HUD WORKSHOP ON RENEWABLE ENERGY FOR AFFORDABLE HOUSING

PROJECT DEVELOPMENT LIFECYCLE
(AND HOW TO GET STARTED)

Sarah Hill
Southface
May 23, 2016
PROJECT DEVELOPMENT LIFECYCLE

• Background: Energy Efficiency and Affordable Housing
  ▪ Existing conditions: Southeast
  ▪ QAP Spotlight: case study for successful energy efficiency integration
  ▪ Opportunities for Solar

• Project Lifecycle and How to Get Started
  • New construction
  • Existing Buildings
AFFORDABLE HOUSING IN THE SOUTHEAST

- Southeast is the most impoverished region in the nation.
- US Census Bureau projects that over the next 20 years, the Southeast will lead the nation in both housing starts and net change in population growth.
AFFORDABLE HOUSING IN THE SOUTHEAST

Federal government programs include public housing, housing choice vouchers, Community Development Block Grants (CDBG), and the Low-Income Housing Tax Credit (LIHTC).
LIHTC AS CASE STUDY

• LIHTC is part of the Internal Revenue Code, not federal housing assistance
• Goal is to give private development market an incentive to invest in affordable rental housing.
• Successful integration of energy efficiency into program
**LIHTC: HOW DOES IT WORK?**

<table>
<thead>
<tr>
<th>Application</th>
<th>Selection</th>
<th>Award</th>
<th>Construction</th>
<th>Ownership</th>
</tr>
</thead>
</table>
| • Competitive  
• QAP  
• Scoring | • Based on Score and eligibility | • Developers convert LIHTC to equity by selling to investors who use credits to offset tax liability | • Built to meet QAP requirements  
• Quality Assurance | • 30 year rent restriction  
• 15 year compliance period, 15 year extended use |
LIHTC AS CASE STUDY

- 2008 Housing and Economic Recovery Act (HR 3221)
- HR 3221 required QAP’s take energy efficiency into account for all LIHTC allocations after 2008

---

**Figure 1: Global Green QAP Analysis – AL, GA, NC and SC**

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2012***</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grade**</td>
<td>Score*</td>
<td>Grade**</td>
<td>Score*</td>
</tr>
<tr>
<td>Alabama</td>
<td>B-</td>
<td>26</td>
<td>C</td>
<td>35</td>
</tr>
<tr>
<td>Georgia</td>
<td>A</td>
<td>43</td>
<td>A</td>
<td>50</td>
</tr>
<tr>
<td>N. Carolina</td>
<td>B</td>
<td>28</td>
<td>C</td>
<td>29</td>
</tr>
<tr>
<td>S. Carolina</td>
<td>C</td>
<td>21</td>
<td>D</td>
<td>19</td>
</tr>
</tbody>
</table>

*Score is out of 55 possible points for 2008-2010, Score out of 50 points for 2012

**The mean and standard deviation of the scores are used to determine the grading breakdown according to a normal distribution (bell curve)

***No QAP Analysis was conducted by Global Green in 2011
EE AND LIHTC: DOES IT WORK?
The Impact of Green Affordable Housing

A Report by Southface and the Virginia Center for Housing Research

Alex Trachtenberg
Sarah Hill
Dr. Andrew McCoy
Teni Ladipo
January, 2016
KEY TAKEAWAYS – GREEN VS. NON-GREEN

- Families save $100/year and seniors save $120/year on energy costs.
- Green developments save $5,000 per year on utility costs (owner-paid).
- Green developments spend 12% less on common area energy and residents use 14% less energy.
- Non-green developments are only 1.6% less expensive in terms of hard construction costs.
How do we incentivize thoughtful design in our affordable housing stock?
PROJECT LIFECYCLE

How do we implement solar in our new and existing affordable housing stock?
SOLAR DOES NOT REPLACE ENERGY EFFICIENCY

Renewable energy is one element in a larger energy efficiency strategy.

Reduce energy loss and consumption, then offset with renewables.
Impactful when paired with best practices for both new construction and existing housing.
IMPLEMENTATION PROCESS: NEW CONSTRUCTION

Initiation
- Financing
- Lifecycle Analysis

Design
- Integrated Project/Design Team
- Work scope

Execution and Control
- Installation
- Quality Assurance

Operations
- Education
- Monitoring

Solar ready?
- Metering?
- Roof mounted?
- Ground mount?
IMPLEMENTATION PROCESS: RENOVATION

Initiation
- Financing
- Lifecycle Analysis
- Field Assessment

Orientation?
Metering?
Roof area?
Obstructions?

Design
- Integrated Project/Design Team
- Work scope

Execution and Control
- Installation
- Quality Assurance

Operations
- Education
- Monitoring
OPTIMIZING SOLAR OPPORTUNITIES

• Navigate the learning curve
  • New specifications, new team members
• Leveraging financing opportunities to build solar infrastructure
• Affordable housing as solar pioneers in Georgia