



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.
-

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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Contents

ADMINISTRATIVE GOALS	SECTION 1
COMMUNICATION AND EDUCATION	SECTION 2
BUILDINGS AND ENERGY USE	SECTION 3
RENEWABLE ENERGY	SECTION 4
TRANSPORTATION AND FUEL	SECTION 5
WASTE MANAGEMENT	SECTION 6

ADMINISTRATIVE GOALS

1. SERVE THE PUBLIC GOOD
2. PROMOTE SUSTAINABILITY AND EXPAND ADA COUNTY'S ENERGY PLAN PARTNERSHIP
3. PROMOTE SUSTAINABILITY WITHIN ALL COUNTY DEPARTMENTS
4. TRACK ADA COUNTY'S ECOLOGICAL FOOTPRINT AND EMISSIONS INVENTORY
5. SUPPORT THE US GREEN BUILDING COUNCIL (USGBC)

Tasks to support the Goals

- Build and operate green buildings to demonstrate responsible use of taxpayer dollars and improve markets for environmentally friendly products and practices.
- Proactively promote public image and community involvement.
- Mentor other organizations to develop energy plans.
- Communicate with elected officials and department heads to establish "green" goals.
- Stay abreast of developments in greenhouse gas and emissions reporting requirements.
- Inventory and monitor greenhouse gas emissions from building energy use, transportation fuel use, and waste generation for emissions inventory.
- Quantify offsets from alternative transportation, green buildings, renewable energy, and recycling programs.
- Support the Idaho Energy and Green Building Conference.
- Be an advocate for the US Green Building Council.
- Provide information and case studies for County LEED projects.
- Have a LEED Accredited Professional on staff.



Ada County booth at the 2014 Idaho Green Fest in Boise.

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COMMUNICATION AND EDUCATION GOALS

1. IMPLEMENT MARKETING/PR PROGRAM FOR ADA COUNTY'S ENERGY PLANS
2. CREATE A MASTER PLAN FOR AN ENERGY-RELATED EDUCATION PROGRAM
3. EDUCATE MAINTENANCE STAFF AND BUILDING OCCUPANTS ON ENERGY CONSERVATION MEASURES AND PRACTICES
4. FOSTER PEER EXCHANGE

Tasks to support the Goals

- Use Earth Day, America Recycles Day, and other events to promote awareness of Ada County's energy plan.
- Promote internally to Ada County employees.
- Promote externally to Ada County residents.
- Keep website updated with current information about projects and County facilities.
- Use website and social media to establish ongoing communication.
- Provide energy code education and training for government and private sector.
- Provide Building Operator Certification training for maintenance staff.
- Educate employees on recycling programs.
- Provide building tours to individuals and groups as requested.
- Meet with other Counties, building owners, maintenance staff, etc. to share ideas.



Dave Logan presenting 2012-2013 Strategic Plan to the Partnership.



FACILITY AWARDS AND RECOGNITION

Ada County seeks opportunities to raise public awareness about its energy efficient operations and high performance facilities through various awards and certification programs.

ENERGY STAR

ENERGY STAR is a voluntary U.S. Environmental Protection Agency (EPA) program that delivers environmental benefits and financial value through superior energy efficiency. By certifying top-performing products, homes, and buildings, ENERGY STAR helps us all make energy-efficient choices.

It is best known as the little blue mark on consumer products, but since 1992, EPA has also worked with businesses and public-sector organizations to transform the way that commercial buildings and industrial plants use energy. On average, ENERGY STAR certified buildings use 35 percent less energy and cause 35 percent fewer greenhouse gas emissions than similar buildings.

Through ENERGY STAR, EPA offers the 1 – 100 ENERGY STAR score, which is available for more than 30 different types of buildings and plants. An ENERGY STAR score enables you to compare your facility’s actual energy performance to similar facilities nationwide. A score of 50 represents typical performance, while a score of 75 indicates that your facility performs better than 75 percent of all similar facilities nationwide. A score of 75 or greater earns the ENERGY STAR plaque, which is renewed every 12 months through demonstrating ongoing energy performance.

2004	Courthouse & Administration Building	76
2005	Courthouse & Administration Building	75
2006-2008	Courthouse & Administration Building	82
2009-2010	Courthouse & Administration Building	81
2011	Courthouse & Administration Building	84
2012	Courthouse & Administration Building	82
2013	Benjamin Building	82



LEED® Certifications

Ada County has been a member of the US Green Building Council since 2003 and uses the Leadership in Energy and Efficiency Design (LEED) program to ensure we build green, high performance buildings. Ada County has the distinction of earning the first LEED certification for any building in Idaho, when the Courthouse was certified in 2005.

2005	Courthouse & Administration Bldg	LEED-EB Silver
2006	Development Services Remodel	LEED-CI Certified
2006	Barber Park Headquarters	LEED-NC Certified
2008	Weed, Pest, & Mosquito Abatement	LEED-NC Silver
2008	Paramedics Station, Meridian	LEED-NC Silver
2009	Civic Plaza Office Complex	LEED-CI Gold
2010	Paramedics Station, Star	LEED-NC Gold
2012	Paramedics Administration Bldg	LEED-NC Silver



EB - Existing Building, NC - New Construction, CI - Commercial Interior



LEED® Certified Building Projects



May in Motion Alternative Transportation Awards

Ada County partners with the Ada County Highway District and Valley Regional Transit to provide employees with alternatives to driving to work. May in Motion is an annual event that allows organizations to become Alternative Transportation Champions and gain recognition for their employee participation and transportation benefits.

2007	Alternative Transportation Champion Award	Bronze
2008	Alternative Transportation Champion Award	Silver
2009	Alternative Transportation Champion Award	Silver
2010	Alternative Transportation Champion Award	Silver
2011	Alternative Transportation Champion Award	Silver
2012	Alternative Transportation Champion Award	Silver
2013	Alternative Transportation Champion Award	Silver



Other Achievements

2004	EnviroGuard Award from the City of Boise
2008	Award of Citation in Architecture from The American Institute of Architects, to McKibben+Cooper Architects for the Barber Park Administration and Raft Rental buildings
2008	Best Green Building Project in Idaho under \$5 million from The Intermountain Contractors, to CSHQA Architects for the Civic Plaza TI project
2010	ASHRAE High Performing Buildings Magazine, Summer edition, 10-page article on Courthouse
2012	NACO Energy Efficient County Buildings study
2014	Kilowatt Crackdown, Special Recognition Award: Most Dedicated – Benjamin Building



Ada County participated in the Kilowatt Crackdown competition from January 2013—May 2014.

- A collaboration between Idaho Power, NEEA’s BetterBricks, and BOMA Boise.
- The contest encouraged building owners to benchmark building energy performance through ENERGY STAR’s Portfolio Manager.
- At the end of the competition, performance levels were assessed to identify the highest performing buildings and the greatest improvement.
- The Benjamin Building (at 400 Benjamin, in Boise) earned a special award for being the “Most Dedicated” for efforts to track building performance improvements, itemize building equipment, and document maintenance schedules.

