October 20, 2022

Memorandum: Summary of New Rules Proposed for NYC LL97

Executive Summary:

Based on our review of the new proposed rules, major takeaways are as follows:

1. Carbon emission limits have been reduced significantly for the period 2030-2034.
2. New rules suggest that electric grid will emit much less CO2e in 2030-2034 than assumed under the current rules. This will add additional pressure for electrification.
3. Efficiency improvements, waste heat recovery, and carbon capture technologies from existing building fossil fuel use should be reviewed as penalty reduction methods.
4. More buildings - especially offices, universities, medical offices, and hotels - will likely be exposed to greater penalties in 2030-2034.
5. Building Type emissions factors align better with Energy Star Portfolio Manager reporting types.
6. Zero emissions allowed for 2050 and beyond.
7. Renewable Energy Credits will only offset emissions from utility electricity delivery; no deductions are available for emissions from other fuel sources.

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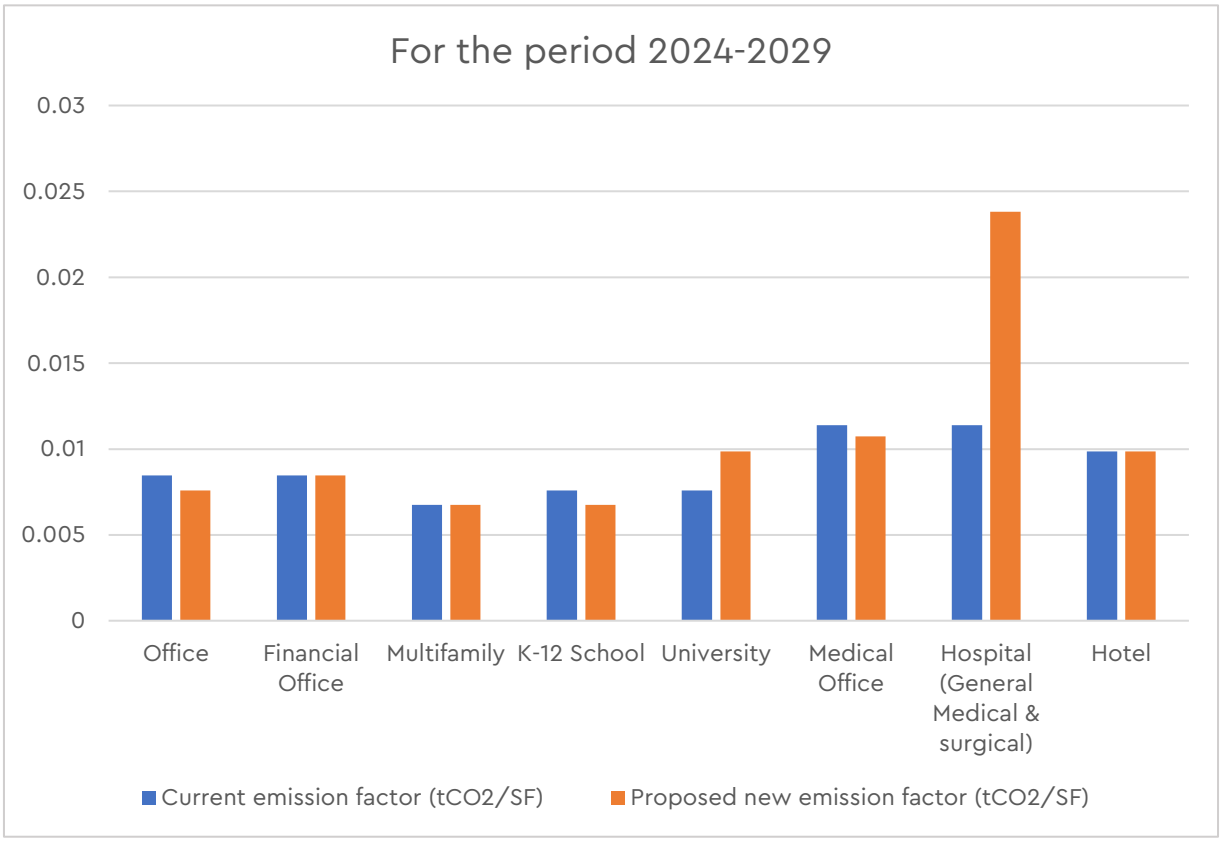
A. Changes in Emission Factor by Building Type

