



Building Bridges to Net Zero



# Increasing Property Value & Improving the Bottom Line through Energy Efficiency

Megan Houston



# Benchmarking and Energy Data

- Benchmarking: gathering energy data through measuring and monitoring a building's energy use performance over time.
- Helping multifamily owners
  - Launch cost-effective, comprehensive retrofit projects
  - Select optimal financing models to pay for the improvements
  - Estimate potential retrofit savings for property value impact, underwriting, and asset performance standards.



# Continental Plaza



# Continental Plaza Overview

- 164-unit senior apartment building in Southside Chicago.
- Hispanic Housing Development Corporation property.
  - ESCO: Affordable Community Energy (ACE) and eConserve.
- Lowered its energy bill by 23% and water bill by 5%.
- Could see an increase of \$784,000 in property value.



# Project Scope

- 186 kW DC-rated rooftop solar photovoltaic system
- 4.4 kW DC-rated micro combined heat and power system
- Lighting upgrades
- HVAC replacement
- Water conservation



# Using Benchmarking to Evaluate Options

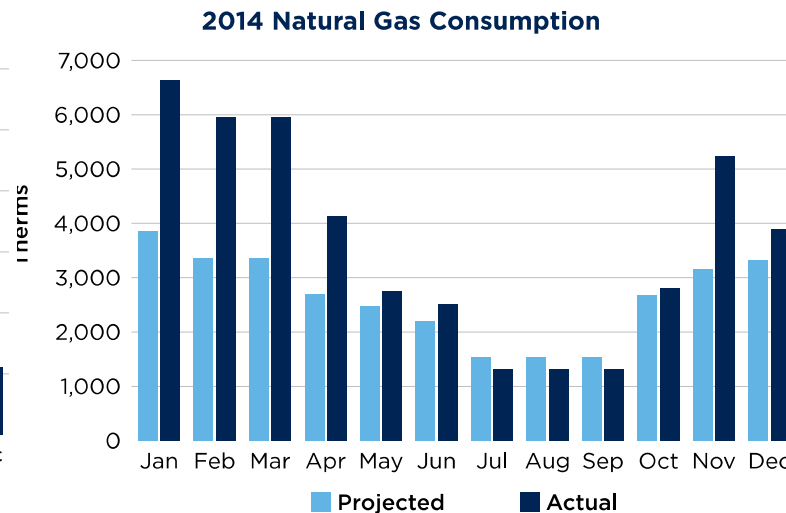
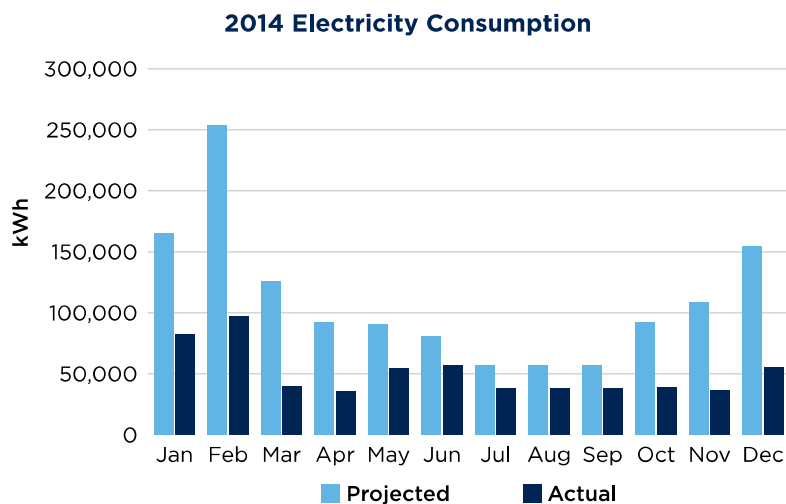
- ACE used Bright Power's EnergyScoreCards™ tool.
- ACE evaluated, installed, managed, and financed retrofits for energy efficiency, renewable energy, and water conservation.
- eConserve performed a water conservation assessment.



# Using Benchmarking to Determine Results

ACE uses EnergyScoreCards data and benchmarking to help it compare pre-retrofit weather-normalized use with actual use.