BUILDINGS AND ENERGY USE GOALS

1. ENSURE COUNTY BUILDINGS ARE AS ENERGY AND RESOURCE EFFICIENT AND POSSIBLE
2. CREATE HEALTHY WORK SPACES FOR OPTIMAL OCCUPANT HEALTH AND COMFORT
3. PROVIDE MAINTENANCE AND SUPPORT FOR ENTERPRISE FUNDS: PARAMEDICS, EXPO IDAHO, AND THE LANDFILL
4. INCORPORATE ENERGY STAR PROGRAMS INTO ADA COUNTY FACILITIES
5. PARTICIPATE IN LOCAL UTILITY INCENTIVE PROGRAMS

Tasks to support the Goals

- Track monthly consumption and costs of electricity, natural gas, water, sewer, and trash utility bills.
- Evaluate data and create energy reports to document savings.
- Maintain an annual Energy Use Index for all buildings over 10,000 square feet.
- Maintain and update equipment as needed.
- Recommission buildings as necessary.
- Manage indoor air quality in all occupied spaces.
- Conduct low-cost energy audits on all buildings, including after-hours visits and night walks.
- Evaluate actual lighting needs and choose best lighting solution during renovations.
- Install/retrofit lighting and HVAC systems with energy efficient options wherever feasible.
- Install lighting occupancy sensors in select areas.
- Update HVAC refrigerant when changing out mechanical systems.
- Benchmark building energy usage using ENERGY STAR's Portfolio Manager.
- Apply for ENERGY STAR for eligible buildings.
- Evaluate and incorporate energy conservation measures (ECMs) for all facilities.
- Apply for utility incentives when applicable.
- Evaluate ways to reduce peak load in the summer.



Benjamin Building

Ada County

Winner:

Special Recognition



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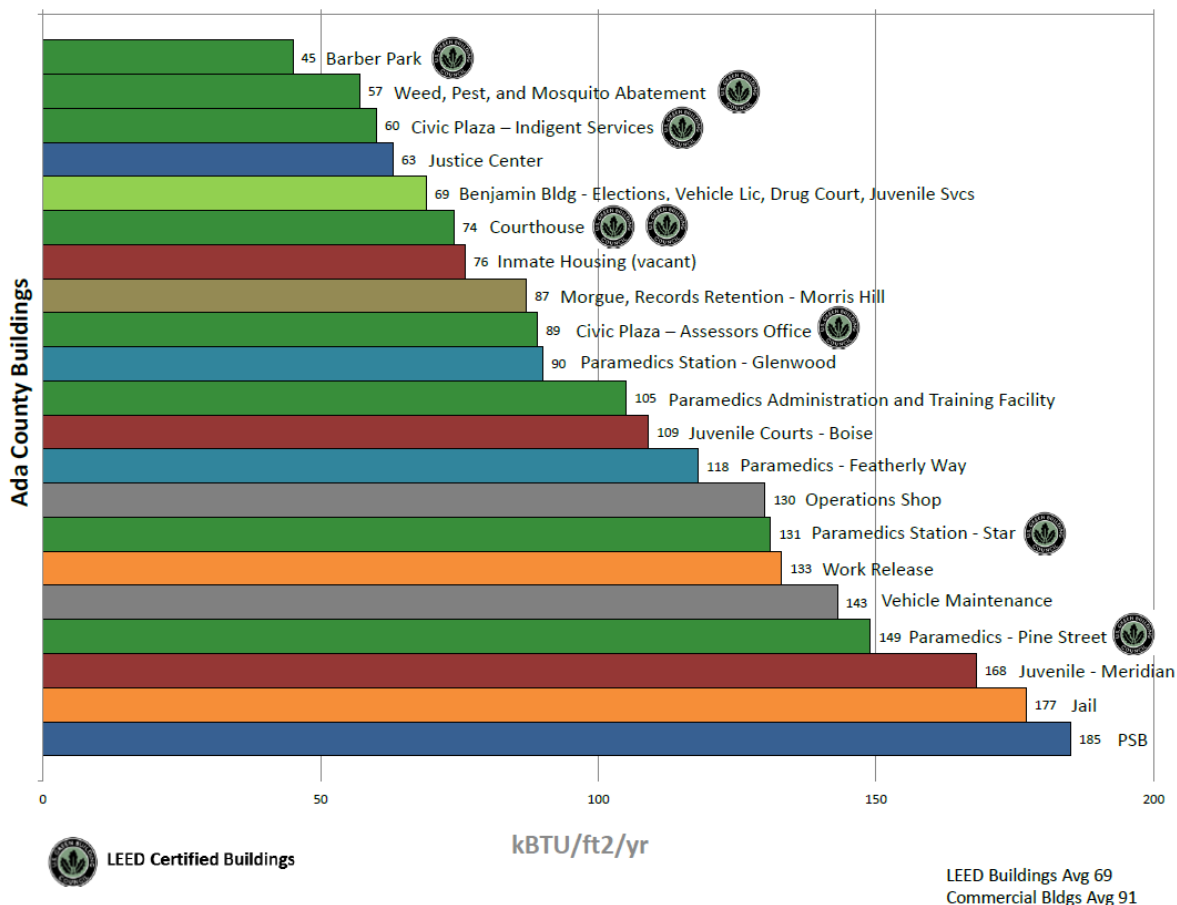
ENERGY USE INDEX (EUI)

What is an EUI?

An Energy Use Index is a basic measure of a facility's energy performance on a per square foot basis. It is typically measured as kBТУs of energy used annually per square foot. A BTU, British Thermal Unit, is a basic measure of heat value (energy content) of fuels. All energy consumed by a particular building; i.e., electricity, natural gas, etc., is converted to thousand BTU's, added together, and divided by the total square footage.

Below is a current EUI chart for most of Ada County's buildings. Generally, a low EUI signifies good energy performance.

Energy Use Index - 2013



Certain building types will always use more energy than others. For example, a park building with seasonal use requires relatively little energy compared to a paramedic station that operates 24/7. Similarly, a small office building with 50-100 employees will use less energy than a jail facility that supports nearly 1,000 people on a continual basis .



UTILITY INCENTIVES

Efficiency programs not only save the County money, but also defer the need to build new power plants and prevent the utility from acquiring power from more expensive sources to meet growing customer demand. Ada County takes advantage of Idaho Power's incentive programs in any new or remodel building project.