1. For the period 2024-2029

Building Type	Current emission factor (tCO2/SF)	Proposed new emission factor (tCO2/SF)	% Change
Office	0.00846	0.00758	-10.4%
Financial Office	0.00846	0.00846	0.0%
Multifamily	0.00675	0.00675	0.0%
K-12 School	0.00758	0.00675	-10.9%
University	0.00758	0.00987	30.2%
Medical Office	0.01138	0.01074	-5.6%
Hospital (General Medical & Surgical)	0.01138	0.02381	109.2%
Hotel	0.00987	0.00987	0.0%



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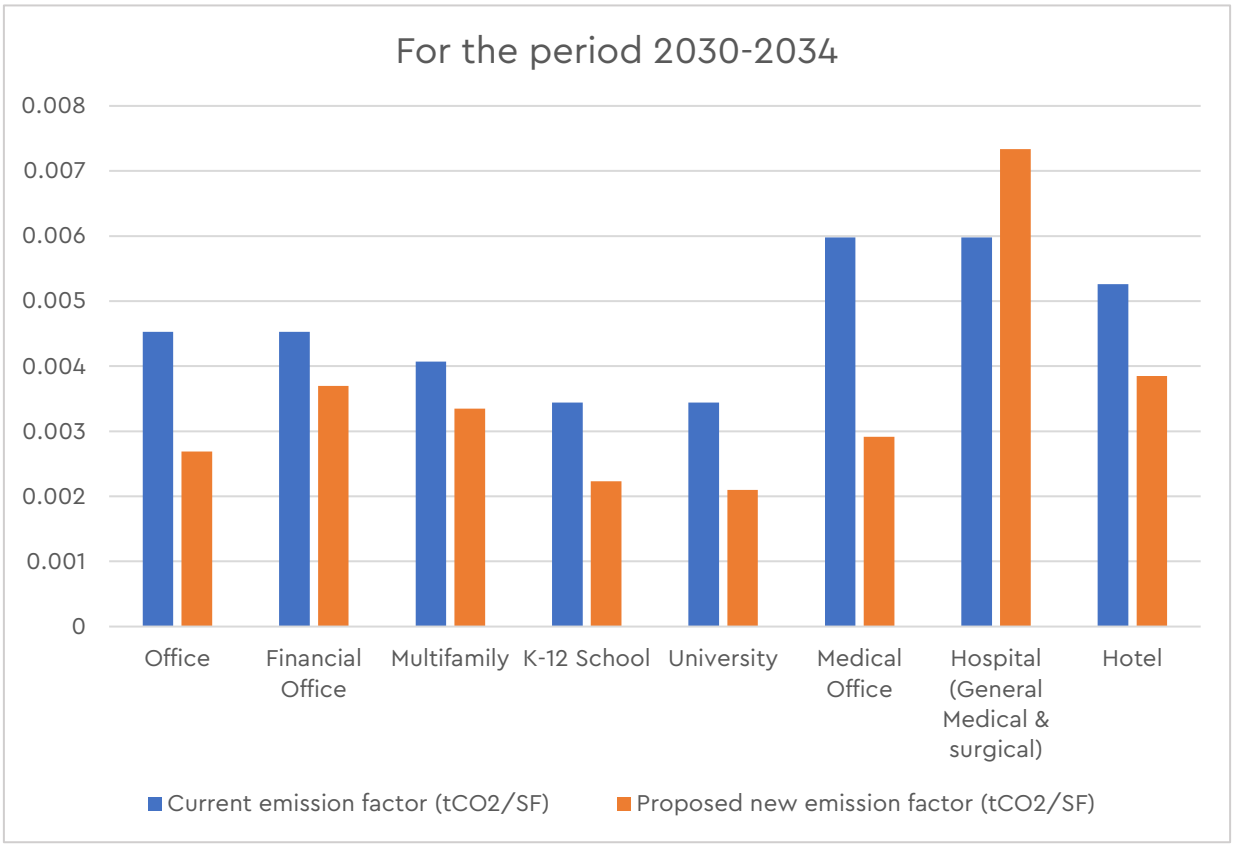
2. For the period 2030-2034

Building Type	Current emission factor (tCO2/SF)	Proposed new emission factor (tCO2/SF)	% Change
Office	0.00453	0.002690852	-40.6%
Financial Office	0.00453	0.003697004	-18.4%
Multifamily	0.00407	0.003346640	-17.8%
K-12 School	0.00344	0.002230588	-35.2%
University	0.00344	0.002099748	-39.0%
Medical Office	0.00598	0.002912778	-51.3%
Hospital (General Medical & Surgical)	0.00598	0.007335204	22.7%
Hotel	0.00526	0.003850668	-26.8%



