



JACKSON HOLE
ENERGY EFFICIENCY
ACTION PLAN
FALL 2007

TABLE OF CONTENTS

I. SUMMARY

- 1. Introduction**
- 2. Purpose**
- 3. Energy Use Snapshot**
- 4. Strategies**
- 5. Short-Term Recommendations**
- 6. Long-Term Recommendations**
- 7. Beyond 10x10**
- 8. Project Summary Chart**

II. ACTION TEAM PLANS

- 1. Baseline Data**
- 2. Communications**
- 3. Facilities Energy Use**
- 4. Fuels and Fleet**
- 5. Green Buildings**

III. APPENDIX

- 1. Origination Documents**
 - a. Memorandum of Understanding**
 - b. 10x10 Resolution**
 - c. Mayor's Climate Protection Agreement**
- 2. Energy Initiative Organization Chart**
- 3. Relevant Studies**
 - a. A Scientific Overview of Climate Change and Its Impacts- ICLEI**
 - b. The GfK Roper Yale Survey on Environmental Issues- Fall 2007**
 - c. Climate Change and Utah: The Scientific Consensus- Sept. 2007**
- 4. Glossary of Terms**
- 5. WYECIP-ESCO Program**
- 6. Resources**
 - a. Major Institutional Sources- ICLEI**
 - b. Regional Resources on Climate- ICLEI**
 - c. Develop A Preparedness Message- ICLEI**
 - d. How to Select a Team Leader- ICLEI**
 - e. Selecting and Prioritizing Preparedness Actions- ICLEI**
 - f. Measuring Progress and Updating the Plan- ICLEI**
 - g. Town and County Fleet Guidelines**
 - h. LEED Green Building Rating System**
 - i. High Performance Residential Home Program- Checklist**
 - j. International Energy Conservation Code**
- 7. Templates**
 - a. Project Description Template**
- 8. Presentation Materials**

1. INTRODUCTION

In 2007, the Jackson Town Council and Board of Teton County Commissioners took action to improve energy efficiencies and reduce heat trapping gas emissions by forming an Energy Efficiency Advisory Board (EEAB) tasked with improving energy efficiency in local governmental operations. In order to provide focus for the newly formed Board, the Town and County adopted an aggressive energy reduction target for local government operations, committing to 10% reduction in electricity and fossil fuel use by the year 2010 (10x10).

The EEAB is composed of seven community leaders that work in close coordination with citizens and Town and County staff serving on Action Teams. Action Teams have formed around five key areas to assess government energy use and provide input and ideas for steps to meet the 10x10 challenge.

Over the last six months, the EEAB has developed a quantitative baseline of Town and County government's energy use and drafted this Jackson Hole Energy Efficiency Action Plan to achieve the goals of 10x10. The following summarizes the Action Plan's short-term recommendations from the EEAB and the five Action Teams for the Town of Jackson and Teton County to achieve 10x10.

Summary of Recommendations

1. Engage a data consultant to quantify net benefits of fuels and fleet measures for achieving 10x10 efficiencies
2. Engage a facilitator to integrate 10x10 actions into employee's daily operations
3. Expand Action Teams to include land use and transportation
4. Begin working on a community plan for energy efficiency
5. Update and revise this action plan in six months
6. Assess budget and staffing needs for FY 2008-2009
7. Continue the Energy Efficiency Advisory Board until January 2011

Fiscal Impact

Recommended expenditures as of the fall of 2007 include hiring a consultant who can determine the costs and quantify energy savings of Fuels and Fleet action steps, as well as a facilitator to integrate the recommended actions into employee's daily operations.

These are outlined below:

- Baseline Data Consultant- \$10,000
- Fuels and Fleet Data Consultant- \$10,000
- 10x10 Employee Meeting- \$5,000
- Facilitator for Focus Group Meetings- \$3,000
- Total Recommended Expenditures: \$28,000

Funding requests for other actions recommended in this Plan will be brought before the Jackson Town Council and/or Teton County Board of Commissioners for approval during the budget cycle. Each recommended measure will include costs and savings, as well as efficiencies gained and reductions in heat trapping gasses.

