miller (Twin Falls County Maintenance)
Debbie Kauffman (Twin Falls County Treasurer)
Rick Dunn (Twin Falls County Planning & Zoning)
Dennis Chambers (Twin Falls County Coroner)
Elaine Molignoni (Twin Falls County Human Resources)
Rick Novacek (Twin Falls County Parks and Waterways)
Cheryl Kulik (Twin Falls County Clerks Office)
All other Twin Falls County staff that contributed to this Strategy
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The City of Twin Falls
Stephenson Computer Consulting