



Strategic Plan for Energy Conservation and Resource Use Fiscal Year 2013-2014

VISION

To effectively manage and minimize Ada County government's consumption of natural resources and disposal of wastes to enhance the environment.

MISSION

To find cost-effective strategies to meet the demands of an increasing population and higher energy costs through a partnership of people, resources, and ideas. To develop creative methods for controlling utility costs and reducing waste to save tax dollars. To make energy and resource efficiency a cost-effective part of day-to-day business.

PHILOSOPHY

It's our commitment to incorporate "sustainability" into the daily operations of Ada County by proactively identifying and implementing methods to improve building efficiency, control utility costs, reduce waste, and conserve natural resources. The strategic plan establishes Ada County's energy-related goals and initiatives for Ada County facilities. The Energy Plan Partnership consolidates Ada County's commitment to the environment and provides for public participation in the process.

We believe that wisely using resources in public buildings will reduce utility bills while creating a healthy indoor environment for building occupants. We also believe that energy-efficient building design and construction practices, countywide recycling programs, and the proper disposal of waste within the County will improve the community's environment.

The strategic plan establishes Ada County's energy-related goals and initiatives for Ada County facilities.

A healthy environment in Ada County is directly related to the efficient use of natural resources via energy-efficient building design and construction and responsible operating practices. Ada County demonstrates to employees and the community that its buildings are operated in a cost-effective manner, saving resources and tax dollars. Management and staff work together to accurately measure energy efficiency and develop a phased approach for efficiency implementation.

OVERALL OBJECTIVES

The objectives, as established by the Energy Plan Partnership, benefit all citizens of Ada County. These priorities should meet the needs of County citizens, County Commissioners, Elected Officials, management, maintenance staff, and building occupants.

- Promote and facilitate the Ada County Energy Plan Partnership.
- Ensure that conservation and responsible resource use remains a priority for Ada County.
- Provide administration and oversight to quantify benefits and savings of energy conservation projects at all County facilities.
- Provide data tracking and continuous commissioning associated with the operation and occupancy of all County facilities.
- Provide support and technical assistance to the enterprise funds' staff and facilities within the Solid Waste Management and Parks and Waterways departments.
- Support Idaho's Chapter of the US Green Building Council and provide oversight for all County LEED projects.

ISSUES AND CHALLENGES

Following are major issues and challenges affecting the organization, now and in the future. They are potential barriers to effective program implementation:

- Identification of strategies that are not supported by the County staff who are key to their successful implementation.
- Appropriation of resources, staff, partners, and dollars, to produce effective and timely implementation of measures.
- Increasing utility costs and reduced dollars available for building projects and programs.
- As building systems age, operational costs increase.
- Population growth increases demands on facilities and drives up maintenance costs.
- Certain upgrades and equipment change-outs require advanced personnel training.
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GENERAL FIVE-YEAR GOALS

These represent broad accomplishments the organization would like to achieve over the next several years. (Not in priority order)

- Make County facilities as energy and resource efficient as reasonably possible.
- Increase the overall comfort and productivity of staff.
- Limit, control, and lower utility costs.
- Uphold high maintenance standards.
- Increase the number of facilities with comprehensive, preventive maintenance programs.
- Identify building operation and efficiency improvements that require action.
- Upgrade building systems with energy efficient equipment.
- Utilize energy savings for other building and County purposes.
- Incorporate building commissioning efforts into construction projects.
- Educate facility staff about building systems, energy efficient operations, maintenance principles and practices.
- Protect the environment through the proper disposal of waste.
- Educate County employees to make good energy and resource decisions.
- Increase employee involvement in conserving energy and natural resources.
- Increase the County's recycling programs in facilities and at the Landfill.
- Increase employee involvement in recycling.
- Promote and expand the partnership.

ANNUAL STRATEGIC PLAN REVIEW

The County relies on its in-house expertise along with local business partners such as utility representatives, architects, engineers and other local professionals to provide input from their unique perspectives and ensure a more comprehensive plan. The business partners include professional service and business organizations that have an investment in the community.

