Transforming Affordable Housing
Passive House Retrofits

BuildingEnergy NYC
October 12, 2017
We unleash the potential of communities to thrive, no matter the odds
RiseBoro Passive House Developments

IN OPERATION

Mennonite United Revival Apartments

Knickerbocker Commons

IN CONSTRUCTION

Our Lady of Lourdes Apartments

IN PREDEVELOPMENT

Harry T. Nance Apartments
Benefits of Passive House

• Quality of Life
• Innovation
• Environmental
• Economic
• Health
Triple Bottom Line of Passive Building

Environmental
- Improvement in public health outcomes
- Reduction in Carbon Footprint
- Decreased operating expenses in affordable housing
- Decreased per unit subsidy requirements

Passive Building
- Public health insurance savings
- Limited housing subsidy goes further

Social

Economic
A Comparison of Typical Annual Maintenance & Operational Expenses

**Legend**

- **Utilities (heat/gas/electricity)**
- **Water & Sewer**
- **Real Estate Taxes & Insurance**
- **Other Maintenance & Operational Expenses**

**Affordable Housing**
- 50%
- 15%
- 10%
- 25%

**Market Rate Housing**
- 50%
- 35%
- 10%
- 5%
Impact on funding of 50% reduction in gas and electric costs...

**Uses of Funds**
- Passive House Construction
- Traditional Construction

**Sources of Funds**
- Passive House Construction
- Traditional Construction

- Bank Loan
- Equity
- Subsidy
How Are We Doing?
Passive House - PERFORMANCE

- July 2016-July 2017 data
- All buildings hydronic heat
- All building less than 15 years old
- Passive House less than half of energy index

![Energy Index Bar Chart]

Properties:
- Marnonite United Residences
- Knickerbocker Commons
- Noll Street Apartments
- HDFC
- 420 Stockholm
- 104 Grove Street
- Rheingold Gardens A
- 533
- 173 Harman & 181 Ha...laza
- 21 Schaefer Street
- Renaissance Estates-HDFC

Legend:
- Energy Index (Owner, Most Recent Year Scorecard)
What’s Next?
Passive House Retrofits
## Property Portfolio

<table>
<thead>
<tr>
<th>Building</th>
<th>Building Type</th>
<th>Current LL84</th>
<th>2018 LL84</th>
<th>Stories</th>
<th>Elevator</th>
<th>Total Units</th>
<th>1BD</th>
<th>2BD</th>
<th>3BD</th>
</tr>
</thead>
<tbody>
<tr>
<td>420 Stockholm</td>
<td>Masonry/wood joist</td>
<td>Y</td>
<td>4</td>
<td>Y</td>
<td></td>
<td>35</td>
<td>16</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>150 Linden</td>
<td>block/plank</td>
<td>Y</td>
<td>5</td>
<td>Y</td>
<td></td>
<td>40</td>
<td>3</td>
<td>28</td>
<td>9</td>
</tr>
<tr>
<td>557 Knickerbocker</td>
<td>block/plank</td>
<td>Y</td>
<td>6</td>
<td>Y</td>
<td></td>
<td>43</td>
<td>33</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>75 Linden Street</td>
<td>Masonry/wood joist</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>12</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>104 Grove</td>
<td>Masonry/wood joist</td>
<td>Y</td>
<td>4</td>
<td></td>
<td></td>
<td>23</td>
<td>17</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>110 Grove</td>
<td>Masonry/wood joist</td>
<td>Y</td>
<td>4</td>
<td></td>
<td></td>
<td>23</td>
<td>17</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>116 Grove</td>
<td>Masonry/wood joist</td>
<td>Y</td>
<td>4</td>
<td></td>
<td></td>
<td>16</td>
<td>2</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>120 Grove</td>
<td>Masonry/wood joist</td>
<td>Y</td>
<td>4</td>
<td></td>
<td></td>
<td>16</td>
<td>2</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>93-95 Stockholm</td>
<td>Masonry/wood joist</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>14</td>
<td>6</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>160 Harman</td>
<td>block/ poured concrete</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>14</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>173 Harm</td>
<td>block/ poured concrete</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>14</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>181 Harman</td>
<td>block/ poured concrete</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>14</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>264</strong></td>
<td><strong>34</strong></td>
<td><strong>196</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>
Project Highlights

- Typical YR15 Financing Methods
- Moderate Rehab/Tenant In Place
- Underwrite to Savings
- Gap financing by NYSERDA
- Meet Passive House (PHIUS) Standard
- Bonus: Renewables/Solar