Easy Money: Smart Strategies for Cutting Energy and Water Costs
Easy Money: Smart Strategies for Cutting Energy and Water Costs

Deb Cloutier | JDM Associates
Mike Zatz | EPA ENERGY STAR®
Don Anderson | Blackstone
Michael Miller | American Utility Management
Course Description

Learn cutting edge updates from EPA's ENERGY STAR® Program, discover how a leading utility management firm is leveraging data to reduce energy and water costs, and hear from a multifamily owner as they explain why and how they are:

• implementing successful utility reduction strategies
• attracting more residents
• improving the bottom line of multifamily portfolios
Learning Objectives

- Understand the importance of benchmarking energy and water performance using ENERGY STAR Portfolio Manager and industry trends to disclose energy performance to residents and other stakeholders.

- Review lessons learned and best practices from ENERGY STAR certified properties.

- Learn how to implement utility cost reduction programs at a variety of property types and across large portfolios.

- Discuss the value proposition for pursuing sustainability strategies that control costs, mitigate risks, differentiate properties, and signal high quality to residents.
Deb Cloutier | JDM Associates

Join the Conversation
#OPTECH2016
@apartmentwire
Transactional Value

Integrating sustainability throughout the CRE value-chain

Energy efficiency ➞ Utility cost savings

Historically driven utility cost savings, and impacts on asset value....
Transactional Value

Integrating sustainability throughout the CRE value-chain

Business case expanding to all phases of real estate transactions, finding value through risk mitigation, competitive advantage, brand enhancement…

- Sustainability
- Utility cost savings
- Investor demand
- Appraisals and valuation
- Tenants/leasing
- Repositioning assets, deep retrofits
- Health and wellness
Mike Zatz | EPA ENERGY STAR
Why Partner with ENERGY STAR?

• Earn recognition for superior performance – nearly 90% of Americans recognize the ENERGY STAR brand.

• Maintain competitiveness with new communities built to green standards and meet the green living expectation of prospective residents.

• Position your community to benefit from financing incentives offered by Fannie Mae, Freddie Mac, and HUD.

• Mitigate the risk of potential noncompliance and fines resulting from energy disclosure legislation that require you to report your energy consumption.
ENERGY STAR Portfolio Manager

Over 45% of the U.S. commercial building market

450,000+ buildings

40 billion+ square feet

~ 4,000 unique users log in every week

Buildings Benchmarked

Floor Space (Million Square Feet)

Cumulative buildings benchmarked
Cumulative Floor Space (millions)
Expanded Offerings

Some of the best things come in threes...

ENERGY STAR® Portfolio Manager® now includes waste tracking!

Track energy, water, and waste – all in one place!

energystar.gov/benchmark
# Inventory of Materials for Tracking

<table>
<thead>
<tr>
<th>Waste/Materials</th>
<th>Disposed</th>
<th>Donated/Reused</th>
<th>Recycled</th>
<th>Composted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appliances</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Batteries</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverage Containers (aluminum, glass, plastic)</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Materials - Carpet/Carpet Padding</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
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<tr>
<td>Building Materials - Concrete</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Building Materials - Mixed/Other</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Building Materials - Steel</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Building Materials - Wood</td>
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<td>x</td>
<td>x</td>
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<tr>
<td>Cardboard/Corrugated Containers</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
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<tr>
<td>Compostable - Mixed/Other</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronics</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fats/Oils/Grease</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food/Food Scraps</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Furniture</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Grass/Yard Trimmings</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lamps/Light Bulbs</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed Recyclables</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Supplies</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pallets</td>
<td>x</td>
<td>x</td>
<td>x</td>
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</tr>
<tr>
<td>Paper - Books</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
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<tr>
<td>Paper - Copy Paper</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper - Mixed</td>
<td>X</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Plastics - Mixed</td>
<td>X</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Plastics - Wrap/Film</td>
<td>X</td>
<td></td>
<td>x</td>
<td></td>
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<tr>
<td>Regulated Medical Waste</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Textiles/Clothing</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Trash</td>
<td>X</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

- 29 Material Types
- 4 Methods of Management
- 72 Unique Combinations

www.energystar.gov/tackwaste
Multifamily Update

• Benchmarking growing rapidly
  – Over 35,000 properties (as of June 2016)
  – Over 4.3 billion square feet of space
  – Approximately 50% have an ENERGY STAR score