		
Location	Incentive	Measures
Barber Park	\$2,374	Lighting, AC, Roofing, Commissioning
Courthouse	\$2,223	Controls
FY 06-07	\$4,597	
Weed, Pest, and Mosquito*	\$7,896	Lighting, AC, Roofing, Windows
Paramedics Station, Meridian*	\$2,476	Lighting, AC, Roofing, Windows
Morris Hill Warehouse	\$4,440	Lighting retrofit - T12s to T8s
Expo Idaho - South Wing	\$6,300	Lighting retrofit - T12s to T8s
Indigent Services	\$11,105	Lighting, AC, Controls
Assessors Office*	\$15,375	Lighting, AC, Controls
Benjamin Phase 1*	\$13,528	Lighting, AC, Roofing
Expo Idaho - North Wing	\$8,500	Lighting retrofit - T12s to T8s
Emergency Operations Center	\$480	Lighting retrofit - T12s to T8s
FY 07-08	\$70,100	
Courthouse	\$3,600	Variable Speed Drives for HVAC pump
Benjamin Phase 2*	\$12,601	Lighting, AC, Roofing
Juvenile West, Meridian	\$705	13 SEER AC w/ programmable Tstat
Paramedics Station, Star	\$2,076	Lighting, AC, Roofing
FY 08-09	\$18,982	
Benjamin Phase 3	\$4,668	Lighting, AC, Roofing
Jail Dorm 5	\$1,000	AC
Extension Office Bldg	\$4,490	Lighting, AC
Jail Dorms 2 & 4	\$2,000	AC
400 Benjamin	\$455	Windows in SE corner, 2nd floor
FY 09-10	\$12,613	
Paramedics Admin, 370 Benjamin	\$7,865	Lighting, AC, Roofing, Windows, Controls
Paramedics Shop, 370 Benjamin	\$3,525	Lighting, AC, Roofing, Windows
Expo Idaho RV Park	\$265	HVAC for the Laundry/Shower Bldg
Expo Idaho RV Park	\$577	Lighting for the Laundry/Shower Bldg
Paramedics Station, Linder	\$897	Lighting, AC, Roofing
FY 10-11	\$13,129	
Expo Idaho - Expo Building	\$10,000	HVAC Controls
Expo Idaho - Small Animal Barn	\$4,284	HVAC Controls
Expo Idaho - Western Town	\$2,700	HVAC Controls
Jail Pod D	\$4,573	Exit Signs, HVAC, Roofing, Var Speed Drives
FY 12-13	\$21,557	
Public Safety Building Complex	\$24,007	LED Lighting Upgrade
FY 13-14	\$24,007	
TOTAL 2006-2013	\$164,985	

NEW



Custom Efficiency

For Commercial and Industrial Projects

Teaming up to save money and improve lighting at the Public Safety Building

Collaboration was the name of the game when it came to upgrading the lighting at the Vernon L. Bisterfeldt Public Safety Building in west Boise. Ada County employees Rich Rice, Staff Electrician, and Selena O'Neal, Energy Specialist, combined their expertise to improve the facility's lighting, reduce its energy use, cut down on maintenance costs, and qualify for an Idaho Power Custom Efficiency incentive.

"We wanted to modernize the lighting," Selena noted, "and take advantage of the Idaho Power incentive programs, so we developed a lighting plan and a budget that made economic sense in order to get Commissioners' approval."

They both had high ambitions for the project. "I was looking to not only improve the lighting," Rich said, "but also cut our energy and maintenance costs."

The project

The project affected the facility's metal halide and incandescent lighting. "We replaced all the exterior lights on the entire campus with more efficient LED lights," Selena explained.

"All the wall lights, parking lot lights, walkway lights, and even the street lights along Barrister from Cole Road to the end of the property, everything," Rich said. "Plus the high-bay fixtures inside the vehicle maintenance shop," Selena added.

The effects of the new lighting go beyond saving energy. "This is a public safety building that operates 24/7, so the parking lot must be well lit for employees and the public," Selena said. Best of all, maintenance costs are reduced because LEDs can last up to 50 times longer. "The old incandescent walkway lights we replaced a couple times a year will now last 10 years! The pole lights were especially critical because changing them requires



A good habit to get into

Ada County is no stranger to Idaho Power's incentive programs. "Over the past seven years, we've averaged \$20,000 to \$24,000 a year in incentives from the many projects we've completed," Selena said.

Ada County's incentivized projects vary and include upgrading the lighting in the Expo Building at the Fairgrounds, to installing variable-speed drives at the courthouse, to choosing roofing material and air conditioning (A/C) equipment that qualify for the incentive program when building new paramedics stations.

"These incentive programs help us to 'green' our buildings while minimizing the financial impact these improvements have on taxpayers," Selena added.



“These incentive programs help us to ‘green’ our buildings while minimizing the financial impact these improvements have on taxpayers.”

– Selena O’Neal, Ada County Energy Specialist

a bucket truck,” said Rich. “The new LED pole lights are rated for 100,000 hours, cutting down change-outs by 90 percent.”

The savings

The final cost to Ada County for the complex’s qualifying lighting upgrades was \$77,062. However, the Custom Efficiency incentive of \$24,007 reduced the county’s out-of-pocket expense for the project by more than 30 percent to \$53,055.

The project saves the county 200,056 kilowatt-hours (kWh) per year, which amounts to an annual reduction to its power bill of approximately \$11,000 and a payback of 58 months.

The Vernon L. Bisterfeldt Public Safety Building’s estimated savings from participating in the Custom Efficiency program.*

Savings (kWh/year)	Project Cost	Savings (\$/year)	Idaho Power Incentive	Customer Out-of-Pocket	Payback (years)
200,056	\$77,062	\$11,003	\$24,007	\$53,055	4.8

* Source: Idaho Power Ada County public safety complex project summary IND1006

Uncommon savings are quite common

Saving energy has always been a smart business decision. Now, Idaho Power makes it attainable. Our complete suite of energy efficiency programs provides attractive incentives to commercial and industrial customers who want to reduce their utility costs.

- The **Custom Efficiency** program offers incentives to large commercial and industrial customers who invest in energy-saving improvements in their facilities.
- **Easy Upgrades** provides financial incentives to commercial and industrial customers who implement qualified energy-saving measures in their facilities.
- The **Building Efficiency** program helps offset the additional capital costs incurred as a result of more efficient systems incorporated in the construction of new buildings and major remodels.

The above success story was produced in cooperation with, and approval from, Ada County.



How much can your company save?

For more information about Idaho Power’s energy efficiency incentive programs, go to www.idahopower.com/business or call us at 208-388-5624 within the Treasure Valley or 1-800-488-6151 outside of the Treasure Valley. We’ll show how you can join smart organizations like Ada County, saving energy and money.



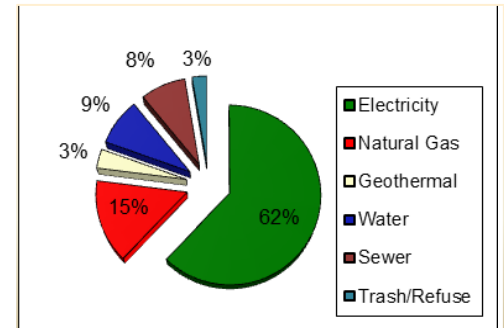


UTILITY SUMMARY

The Ada County Operations Department now manages, maintains, and pays utilities for nearly 1.5 million sf of building space and more than 250,000 sf of parking facilities. The addition of Pod D in June 2013 added 14,063 sf, bringing the Ada County Jail total to 205,000 sf (including the Medical Health Services Unit).

