Getting a Running Start
Tools to Build Capacity for Measurable Progress
Affordable Housing Utility Benchmarking Pilot

Summer 2017
We spend *how* much?

- Each year, HUD spends a growing amount – now estimated at over **$7 Billion/year** – to cover utilities costs for 4.5 million affordable housing units.
  - Housing providers spend *over 20%* of the funds HUD provides them on utility costs.
  - The poorest performing buildings spend *3-7 times* as much as the highest performing buildings.
$6.9 billion in Utility Expenditures

Breakdown by program (billions of $)

- Public Housing: 2.1
- Assisted Housing: 2.4
- Housing Choice Voucher Program: 2.4
$6.9 billion in Utility Expenditures

Major Component of Spending by HUD PHAs and Multifamily Owners

- Total HUD Expenditures:
  - All other expenses: 0.86
  - Utilities: 0.14

- Operating Expenses:
  - All other expenses: 0.8
  - Utilities: 0.2
Barriers to Utility Cost Reduction

• Split Incentives
• Financing/Complicated Capital and approval structures
• Inability to track utility data consumption
• Lack of Staff Capacity
• Utilities not a priority because they are a “hidden” expense
Utility Benchmarking Technical Assistance

BENCHMARKING 101

View Guide

UTILITY BENCHMARKING STEP-BY-STEP

View Guide

POLICIES AND PROGRAMS

View Guide
Major barrier to utility benchmarking is **lack of capacity** to gather and manage utility data.

- Last summer, we partnered with the Environmental Defense Fund’s (EDF) Climate Corps program to place 12 graduate students fellows in locations around the country.
Application and Selection

• Looking for a mix of participants who would
  – create high volume
  – present unique challenges (e.g. rural, scattered site)
  – result in overall program and geographical diversity

• Tried to ensure that the host-site supervisors had both the seniority and the bandwidth to maximize the fellows’ productivity
From 41 applications, selected 12 host partners

- 8 PHAs
- 4 private owners of HUD-assisted properties

Because we encouraged joint applications, the 12 partners represented 28 unique housing organizations and 79,785 units
Program Impact

- 69,672 new benchmarked units
- Approximately 1,880 new benchmarked buildings
- 7 out of 12 fellows established new data-sharing arrangements between their host site(s) and utility providers
- Increased interest in BBC and the EPC programs

Water Usage

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<tr>
<th>Date</th>
<th>Units</th>
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<td>1/1/2014</td>
<td>200</td>
</tr>
<tr>
<td>1/1/2015</td>
<td>400</td>
</tr>
<tr>
<td>1/1/2016</td>
<td>1000</td>
</tr>
<tr>
<td>1/1/2017</td>
<td>1200</td>
</tr>
</tbody>
</table>
Lessons Learned

• While some fellows were able to make very specific project-level recommendations, others had to use all of their available time just to complete the process of benchmarking.

• Fellows experienced numerous barriers while conducting benchmarking for the first time:
  – Data quality control and entry
  – Some PHAs had not collected tenant release forms
  – Lack of intra-agency coordination
  – Rural-specific challenges
Key Recommendations

- Investing in utility data management software to increase coordination and alleviate redundancy
- Establishing cross-cutting utility teams
Housing Authority of the City of San Buenaventura

SUSTAINABILITY INITIATIVES AND CAPACITY BUILDING
HACSB Sustainability Commitment

- A role beyond shade and shelter - Building and maintaining healthy communities
- 2013 Better Buildings Challenge Commitment
- 2014 Civic Spark Fellowship
- Growth and Diversification of Sustainability initiatives
  - HACSB Sustainability Task Force
  - Green building design and construction
    - USGBC LEED for HOMES, LEED Neighborhood Development
    - CalGreen building code
    - Renewable energy
    - Greywater
    - Materials ie vinyl windows versus fiberglass or composite
  - Resident engagement
  - Portfolio Benchmarking
  - Food forward and access to fresh produce
  - Energy efficiency and RAD conversions
## CivicSpark Fellowship Impacts

|-------------|-------------|-------------|-------------|
| • Initial Research  
  • BBC  
  • LEED  
  • O&M training  
  • Began gathering all utility data  
  • WegoWise  
  • Sustainability Team  | • Ongoing:  
  • BBC  
  • Utility data  
  • Wegowise  
  • Sustainability team  
  • LEED- ND  
  • Rebates  
  • Food Forward & Community Gardens  | • Ongoing:  
  • BBC  
  • Utility Data  
  • Wegowise  
  • Food Forward  
  • Lease update  
  • Energy Star Portfolio Manager (ESPM)  | • Established 2013 baseline data  
  • Captured whole building data (2017) - AB 802  
  • ESPM Data QC  
  • Launched the Ventura Pop-up Free Farmers’ Market  
  • Resident Outreach- Healthy Homes Initiative  |
Challenges, Opportunities