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3. For the period 2035-2039

Building Type	Current emission factor (tCO2/SF)	Proposed new emission factor (tCO2/SF)	% Change
Office	0.0014000	0.001652340	18.0%
Financial Office	0.0014000	0.002772753	98.1%
Multifamily	0.0014000	0.002692183	92.3%
K-12 School	0.0014000	0.001488109	6.3%
University	0.0014000	0.001236322	-11.7%
Medical Office	0.0014000	0.001683565	20.3%
Hospital (General Medical & Surgical)	0.0014000	0.004654044	232.4%
Hotel	0.0014000	0.002640017	88.6%

4. For the period 2040-2049

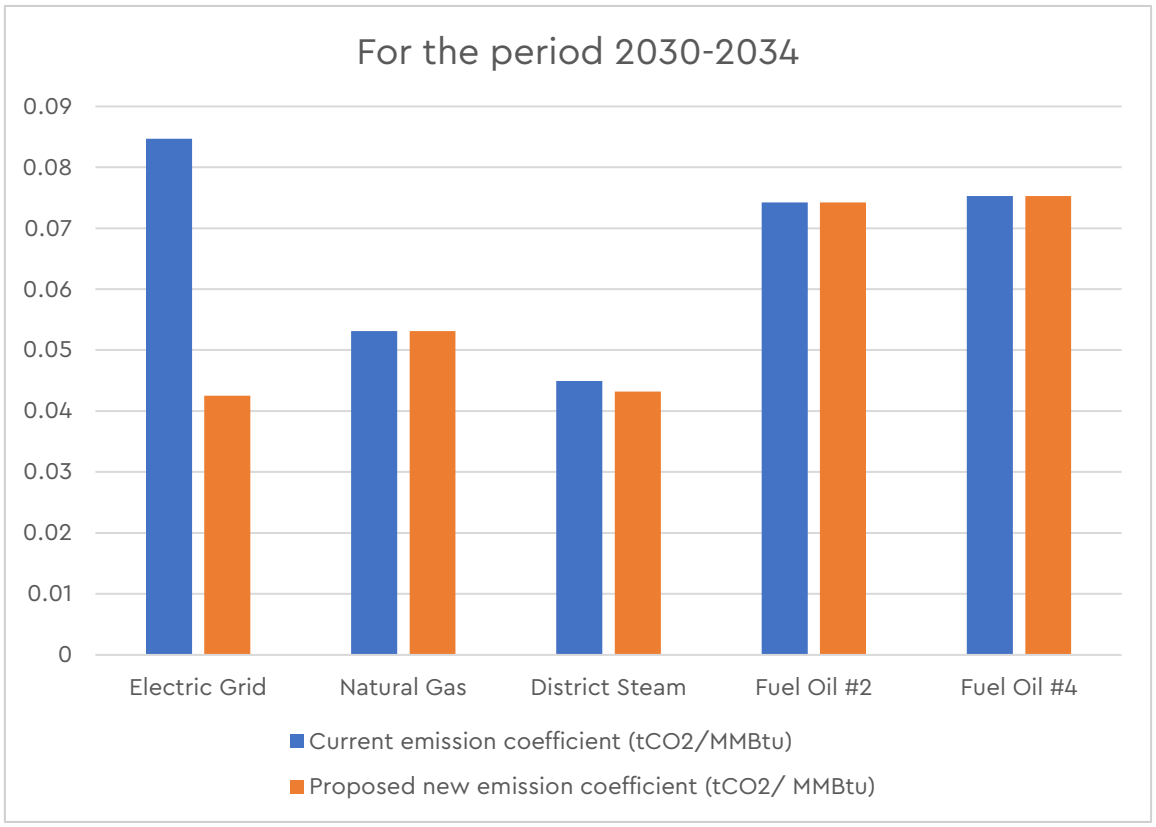
Building Type	Current emission factor (tCO2/SF)	Proposed new emission factor (tCO2/SF)	% Change
Office	0.0014000	0.000581893	-58.4%
Financial Office	0.0014000	0.001848502	32.0%
Multifamily	0.0014000	0.002052731	46.6%
K-12 School	0.0014000	0.000809607	-42.2%
University	0.0014000	0.000180818	-87.1%
Medical Office	0.0014000	0.000407851	-70.9%
Hospital (General Medical & Surgical)	0.0014000	0.002997851	114.1%
Hotel	0.0014000	0.001465772	4.7%