• ENERGY STAR Certification growing as well
  – 115 Properties certified
  – 19 certified more than once
  – Over 43 million square feet of space

• Whole property data availability growing rapidly
NEW! Find utilities that provide energy data for benchmarking

Search by zip code and embed the map on your own website!

www.energystar.gov/utilitydata
Improving Your ENERGY STAR Score

Introduction

Example community narrative

How to set an ENERGY STAR target

List of low cost strategies to reduce energy use
Engaging Stakeholders

- Prospective Residents
- Leasing Agents
- Landlords
# Leasing Brochure

## Customizable brochure cover detailing ENERGY STAR certification statement

**An ENERGY STAR® Certified Community**

We are committed to reducing your environmental footprint and saving you money and maximizing your well-being.

**OUR SUSTAINABILITY EFFORTS**

Your apartment home is equipped with the following energy and water efficiency features:

- **ENERGY STAR® certified outdoor lighting, water heating, and heating and cooling systems.**
- Programmable thermostats.
- High-efficiency lighting, water heating, and heating and cooling systems.
- EPA WaterSense labeled appliances and fixtures.
- Low flow plumbing fixtures.

## Value statement for new and prospective renters

Did you know that renting an ENERGY STAR® certified apartment is not only better for our planet, but can also save you money?

### Energy Savings Tips

<table>
<thead>
<tr>
<th><strong>ENERGY SAVINGS TIPS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LOOK FOR ENERGY STAR® labeled appliances, lighting, and equipment.</strong></td>
</tr>
<tr>
<td><strong>TURN OFF THE LIGHTS when you leave a room or are out of the house</strong></td>
</tr>
<tr>
<td><strong>ADJUST YOUR ROOM TEMPERATURE</strong></td>
</tr>
<tr>
<td><strong>TURN YOUR THERMOSTAT back one degree whenever possible.</strong></td>
</tr>
<tr>
<td><strong>MAKE YOUR AIR VENTS OPEN.</strong></td>
</tr>
<tr>
<td><strong>PROTECT YOUR THERMOSTAT, and close the door or air conditioning when you leave home.</strong></td>
</tr>
<tr>
<td><strong>SMART METERING</strong></td>
</tr>
<tr>
<td><strong>SMART METERING offers the ability to view your electricity usage in real-time, as well as historical use.</strong></td>
</tr>
</tbody>
</table>

## Tenant energy and water savings tips

**WATER CONSERVATION TIPS**

<table>
<thead>
<tr>
<th><strong>WATER CONSERVATION TIPS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Take shorter showers.</strong></td>
</tr>
<tr>
<td><strong>Turn off the tap while you lather your hands, soap up, or rinse.</strong></td>
</tr>
<tr>
<td><strong>USE TOILET BAGS</strong></td>
</tr>
<tr>
<td><strong>USE A TOILET BAG with your water conservation efforts</strong></td>
</tr>
</tbody>
</table>

**For more energy and water savings tips visit:**

[https://www.energystar.gov](https://www.energystar.gov)
Total Cost of Occupancy
How much water should a single property use?

- 20 gallons/ft²
- 40 gallons/ft²
- 60 gallons/ft²
ANNOUNCING... The 1-100 Water Score for Multifamily Properties

• Expected launch in Portfolio Manager – Summer 2017!!
• Required inputs for a property are:
  – 12 months of water use
  – Building location (zip code)
  – Building size
    • Gross floor area
    • Number of units
    • Total number of bedrooms
  – Irrigated area

Over 18,000 multifamily buildings are already using Portfolio Manager and will be able to use the water use score by adding one piece of information: irrigated area
For More Information

Mike Zatz
U.S. EPA ENERGY STAR
zatz.michael@epa.gov
202-343-9152

Homepage - www.energystar.gov/buildings
Portfolio Manager - www.energystar.gov/benchmark
Training - www.energystar.gov/buildingstraining
Help - www.energystar.gov/buildingshelp
Don Anderson | Blackstone

Blackstone
Context

• Three to five year hold
• The “Blackstone swarm” – many areas of simultaneous change both help and hinder fast process
• Previous ownership (and associated culture) usually cash strapped
• There is money to be had, but, there is also intense competition to:
  1) prioritize carefully   2) drive fast returns
• Environmental performance mandate (e.g., carbon disclosure) is muted in “take private” setting
Approach Fundamentals