The Partnership meets every year to review the goals and tasks planned for the fiscal year. The plan is reviewed at a predetermined public meeting where updates are also provided on the accomplishments and successes achieved in the previous year. Partners may use portions of the plan or the information contained in it for newsletters and publications to promote the program.

ORGANIZATION AND RESPONSIBILITIES

The Partnership is supported from the top down beginning with the Board of Ada County Commissioners. Financial support comes through the established County budgetary process. The continuing planning process is designed to bring on-going support from partners and other stakeholders as they are identified.

Director of Operations

The Director of Operations is the lead for the County Partnership. The Director's role is to provide the focus, leadership, staff and monetary resources that support the development and implementation of a successful program.

Energy Specialist

The Ada County Energy Specialist reports to the Director of Operations and is the lead for updating and implementing the County's action plan. Responsibilities also include:

- Maintaining utility management software and databases
- Tracking utility costs and rate changes for budgeting purposes
- Recommending operation and maintenance, resource, and efficiency changes
- Providing measurement and verification reports for retrofit projects
- Coordinating project and data requirements for LEED certification
- Submitting applications and support documentation for utility incentives
- Tracking revenue from green power projects

Building Maintenance and Custodial Staff

County building maintenance and custodial personnel are responsible for carrying out the day-to-day operation and maintenance activities and are involved in the development and implementation of planned activities which can produce significant cost savings.

Building Occupants

Each building occupant is important to the program as well, though not specifically listed as a partner. Their behavior, such as turning off unused lights and equipment etc., can reduce building energy use by 10%, a significant contribution to County expenditure reduction.

Plan Partners

Plan Partners are specifically recruited and selected to bring their particular expertise and experience to the program. Each partner is requested or challenged to assist Ada County in determining both short and long range goals and objectives that can be accomplished. As Energy Plan Partners, these organizations may provide program recommendations, planning resources, technical support, and services that are both in-kind or for pay.

Ada County Staff

Bob Batista
Dave Case
Jessica Donald
Rick Emerson
Angie Gilman
Dolly Hall
Ted Hutchinson
Scott Koberg
Bruce Krisko
Meg Leatherman
Dave Logan
Larry Maneely
Selena O'Neal
Leslie Penney
Bob Perkins
Larry Reiner
John Traylor
Jim Tibbs
Jan Wallace
Darby Weston
Brian Wilbur
Scott Williams
Rick Yzaguirre
Andrew Zior

Department / Position

Director of Expo Idaho
Board of Ada County Commissioners
Dept of Administration, Communications Specialist
Operations, Facility Maintenance Superintendent
Development Services, County Engineer
Operations, Office Manager
Solid Waste Management, Landfill Manager
Director of Parks and Waterways
Operations, Construction Manager
Director of Development Services
Director of Operations and Solid Waste
BOCC Chief of Staff
Operations, Energy Specialist
Director of Information Technology
Director of Purchasing
Trial Court Administrator
Director of Indigent Services
Board of Ada County Commissioners
Director of Juvenile Court Services
Director of Paramedics
Director of Weed, Pest, and Mosquito Abatement
Deputy Director of Operations
Board of Ada County Commissioners
Operations, Construction Manager

Business Partners

Brad Acker
Greg Allen
Ken Baker
Steve Benner
Craig Caldwell
Doug Cooper
Karen Danley
Byron Defenbach
Dave Fisher
Jon Gunnerson
Matt Hightree
Geoff Johnson
Bill Kissinger
Rachele Klein
Richard Llewellyn
Sherry McKibben
Jeff Osterman
Bruce Poe
Jennifer Pope
Mark Snider
Scott Sparks
Lew Staley
Scott Wendell
Brian Wewers
Mike Wisdom

