



Presented By:



Energy usage: Compliance and Opportunities

- What is the NEW NYC Local Law 97 and is your building affected?
- Avoid fines in NYC, and bring down your electric and heating bills – for good!



Local Law 97

CLIMATE MOBILIZATION ACT

AIMED TO REDUCE NYC BUILDINGS CARBON
EMISSIONS BY 100% BY 2050



Local Law 84 AKA: Benchmarking

- ▶ In 2012 The city started requiring buildings to track their utility consumption and report it each year.
- ▶ All buildings 25,000 Sq Ft or larger are required to file by May 1st each year.
- ▶ Fines for Non-compliance are \$500 per quarter up to \$2,000 Per year.
- ▶ Your benchmarking report will be the starting point for calculating your LL97 Carbon Emissions

LL95 - Energy Grade Posting

- ▶ All Buildings that are covered under the LL84 Benchmarking requirement must post their grade by October 31th each year.
- ▶ Fines for Non- Compliance are \$1,250 Each Year.
- ▶ The Purpose of this requirement is help build awareness of each buildings Energy Usage with the ultimate goal of requiring buildings to become more energy efficient.

Building Energy Efficiency Rating

A

100

2020 Rating
-/

0 55 70 85 100

D **C** **B** **A**

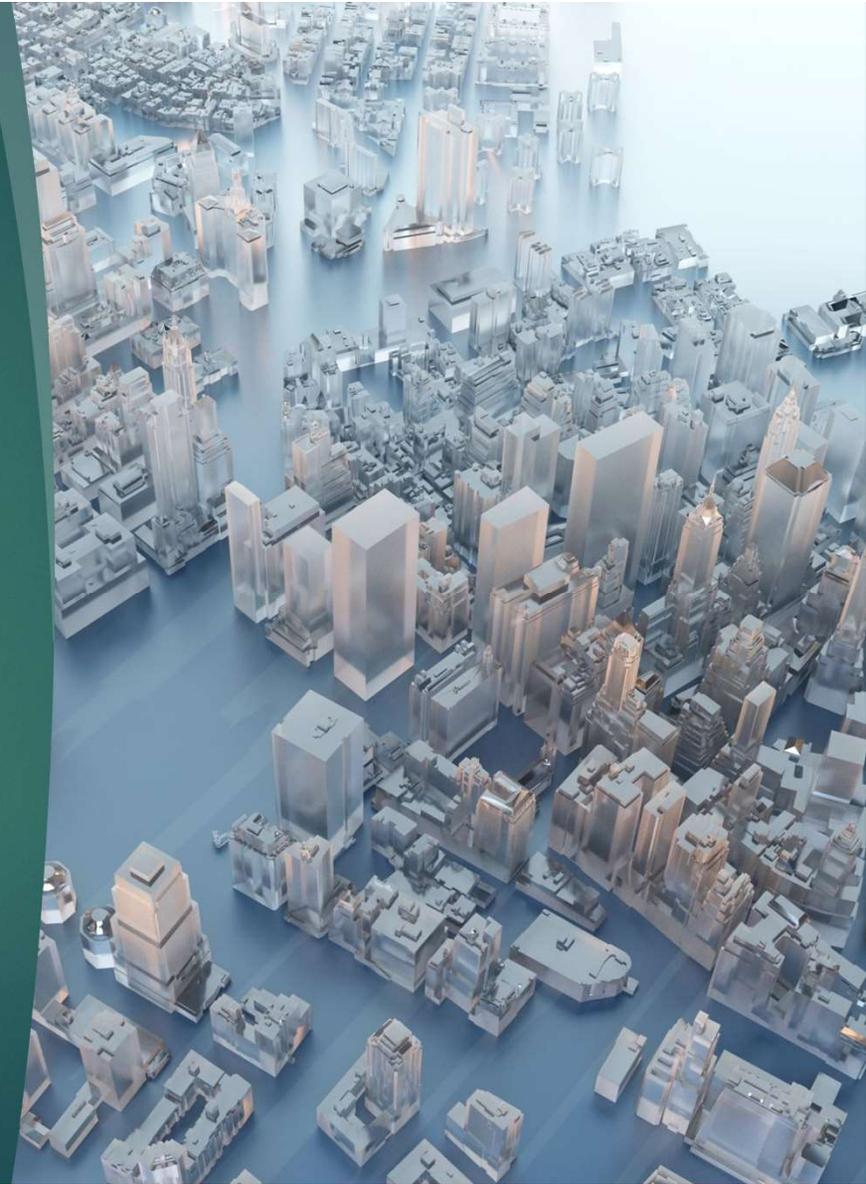
Building Specifications	More Information
62 WEST 45 STREET, MANHATTAN	The 1-100 ENERGY STAR® score compares this buildings energy consumption to similar buildings. Buildings with a score of 75 or better are high performers and eligible for ENERGY STAR certification.
Year of Compliance..... 2021	
Borough, Block and Lot..... 1-01260-0966	
BIN..... 1034237	
NYC Average..... 54	