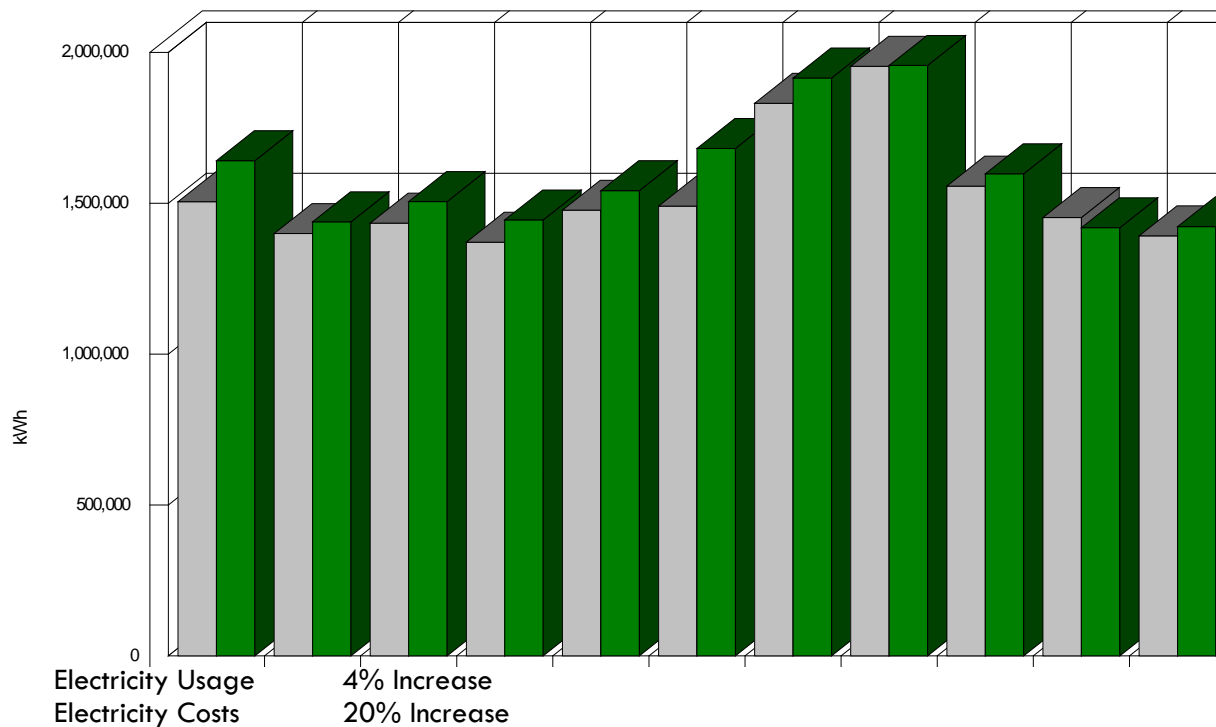
The total cost to the County for all utilities combined increased 11%, or \$188,000, from FY11-12 to FY12-13. Much of the cost increase can be attributed to an Idaho Power rate increase of nearly 20%, while actual electricity usage increased only 4%. Natural gas costs decreased 11% for the second year in a row.

	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13
Electricity	\$897,766	\$943,379	\$930,072	\$987,201	\$1,172,745
Natural Gas	\$451,036	\$364,369	\$360,938	\$319,952	\$283,637
Geothermal	\$51,468	\$38,064	\$40,966	\$43,409	\$65,459
Water	\$131,543	\$133,247	\$141,412	\$157,853	\$162,341
Sewer	\$126,088	\$132,329	\$142,102	\$142,995	\$156,384
Trash/Refuse	\$44,179	\$48,186	\$47,840	\$51,228	\$49,914
	\$1,702,080	\$1,659,574	\$1,663,330	\$1,702,638	\$1,890,480

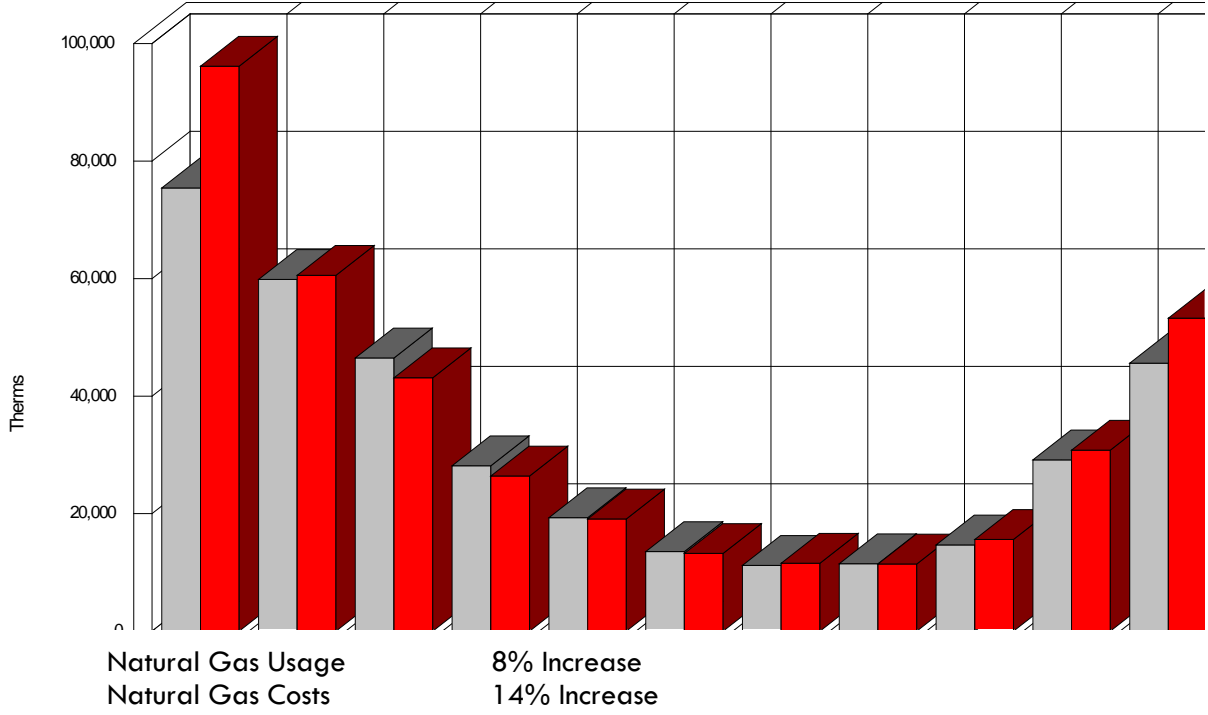


The following graphs compare usage and costs for the major utilities; i.e., electricity, natural gas, water, sewer, trash, for all County buildings combined for 12 months ending December 2012 and 2013.

