

# **REBUILD MOSCOW COMMUNITY PARTNERSHIP FIVE-YEAR ENERGY AND RESOURCE USE ACTION PLAN**

## **REBUILD IDAHO**

Draft – May 24, 2000

### **PRIORITIES, GOALS, AND ORGANIZATION**

#### Introduction

The City of Moscow, Latah County, and the Moscow School District are participating in the Rebuild Idaho program through the formation of a community partnership (the Partnership).

The Partnership agrees that this is a dynamic rather than a static five-year plan with the full intention that changes will be made as opportunities and priorities develop. As a reflection of this dynamic nature, each entity will develop an annual strategic plan that is specific to their changing needs.

This plan will assist the Partnership in identifying cost-effective and economically sustainable energy and resource efficiency priorities for community buildings.

#### Vision Statement

Over the next five years the Partnership will develop a program to identify and implement methods for controlling utility costs and maintaining building efficiency and a safe and healthy environment for building occupants and community citizens.

The community partnership wishes to demonstrate to employees and the community that public buildings are being operated in a cost-effective manner, saving resources and maximizing the use of tax dollars.

The community believes that actions undertaken under the Rebuild Idaho Program are wise investments and will benefit all the citizens of the community. Our vision is to make “energy and resource efficiency” a key issue for operating and maintaining our buildings.

#### Program Goal

The partnership anticipates that implementation of ECM’s (energy conservation measures) and operation and maintenance changes in candidate buildings will produce a 20 to 30% reduction of 1998 and 1999 electrical and natural gas energy use by the year 2002.

## Major Objectives

- Ensure that buildings are safe, comfortable, and provide a good learning/working environment for occupants.
- Make wise investments based on broad-based input and accumulated knowledge.
- Guarantee that buildings are well lighted. A key objective is to make changes that enhance the live-ability of buildings.
- Increase the quality of indoor air for the health, comfort, and safety of occupants and visitors in municipal and K-12 school buildings.
- Educate building occupants to facilitate energy-efficient behavior and expand existing belief systems.
- Educate facility staff about building systems, energy-efficient operations, maintenance principles and practices.
- Identify and describe building operation and efficiency changes that require action.
- Provide a platform where management and staff can work together to develop a systematic approach to accurately measure energy efficiency and to develop a phased approach for efficiency implementation.
- Utilize energy and resource savings for other building and partnership purposes.
- Add comfort and value to existing buildings and systems without increasing existing utility costs.
- Ensure that new buildings follow good energy and resource efficiency practices.
- Promote and expand the partnership to other entities.
- Decrease air and water pollution through building energy and resource efficiency.

## Accomplishments to Date

Small retrofits, including lighting upgrades have been made in a few partnership buildings. A two-year energy use base has been established utilizing utility management software. Partnership savings and success will be evaluated from this base.

## Partners and Organization

The Partnership is a collaboration of public and private partners within Latah County, Idaho. The primary intent of the Partnership is to provide a safe and comfortable environment for building

occupants, and to establish positive economic development within the community through energy and resource savings. There are three main public-sector partners which form the Partnership: 1) City of Moscow; 2) Latah County; and 3) the Moscow School District.

The City of Moscow will act as lead partner in the community partnership. The City's role is to provide coordination within the partnership. They will be the main partnership contact and ensure that information and communications are distributed to all partners. Latah County and the Moscow School District will work with the City to co-develop a five-year energy and resource use action plan. Each of the three partners will develop a one-year strategic plan that identifies actions specific to their facilities.

The Idaho Department of Water Resources Energy Division (the Department), will assist the partnership as follows:

- Recommend operation and maintenance , resource, and efficiency changes;
- Provide utility management software and training;
- Research the availability of program funds or services:
- Develop the five-year energy and resource efficiency plan, and first-year strategic plan.

Avista Utilities will assist the Partnership in the development of a five-year energy and resource use action plan and one-year strategic plans. They will input baseline energy data into utility manager software for partnership buildings and assist the Department in training data entry personnel.

Building occupants, though not specifically listed as a partner in the Partnership, are important to the program. Their behavior, such as turning off unused lights and equipment etc., can reduce building energy use by 10%, a significant contribution to facility expenditure reduction.

### Current Partners

#### City of Moscow

Roger Blanchard , Parks/Facilities Manager

#### Moscow School District

Bill Anderson,

Sue Driskill, Business Manager

#### IDWR (the Department)

Sue Seifert, Rebuild Idaho Program Lead

Ken Baker, Program Consultant

Pat Gleason, Energy Specialist

#### Latah County

Jim Kramer, Facilities Director

Avista Utilities

Patrick Ehrbar, Resource Management Analyst

Barriers

Potential barriers to effective program implementation include: .

- Appropriation of resources, staff, partners, and dollars, to produce effective and timely implementation of measures.

**CANDIDATE BUILDINGS**

Utility management software will be utilized to establish a base for building energy and resource use. This data will be utilized to identify buildings with high utility costs and can assist in identifying strategies for potential energy and resource reduction.

Existing candidate buildings and priority for action are listed in the tables below.