Learn more about Building Energy Ratings. Find ways to improve. Visit nyc.gov/energyrating

NYC
Buildings

Local Law 87 – Energy Auditing and Retro Commissioning

- ▶ In 2013 The City Started requiring all 50,000 Square Feet Buildings to file an LL87 Report Every 10 Years.
- ▶ Buildings need to have an energy audit completed by a Professional Engineer (PE) and prove that they have taken steps towards improving/maintaining the energy efficiency for the building.
- ▶ Failure to comply results in a \$3000 fine the first year and \$5000 each consecutive year until an LL87 Report is submitted.
- ▶ Due Every 10 years.



What Is Local Law 97?

- ▶ The cornerstone of the Climate Mobilization Act of 2019 - Aimed at reducing greenhouse gas emissions to net zero by 2050.
- ▶ Starting in 2024 Buildings will be given an allotment of energy that they are allowed to use and will be fined for being above their carbon limits.
- ▶ Every 5 years the carbon allotment will be lowered until 2049. The allotment carbon usage for 2050 will be zero.
- ▶ Serious penalties will be issued for buildings that don't comply.





What are Carbon Emissions and how are they calculated?

- ▶ The most common way that buildings emit carbon are by using basic utilities. (listed in worst to best order)
 - ▶ Oil
 - ▶ District Steam
 - ▶ Gas
 - ▶ Electric from the grid
- ▶ In very basic terms: The less utilities that are used in a building the less carbon footprint that building has.
- ▶ Reducing your energy usage will reduce your carbon footprint