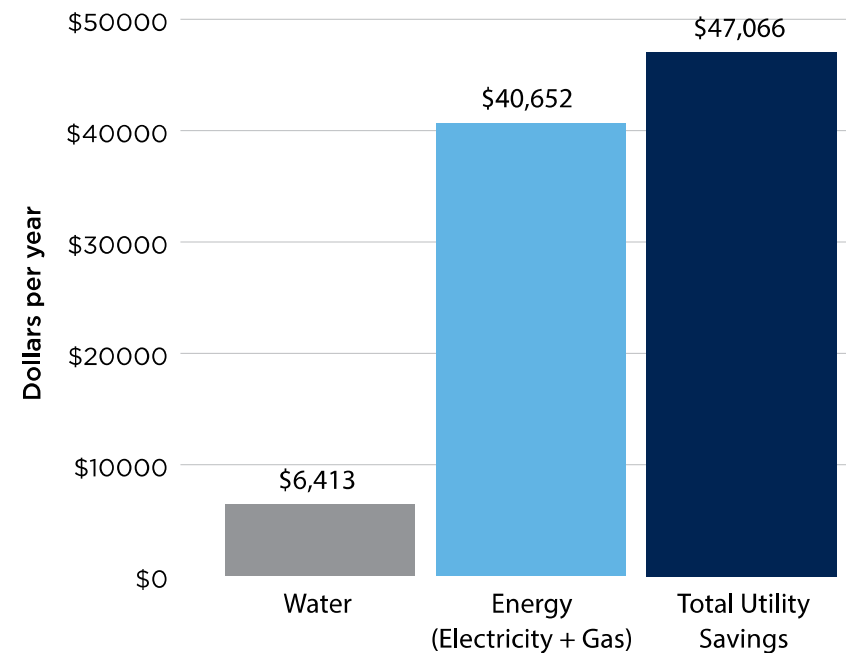
- Building Owner Energy Savings = (projected “typical” energy use x projected rates) – (actual energy use x actual rates) – (reduced energy use x ACE rates x ACE 80% share)



# Utility Savings

- For 2014, the building owner saved over \$47,000 in utility expenses.
- Reduced its energy bills by \$40,652, a 23% energy bill savings.
- Reduced its water bills by \$6,413, a 5% water bill savings.
- Net operating income increase of ~\$47,066.

Building Owner's Water and Energy Cost Savings from Efficiency Improvements





# Project Financing

- ACE invested \$1,641,154 for energy measures at Continental Plaza, as part of a broader 11-property financing package.
  - Solar Investment Tax Credits
  - New Market Tax Credits
  - HUD Energy Innovation Fund
  - State and utility incentives
  - And other sources
- eConserve invested \$30,692 for water conservation measures.
- Continental Plaza invested \$162,000 from replacement reserves.



# Building Owner's Financial Returns & Property Value

- Assumptions
    - 10-year period, 5% discount rate
    - Consistent annual savings
    - Utilities inflation of 3%
  - Net present value: \$249,714
  - Internal rate of return: 29%
  - Total return on investment: 254%
  - Annual ROI: 25%
- Assumptions
    - \$47,066 reduced operating expenses
    - 6% cap rate
  - Potential Added Asset Value
    - \$784,433
    - 5 to 6.7% increase



# CheckMate Realty



Photo: CheckMate Realty



# CheckMate 2909 E. 78<sup>th</sup> Street Overview

- 31-unit naturally affordable apartment building in Chicago's South Shore neighborhood.
- CheckMate worked with Elevate Energy and Community Investment Corporation.
- Reduced common area gas use by 36%.
- Potentially increased its property value by \$140,000, or 10%.



# Project Scope

- Energy Assessment
- Air Sealing; Roof Cavity and Attic Insulation
- Utility Direct Install Program
- Domestic Hot Water and Heating Pipe Insulation



# Using Benchmarking to Evaluate Options

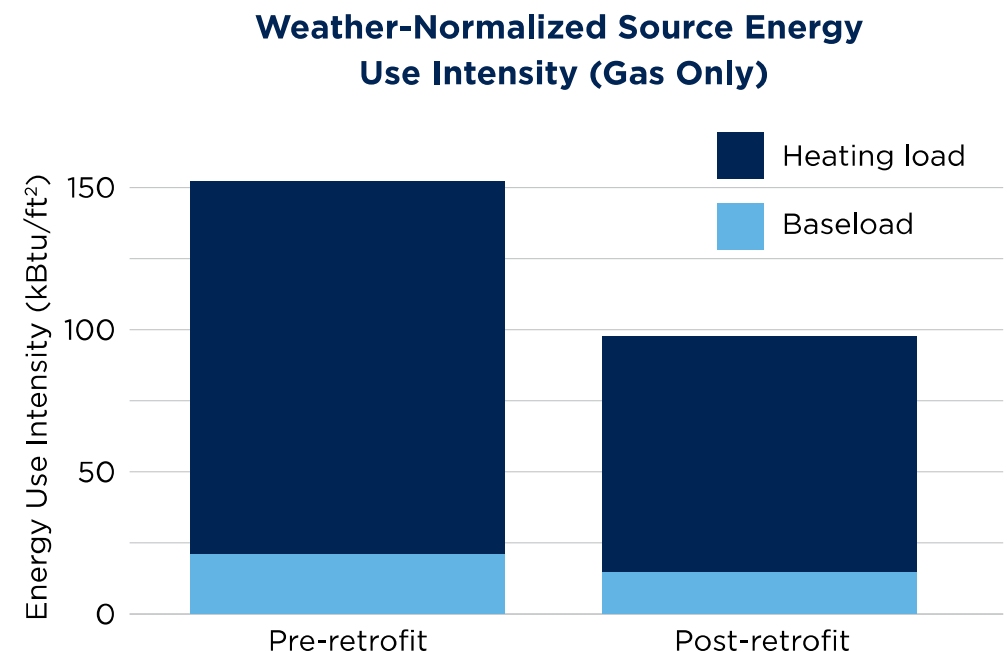
- The building owner worked with Elevate Energy.
- Used utility data to identify savings opportunities from retrofit measures.
- Used energy data to show how the building compared to other buildings in Elevate Energy's programs.



