



# Payson

## ENERGY & FACILITY

— *solutions* —

*Lin Alder, Matt Bruce & Leslie Larocque* 435.632.8433 August 20, 2014

# Are Your Buildings Money Sinks or Money Sources?



?



# Are You Overpaying Utilities & Maintenance?

**10%**  **30%**  
**Reduction (or more)**



Increased equipment and operation efficiency  
= Stop overpayment

# Is Payson Overpaying Utilities/O&M?

## Building Controls

- Is scheduling optimized?
  - Night/evening setbacks, reset after special events, simultaneous heating/cooling
- Are temperatures set correctly?
  - Boiler supply/return?
- Energy saving Indoor Air Quality improvements?
  - Are economizers installed and functioning?
- Are Variable Speed Drives an option for Pumps and Fans?
  - Are pumps in their efficiency 'sweet spot' as often as possible?



# Is Payson Overpaying for Utilities/O&M?

## Proactive Maintenance

- Avoid end-of-life emergency repairs
  - Municipal building boiler?
  - Predict and minimize?
  - Reduce down time
- Capital Improvements List?
  - Known problems needing long term fixes



## WHAT

*Removing energy waste from facilities*

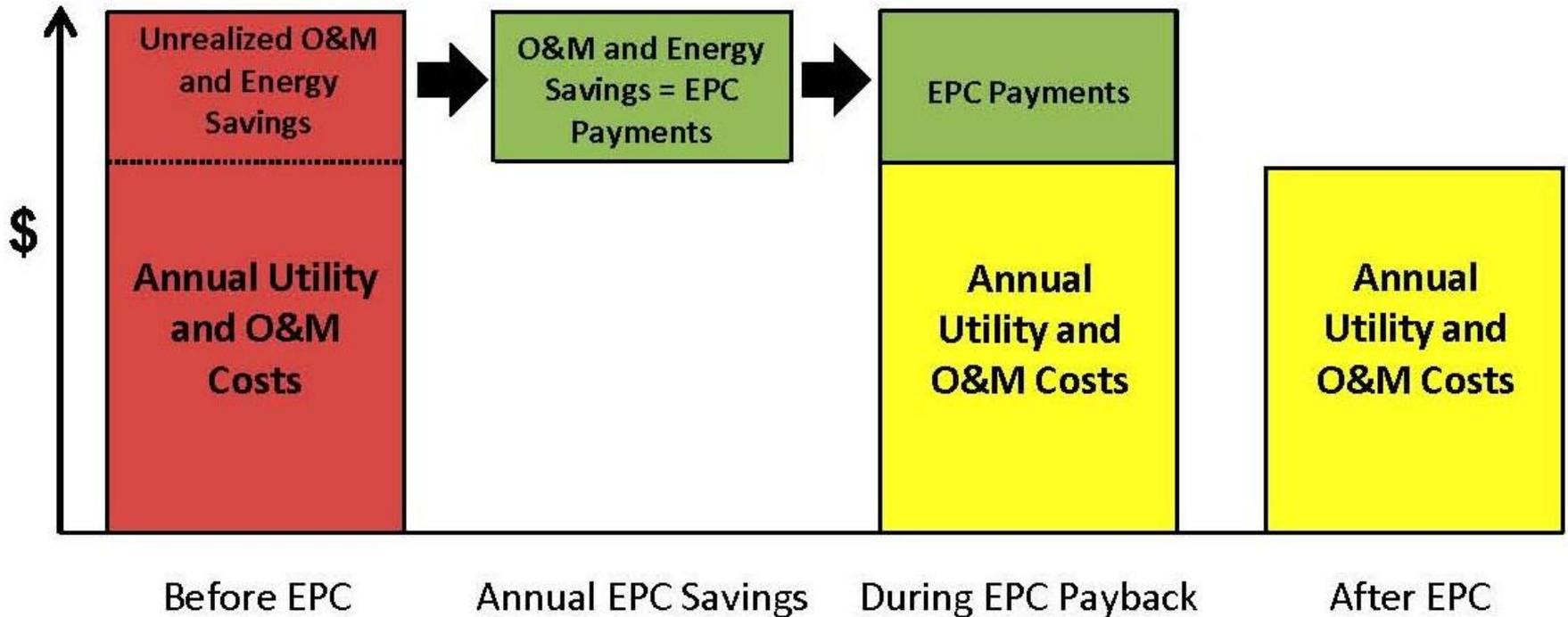
## HOW

*Design and implement improvements with guaranteed performance*

## HOW MUCH \$

*Pay for improvements over time through energy and maintenance cost savings – not Capital budgets*

