Friends of Benchmarking

Adam Hinge
Sustainable Energy Partnerships

Michael Bobker
Building Performance Lab
CUNY Institute for Urban Systems
Building Energy Performance Disclosure...

So What???

...and What’s Next???
Local Law 84: Annual Energy & Water Benchmarking

- 22,000 Buildings
- 2% of NYC Buildings
- Half of city’s total floor area
- In every borough
How has public understanding evolved to date?

NY Times: 12/24/2012; 9/27/2013
What do we know?

nyc.gov/LL84
More Buildings Reporting Year on Year

[Fig. 18] Year Over Year Comparison of Median EUI, Number of Properties, and Total Energy Per Sector

- **Office**
- **Multifamily**

- **Year One**
- **Year Two**

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**Median Source EUI (kBtu/Sq Ft)**

- **Number of Properties**
  - 1,000 to 2,000
  - 3,000 to 4,000
  - 5,000 to 6,000
  - 7,000 to 8,000
  - 9,000

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**Year One**

**Year Two**

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**Total Energy Per Sector**
Lots of Info about Energy Performance

[Fig. 20] Source EUI Histograms for Multifamily and Office Sectors

[Fig. 25] Multifamily and Office Energy Mix by Year Built

Source: New York University and NYC Mayor's Office
Informing Professional Dialogue

Environmental Building News

New Energy Data Is Changing How We Judge Efficiency—and LEED

Seeking lessons from New York City benchmarking data, researchers question everything we thought we knew about energy metrics.

By Nadav Malin

In the beginning, there was Energy Star.

Supported by the online Portfolio Manager infrastructure and statistical models from the periodic Commercial Buildings Energy Consumption Survey (CBECS), the U.S. Department of Energy has been releasing energy consumption data and ratings for buildings for a few years now. While LEED projects typically perform far better than average in energy use, there is evidence that they are, on average, slightly less efficient than other buildings when considered relative to the average performance of all buildings in the same market.
What are the “Right” Metrics?

• What is “Building Performance”?  
• LL84 reports 1-100 Energy Star Score where applicable, and EUI  
• Is “Energy Use Intensity” (EUI, energy per floor area) the best measure?  
• What motivates “action”?
Multifamily – No Energy Star 1-100 Score

Just EUI without context not helpful; Which One is “More Efficient”?
EnergyScoreCards Tailors Info

Bright Power’s EnergyScoreCards; see www.energyscorecards.com
Which Office Building is “Greener”?
\[ \eta_{\text{BUILDING}} = \frac{\text{ECONOMY}}{\text{ENERGY}} \]

(Weather Normalized Source)

\[ \text{BEII} \]

\[ \text{EUI} \]
Is LL84 Having an Impact?

From Tishman Speyer – “How LL 84 Has Changed the Way We Operate”:

**New Technologies:**
- Using Pulse Meters to track energy consumption in 15-minute intervals
- Provides greater transparency and clarity on how we can improve

**More Energy Efficiency Projects:**
- Leasing, ECM, and Asset Management teams take more notice now that the information is public
- Increasing number of tenants are inquiring about EnergyStar scores
- Increasing number of investors are inquiring about current and historical EnergyStar scores

From Jonathan Flaherty presentation at Greenbuild – November 2013
Could it be Better?

Again; Tishman Speyer view - Positive and Negative:

**Positive Example: Chrysler Building / MetLife Building**

- Chrysler Building showed that not all energy efficient buildings had to be brand new; was recently certified as LEED Gold for EB
- MetLife building score improved from a 42 to a 47 after major renovation and energy efficiency project

**Negative Example: Rockefeller Center**

- Many space types that don’t exist within EnergyStar
- No comps
- Campus layout – everything is interconnected
- High-energy tenants (NBC)

<table>
<thead>
<tr>
<th>Building</th>
<th>ES Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 West 42nd Street</td>
<td>44</td>
</tr>
<tr>
<td>520 Madison Avenue</td>
<td>77</td>
</tr>
<tr>
<td>300 Park Avenue</td>
<td>86</td>
</tr>
<tr>
<td>Chrysler Building</td>
<td>86</td>
</tr>
<tr>
<td>Chrysler East</td>
<td>71</td>
</tr>
<tr>
<td>CitySpire</td>
<td>85</td>
</tr>
<tr>
<td>MetLife Building</td>
<td>47</td>
</tr>
</tbody>
</table>

From Jonathan Flaherty presentation at Greenbuild – November 2013
Next Steps for More “Actionable” Metrics

• Can we make data more “Accessible”?  
• Would Other Metrics Help?  
• What is the right information to drive Action?
Not Necessarily “Accessible”

![Excel spreadsheet screenshot](image-url)
What’s Needed to Raise Awareness?

CUNY Building Performance Lab

From Code Green Solutions
Energy Performance Score: All Energy

IBM Analysis of NYC Schools Energy Performance
Opportunities for “Visualization”? 
Separate Landlord/Tenant Ratings?

• Could separate ratings drive more action?
• Some jurisdictions have landlord ratings
• Comes with its own set of challenges...
Different Metrics for Different Audiences?

- Investors will want different metrics than building operators
- Hard to get “one size fits all”

From “Building Labels vs. Environmental Metrics;” RREEF Real Estate; www.rreef.com
One View of NYC Office Energy Performance

Based on 2011 LL84 Submissions