Which Buildings are Required to Comply

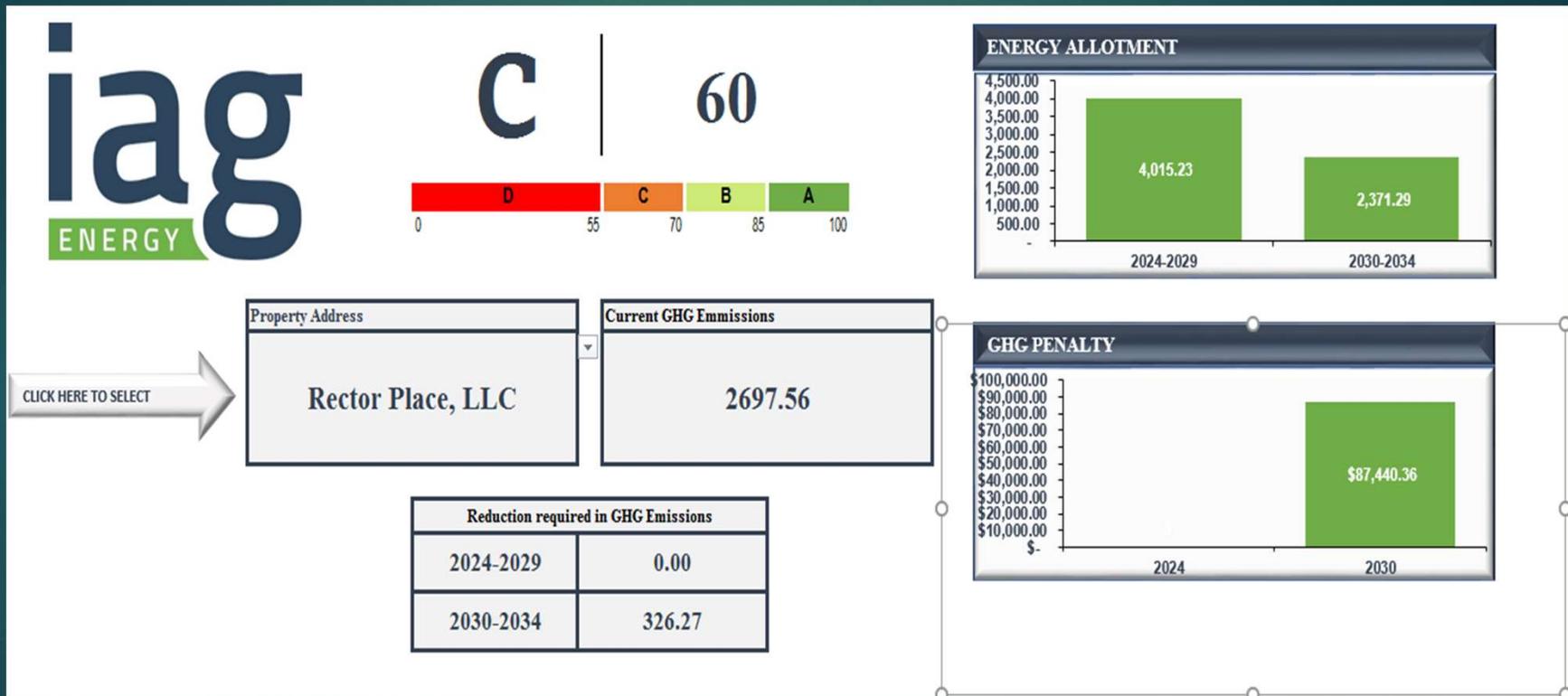
- ▶ All New York City Buildings that exceed 25,000 gross square feet.
- ▶ Two or more buildings that share the same tax lot exceed a total combined 50,000 square feet.
- ▶ Two or more condo buildings, governed by the same board that exceed 50,000 gross square feet.

Are there Exemptions

- ▶ 1. Real property (not more than 3 stories), where owners are not responsible for maintenance of the hot water and HVAC systems, but the owners of each unit is
- ▶ 2. A city building
- ▶ 3. Housing development or land owned by the city housing authority
- ▶ 4. Real estate with a primary use type as a house of worship.
- ▶ 5. Accommodations that are rent regulated
- ▶ 6. Real property owned by a housing development organization
- ▶ 7. A Building that participates in a project based federal housing program

Carbon Emissions Report

Sample LL97 emissions report



Benefits of an Energy Audit

► Each potential upgrade is analyzed with a focus on how much carbon is reduced if Implemented.

► Estimated costs and potential savings are calculated to give a clear pathway on the best steps forward.

ESTIMATED SAVINGS

Quantifiable payback analysis requires further analysis to measure cost savings due to the need for an extended period consisting of extensive data logging.