# How Does Performance Contracting Work?



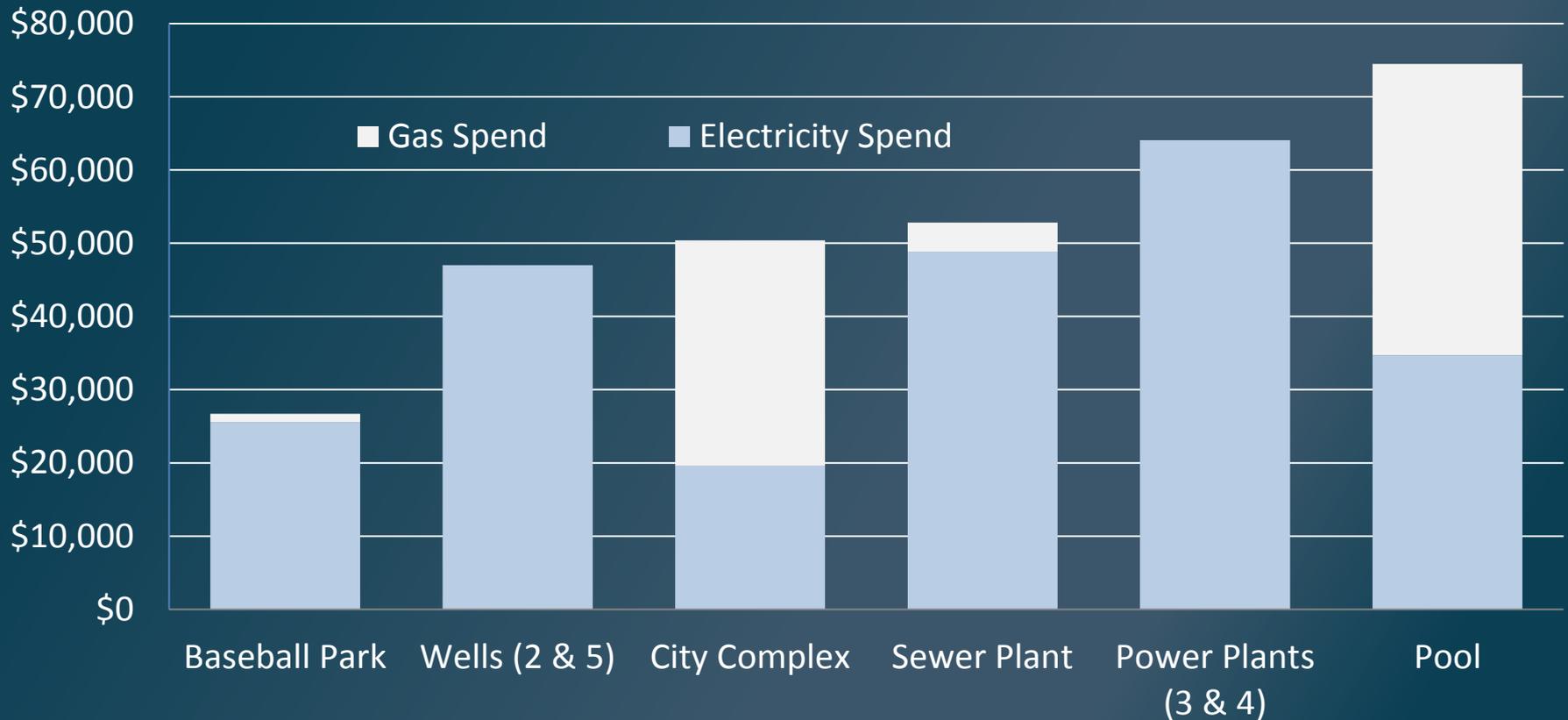
EPC = Energy Performance Contract

# Payson Annual Energy Costs (sample)

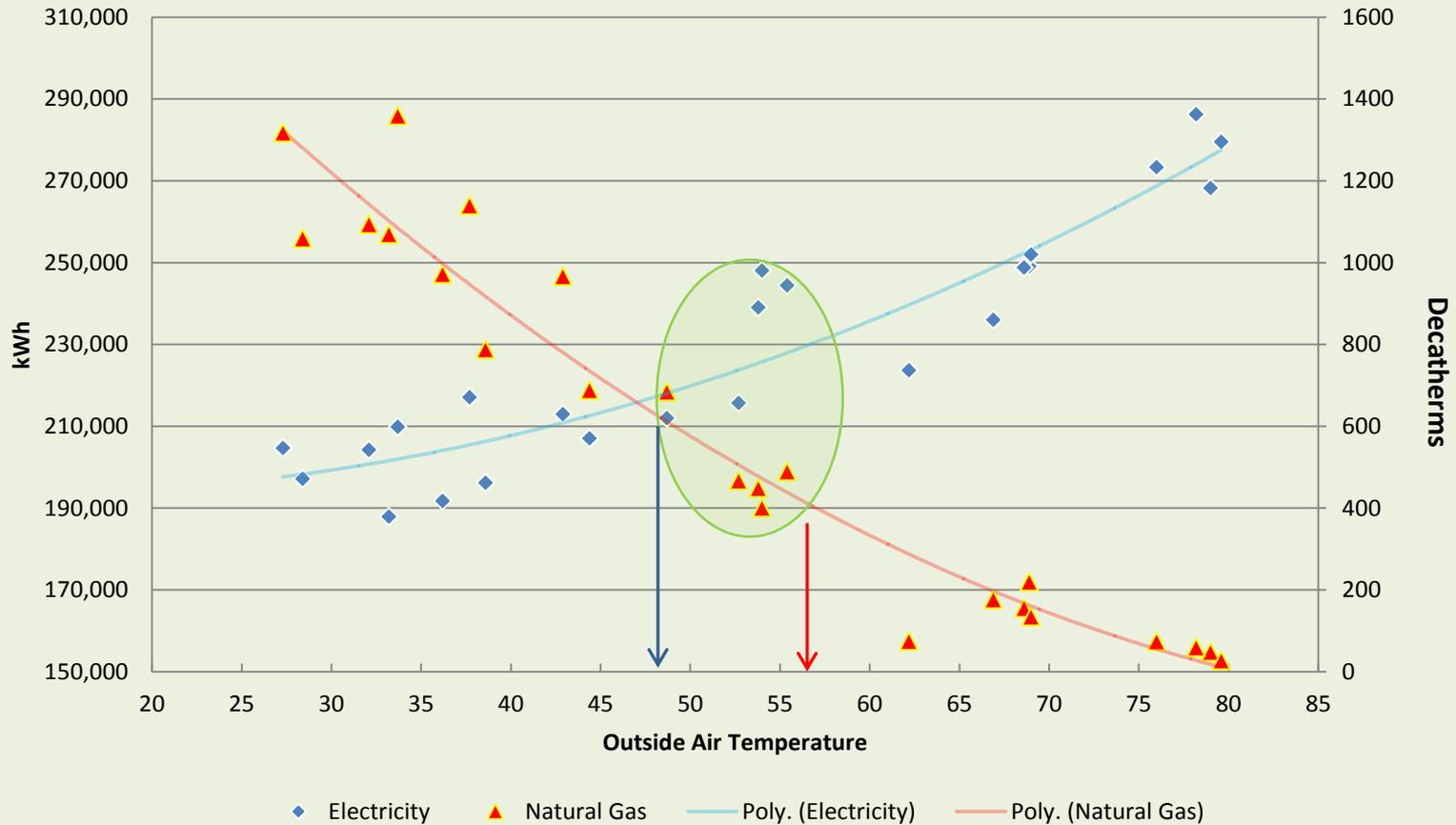
- Municipal Building: \$50,378 (?)
- Pool: \$74,500
- Wastewater Plant: \$52,800 (?)
- Baseball Park & Snack Shack: \$26,700
- Power Plant 3 & 4 (Electricity): \$64,067
- Wells 2 & 5: \$47,018
- Total:

# Payson Energy Spend

## Annual Energy Spend by Facility



# Facility Energy Assessment



# Annual Energy Cost Savings: Example #2

- \$450,000 annual utility expense
- 20% annual savings = \$90,000
- 10 - 15 year lease purchase
  - \$90,000 X 10 years = \$900,000
  - \$90,000 x 15 years = \$1.35 million

# What Do You Prefer?

\$90,000/year

?



Utility Overpayment

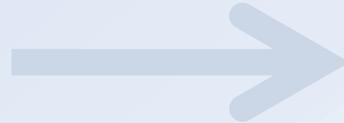


Improve Your Facilities

# Finance Costs vs. Facility Benefits

Finance Cost:

$\$900,000 \times 3\%$



\$142,856

Facility Investment:

$\$900,000 - \$142,856$



\$757,144

Cost vs. Overpayment Reduction = \$1 to \$5.3

# Worst Case\* Finance Costs Scenario

For every \$1 spent on financing...

Payson receives \$5.30 in overpayment reduction / facility investment

\*Does not include utility incentives, capital contribution, debt restructuring or early payoff

# Rate Increases Function Like Compounding Debt

Deseret News

Search

Deseret News

## Rocky Mountain Power asking for rate hike

Deseret News

Published: Friday, Jan. 3 2014 1:44 p.m. MST

Print

Font [+]

[-] [Leave a comment](#)

[Share](#) 5 [Share](#) 4 [Tweet](#) 1 [Pin it](#) 0 [G+](#) 0 [in](#) [+](#) [-](#)



Rocky Mountain Power is requesting a price increase of \$76.3 million or 4 percent overall average. A typical residential customer would see an increase of about \$3.73 on their monthly bill.

Ravell Call, Deseret News

[Enlarge photo](#)