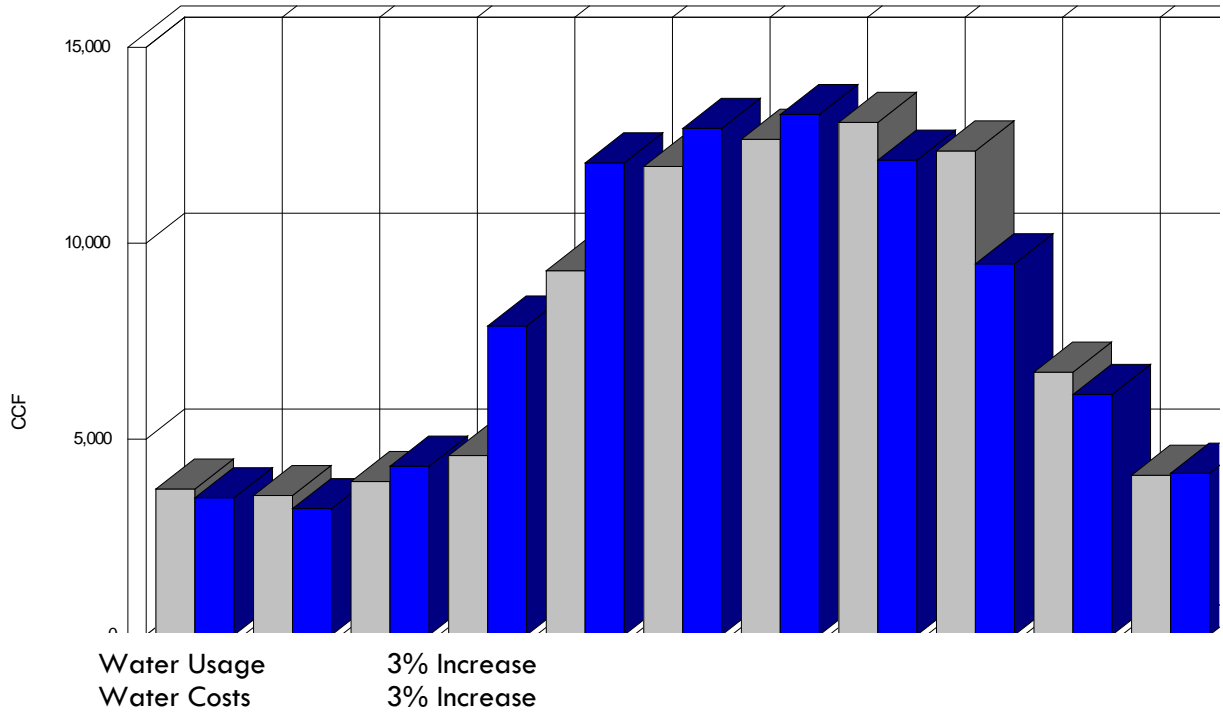
Monthly Electricity Use for Ada County



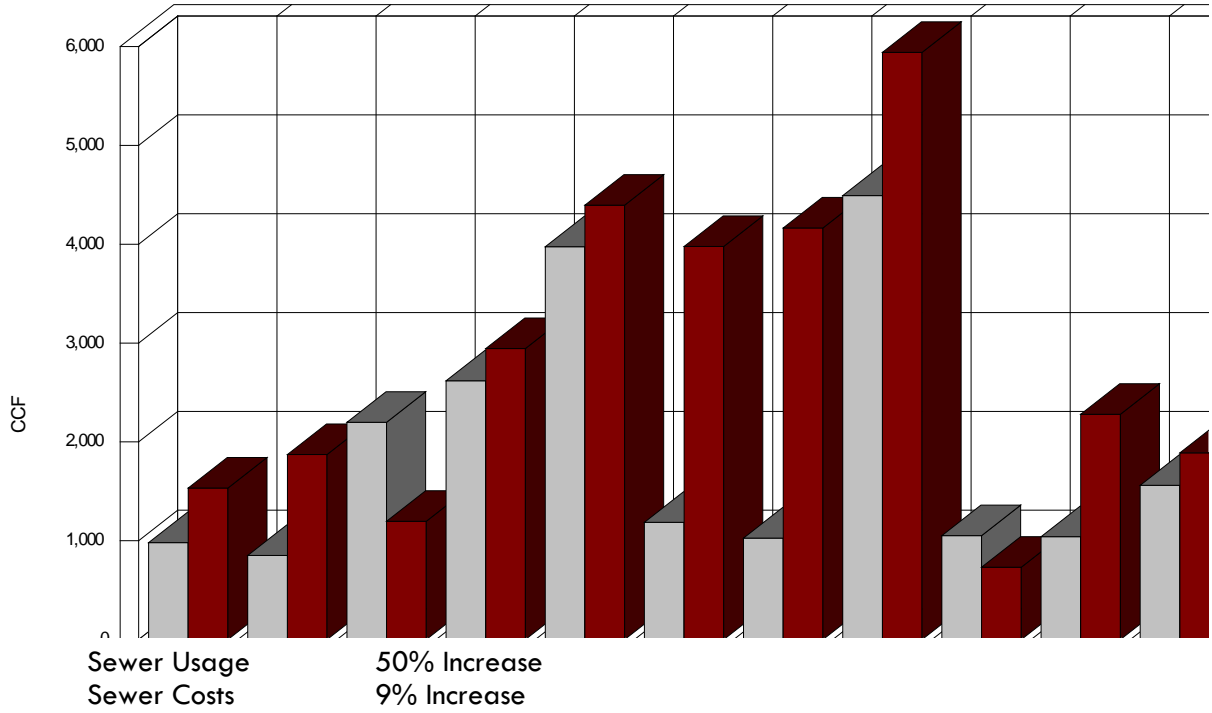
Monthly Natural Gas Use for Ada County



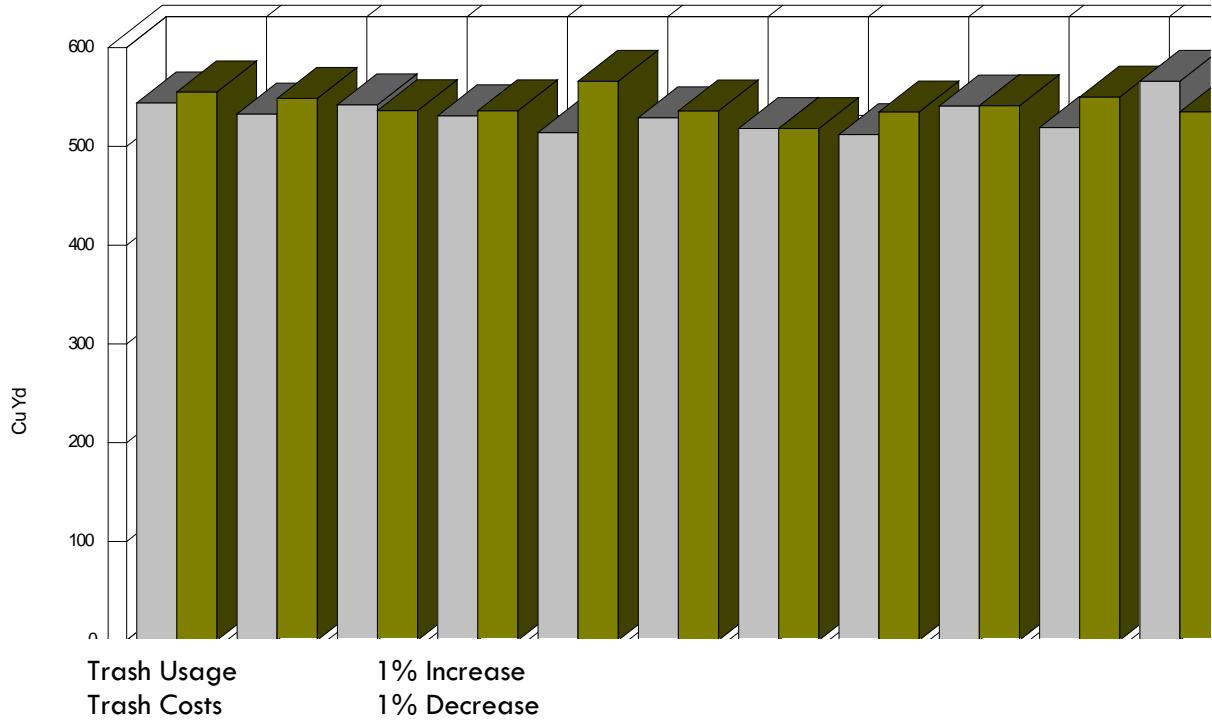
Monthly Water Use for Ada County



Monthly Sewer Use for Ada County



Monthly Refuse Use for Ada County





PHOTOVOLTAIC (PV) POWER – BARBER PARK

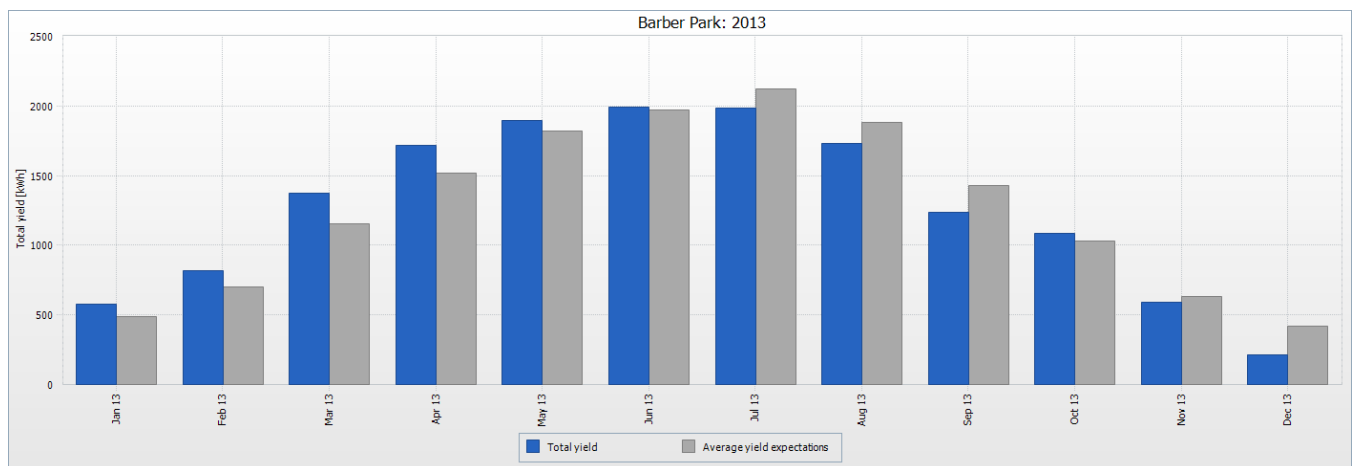
Ada County has an 11.5 KW solar photovoltaic (PV) system on the rooftop of the Barber Park Administration Building that is net-metered by Idaho Power. Each year hundreds of people launch their rafts and inflatables to float the scenic Boise River. Ada County maintains a launch site at Barber Park complete with free air pumps. The solar energy generated by the PV system offsets these costs with “free” energy from the sun.



The system was designed and installed in September 2011 using federal grant money from the American Recovery and Reinvestment Act. It generated 15,281 kWh in calendar year 2012 and 15,212 kWh in 2013, with an annual income of approximately \$1,200.

Solar PV System Specs:

- 60 Solyndra Panels, @ 191 watts
- 1 Midnight Solar Combiner Box
- 2 5000-US SMA Inverters
- 1 SMA Sunny WebBox Monitoring System



HYDROELECTRIC POWER – BARBER DAM

The Barber Dam is a timber-crib dam on the Boise River located about 3 mi (5 km) east of Boise, Idaho. The dam was constructed between 1904 and 1906 to serve as a mill pond for timber. A power plant was also constructed in conjunction with the dam to power the mill and the town of Barberton (Barber). The mill closed down during the Great Depression.