Company / Organization

Integrated Design Lab
Hummel Architects
K energy Consultant
CSHQA
CH2M Hill
McKibben+Cooper Architects
Stakeholder and County Resident
Intermountain Gas Company
Republic Services
City of Boise, Public Works
City of Boise, Public Works
Eidam & Associates
ATS Inland NW
Republic Services
Stakeholder and County Resident
Idaho Smart Growth
CH2M Hill
Modus Architecture
Idaho Office of Energy Resources
United Water
Idaho Power
Fortistar Methane Group
Lombard Conrad Architects
Idaho Power Company
Engineering Inc

County Facilities

Ada County owns and operates diverse portfolio of buildings to provide a variety of services to the general public, along with office space for its employees. Each facility is continually monitored and assessed, on an individual basis, to identify ways to make them more energy efficient.

Major County facilities:

- ❖ Courthouse and Administration Building
- ❖ Public Safety Building and Field Services
- ❖ Jail, Medical Unit, and Work Release Center
- ❖ Juvenile Court Services and Detention Facility
- ❖ Barber Park Administration Building and Raft Rental
- ❖ Barber Park Event Center
- ❖ Expo Idaho
- ❖ Solid Waste Management Landfill Office and Hazardous Waste Building
- ❖ Weed, Pest, and Mosquito Abatement Facility
- ❖ Morris Hill Morgue and Storage Facility
- ❖ The Justice Center / FACES
- ❖ Benjamin Bldg: Elections, Vehicle Licensing, Adult Drug Court, Juvenile Programs
- ❖ Paramedics Administration and Training Facility
- ❖ Paramedics Emergency Medical Stations

Energy Tracking and Reporting

Monthly utility billing information is compiled in Utility Manager software for electricity, natural gas, water, sewer, and trash to establish a baseline of energy use for each buildings. This data is used to identify and prioritize buildings with high utility costs, determine potential energy-saving measures, evaluate future energy and resource use and savings, and assess post-improvement performance of retrofitted buildings.

Energy Use Index

An Energy Use Index has been developed for the major facilities to measure a facility's energy performance on a per square foot basis. It is used to establish baseline energy consumption and quantify subsequent savings from Energy Conservation Measures. A current energy use index can be found in the section on Buildings and Energy Use.

Building Assessments

Building assessments are conducted on the County buildings using a variety of resources. Assessments identify specific building-by-building O&M's for maintenance staff implementation. Priority is based on analysis of utility data, County needs, and financial capabilities.

Selection criteria for building assessments:

- ❖ The potential for building energy savings
- ❖ An estimate of time and dollars needed to perform the measures
- ❖ The availability of time and resources to devote to the project
- ❖ The potential of implementing effective ECMs

Assessments include an in-depth analysis of the whole building including the building envelope, lighting and control systems, engineering analysis of mechanical systems such as air flows and equipment operating efficiencies, metered water use and sewer billing, and trash records.

Assessment reports include:

- ❖ Recommended ECM's
- ❖ An estimated cost for ECM implementation and calculation of ECM simple payback
- ❖ Life Cycle Costing optimization where appropriate
- ❖ Identification of existing operating efficiencies
- ❖ Identification of funding options for measure implementation
- ❖ Identification of Operations & Maintenance's (O & M's)
- ❖ Recommendation to reduce water consumption and sewer bills
- ❖ Recommendation to reduce trash volumes and costs

Under the direction of the Energy Specialist, a contract engineer may lead the assessment team along with County staff. An assessment report will be prepared with recommendations for ECM actions for the County's consideration. Life cycle cost analysis will be utilized for ECM assessment to facilitate Ada County in optimizing their return on investment. A 20% IRR (internal rate of return) will be programmed for each project.

Building Retrofits

Building retrofits can generate savings that enable the County to purchase new equipment, add new employees, or expand existing programs. In most circumstances, when retrofit objectives are identified in advance, the objectives can be incorporated and completed with other remodeling projects and building additions.