1. PURPOSE

The Jackson Hole community faces challenges with regard to the supply of safe and affordable energy. Energy demand to support Town and County operations continues to grow despite historically high energy prices, mounting concerns over energy security, and the recognition of human effects on global climate change. The decisions we make now regarding our energy supply and demand can either help our community address these challenges or complicate our ability to secure a stable energy future.

Improving the energy efficiency of our buildings and facility operations, as well as reducing our fossil fuel use are two of the most constructive and cost-effective ways to address these challenges. Increased investment in energy efficiency, renewable energy, and energy conservation can lower energy bills, reduce demand for fossil fuels, help stabilize energy prices and energy system reliability, and help reduce air pollutants and heat trapping gas emissions.

The Jackson Hole Energy Efficiency Action Plan (Action Plan) charts the short-term course for achieving the 10x10 goals, outlined in the 10x10 Resolution (Appendix 1-b), as well as recommends a longer-term process to expand the efficiency efforts to areas of government influence, partner with other organizations working on similar efforts, and set meaningful future goals for reducing heat trapping gasses. This plan will evolve over time, with annual updates that summarize what has been achieved and highlight areas of improvement to meet 10x10 and beyond.

Looking forward, the Action Plan recognizes that meaningful investment in energy efficiency, renewable energy, and energy conservation in Jackson Hole cannot happen based on the work of Town and County operations alone. Through ongoing efforts by the Town and County to advance land use planning, improve multimodal transportation systems, expand recycling and use of consumables, and update building standards, Local Government can engage the larger community energy efficiency work. As efforts to achieve 10x10 result in energy savings in Town and County operations, opportunities for partnering with other organizations and business in Teton County will emerge to improve energy efficiency throughout the community. The Action Plan has identified programs and activities to bring the appropriate stakeholders together to be part of a collaborative effort to increase energy efficiency and reduce heat-trapping gasses produced in Jackson Hole.

Finally, the Action Plan also recommends long-term goals and outlines specific strategies for reducing countywide emissions of heat trapping gases. The best available science, including the recent reports by the Intergovernmental Panel on Climate Change, recommend reducing emissions of heat trapping pollutants by 80 percent from today's levels by 2050. Many communities around the US and the world have committed to this goal, but their plans for achieving the goal generally lack specifics. This Action Plan calls for setting the goal and putting in motion a process to study the effects of climate change on our community and develop a list of defined projects that can help us achieve these goals.

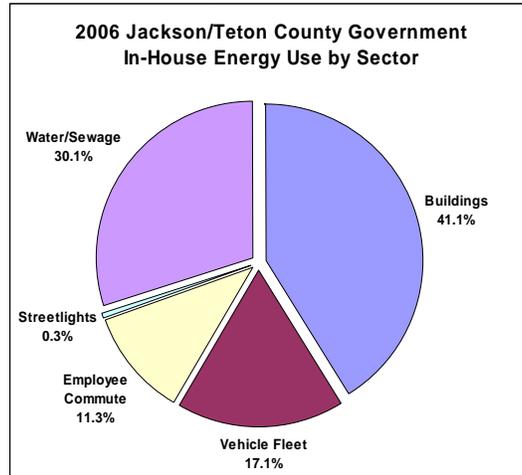
3. ENERGY USE SNAPSHOT

The Baseline Action Team quantified all of the energy used in 2006 to support Town and County government operations¹. This is the baseline from which we will try to achieve ten percent energy reductions. The Team then forecasted energy use in 2010, assuming the construction of a number of planned new buildings. **Table 1 shows that to meet 10x10, we have to reduce our projected energy use by 15 percent, with close to 20 percent savings in buildings.**

Table 1. Baseline energy use and 10x10 target

	2006 Energy Use (kWh)	2010 10x10 Goal (kWh)	2010 Forecasted Use (kWh)	% Reduction by 2010 Forecast Required To Meet 10x10 Goal
Buildings	10,890,900	9,801,810	12,040,587	18.6%
Vehicle Fleet	4,542,352	4,088,117	4,542,352	10.0%
Employee Commute	3,003,237	2,702,913	2,949,650	8.4%
Streetlights	91,213	82,092	91,213	10.0%
Water/Sewage	7,974,773	7,177,296	8,520,553	15.8%
Total	26,502,474	23,852,227	28,144,355	15.3%