Ada County purchased the dam in 1977. The power house currently contains two Kaplan turbine generators with a combined capacity of 4.14 MW. Ada County has a 35-year lease agreement with colicensee, Enel Green Power, to operate the dam until 2023. Enel owns the generators and sells the power locally to Idaho Power. Ada County earns approximately \$30,000 per year for the lease of the dam.



LANDFILL GAS TO ENERGY PROJECT (LFGTE)

Overview

Harnessing the power of landfill gas (LFG) energy provides environmental and economic benefits to landfills, energy users, and Ada County. In particular, LFG energy projects:

- Reduce emissions of greenhouse gases that contribute to global climate change.
- Offset the use of non-renewable resources, such as coal, oil and natural gas.
- Improve local air quality.
- Provide revenue for Ada County and energy cost savings for users of LFG energy.
- Create jobs and economic benefits for the communities and businesses.

What is LFG?

LFG is a natural byproduct of the decomposition of organic material in municipal solid waste (MSW) in anaerobic conditions. LFG contains roughly 50 percent methane and 50 percent carbon dioxide and trace amounts of inorganic and other compounds. When waste is first deposited in a landfill, it undergoes an aerobic (i.e., with oxygen) decomposition stage during which little methane is generated. Then, typically within less than one year, anaerobic (i.e., without oxygen) conditions are established and methane-producing bacteria decompose the waste and produce methane and carbon dioxide. Methane is a potent greenhouse (i.e., heat trapping) gas – over 20 times more potent than carbon dioxide, the primary cause of global warming. Landfills are the second largest human-caused source of methane in the United States. This is why LFG must either be burned via flare or controlled combustion at the Hidden Hollow site as heat input to produce electricity.