Measure Number	Measure Description	Electricity Savings (kWh)	Gas Savings (therms)	Total Cost Savings	Payback with Incentive					Metric Tons Of GHG Emissions Abated	
					Measure Cost	Potential Utility Incentive	Measure Life (years)	Net Measure Cost	NPV*		Simple Payback (yr)
EEM-1	LED Lighting Upgrade (171 E 83rd Spaces)	10,862	-	\$ 1,847	\$ 10,287	\$ -	10	\$ 10,287	\$ 4,690	5.6	3.14
EEM-2	LED Lighting Upgrade (165 E 83rd Spaces)	11,962	-	\$ 2,034	\$ 21,520	\$ -	10	\$ 21,520	\$ (27,833)	10.6	3.46
EEM-3	Install TRVs	-	3,787	\$ 4,582	\$ 65,000	\$ -	10	\$ 65,000	\$ (27,833)	14.2	20.11
EEM-4	Install EMS	-	4,604	\$ 5,571	\$ 20,000	\$ -	10	\$ 20,000	\$ 25,187	3.6	24.45
EEM-5	Install Rooftop Solar	142,500	-	\$ 24,225	\$ 462,301	\$ 120,198	25	\$ 342,102	\$ (12,877)	14.1	41.18
EEM-6	Install Dedicated DHW Heater	-	1,574	\$ 1,904	\$ 35,000	\$ -	20	\$ 30,000	\$ (4,124)	15.8	8.36
EEM-7	Insulate Piping	-	97	\$ 117	\$ 106	\$ -	5	\$ 106	\$ 414	0.9	0.51
EEM-8	Occupancy Sensors in Staircases/Mechanical Areas (after LED Install)	563	-	\$ 96	\$ 1,250	\$ -	10	\$ 1,250	\$ (474)	13.1	0.16
EEM-9	Upgrade Windows to Double Paned, Clear, LoE-366	26,959	1,150	\$ 5,974	\$ 137,775	\$ -	30	\$ 137,775	\$ (56,583)	23.1	13.90
TOTALS (Recommended Measures)		192,846	11,211	\$ 46,350	\$ 753,239	\$ 120,198		\$ 628,041	\$ (71,599)	13.6	115

My building is way over its limits can I not file a report?

- ▶ Although the city relies on building owners to report their usage and based on that report your fine is assessed.
- ▶ Buildings that fail to file an LL97 report by May 1st 2025 will be subject to a MONTHLY FINE
- ▶ 50 Cents X Square footage of Building
Sample: A 35,000 Sq Ft Building would be fined **\$17,500**
Each Month until they prepare and file an LL97 report.