Photo: Elevate Energy

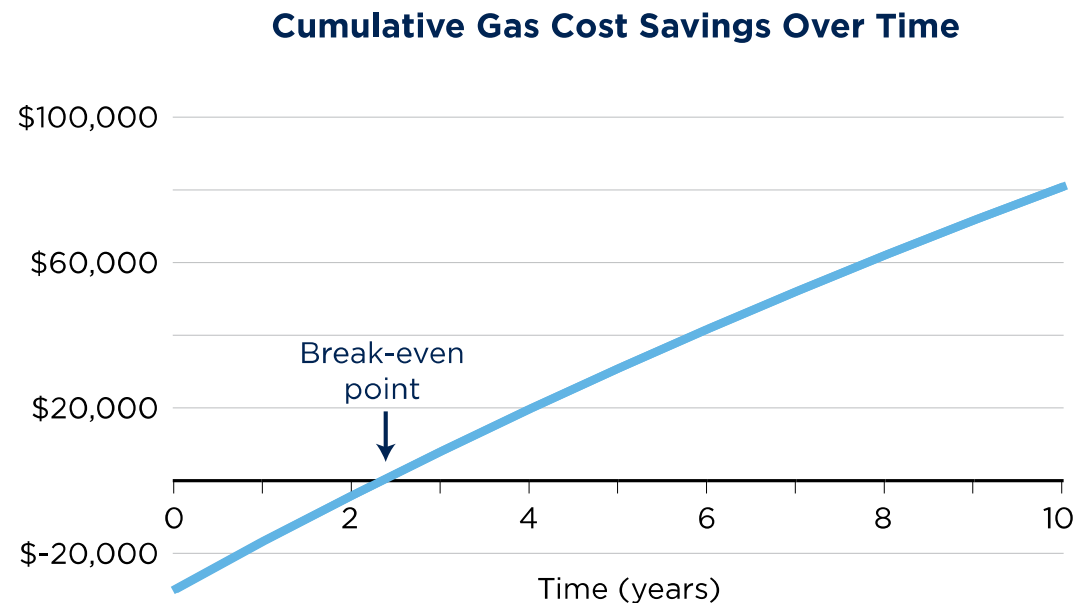
# Using Benchmarking to Determine Results

- Used utility data and internal methodology.
- Compared the average weather-normalized source Energy Use Intensity from
  - 2-year period pre-retrofit;
  - with
  - 2-year period post-retrofit.



# Utility Savings

- Weather-normalized annual average gas savings of ~14,000 therms.
- Reduced gas usage by 36%.
- \$14,000 annual utility savings.
- Net operating income increase of ~\$14,000.





# Project Financing

- Retrofit project cost: \$30,200
- Sources
  - Low-interest loan: \$12,000
  - Replacement reserves: \$18,200



# Building Owner's Financial Returns & Property Value

- Assumptions
    - 10-year period, 5% discount rate
    - Consistent annual savings
    - Fuel inflation of 1%
  - Net present value: \$80,952
  - Internal rate of return: 46 percent
  - Total return on investment: 368 percent
  - Annual ROI: 37 percent
- Assumptions
    - \$14,000 reduced operating expenses
    - 10% cap rate
  - Potential Added Asset Value
    - \$140,000
    - 10% increase



# Summary: Energy Data for Multifamily Owner Financing

- Predicting the financial savings and measuring post-retrofit results depends on accurate energy data.
- Building owners can use energy data to demonstrate how retrofit measures result in
  - Reduced operating expenses
  - Increased net operating income
  - Potentially increased property value
- Credible results can lead to more favorable underwriting and asset performance ratings.



# Contact Info

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