• The presence of energy efficient technology does not correlate well with good energy performance (Energy Star “Class of 1999” ACEEE Study)
• Low- and no-cost opportunities offer the fastest path to 15 to 20% reduced utility costs
• Best-in-class, preferred providers deliver non-capex, low- and no-cost savings better than three bid process
• Carbon emissions should not be confused with a performance improvement KPI – confusion around a new metric is a time sink
Bigger Challenge - Traversing the Multifamily Stovepipes

**Leasing Office**
- Upsell interior package
- What is TCO?
- “What is Energy Star?”
- “What is resilience?”

**Tenants**
- Tip of spear is negative
- But trending green!
- Shifting dog bone
  - *Millennials!*
  - Originals
- Never forget - Sandy

**Engineering**
- Seek invisibility
- Poor story tellers
- Learn fast - Sandy
- “We are Energy Star”

#OPTECH2016 @apartmentwire
Playbook Elements Provide Sharp Focus on Money

**Playbook**
- Dashboard(s) - Submeters
- Scorecard(s)
- Assessments (Fast Find & Fix)
- PMs (w/ Toolkit)
- Programs (e.g., LEDs, motors)
- Cadence Calls

**Clear Vision Regarding Assessments**

**Tracking Focused on Money**
Best-in-Class, Preferred Service Provider for Energy Procurement

Over 1,500 dedicated experts track utility rates 24/7/365, not only at contract expiration

• Blackstone utilizes Schneider (SES) services:
  • Energy procurement
  • Utility data tracking through Resource Advisor, SES’ online platform
  • Monthly Dashboard performance report
  • Adaptable Scorecard creation

• Blackstone portfolio companies using Schneider: 20
  • Savings to date: $60mm
  • Average Annual Energy Spend Managed: $400mm
Customized Homepages, Dashboards, Scorecards
# Scorecard Example – 20% Electricity Savings First Full Year in Use

## Sustainability Scorecard - Processes

<table>
<thead>
<tr>
<th>Category</th>
<th>Process Performance</th>
<th>Process Perspective</th>
<th>Lighting and End-Use</th>
<th>Score and Tier</th>
<th>State Name</th>
<th>TOTAL SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>Percent of Total Energy Use</td>
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<td>100</td>
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<tr>
<td>Heating</td>
<td></td>
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<td>100</td>
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<tr>
<td>Water</td>
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<tr>
<td>Transport</td>
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<tr>
<td>Waste</td>
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<td>IT</td>
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<tr>
<td>TOTAL SCORE</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

## Scorecard Example

- **20% Electricity Savings First Full Year in Use**

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</thead>
<tbody>
<tr>
<td>Lighting</td>
<td></td>
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<tr>
<td>Water</td>
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<tr>
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<td>IT</td>
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<td>100</td>
</tr>
<tr>
<td>TOTAL SCORE</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

## Additional Information

- **Scorecard Example**
- **20% Electricity Savings First Full Year in Use**

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# OPTECH2016 @apartmentwire
Non-Industrial Utility Cost Reduction Toolkit

Equipment in a Duffle Bag
Product Evolution – Thermal Imagery

1980s
$50,000

2016
$249
Infrared Camera - “Like having X-Ray vision”

• Surprising breadth of diagnostic applications:
  • Steam leaks, bad steam traps
  • Improper, inadequate, and missing insulation
  • Roof and wall leaks (before they cause damage)
  • Bad motor bearings (before they fail)
  • Faulty electrical connections and hardware, at panel and elsewhere (before injury)

• Informs scheduled maintenance, prevents unscheduled downtime and other business impacts

• Seldom seen as part of routine PM program
PTAC Cleaning Study – 8% Measured Energy Savings

Energy Usage Per PTAC

Pre Cleaning
Post Cleaning
Linear (Pre Cleaning)
Linear (Post Cleaning)

Energy Usage Per Unit Per Day (KWH)

Avg Daily Temp (F)

Pre Cleaning
Post Cleaning
Linear (Pre Cleaning)
Linear (Post Cleaning)
Attic Stock Matters - Importance of Proper Part Selection

California Flappers: “One-Size Size Fits All” is the Wrong Approach

**Typical Scenario:**
- Property makes an emergency toilet purchase at Home Depot. The toilet is different from the last one purchased. The property has lots of different toilets.
- One flapper is purchased for all toilets on site.
- One flapper does not fit all, and is a costly and common error.