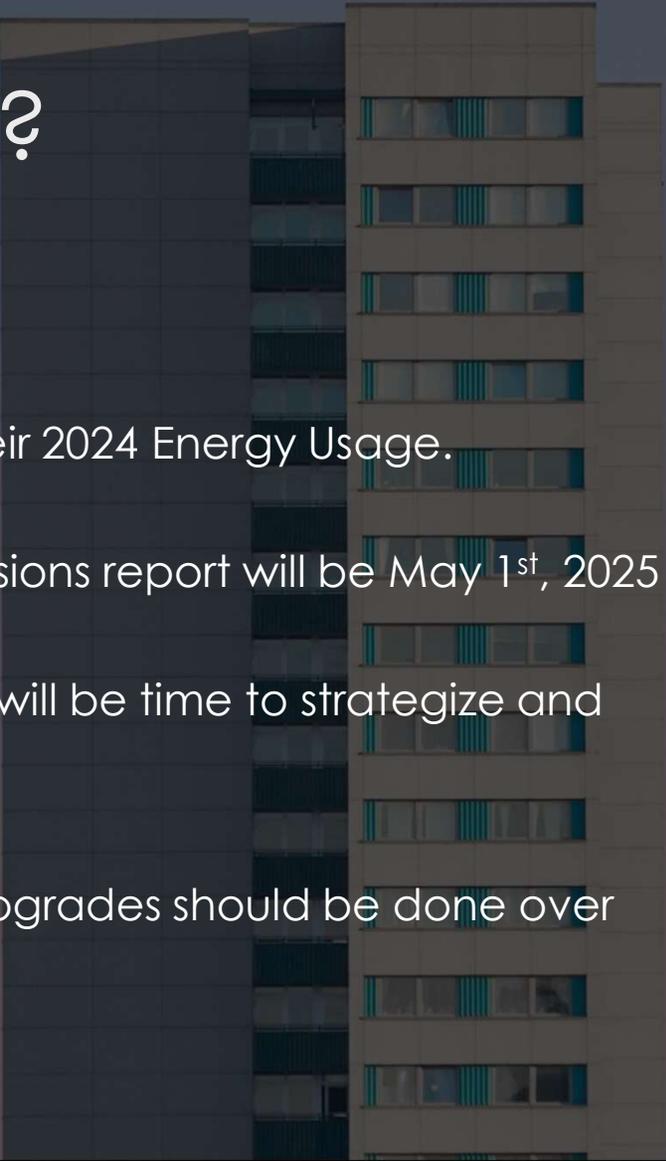




Pathway to Compliance

- ▶ Understand your current usage.
- ▶ Determine if you need to implement any energy saving measures to comply with the 2024 deadline.
- ▶ Get an Energy Audit to understand what systems are currently contributing to your high usage.
- ▶ Research possible upgrades that can lower your carbon footprint BY CITY STANDARDS.
- ▶ Utilize software for tracking energy upgrade success in real time.
- ▶ Implement Upgrades.

When to get started?



- ▶ Buildings will be judged based on their 2024 Energy Usage.
- ▶ The deadline to file the first LL97 Emissions report will be May 1st, 2025
- ▶ The best time to start is now so there will be time to strategize and research the best way forward.
- ▶ Implementation for labor intensive upgrades should be done over summer of 2023.

A white silhouette of a city skyline, including various skyscrapers and the Statue of Liberty on the right, set against a dark background. The skyline is partially overlaid by a dark, textured shape on the left side.

Presented By



What we'll cover

The 13 prescriptive measures

- **No-brainer solutions that will save you money (plus help you comply with 97)**
- **A look at your yeshiva's energy bill — 3 ways you can reduce the bill now without lowering your usage**

A white silhouette of a city skyline, including various skyscrapers and a prominent tower on the right, set against a dark background. The skyline is positioned at the top of the slide, with the 'Presented By' text and logo to its right.

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How LL97 affects our yeshivos and schools

Of 74 Jewish schools we checked:

- Approx **13%** (10 schools) will have fines in 2025 (up to **\$45,454**)
- Approx **60%** (45 schools) will have fines in 2030 (up to **\$655,121**)
- Approx **70%** (52 schools) will have fines in 2035 (up to **\$804,895**)

4 Categories of Prescriptive Measures:

- **Boiler Maintenance**
- **Building Insulation**
- **Lighting upgrades**
- **HVAC Controls**



13 Prescriptive Measures | Maintenance

1 and 2

- **Maintain heating systems**
 - **Repair heating system leakages**
- leakages**

Call your regular boiler company to inspect and repair any issues if needed



13 Prescriptive Measures | Insulation

3

Steam and Hot water pipe insulation



Who does it	How long it takes	How to pay	ROI
Insulation company (Sprayfoam)	Less than a day, can be done anytime	Grants available. Takes 5-6 weeks to be approved	Under 2 years

13 Prescriptive Measures | Insulation

4

Condensate & hot water tank insulation



Who does it	How long it takes	How to pay	ROI
Insulation company	Less than a day	Grants available. Takes 5-6 weeks to be approved	Under 1 year

13 Prescriptive Measures | Insulation

5

Weatherize and air seal



Who does it	How long it takes	How to pay	ROI
Insulation company or Do-it-yourself	Few days to few weeks	Grants available	Under 1 year

13 Prescriptive Measures | Insulation

6

Install radiant barriers behind radiators



Who does it	How long it takes	How to pay	ROI
Insulation company or Do-it-yourself	Less than a day	Grants available. Takes 5-6 weeks to be approved	Needs to be calculated

