Who Me, a High Energy User?
A Deep Dive into Tenant Energy Use in Multifamily Buildings

Sean Brennan, Research Director, UGC
David Klatt, VP, Logical Buildings
Rory Christian, Director New York Clean Energy, EDF
TOPICS

1. Breakdown of NYC resources
2. Multifamily utilities
3. Market rate rentals
4. Affordable rate rentals
BROAD, BUT NOT DEEP
BIG BUILDINGS IN NYC

NYC has **5.4 billion SF** building area.

Nearly **93%** still here in 2050.

![Diagram showing the distribution of building area in NYC: Multifamily (1.16 billion SF), Office (380 million SF), Other Private (350 million SF), K-12 Public (140 million SF), Other Public (90 million SF).]
INTENSITY and COST

Annual large NYC multifamily building resource use

- **4.85 kWh / SF**
- **51 gal / SF**
- **$1.02 / SF**
- **$0.65 / SF**

Source: LL84 benchmarked 2016 data, NYCWB Rate Schedule
ELECTRICITY USES

NYC Multifamily Source Energy Split

Fossil Fuel 47%
Electricity 53%

Other, 27%
Plug, 22%
Light, 23%
Cool, 11%

Source: LL84 benchmarked 2016 data and LL87 audit data
ELECTRICITY USES

INFLUENCING FACTORS

1. Central or modular cooling
2. Direct or master metering
3. Amenities

4.85 kWh / SF
Modularly cooled multifamily buildings used 40% less than centrally cooled.

<table>
<thead>
<tr>
<th>COOLING TYPES</th>
<th>5</th>
<th>10</th>
<th>WN site electric EUI (kWh/SF)</th>
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</thead>
<tbody>
<tr>
<td>WINDOW</td>
<td>4.3</td>
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<td>THROUGH WALL</td>
<td>5.3</td>
<td></td>
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<tr>
<td>SPLIT / PTAC</td>
<td>5.7</td>
<td></td>
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<tr>
<td>CENTRAL</td>
<td>8.1</td>
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Over 7% of multifamily buildings still have master metering.
Direct metered multifamily buildings used **20% less** than master-metered

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<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>WN site electric EUI (kWh/SF)</th>
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<tbody>
<tr>
<td>DIRECT</td>
<td>4.6</td>
<td></td>
<td></td>
<td></td>
<td>(562)</td>
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<tr>
<td>SUBMETER</td>
<td></td>
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<td></td>
<td></td>
<td>(50)</td>
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<tr>
<td>MASTER</td>
<td></td>
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<td>(62)</td>
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Condos and co-ops use 58% more electricity than rental buildings.
TENANT ELECTRICITY

Source: LL84 benchmarked 2016 data
WATER
WATER USES

51 gal / SF

INFLUENCING FACTORS

1. Tenant tap
2. HVAC equipment
3. Outdoor and cleaning

Source: LL84 benchmarked 2016 data
WATER INTENSITY

Source: LL84 benchmarked 2016 data
NEXT STEPS

• Areas to focus on with tenants:
  1. Metering feedback
  2. Lighting upgrades
  3. Cooling control

• Tenant data direct from the utility
• Are auditor assumptions correct?
• How are tenants billed and how much could be saved?
Thank you