Bridging the Gap Between NYC Local Laws and Decarbonization

Mariel Hoffman, EN-POWER GROUP
Matt Resnick, AKAM Living Services
Jane Sanders, Henson Architecture

Curated by Jeannine Altavilla (Bright Power) and Kristy O’Hagan

Northeast Sustainable Energy Association (NESEA)
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Mariel Hoffman, PE, CEM  
Director of Energy Engineering  
EN-POWER GROUP

Matt Resnick  
Director of Project Management  
AKAM Living Services, Inc.

Jane Sanders, RA, AIA, CHPD  
Senior Associate, Director of Sustainability  
Henson Architecture

SPEAKERS
Develop a better understanding of NYC building and energy local laws

Better advise building decision makers

Be better equipped to facilitate and lead discussions with stakeholders

Make better, more cost-effective decisions regarding which measures to implement and how to study them

Learning Objectives
Agenda

Overview of Energy & Sustainability Laws

Project Examples & Discussion

• Multifamily cooperative in Kips Bay, Manhattan
• LMI multifamily rental in Brownsville, Brooklyn
• Multifamily condominium in West Village, Manhattan

Q&A
Energy & Sustainability Laws

- **Local Law 97** – Building Greenhouse Gas Emissions
- **Local Laws 84, 133, 33, & 95** – Energy Benchmarking & Letter Grades
- **Local Law 87** – Energy Auditing & Retro-Commissioning
- **Local Law 88** – Lighting Upgrades & Submetering
- **Local Law 43** – Phasing Out Heating Oil #4
- **Local Law 152** – Mandatory Gas Piping System Inspection
- **FISP (Local Law 11)** – Façade Inspections
- **Local Laws 92 & 94** – Green Roofs
- **NYS CLCPA** – Climate Leadership and Community Protection Act (i.e., the Climate Act)
Energy & Sustainability Laws Timeline

Local Laws that have cyclical compliance dates:

- **Benchmarking (LL84 & 133)**
  Every May 1st

- **Posting Energy Letter Grades (LL33 & 95)**
  Every October 1st

- **Energy Auditing & Retro-Commissioning (LL87)**
  Once every 10 years

- **Façade Inspection Safety Program (FISP)**
  Once every 5 years

- **Gas Piping Inspections (LL152)**
  Once every 4 years

Local Laws:

- **Local Law 97**
  Building Greenhouse Gas Emissions (Round 1)
  - **2019**

- **Local Law 88**
  Lighting Upgrades & Submetering
  - **2024**

- **Local Law 97**
  Building Greenhouse Gas Emissions (Round 2)
  - **2025**

- **Local Law 43**
  Phasing Out Heating Oil #4
  - **2030**

- **CLCPA**
  100% zero-emission electricity
  - **2040**

- **CLCPA**
  85% below 1990-level GHG emissions
  - **2050**

Local Laws:

- **Local Law 92 & 94**
  Green Roofs

- **Local Law 43**
  Phasing Out Heating Oil #4 (if new deadline amendment passes)

- **Local Law 88**
  Lighting Upgrades & Submetering

- **Local Law 43**
  Phasing Out Heating Oil #4

- **Local Law 97**
  Building Greenhouse Gas Emissions (Round 2)

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Let’s discuss some projects

**Multifamily cooperative**
*in Kips Bay, Manhattan*
Six (6) local laws

**Low-to-Moderate Income (LMI) multifamily rental**
*in Brownsville, Brooklyn*
Five (5) local laws

**Multifamily condominium**
*in West Village, Manhattan*
Six (6) local laws
Multifamily Cooperative in Kips Bay, Manhattan

- Property Profile:
  - Year Built: 1976
  - Square Footage: 145,000
  - Number of Buildings: 1
  - Units: 179
  - BBL: 1-xxxx5-xxx6
  - FISP compliance year: 2015 – 2017 and 2020 - 2022

- This building is doing FISP and has a LL97 penalty. What should they be thinking about, what are the options?
<table>
<thead>
<tr>
<th>Local Law 97 Impact</th>
<th>ROUND 1 (2024-2029)</th>
<th>ROUND 2 (2030-2034)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Emissions (tons CO2e)</td>
<td>631</td>
<td>631</td>
</tr>
<tr>
<td>Emissions Limit (tons CO2e)</td>
<td>851</td>
<td>484</td>
</tr>
<tr>
<td>Estimated Annual Penalty</td>
<td>$0</td>
<td>$39,350</td>
</tr>
<tr>
<td>% Reduction Required for $0 Penalty</td>
<td>-</td>
<td>23%</td>
</tr>
<tr>
<td>Letter Grade</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>ENERGY STAR SCORE</td>
<td>67</td>
<td></td>
</tr>
</tbody>
</table>

**LL97 PENALTY**

MULTIFAMILY COOPERATIVE IN KIPS BAY, MANHATTAN
Multifamily Cooperative in Kips Bay, Manhattan

- FISP Repairs Needed
- Electrification Opportunity
- Local Law 87 Study Due 2025
- Review of LL84 Benchmarking Data Needed
LL92/94: GREEN ROOFS