13 Prescriptive Measures | Lighting

7

Upgrade lighting to comply with new standards

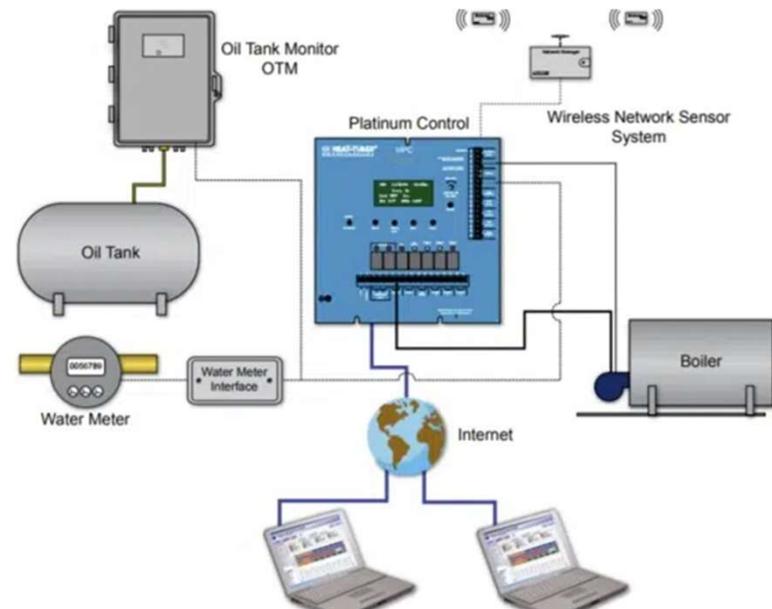


Who does it	How long it takes	How to pay	ROI
Electrician or lighting company	Few days to a few weeks	Free or almost free due to grants available. Takes a few weeks to be approved	Under 1 year

13 Prescriptive Measures | HVAC Controls

8 and 9

- **Adjust temperature set points**
- **Install heating system sensors and boiler controls**



Who does it	How long it takes	How to pay	ROI
Boiler control specialist	Under 6 hours	Cost depends on size of building Grants available	Under 1 year

13 Prescriptive Measures | HVAC Controls

10

Install TRV individual unit temperature controls

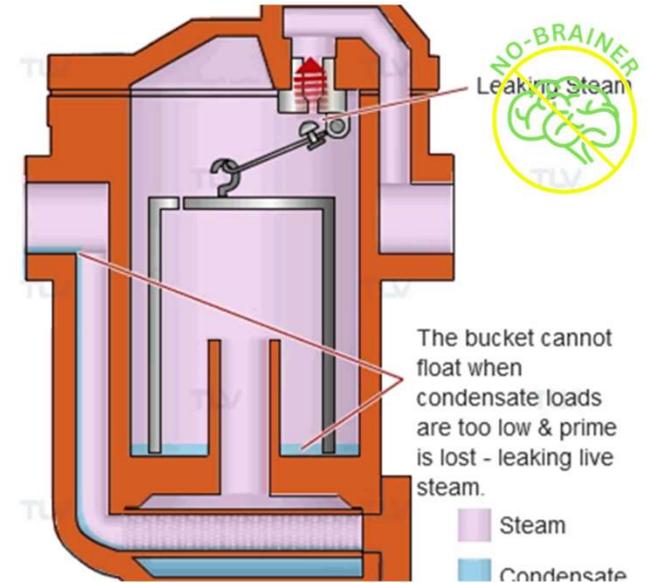


Who does it	How long it takes	How to pay	ROI
Your plumber	A few hours to few days, depending on building size. Can't be done when school is in session	Cost: \$100 per unit Grants available from some utilities: \$50 per unit - up to 250 pieces	Under 6 months (2 pipe system) Under 2 years (1 pipe system)