Table 2. 2006 Jackson/Teton County Government In-House Energy Use by Sector



It is also useful to list the facilities and vehicle fleets that contribute significantly to the forecasted 2010 energy use in order to help identify where efforts will have the most impact. Therefore, all facilities and/or fleets contributing more than 2.5% of the total energy use in 2010 are listed below from largest to smallest:

- Waste Water Treatment Plant 21.93% of total energy use
- Parks and Recreation Rec Center 14.2% of total energy use
- Teton County Court House 5.75% of total energy use
- Teton County Sheriff's Office 4.23% of total energy use
- New Parking Structure 3.02% of total energy use
- Teton County Jail 2.9% of total energy use
- Jackson Police Department 2.79% of total energy use
- Teton County Public Works Streets 2.51% of total energy use

¹ Our baseline does not include the energy used for town and county services, such as public transportation, recycling, trash transfer. These will be included in a future report that considers community-wide energy use and recognizes the net energy use of these services.

4. STRATEGIES

Strategies used in this Action Plan are broad statements that set direction for developing specific actions.

Baseline

1. To establish baseline energy use and emissions
2. Forecast energy use and emissions in 2010
3. Forecast improvements to energy use and emissions in 2010
4. Monitor actual improvements in energy use and emissions in 2010 from actions taken by EEAB and Action Teams

Communications

1. Share with Town and County employees the issues related to energy use, energy independence, energy efficiency and conservation, financial savings, and environmental protection in a way that engages them and inspires them to make positive personal choices around these topics
2. Communicate to Town & County employees the significance of the 10x10 resolution and their roles in achieving that goal
3. Communicate the programs, challenges, and successes of the Town and County energy projects to a broad audience

Facilities Energy Use

1. Assess and evaluate Facilities
2. Modify current daily operational practices for conservation
3. Identify specific projects for implementation
4. Submit recommendations to respective agencies for consideration and action
5. Develop and adopt standards for new Town and County buildings

Fuels & Fleet

1. Adopt policies encouraging improvements to the overall energy use and impacts of the vehicle fleet
2. Upgrade facilities to permit reduced idling, better maintenance, and alternative fuel usage
3. Improve the way we do business to reduce miles traveled, while accomplishing the same job/task
4. Improve the fuel efficiency of the current vehicles we use
5. Replace the vehicles we use with more fuel-efficient vehicles
6. Replace and/or reduce current fossil fuel use with non-fossil alternative fuels- biodiesel, ethanol, electricity, and hydrogen
7. Consider fuel/energy savings when evaluating and adding levels of services offered to the community
8. Offer incentives to employees that will reduce the energy use and impact of their commute to work

Green Buildings

1. Meet or exceed United States Green Building Council's Silver LEED Standard for all Town and County buildings
2. Build one or more key public buildings built and certified to a Silver LEED standard
3. Implement High Performance Residential Home Program for residents in the community

5. SHORT-TERM RECOMMENDATIONS: 6 months

Organization

- Utilize consultants and staff to complete detailed analysis of action items- \$
- Add two additional workgroups: land use and transportation(referenced in Beyond 10x10 Section)
- Partner with other community based institutions/organizations to expand energy efficiency.
- Identify future staffing structure for FY 2008-2009
- Continue Energy Efficiency Advisory Board until January 2011

Baseline

- Forecast energy use and emissions reductions expected from recommended actions- \$
- Monitor energy use, emissions reductions, and progress towards the 10x10 goals-\$

Communications

- Implement all employee meeting and employee focus groups- \$
- Develop an employee program to effectively engage staff in 10x10 Goals.
- Continue to engage in outreach and education activities with other like communities.
- Utilize the 10x10 brand when referring to the Energy Efficiency initiative

Facilities Energy Use

- Complete Energy Audits on all Town and County facilities (*started*)-\$
- Identify, prioritize, and begin to implement specific projects based on cost benefit analysis

Fuels and Fleet

- Utilize a consultant to quantify reductions and perform a cost benefit analysis-\$
- Prioritize identified actions.