Since the building needs this façade work, what about the roof?
Energy & Sustainability Laws Timeline

Local Laws 92 & 94
Green Roofs

Local Law 97
Building Greenhouse Gas Emissions (Round 1)

Local Law 97
Building Greenhouse Gas Emissions (Round 2)

Local Law 43
Phasing Out Heating Oil #4

Local Law 88
Lighting Upgrades & Submetering

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Local Law 43
Phasing Out Heating Oil #4
(if new deadline amendment passes)

2019

2024

2025

2030

2040

2050
LMI Multifamily in Brownsville, Brooklyn

• Property Profile:
  • Year Built: 1976
  • Square Footage: 253,000
  • Number of Buildings: 2
  • Units: 260
  • BBL: 3-xxxx3-xxxx

• This building has to complete LL87 compliance and is preparing for LL97 compliance. How should the building proceed?
<table>
<thead>
<tr>
<th>Local Law 97 Impact</th>
<th>ROUND 1 (2024-2029)</th>
<th>ROUND 2 (2030-2034)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Emissions (tons CO2e)</td>
<td>3,599</td>
<td>3,599</td>
</tr>
<tr>
<td>Emissions Limit (tons CO2e)</td>
<td>3,454</td>
<td>2,060</td>
</tr>
<tr>
<td>Estimated Annual Penalty</td>
<td>$38,897</td>
<td>$412,595</td>
</tr>
<tr>
<td>% Reduction Required for $0 Penalty</td>
<td>4%</td>
<td>43%</td>
</tr>
<tr>
<td>Letter Grade</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>ENERGY STAR SCORE</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>

LL97 PENALTY

LMI MULTIFAMILY IN BROWNSVILLE, BROOKLYN
# LMI multifamily in Brownsville, Brooklyn

<table>
<thead>
<tr>
<th>Description</th>
<th>Typical for LL87 ECM</th>
<th>Typical for LL87 RCM</th>
<th>Typical for LL88</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat and hot water setpoints</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Repair heating system leaks</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Heating system</strong> in good condition</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Install individual radiator temperature controls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulate heating and hot water piping</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Insulate</strong> steam system condensate tank or water tank</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Install indoor and outdoor heating system <strong>sensors and boiler controls</strong></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repair or replace all <strong>steam traps</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Install or upgrade steam system <strong>master venting</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Upgrade <strong>lighting</strong> to comply with NYCECC</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td><strong>Weatherize and air seal</strong>, including windows and ductwork</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Install timers on <strong>exhaust fans</strong></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Install <strong>radiant barriers</strong> behind all radiators</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
LL88: Lighting and Submetering

? What does the building need to do for LL88?

What does the filing involve?
Energy & Sustainability Laws Timeline

- **Local Law 97**
  - Building Greenhouse Gas Emissions (Round 1)
  - Building Greenhouse Gas Emissions (Round 2)

- **Local Law 88**
  - Lighting Upgrades & Submetering

- **Local Law 43**
  - Phasing Out Heating Oil #4

- **CLCPA**
  - 100% zero-emission electricity
  - 85% below 1990-level GHG emissions

- **Local Laws**
  - that have cyclical compliance dates:
    - **Benchmarking** (LL84 & 133)
      - Every May 1st
    - **Posting Energy Letter Grades** (LL33 & 95)
      - Every October 1st
    - **Energy Auditing & Retro-Commissioning** (LL87)
      - Once every 10 years
    - **Façade Inspection Safety Program** (FISP)
      - Once every 5 years
    - **Gas Piping Inspections** (LL152)
      - Once every 4 years

- **Local Laws 92 & 94**
  - Green Roofs

- **Local Law 43**
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Multifamily Condominium in West Village, Manhattan

- Property Profile:
  - Year Built: 1931
  - Square Footage: 107,000
  - Number of Buildings: 1
  - Units: 112
  - BBL: 1-xxxx0-xxx1

- Building is currently on oil #4 and I’ve heard about a fossil fuel moratorium coming up.

- Also has large LL97 penalties, including for Round 1 in 2024. What should we do?
### Local Law 97 Impact

<table>
<thead>
<tr>
<th></th>
<th>ROUND 1 (2024-2029)</th>
<th>ROUND 2 (2030-2034)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Emissions (tons CO2e)</td>
<td>961</td>
<td>961</td>
</tr>
<tr>
<td>Emissions Limit (tons CO2e)</td>
<td>748</td>
<td>434</td>
</tr>
<tr>
<td>Estimated Annual Penalty</td>
<td>$56,996</td>
<td>$141,003</td>
</tr>
<tr>
<td>% Reduction Required for $0 Penalty</td>
<td>22%</td>
<td>55%</td>
</tr>
<tr>
<td>Letter Grade</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>ENERGY STAR SCORE</td>
<td>22</td>
<td></td>
</tr>
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</table>

**LL97 PENALTY**

MULTIFAMILY CONDOMINIUM IN WEST VILLAGE, MANHATTAN
Multifamily Condominium in West Village, Manhattan