13 Prescriptive Measures | HVAC Controls

11

Replace or repair steam traps



Who does it	How long it takes	How to pay	ROI
Plumber or boiler company	Depends on quantity	Cost: \$200 each Grants available: 50%-80% of cost	Under 1 year

13 Prescriptive Measures | HVAC Controls

12

Install or upgrade steam system master venting



Who does it	How long it takes	How to pay	ROI
Plumber or ask us at EZ	Less than a day	\$350 per unit with \$75 grant available. Takes a few weeks to be approved	Under 6 months

13 Prescriptive Measures | HVAC Controls

13

Install timers on exhaust fans



Who does it	How long it takes	How to pay	ROI
Electrician	Less than a day	Minimal cost	Under 6 months

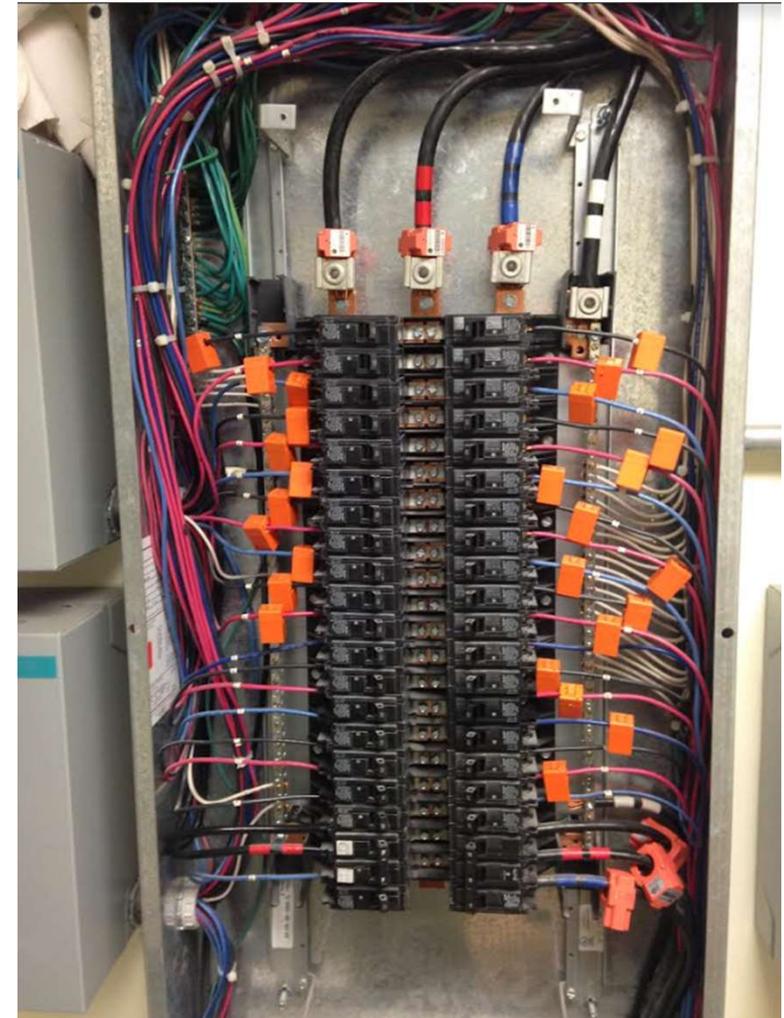
To summarize:



Boilers	Insulation	Lighting	HVAC Controls
Boiler maintenance and repair.	<ul style="list-style-type: none">• Pipe• Tanks• Weatherize & air seal• Radiant Barriers	LED Upgrades	<ul style="list-style-type: none">• Occupancy Sensors• Boiler controls• Balance distribution

How do I know if I'm successful?