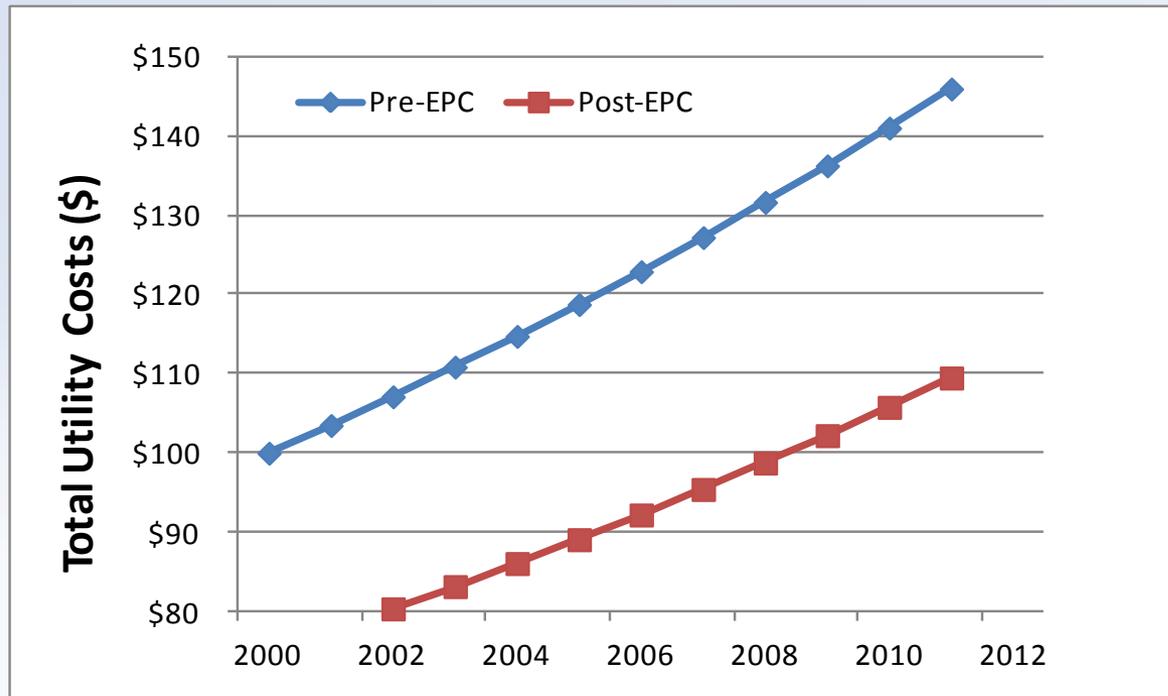
### Summary

Rocky Mountain Power is requesting a price increase of \$76.3 million or 4 percent overall average. A typical residential customer would see an increase of about \$3.73 on their monthly bill.

SALT LAKE CITY — Utah power users may pay a little more for their electricity because of a rate hike request from the state's largest electric utility.

Rocky Mountain Power is requesting a **rate increase** of \$76.3 million or **4 percent overall on average**. If approved by the Utah Public Service Commission, a typical residential customer would see an increase of about \$3.73 on their monthly bill.

# Uncontrollable Rate Increases vs. Guaranteed Savings



EPCs reduce utility costs, but rates increase.  
Today's energy savings increase in value over time.

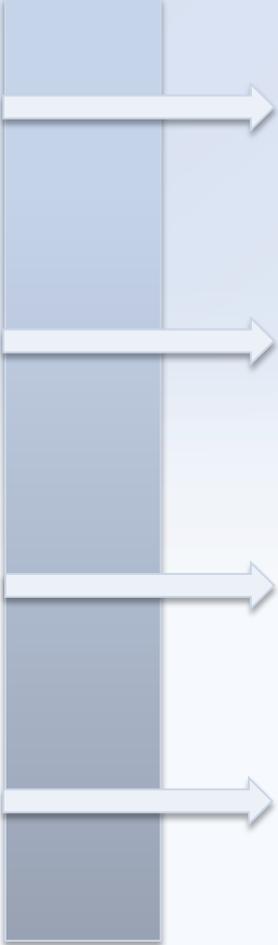
# Utah Entities Using EPC: Sample List

- Washington City
- St. George City
- Orem City
- Salt Lake City
- Salt Lake Community College
- State Prison
- University of Utah
- Utah Division of Facility Construction and Management

# Utility Incentives vs. Performance Contracts

<b>Utility Programs</b>	<b>Performance Contracts</b>
Identify opportunities (free)	Identify opportunities (free & cost)
Primarily prescriptive	Primarily custom
Utility-approved contractors	State-approved contractors (can use utility-approved subs)
3 <sup>rd</sup> party providers	In-house or 3 <sup>rd</sup> party providers
Generally piece by piece	Generally comprehensive
Eligible for cash incentives	Eligible for same cash incentives
Not eligible for financing	Eligible for financing

# Can Performance Contracting Help Payson?



*Typically financed through lease-purchase agreement*

- Funds from multiple sources may be combined*

*Annual cost savings meet or exceed annual payments*

*Redirect money already being spent on utility budget*

*State pre-approved EPC provider list*

# What Makes A 'Good' Energy Partner?

## People

- **Collaborative team with history together**
- **Low turnover; utilize local subcontractors**
- **Shared values**

## Expertise

- **Deeper savings and proven solutions**
- **Collaboration with Fac. Mntnc. is key**
- **Specific: Rec., Admin., Library, etc.**

## Project Approach

- **Know where and how to focus**
- **Integrated delivery of all services**
- **Open book/transparent pricing**

# Next Steps For Payson

## **NO COST (completed)**

- Finish preliminary building, equipment assessment
- Data analysis and site visits
- Present preliminary findings to decision makers

## **COST**

- Commitment: Investment Grade Audit
- Lease Agreement & Funding
- Contracting/construction/optimization
- Measurement & Verification for term of contract

# Are Your Buildings Money Sinks or Money Sources?



?