- BBC purpose, strategy, baseline consumption
- Investment of resources - staff time, space/cost, training and fellow turnover
- Leadership commitment
- Utility data... to what end?
  - Resident authorizations
  - AB 802 facilitated access to resident utility consumption data
  - Keeping up with portfolio changes & impacts to utility data set-up and management
- Agency wide participation and commitment to sustainability
- Limited access to peer network and best practices
- Site specific utility allowances for a HACSB net zero project were higher than Section 8 utility allowances due to water ($0 for gas/electricity)
- Indoor greywater reuse - cost, regulatory constraints; limited payoff with greywater for irrigation purposes
- Competing “environmental priorities” - vinyl windows, greywater, solar
Sustainability - What lies ahead for HACSB

- Sustainability coordinator
- Water
- Resident and operations team engagement and education
- Beyond BBC - how can sustainability initiatives save costs and contribute to the larger mission of housing preservation and affordable housing production?
- Backlash to going green - water saving measures, higher electrical costs
Building Green Communities: Setting and achieving environmental targets through team integration

Lauren Zullo, LEED AP O+M
Director of Sustainability
Better Buildings Summit | Energy Exchange
August 23, 2018
15,000 units
86 properties
11.4M sq.ft.
13 states
Our Environmental Management System

Qualifications

• Undergrad degree in Sustainability, Enviro Studies, Business, Eng.
• 2-5 yrs Sustainability Experience
• Real Estate Experience Preferred
• Knowledge of EGC and/or LEED

Candidates

• Targeted schools and specific green job sites
• Received 100+ applicants in 2 wks
  • Pre-screen with HR
  • Interviewed 8 candidates

Program

• 10 week program, May – Aug
• 1-2 interns per Biz Practice
• Direct report to Sr. Manager
• Outings, Lunch & Learns
• Collaboration btwn interns
• Interaction with all Directors

Projects

• Flexible depending on skillset and goals
  – establish early on
  • Resiliency Assessment
• Property Baseline and Goal Setting
  • CapEx Planning
  • Impact Report, Case Studies
Environmental Impact Goals

- Reduce ENERGY USE 20% from baseline
- Reduce WATER USE 15% from baseline
- Reduce EMISSIONS 20% from baseline
- Increase WASTE DIVERSION 15% from baseline
Existing utility reports were confusing and not reflecting KPIs

Where is Energy Use Intensity?
...What is EUI???
Revamped our quarterly utility reports

Environmental Commitments

- **Energy Use Intensity** (kBTU/sqft/yr)
  - Baseline: 49
  - Q2 2018: 44
  - Target: 39
  - Reduce by 20% within 10 years

- **Water Use Intensity** (kGal/bdrm/day)
  - Baseline: 147
  - Q2 2018: 125
  - Target: 106
  - Reduce by 15% within 10 years

- **Emissions Intensity** (MLbs CO2/yr)
  - Baseline: 1.45
  - Q2 2018: 1.31
  - Target: 1.16
  - Reduce by 20% within 10 years
### Our Environmental Management System

Turned static information into usable format

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Description</th>
<th>Initial Investment ($)</th>
<th>Cash Incentives/Incentives ($)</th>
<th>Tax Incentives ($)</th>
<th>Annual Savings ($)</th>
<th>Owner Savings ($)</th>
<th>Tenant Savings ($)</th>
<th>Source Energy Savings (%)</th>
<th>Financial Performance</th>
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<td>Install Low-Flow Faucet Appliances and Showers</td>
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<td>Replace Common Area Washing Machines</td>
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**Project Summary Without PIP Incentives**

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<th>Initial Investment ($)</th>
<th>Cash Incentives ($)</th>
<th>Tax Incentives ($)</th>
<th>Annual Savings ($)</th>
<th>Owner Savings ($)</th>
<th>Tenant Savings ($)</th>
<th>Source Energy Savings (%)</th>
<th>Financial Performance</th>
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Our Environmental Management System

Developed risk assessment tools to inform Resiliency Planning
• **Standalone projects** with clear deliverables. This is key to demonstrating ROI.

• **Integration** with other teams, e.g. asset management, so others can see value of the work product

• **Transition planning**, whether handoff or full-time offer

• **Social and educational programming** to understand the business
Thank You!

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