- First step, analyze fuel comparison, keeping in mind LL43

<table>
<thead>
<tr>
<th>Projected Carbon Emission Penalty &amp; Letter Grade</th>
<th>Existing - Oil #4</th>
<th>Projected - Oil #2</th>
<th>Projected - Natural Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Emissions (tons CO₂e)</td>
<td>961</td>
<td>961</td>
<td>910</td>
</tr>
<tr>
<td>Emission Limit (ton CO₂e)</td>
<td>748</td>
<td>434</td>
<td>748</td>
</tr>
<tr>
<td>Estimated Annual Penalty</td>
<td>$56,996</td>
<td>$141,003</td>
<td>$43,497</td>
</tr>
<tr>
<td>Letter Grade</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

- Review LL87 report
  - Contained air infiltration measure, which could also be an opportunity for improving façade first and then doing oil-to-gas conversion work
LL152: Gas Inspections

If this building converts to gas, will this be a problem for LL152?

How will the inspection requirements change?
Energy & Sustainability Laws Timeline

Local Laws 92 & 94
Green Roofs

Local Law 88
Lighting Upgrades & Submetering

Local Law 97
Building Greenhouse Gas Emissions (Round 1)

Local Law 97
Building Greenhouse Gas Emissions (Round 2)

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Local Law 43
Phasing Out Heating Oil #4

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2019
2024
2025
2030
2040
2050
Key Takeaways

NYC Local Laws are not in a vacuum
Be sure to ask how current building work is interconnected with other laws

When reviewing any work proposals for your facility, check in with energy consultant to assess how work can impact other laws, especially LL97 work
QUESTIONS?
Local Law 97
Building Greenhouse Gas Emissions

• A major component of the Climate Mobilization Act (CMA)

• Aiming to reduce building greenhouse gas emissions

• Starting in 2024, buildings with 25,000+ square feet will be mandated to meet specified carbon emission limits or pay penalties. Emission limits will change and become tougher in 2030

• The law also includes emission trading system and renewable energy credits (RECs)
Local Laws 84, 133, 33 and 95
Energy Benchmarking & Disclosure

- Aiming to increase transparency regarding properties’ annual energy and water usage – the first step to make buildings operate more efficiently

- **Energy Benchmarking (Local Laws 84 & 133):** buildings with 25,000+ square feet are required to benchmark their energy and water consumption by May 1st every year

- **Building Energy Letter Grades (Local Laws 33 & 95):** buildings with 25,000+ square feet are mandated to display their energy letter grades based on the energy benchmarking scores at all public entrances by October 1st every year
Local Law 87
Energy Auditing & Retro-Commissioning

• Aiming to help building owners:
  • gain a better understanding of their energy consumption
  • optimize performance of their systems
  • improve buildings’ efficiency

• Buildings with 50,000+ square feet to complete an ASHRAE Level II energy audit and retro-commissioning study every ten (10) years
  • Energy auditing focuses on identifying energy savings capital upgrades
  • Retro-commissioning (RCx) focuses on improving a building’s existing equipment to abate energy waste and optimize building performance

• The due year is based on the last digit of a building’s Block Number
Local Law 88
Lighting Upgrades & Submetering

• Aiming to **significantly reduce energy consumption** by installing more efficient lighting systems and informing energy usage information to tenants

• Buildings with 25,000+ square feet are required to upgrade lighting and submeter spaces per requirements specified by the New York City Energy Conservation Code (NYCEEC) no later than January 1, 2025
  - **Lighting upgrades:** requirements include installing energy efficient LEDs, providing stipulated light levels, and installing lighting controls to ensure optimal operation
  - **Submetering:** installation of electrical submeters are required for non-residential tenant space 5,000+ gross square feet and floors larger than 5,000 gross square feet consisting of 2+ tenant spaces
Local Law 43
Phasing Out Heating Oil #4

- NYC buildings are required to phase out heating oil #4 by 2030
- The City Council’s Committee on Environmental Protection is considering to ban heating oil #4 by 2025, five years earlier than the original planned 2030, but law amendment is not confirmed yet

Local Law 152
Mandatory Gas Piping System Inspection

- Property owners are required to have their properties’ gas piping systems inspected by a licensed master plumber at least once every five (5) years
- The inspection entity needs to visually inspect all exposed gas lines and test public spaces and mechanical rooms with combustible gas detector
FISP (formerly Local Law 11)
Façade Inspection Safety Program

- Owners of buildings higher than six stories are required to have their exterior walls and appurtenances inspected every five years
- NYC DOB requires staggered inspection cycles, and applicable buildings are divided into three groups based on the last digits of their tax block numbers

Local Laws 92 and 94
Green Roofs

- Starting November 2019, all new buildings and buildings undergoing certain major renovations in NYC must install a green roof system or a solar photovoltaic (PV) system or a combination of two
Local Laws 92 and 94
Green Roofs

Diagram from Urban Green Council
NYS CLCPA
Climate Leadership and Community Protection Act

• Committing to **100% zero-emission electricity by 2040**, and a reduction of at least **85% below 1990-level GHG emissions by 2050**

• Key initiatives include transportation, power generation, land use, and carbon neutral buildings

• As the grid gets cleaner, greenhouse gas emission limits will change, and building owners will have to **reassess their ECMs and carbon reduction roadmaps**