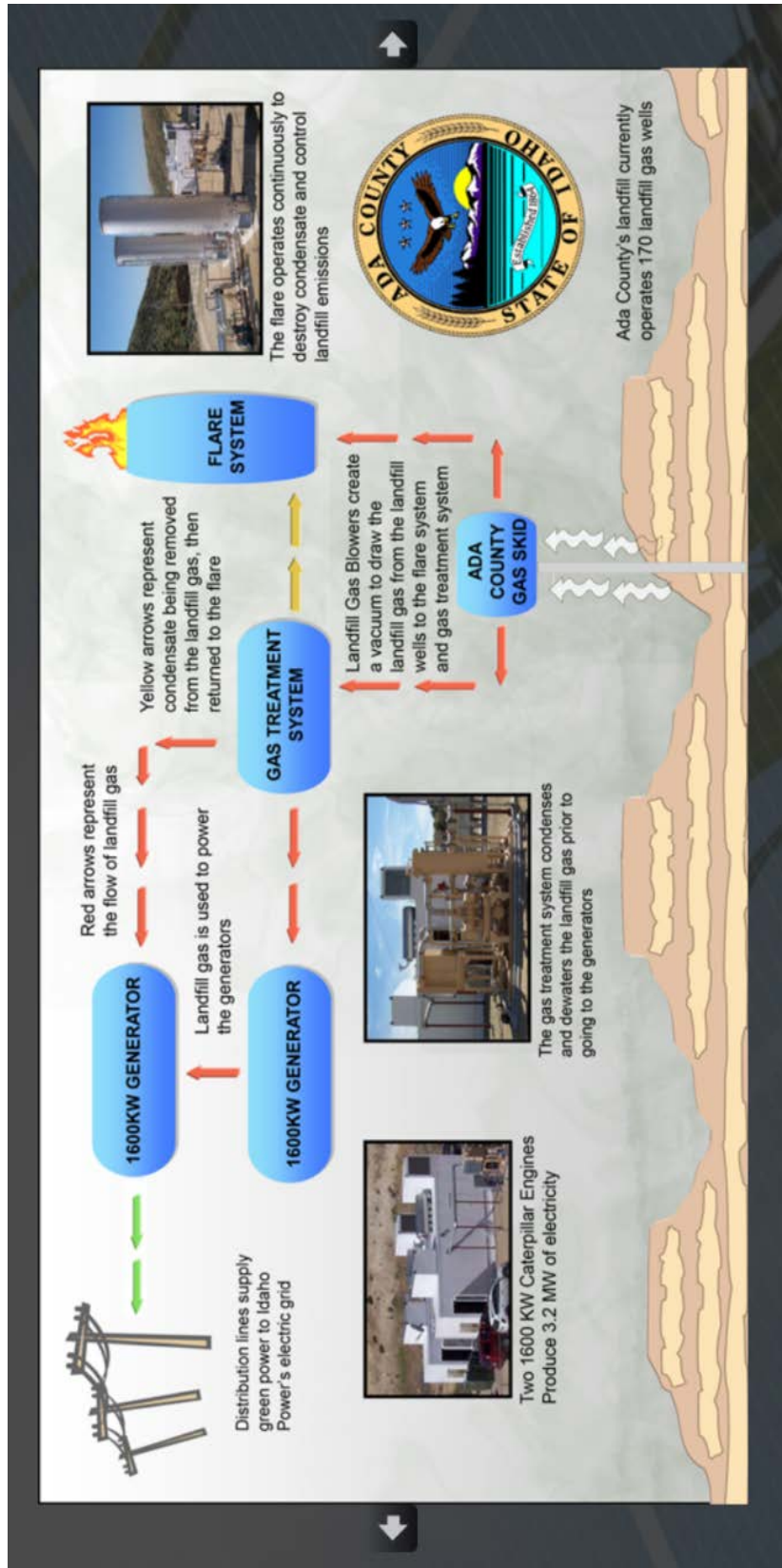
Benefits to Ada County

The 3.2 MW LFGTE system at the Hidden Hollow Landfill consists of two 1600 KW Caterpillar reciprocating engines generating almost 2,000,000 kWhs per month which is sold directly to Idaho Power. Hidden Hollow is planning to add two more engines to combust more LFG, increasing the output to 6.4 MW and doubling the revenue to Ada County.

Annual Energy Production and Revenue

	kWh	Gas	Green Tags	Total
2007	18,364,800	\$157,871.82	\$34,888.56	\$266,147.58
2008	21,435,206	\$192,380.91	\$49,388.60	\$294,731.74
2009	21,370,914	\$194,734.04	\$49,119.17	\$243,853.21
2010	23,093,621	\$215,267.77	\$60,021.95	\$275,289.72
2011	23,683,902	\$225,865.82	\$60,787.84	\$286,653.67
2012	21,722,451	\$211,937.67	\$56,470.07	\$268,407.74
2013	20,278,871	\$202,410.26	\$52,708.08	\$255,118.34
GRAND TOTAL				\$1,890,201.99





TRANSPORTATION AND FUEL GOALS

1. PROMOTE ALTERNATIVE TRANSPORTATION FOR COUNTY EMPLOYEES

2. REDUCE EMISSIONS AND FUEL CONSUMPTION FROM COUNTY-OWNED VEHICLES

3. PROMOTE ALTERNATIVE FUELS INFRASTRUCTURE AND USE OF BIOFUELS

4. IMPLEMENT ENVIRONMENTALLY PREFERABLE PURCHASING (EPP) POLICY FOR VEHICLES

5. SUPPORT THE PARKS AND WATERWAYS DEPARTMENT IN MAINTAINING BIKE PATHS AND TRAILS WITHIN THE COUNTY

Tasks to support the Goals

- Manage alternative transportation program.
- Track employee incentives for vanpool riders.
- Oversee free bus service program for employees.
- Promote May in Motion to stimulate regular ridership among employees.
- Manage downtown employee parking lots.
- Maintain “No Idling” policy at the Landfill to reduce emissions and fuel use. Provide information about options for flex fuel and hybrid vehicles.
- Participate in the Treasure Valley Clean Cities Coalition.
- Evaluate options to increase use of ethanol-blended fuel.
- Participate in program to make waste cooking oil from Jail and Expo kitchens available for biodiesel.
- Set goal that 50% of new vehicles purchased for the County fleet will be hybrid or flex fuel vehicles.
- Encourage elected officials and department heads to adopt EPP vehicle policies.
- Work with the Parks and Waterways Department to secure funding for ongoing maintenance of the existing trail system.
- Provide resources such as construction management for trail repairs and improvement projects.



Employee Transportation and Parking Program

Ada County partners with the Ada County Highway District, Valley Regional Transit, and others to bring employees some great alternatives to driving to work. While employee parking is available at all County facilities, Ada County also provides easy, affordable alternative transportation options to reduce the need for parking and reduce commuter traffic, while improving air quality in Ada County.

Bicycles

Bike racks are located at all Ada County facilities for public and employee use. Free, secured bike storage is available to employees in the Civic Plaza parking garage, east of the Courthouse in downtown Boise. Shower facilities are provided in some County locations for employees who walk or bicycle to work. Contact the Operations Department for locations and access codes.



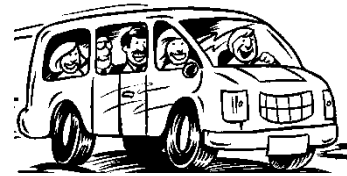
Bus Passes

All regular Ada County employees can ride the bus for FREE using their employee id card, including employees who commute between Ada and Canyon counties. Just hop on and present your id card!



Commuteride Vanpools

Commuteride is a local vanpool program run by the Ada County Highway District. Ada County employees are eligible for a free 1-month trial. New regular riders then receive a \$20 transi-check for months 2-4 (provided by ACHD) plus a \$32 voucher (provided every month by Ada County BOCC) which are applied toward the monthly fare. The rider pays any remaining amount. Fees vary depending on routes. Checks and vouchers are distributed each month by the Operations Dept.

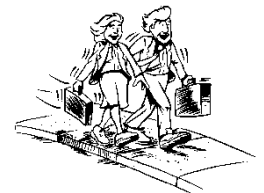


Note: The \$20 transi-checks are only for first time riders.