Green Building

- Develop a Town and County building policy for new buildings and retrofits (*started*).
- Identify a Town or County building project for LEED Silver demonstration.
- Implement the High Performance Residential Home Program (*started*).
- Adopt and begin implementing the International Energy Code (*started*)...

\$ Future costs may be associated- will be brought as individual items before the Elected Boards.

6. LONG-TERM RECOMMENDATIONS: 6 months and Beyond

Organization

- Develop long-term policies for maximizing energy efficiency
- Set Town and County goal for reducing greenhouse gas (GHG) emissions
- Determine future staffing structure to achieve 10x10 and beyond- \$

Communications

- Refine and implement a Community Plan for energy efficiency
- Implement an Employee Program to effectively engage staff in the 10x10 Goal-\$
- Continue to engage in outreach and education activities with other communities

Baseline

- Continue to monitor efficacy of Town and County actions
- Establish baseline and forecast of county-wide GHG emissions- \$
- Work with Lower Valley Energy to weather-normalize results to baseline data
- Literature review and summary of climate change in the West

Facilities Energy Use

- Work with Green Buildings Action Team to develop and adopt standards and guidelines for all facilities constructed by the Town and County to reduce future energy use
- Continue building retrofits to improve energy efficiency (*started*)- \$
- Evaluate the operational practices of Town and County buildings and develop a plan to address energy use reduction and foster employee participation in the plan

Fuels and Fleet

- Support employee carpooling, use of public transit, and use of alternative transportation
- Support development of new START and fleet facility-\$
- Implement more energy efficient fleet maintenance practices
- Develop green fleet procurement policy
- Incorporate biofuels and necessary infrastructure as deemed desirable/possible-\$

Green Buildings

- Support implementation of adopted green building policy
- Support necessary staff training to implement green building policy- \$

\$ Future costs may be associated- will be brought as individual items before the Elected Boards.

7. BEYOND 10x10

Achieving 10 percent energy reductions by the year 2010 will offer the Town of Jackson and Teton County substantial economic and environmental benefits. Additional substantial energy efficiency gains can be realized by **expanding the scope of the 10x10 initiative to include non-governmental organizations, businesses, and residents.** Through the leadership demonstrated in the 10x10 initiative and the conduct of the EEAB and Action Teams, the Town and County should collaborate with the private sector to further pursue goals set forth in the U.S Mayor's Climate Protection Agreement and the County's Climate Change Resolution (Attachment 1-c).

The work of Town and County government includes: improving the public transportation infrastructure, permitting and inspecting new buildings, developing land use plans that protect environmental resources and allow reasonable growth, and solid waste management practices that minimize costs and risks associated with burying waste. Developing plans to improve energy efficiency throughout these areas of influence can **expand energy efficiency far beyond government operations**, bringing the benefits of reduced energy use and corresponding cost savings, and reduction of fossil fuel use and corresponding heat trapping gas emissions. The following are the beyond 10x10 recommendations:

1. Expand 10x10 to areas of government influence, including Land Use and Transportation.
2. Set heat trapping gas emission reduction targets.

The GfK Roper Yale Survey on Environmental Issues states that 3 in 4 Americans want their own city or local government to do more to reduce heat-trapping gases that cause global warming (see Supporting Documents 3-b). The EEAB recognizes that global climate change presents one of the foremost economical, social and environmental threats to our community and the world. Increasing concentrations of heat trapping pollutants in the atmosphere are causing higher temperatures, resulting in more frequent intense storms and forest fires, rising sea levels, changes in precipitation, reduced snow pack and water availability, biodiversity loss, species extinction, changes in infectious disease incidence, increases in mortality due to heat stress, and human displacement. The economy of Jackson Hole depends on sufficient and sustained snow pack and water supply, and healthy, diverse plant, fish, and wildlife populations.

Global warming is more than a quality of life issue. It is about our future ability to live in Jackson Hole and how that future rests on the choices we make in our daily lives. In order to address the threats presented by global climate change, governments, businesses and the individual citizen must commit to action now and into the future. The EEAB recognizes the need to address climate change head on with a consistent, community-wide program of energy efficiency and reduction of greenhouse gas emissions. **This program should include further energy efficiency and heat trapping gas emissions reduction targets.**