# Highlands Ranch Community Association

- *29,000 households*
- *331,000 sqft*
- *Conservative*
- *5,000+ daily visits*
- *Utility bills: \$1 mil*
- *~\$90 Million in Deferred Maintenance*



# HRCA Improvements

- Add variable frequency drives to pool pumps
- Upgrade building automation systems
- Replace outdated pool room air handling units
- Insulate pipes, heat exchangers, and other mechanical equipment
- Install high-efficiency lighting
- Retrofit sinks, toilets, and showers
- Improve air conditioning system
- Install high ceiling air destratification



# HRCRA Project Details

Total Project Cost

**\$2,608,916**

Utility Rebates

**\$131,000**

Project Cost After Rebate

**\$2,477,916**

Annual Savings

**\$207,490**



Total Project ROI: 12 years

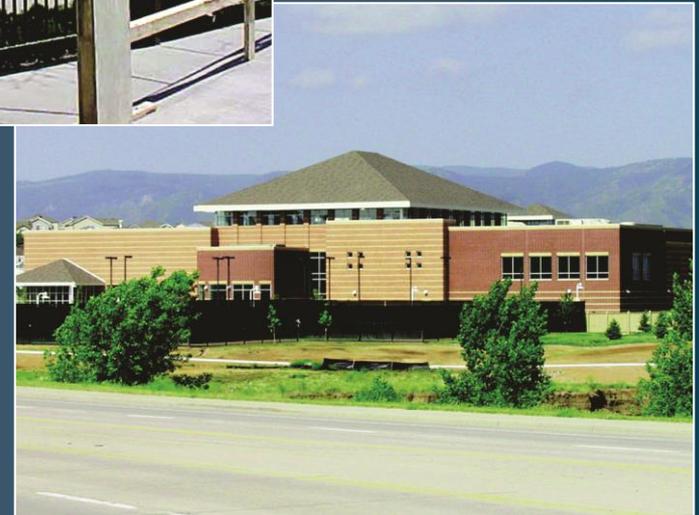
# HRCA Projected Annual Savings

*Energy Conserved*  
**23%**

*Electricity Conserved*  
**1,450,768 kWh**

*CO<sup>2</sup> Emissions Reduced*  
**3,749,702 lbs.**

*Natural Gas Saved*  
**93,094 Therms**



# Evergreen Parks and Recreation

- *Rural/ Mountain town*
- *22,000 households*
- *Many Years of Deferred Maintenance*
- *High Capital Improvement Project Needs*



# EPRD Summary

## FACILITIES

- Buchanan Recreation Center
- Wulf Recreation Center
- Evergreen Lakehouse
- Park Administrative Building
- Park Operations Building



# EPRD Facility Improvements

- Added building insulation
- Improved heating and cooling controls
- Installed water-saving components
- Provided new energy-efficient lighting and controls
- Installed new pool energy recovery heating system
- Commissioned and retro-commissioned equipment



# Project Cost and Savings Summary

Project Installation Cost:	\$849,000
EPRD CIP Contribution:	(\$238,000)
Estimated Utility Rebates:	<u>(\$44,000)</u>
<b>Net Project Financed Amount:</b>	<b>\$567,000</b>
<b>Total Annual Savings:</b>	<b>\$44,000</b>
<b>Project Simple Payback:</b>	<b>12.9 years</b>

## Notes:

1. Net project financed amount 100% funded from future savings.
2. Financing currently quoted at 3.4% rate over a 12 year term.

# EPRD Project Savings

- Energy Conserved: 23.7%
- Electricity Conserved: 364,316 kWh
- CO<sup>2</sup> Emissions Reduced: 435 Metric Tons
- Natural Gas Saved: 29,928 Therms



# Thank You!



# For More Information:

**Lin Alder, LEED GA**

**435.632.8433**

**LinA@McKinstry.com**

**Matt Bruce, PE, CMVP,  
LEED GA**

**801.448.3238**

**MattB@McKinstry.com**

**[www.McKinstry.com](http://www.McKinstry.com)**