The \$32 vouchers are provided every month to every rider.

Guaranteed Ride Home

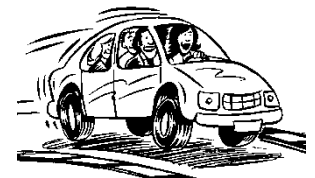
BE SURE TO SIGN UP FOR THE GUARANTEED RIDE HOME PROGRAM IF YOU REGULARLY USE ALTERNATIVE TRANSPORTATION. Commuters in carpools, vanpools, buses - even cyclists and walkers - are eligible for reimbursement for a taxi ride home for emergencies or overtime situations. The participant must be registered with Commuteride prior to the taxi ride and must have arrived to work using one of the modes listed above. An annual maximum benefit per participant is six taxi rides or a total cost of \$300.00. This program is funded by ACHD.



Parking - Downtown

Limited free or metered parking is available on downtown streets near the Courthouse on a first-come, first-served basis. Employees may purchase a parking space for \$10/month in a surface lot or \$20/month in the parking garage.

Free monthly parking is available downtown for employees who carpool with at least 1 other County employee. Drivers must share a single keycard, but there is no fee for the card. Vanpools and vanpool drivers are also eligible for free, preferred parking.



County Fleet

The County owns over 430 vehicles for use by employees, with more than 200 of them driven by the Sheriff's Office. The County operates two fuel islands and several vehicle shops to support its fleet. Replacing old vehicles allows the County to reduce fuel costs through increased efficiency and alternative fuel choices. As of 2012, 19% of the County's vehicles were either hybrid or flex fuel (able to run on 85% ethanol fuel).

Contact the Employee Transportation Coordinator at (208) 287-7100 for additional information.

WASTE MANAGEMENT GOALS

1. ADOPT ENVIRONMENTALLY PREFERABLE PURCHASING (EPP) PRACTICES

2. SUPPORT INFORMATION TECHNOLOGY'S COMPUTER PURCHASING STANDARDS

3. ESTABLISH RECYCLING PROGRAMS FOR ALL COUNTY-OWNED FACILITIES

4. SUPPORT WOOD RECYCLING PROGRAM AT THE LANDFILL

5. DEVELOP CONSTRUCTION WASTE RECYCLING PROGRAM

6. MAINTAIN ON-SITE RECYCLING STATIONS AT THE LANDFILL

7. ASSIST WITH MANAGEMENT AND EXPANSION OF THE LANDFILL GAS TO ENERGY PROJECT

Tasks to support the Goals

- Consider efficiency in the cost analysis equation when making purchasing decisions.
- Purchase products made with recycled material when practical and feasible.
- Identify and “advertise” the standard setup of PCs for reduced energy usage.
- Incorporate PC purchasing standards into EPP program.
- Reuse and recycle PCs.
- Find ways to Reduce and Reuse.
- Provide assistance and recycling incentives for all County-owned facilities.
- Replace paper shredders with shredding service to reduce waste and increase paper recycling.
- Use secure shredding service to destroy County records, ensuring material is recycled and conserving landfill space.
- Support local material reuse programs.
- Continue incentives to Contractors who source separate material.
- Facilitate recycling of gypsum for LEED projects within the County.
- Provide roll-off bins for self-sorting of recyclable material at the landfill.
- Measure and verify LFG quality and volumes derived from the LFG collection system.
- Ensure all contractual obligations of generator to provide documentation of revenue are met.
- Participate in EPA's Landfill Methane Outreach Program (LMOP).

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**Current Landfill Projects
Under Construction
FY 2013-2014**

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ADA COUNTY LANDFILL: Hidden Hollow Cap: Stage 2

OVERVIEW

Ada County has been managing the County's municipal solid waste at the landfill since 1972. The majority of the waste has been deposited in the Hidden Hollow Cell. As the Hidden Hollow cell nears capacity, the County has started the process of installing its cap.

Capping a landfill requires a final, thick layer of soil be put in place, and then native vegetation is planted to blend in with the natural surrounding landscape.

About half of the Hidden Hollow cell was capped in Stage 1 about 10 years ago. This project will cap and close another portion of the Hidden Hollow cell and move the primary operation to the highly engineered, fully lined North Ravine cell.



HIGHLIGHTS

Location:	Ada County Landfill 10300 N Seaman's Gulch Road Boise, ID 83714
Project Size:	30+ acres
General Contractor:	Knife River
Completion Date:	October 2014
Project Cost:	\$1,800,000 (approx)

INFO CONTACT

Ada County Operations
 Dave Logan, Director
 Andrew Zior, Construction Manager
 Telephone: (208) 287-7100
 Email: azior@adswb.net

MAIN FEATURES

- Design work for excavation includes drawings and specifications for the regulatory soil cap
- Detailed requirements and qualifications for construction
- Construction schedule and requisite documents for review by various regulatory agencies and the general public
- Hauling and placement of soil cap soils
- Continuous monitoring for gas emissions and groundwater contamination according to regulation requirements

PROJECT BENEFITS

- Will help reduce odors by preventing landfill gas from escaping through the landfill cover
- Native vegetation planted to blend in with surrounding landscape
- Most of the daily operations and depositing of municipal solid waste will be moved to the fully lined North Cell Ravine

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Project Profile



ADA COUNTY LANDFILL GAS HYDROGEN SULFIDE REDUCTION

OVERVIEW

As material decomposes in a landfill it creates landfill gas (LFG). LFG is about 50-55% methane and 40-45% carbon dioxide. The balance is made up of many other compounds including nitrogen, oxygen, and a small percentage of Hydrogen Sulfide (H₂S). While methane and carbon dioxide are odorless, H₂S is not. Consequently, H₂S is considered a major source of landfill odor because the human nose can detect it in very small concentrations



The project includes the purchase and installation of a system to remove or “scrub” H₂S from the landfill gas stream. Reducing H₂S will help reduce odors and allowing more gas to be drawn for destruction. More gas increases the amount of renewable electricity that is generated.

HIGHLIGHTS

Location:	Ada County Landfill 10300 N Seaman's Gulch Road Boise, ID 83714
Design/Build Contractor:	SCS Engineers
Completion Date:	November 2014
Project Cost:	\$3,200,000

INFO CONTACT

Ada County Operations
 Dave Logan, Director
 Andrew Zior, Construction Manager
 Telephone: (208) 287-7100
 Email: azior@adaweb.net

MAIN FEATURES

- The Ada County Landfill has an extensive underground gas collection system that draws LFG to help control odors and reduce greenhouse gas emissions
- Some of the LFG collected is run through engines to produce 3.2 MW of renewable electricity
- Excess LFG is burned in enclosed utility flares
- The volume of LFG collected and destroyed is determined by an air permit that limits sulfur oxide emissions
- Installing a system to remove H₂S from the gas, allows more gas to be collected

PROJECT BENEFITS

- Reduces the fugitive gas and related H₂S odors from escaping through the landfill
- Increases the amount of gas available to generate renewable electricity
- Improves Ada County's ability to better manage the LFG collection system

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Contacts

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