Client with dozens of CA properties installed the same toilet flapper in over 9,000 rooms. The model they selected is designed for 3.5 gpf toilets.

Since installation, the properties have increased water usage by 18% on average.

Water Management experts identify and install the correct replacement flapper and fill valve and document the correct room-by-room requirements.
Playbook Elements Provide Sharp Focus on Money

**Playbook**
- Dashboard(s) - Submeters
- Scorecard(s)
- Assessments (Fast Find & Fix)
- PMs (w/Toolkit)
- Programs (e.g., LEDs, motors)
- Cadence Calls

**Clear Vision Regarding Assessments**

**Tracking Focused on Money**
Contact Information

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The Art of the Long View | @blackstone
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Michael Miller | American Utility Management
Are you leveraging your utility data to increase NOI?

Do you have easy access and visibility to utility invoice data?

Do you have analytics that help you find opportunities?

Are you taking action to take to reduce energy expenses?

Are you measuring the impact of energy programs to prove ROI?
Capture Data
*Get visibility to utility invoices*

**Aggregate**
- Acquire invoices through multiple sources
- Collect line item details
- Monitor for missing invoices
- Store on a secure, scalable platform
- Validate data against historicals

**Standardize**
- Convert disparate data into a common unit of measure
- Ex. Gas: CF, CCF, MCF, Btu, MMBtu → Therms

**Group**
- Category (usage, rate, tax, etc.)
- Utility (gas, electric, water/sewer)
- Property and Region
- Property Ownership
Analyze

Find opportunities

Energy Dashboards and Reporting
• Review usage, cost and weather trends

Benchmarking
• Compare property energy performance to other similar properties across the country

Invoice Audits and Variance Analysis
Water usage increased 52%: possible water leak

Significant YOY water cost spike: likely irrigation issues

Electric usage jump: possible utility billing error

High baseload suggests lighting retrofit opportunity
Take Action
Reduce energy expenses

Rate, Tax and Tariff Programs
• Work with utility providers to correct rate issues and tax exemptions

Commodity Procurement
• Negotiate and manage electric and gas supply contracts in de-regulated markets

Energy Conservation Projects
• Conduct water and energy retrofits

Sustainability Planning

Resident Billing Recovery and Conservation

<table>
<thead>
<tr>
<th>State</th>
<th>Exemptions</th>
<th>Rate &amp; Invoice Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>Tax</td>
<td>$418,821.00</td>
</tr>
<tr>
<td>Texas</td>
<td>Tax</td>
<td>$77,181.00</td>
</tr>
<tr>
<td>Texas</td>
<td>Rate</td>
<td>$81,895.00</td>
</tr>
<tr>
<td>Virginia</td>
<td>Rate</td>
<td>$36,952.00</td>
</tr>
<tr>
<td>Alabama, Arizona, Georgia, North Carolina</td>
<td>Rate</td>
<td>$288,803.00</td>
</tr>
</tbody>
</table>

Total Exceptions/Credits: $226,050.00

<table>
<thead>
<tr>
<th>Property</th>
<th>Water Usage Savings (kgal)</th>
<th>Water Expense Savings</th>
<th>Project Cost</th>
<th>Payback (yrs.)</th>
<th>ROR</th>
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</thead>
<tbody>
<tr>
<td>Washington Place</td>
<td>6,868</td>
<td>$98,003</td>
<td>$80,000</td>
<td>0.8</td>
<td>122.5%</td>
</tr>
<tr>
<td>Mills Market</td>
<td>2,380</td>
<td>$32,250</td>
<td>$30,400</td>
<td>0.9</td>
<td>106.1%</td>
</tr>
<tr>
<td>Market Street</td>
<td>5,959</td>
<td>$77,936</td>
<td>$75,600</td>
<td>1.0</td>
<td>103.1%</td>
</tr>
<tr>
<td>Longstone</td>
<td>10,460</td>
<td>$115,603</td>
<td>$149,600</td>
<td>1.3</td>
<td>77.3%</td>
</tr>
</tbody>
</table>
Track Results

Prove your ROI

Conservation Project Savings

GRESB Reporting

EPA Energy Star Reporting

Sustainability Measures

Client Scorecards
If you aren’t using utility data to improve NOI, you can find a partner to do it for you that has:

- In-house utility management AND energy expertise
- Strong analytics with actionable information
- End-to-end, turnkey solutions
- Expertise in serving multifamily
For More Information

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630-218-1436

www.aum-inc.com