Measuring software



Yeshiva (Williamsburg)





Your yeshiva electric bills

3 ways you might not know that you can lower your bill

(without lowering your usage)

Service
Class
Change

Residential

Name: YESHIVA [REDACTED] Account number: [REDACTED] Page 2 of 3

Your electricity breakdown *Rate: ELI Residential or Religious*

Electric Meter Detail - billing period from Nov 01, 2022 to Dec 05, 2022 (34 days)

Meter #	New Reading	Reading Type	Date	Prior Reading	Reading Type	Date	Reading Diff	Multiplier	Total Usage
012785273	394	Actual	Dec 05, 22	336	Actual	Nov 01, 22	58	160	9,280 kWh

Your Supply Charges		Your Delivery Charges	
Supply 9,280 kWh @13.1276¢/kWh	\$1,218.24	Basic service charge	\$20.55
Merchant function charge	\$48.00	Delivery 9,280 kWh @13.8572¢/kWh	\$1,285.95
GRT & other tax surcharges	\$30.47	System Benefit Charge @0.5000¢/kWh	\$46.40
Total electricity supply charges	\$1,296.71	GRT & other tax surcharges	\$32.60
		Total electricity delivery charges	\$1,385.50
		Your electricity total	\$2,682.21

Your total electricity supply cost for this bill is 14.0¢ per kWh. You can compare this price with those offered by energy services companies (ESCOs). For a list of ESCOs,

Commercial

Name: YESHIVA [REDACTED] Account number: [REDACTED] Page 2 of 2

Your electricity breakdown *Rate: CL9 General Large*

Electric Meter Detail - billing period from Nov 01, 2022 to Dec 05, 2022 (34 days)

Meter #	New Reading	Reading Type	Date	Prior Reading	Reading Type	Date	Reading Diff	Multiplier	Total Usage
013188395	2023	Actual	Dec 05, 22	1886	Actual	Nov 01, 22	137	80	10,960 kWh
013188395	4.64	Demand Actual	Dec 05, 22	4.27	Demand Actual	Nov 01, 22	0.37	80	29.60 kW

Your Supply Charges		Your Delivery Charges	
34 day billing period from Nov 01, 2022 to Dec 05, 2022		Energy delivery 10,960 kWh @3.8996¢/kWh	\$427.40
Customer charge	\$0.00	Demand delivery 29.6 kW @ \$29.9216/kW	\$885.68
Supply 10960 kWh @6.7050¢ per kWh	\$734.87	System Benefit Charge @0.5000¢/kWh	\$54.80
Sales tax @0.0000%	\$0.00	GRT & other tax surcharges	\$32.96
Total electricity supply charges	\$734.87	Total electricity delivery charges	\$1,400.84

Your electricity supplier: CONSTELLATION NEW ENERGY, INC

Time of Use

Electricity is cheaper during certain hours of the day





Three ways you can lower your bill (without lowering your usage)

- Check your Service Class & Time of use**
- Lower your Demand Charges**

Demand charges:
What you pay the utility for making energy available on demand

Demand charges

How measured

Monthly
Based on peak usage

To lower

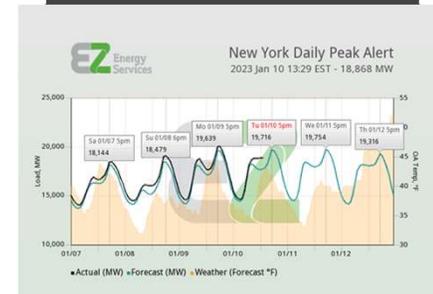
> Use sensors and software to pinpoint
> Stagger usage



Annual
measured in summer on specific hot days

To lower

Demand charge alerts





Three ways you can lower your bill (without lowering your usage)

- ✓ **Service Class Change & Time of use**
- ✓ **Demand Charge Alerts**

Next Steps

- Be sure your **benchmarking is done correctly**
- Get an **LL97 basic data assessment**
- Have an on-site **energy audit** of your building
- Create an **energy upgrade implementation plan**