**City of Moscow**

<b>Building</b>	<b>Square Footage</b>	<b>Priority for Action</b>
<b>City Hall and Community Center</b>	<b>18,000</b>	
<b>Maintenance Shop</b>	<b>45,000</b>	
<b>Eggan Youth Center</b>	<b>7,310</b>	
<b>Paul Mann Bldg.</b>	<b>5,670</b>	
<b>Police Station</b>	<b>9,200</b>	
<b>Total</b>	<b>85,180</b>	

**Latah County**

<b>Building</b>	<b>Square Footage</b>	<b>Priority for Action</b>
<b>Courthouse</b>	<b>52,000</b>	
<b>McConnell Mansion</b>	<b>3,500</b>	

**Moscow School Dist.**

<b>Building</b>	<b>Square Footage</b>	<b>Priority for Action</b>
<b>West Park Elementary</b>	<b>24,000</b>	
<b>Lena Whitmore Elementary</b>	<b>47,700</b>	
<b>Russell Elementary</b>	<b>30,000</b>	
<b>Moscow High</b>	<b>120,000</b>	
<b>Field House Gym</b>	<b>30,000</b>	
<b>McDonald Elementary</b>	<b>50,700</b>	
<b>Administration Bldg.</b>	<b>7,600</b>	
<b>Moscow Jr. High</b>	<b>65,500</b>	
<b>Total</b>	<b>375,500</b>	

## **RETROFIT OBJECTIVES**

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

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

Building retrofits can procure savings that enable the partnership 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.

### Targets and Time Frames

Actions and timelines are identified in one-year strategic plans developed individually by the county, city, and school district.

## **BUILDING ASSESSMENTS, ENERGY CONSERVATION MEASURES, & OPERATIONS AND MAINTENANCE**

### Operations and Maintenance:

The Department will provide the Partnership with a list of general low to no-cost operation and maintenance (O&M) options that will increase building efficiencies when put into practice. In addition, building assessments will identify specific building by building O&M's for maintenance staff implementation.

### Building Assessments:

To begin full Partnership building assessments, initial building prioritization will be performed utilizing software designed for that purpose. Up to three-years of energy and resource data, electricity, natural gas, garbage, sewer, and water will be entered into utility management software. This base data will be used to determine potential cost-saving measures, and to evaluate future energy and resource use and savings.

The Partnership will consider utilizing a combination of an energy service company (ESCO), serving utility, and engineering services, for building assessments. Assessments will be conducted on the candidate Partnership buildings identified in the plan. Assessment priority will be based on utility management data, computer analysis, partner needs and financial capabilities. Once assessments are completed, buildings will be selected for retrofit action. The selection criteria includes:

- 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 installing effective building ECMs (energy conservation measures).

Building assessments will be an in-depth analysis of the whole building including:

- Lighting and control systems
- The building envelope
- Engineering analysis of building mechanical systems such as pump air flows, and equipment operating efficiencies
- Metered water use
- Sewer billing
- Solid waste generation rates

An assessment report will include the following:

- Recommended ECM's
- Life Cycle Costing optimization where appropriate
- Calculation of ECM simple payback
- Identification of existing operating efficiencies
- An estimated cost for ECM implementation
- Identification of funding options to measure implementation
- Identification of Operations & Maintenance's (O & M's)
- Recommendation to reduce water consumption
- Recommendation to reduce sewer bills
- Recommendation to reduce solid waste generation rates

An assessment report will be prepared with recommendations for ECM actions for the Partnership's consideration.

## **COSTS AND RETURN-ON INVESTMENT**

The Partnership has a goal of achieving between 10 and 25% reduction in building energy use over the five-year plan time line. Baselines will be adjusted accordingly when new buildings or additions are added to the base.

## **ACTIONS AND RESPONSIBILITIES**

The continuing planning process will be designed to bring on-going support from partners and other stakeholders as they are identified. The lead partner will coordinate quarterly conference calls with all partners. Monthly meetings will be scheduled to facilitate communication between the primary partners.

The Department and will be the lead facilitator in the development of the community partnership action plan. In addition, the Department will:

- Provide utility management software and training to the partners;
- Assist the partnership in obtaining funding and resources for plan implementation;
- Retain contact with the other partners throughout the five-year plan period and, at the partnership request, lead process in the development of new actions and strategies;
- Assist in the development of a monitoring and verification plan;
- Facilitate communication between the partners and other Idaho partnerships;

- Promote the Partnership locally and nationally.

Products and services available through the national Rebuild America program will be identified during the first six months of plan implementation.

## **MONITORING, EVALUATION AND REPORTING**

Data on monthly energy use will be compiled by the Partnership to establish a baseline of energy use for buildings. A monitoring and evaluation plan will be developed utilizing the Utility Manager software that will document actual energy use for each partnership building. This data will be used to assess post-improvement performance of retrofitted buildings. Reports summarizing energy, resource and cost savings will be prepared and presented semi-annually to the Partnership. Monthly Utility Manager files will be forwarded via e-mail to the Department for assistance in program analysis.

## **PROMOTION AND EXPANSION**

The three main entities, city, county, and school district, that forms the Moscow Community Partnership are providing a platform for positive community economic development and sustainability. Through coordination with the Partnership, the Department will develop a plan for promoting and expanding the Partnership locally and nationally through implementation of the program. The Department will promote the Partnership savings and successes through the national Rebuild America program and publications, and through publication in the Department's Currents newsletter. Case studies will be developed for distribution and publication on the Department's Rebuild web site. Local press releases will be utilized for marketing program implementation successes.

## **FISCAL YEAR REPORT AND YEARLY STRATEGIC PLAN**

The Partnership will produce a yearly report that outlines the progress and successes of their program. The report shall be presented to the Board of County Commissioners, City officials and the school board at a pre-determined public meeting. Information contained in the report may be used by the Rebuild Partners in newsletters and publications to promote the program.

Each year the partnership will create a strategic plan which describe specific strategies and actions which will be under taken during the upcoming year.