Retrofit projects designed to increase the efficiency of building systems will positively affect concerns that are important to Ada County officials. Concerns such as:

- ❖ Building safety
- ❖ Comfort and productivity of occupants
- ❖ Increased employee productivity
- ❖ Reductions in system failures
- ❖ Expansion of anticipated life-cycle or intended use
- ❖ Reduced maintenance and utility costs

HIGHLIGHTS AND MAJOR ACCOMPLISHMENTS FOR FY 12-13

TOTAL REVENUE AND SAVINGS FY 12-13 = \$323,350

1. Building Upgrades and Projects

- ✓ Install Energy Management Controls at Expo Idaho
- ✓ Remodel Jail Kitchen – installed energy-efficient dishwasher and pulper
- ✓ New Roofs on Juvenile and Work Release, Spring 2013
- ✓ Install LED lights at PSB campus **\$SAVINGS: \$12,000/YR**
- ✓ Upgrade CCU infrastructure for chiller replacement FY 13-14

2. Utilities / Operating Expenses

- ✓ Shredding Contract for all County facilities **\$SAVINGS: \$10,000/YR**
- ✓ Energy Dashboard to track electric and gas use at Expo Building

3. Renewable Energy

- ✓ Landfill Gas to Energy, 3.2 MW capacity **REVENUE: \$270,000/YR**
Generated 22,000,000 kWh @ \$0.012/kWh
- ✓ Barber Dam, 4.1 MW capacity **REVENUE: \$30,000/YR**
Annual lease payment from ENEL
- ✓ Barber Park PV System, 11 KW capacity **\$SAVINGS: \$1,350/YR**
Generated 15,500 kWh @ \$.087/kWh
- ✓ Purchased Green Power for the 2012 Western Idaho Fair,
174 Landfill RECs for 174,000 kWh @ \$7.50 = \$1,305 or \$0.075/kWh

4. Landfill

- ✓ Expand CRT Recycling Program to include all Electronics Waste
- ✓ Recycle 1 million+ pounds of Household Hazardous Waste
- ✓ Recycle 100,000+ cubic yards of Wood Waste
- ✓ Divert 6,000+ vehicle tires from the landfill

5. Communication and Education

- ✓ Hold public meetings regarding the Landfill scrubber and partial closure projects
- ✓ Meet with City Mayors to announce and discuss Landfill projects
- ✓ Design new Operations and Landfill websites to provide better public access to information



GOALS FOR FY 13-14

1. *Building Upgrades and Projects*

- Expo Idaho Administration Office and Fair Entrance – Design to LEED standards
- Ridenbaugh Paramedics Station – Design to earn LEED Silver certification
- Build new Courtroom in Courthouse
 - Requires relocating multiple departments within the Courthouse
- Replace 100-ton chiller at the Ada County Jail

2. *Utilities / Operating Expenses*

- Participate in the Kilowatt Crackdown Competition
- Earn ENERGY STAR for 400 Benjamin Building
- Major overhaul of Courthouse Geothermal Heat Exchanger
- Update Energy Use Index for Calendar Year 2013

3. *Renewable Energy*

- Landfill Gas to Energy, 3.2 MW capacity
 - Restructure Fortistar's Permit to Construct (DEQ air permit)
 - Install 2 additional engines to increase capacity
- Barber Dam, 4.1 MW capacity
 - Work with co-licensee / dam operator (Enel) to meet FERC requirements
- Barber Park PV System, 11 KW capacity
 - Convert to Rate 9

4. *Landfill*

- Promote and launch E-Waste Program
 - Ship out 2 million+ pounds per year
- Find long-term, economical solution for Wood Waste
- Conduct Waste Stream Analysis
- Restructure Landfill's Permit to Construct (DEQ air permit)
- Design and implement partial closure of Hidden Hollow Landfill
- Install a hydrogen sulfide (H₂S) scrubber to clean the methane gas

EST SAVINGS: \$175,000/YR

5. *Communication and Education*

- Hold Annual Energy Plan Meeting
- Participate in the 2014 Idaho Green Fest
- Issue Press Release to announce ENERGY STAR for Benjamin Building

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