5. For the period 2050-Beyond

Building Type	Current emission factor (tCO2/SF)	Proposed new emission factor (tCO2/SF)	% Change
Office	0.0014	0.0	-100%
Financial Office	0.0014	0.0	-100%
Multifamily	0.0014	0.0	-100%
K-12 School	0.0014	0.0	-100%
University	0.0014	0.0	-100%
Medical Office	0.0014	0.0	-100%
Hospital (General Medical & Surgical)	0.0014	0.0	-100%
Hotel	0.0014	0.0	-100%

B .Changes in Emission Coefficients by Fuel Type

Fuel Type	Current emission coefficient for 2025-2029 (tCO2/MMBtu)	Proposed new emission coefficient for 2025-2029 (tCO2/ MMBtu)	Proposed new emission coefficient for 2030-2034 (tCO2/ MMBtu)	% Change
Electric Grid	0.08468	0.08468	0.04250	-49.8%
Natural Gas	0.05311	0.05311	0.05311	0.0%
District Steam	0.04493	0.04493	0.04320	-3.9%
Fuel Oil #2	0.07421	0.07421	0.07421	0.0%
Fuel Oil #4	0.07529	0.07529	0.07529	0.0%



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C. Additional Notes

1. Buildings in the same tax lot but without any shared energy service will have to report separately.
2. Data centers are separate from offices and have a higher emission factor (0.02381 tCO2/SF)
3. Efficiency improvements, waste heat recovery, and carbon capture technologies from existing building fossil fuel use should be reviewed as penalty reduction methods.
4. Emission limit = emission factor x GSF
5. Carbon emission coefficients:
    a) Carbon emission coefficients are now provided for many new fuels (butane, propane, ethane, diesel etc.)
        i. Buildings that use a blend of fuel with biomass/biogenics can propose an emissions coefficient that will be reviewed by the DOB.
    b) A building can choose a time-of-use carbon conversion rate for electricity instead of the flat rate. The rules show a method to calculate this. It appears this will be advantageous for buildings with a demand response/reduction strategy.
    c) The new rules show a method to calculate carbon coefficients for campus-style electric systems.
    d) Carbon coefficients for electricity generated by an off-site solar energy system purchased by the owner of a covered building is 0.0 tCO2e per kWh, provided such energy sinks directly into the zone J load zone.
    e) In reporting annual building emissions, an owner of a covered building that utilizes an energy storage system may account for on-site or off-site storage of energy.
    f) RECs may only be used as a deduction from annual utility supplied electricity emissions.
    g) The coefficient for electricity generated by on-site solar energy system may be deducted from electricity emissions for the period of 2024-2029.
6. Annual building emissions:
    a) Energy used for unidirectional charging of electric vehicles may be deducted where separately metered or sub-metered pursuant to guidance issued by DOB.
    b) There are provisions that allow RECs to be deducted. RECs can be deducted only for electric consumption
    c) For calendar years 2024 to 2029, a deduction from emissions resulting from annual electricity consumption is allowed where electricity is generated by a solar energy system on the premises.
    d) For calendar years 2024 to 2029, a deduction from emissions resulting from annual electricity consumption is allowed for energy stored as electricity.
    e) Demand response/reduction strategies and use time of use calculations for emissions may be utilized. This would need to be modeled to determine if it would be beneficial based on building type and usage schedule.

NEXT STEPS:

1. **Attend the Urban Green hosted information session with NYC Department of Buildings:**
    a) LL97: Unpacking the Proposed Rules | Urban Green Council
2. **When and where is the hearing?**
    a) DOB will hold a public hearing on the proposed rule online. The public hearing will take place at 11am on 11/14/22
3. **How do I comment on the proposed rules? Anyone can comment on the proposed rules by:**
    a) Website. You can submit comments to the DOB through the NYC rules website at http://rules.cityofnewyork.us.
    b) Email. You can email comments to dobrules@buildings.nyc.gov
    c) Mail. You can mail comments to the New York City Department of Buildings, Office of the General Counsel, 280 Broadway, 7th floor, New York, NY 10007.
    d) Fax. You can fax comments to the New York City Department of Buildings, Office of the General Counsel, at 212-566-3843.
4. **Speaking at the hearing. Anyone who wants to comment on the proposed rule at the public hearing must sign up to speak. You can sign up by emailing dobrules@buildings.nyc.gov by 11/7/22 and including your name and affiliation.**
    a) While you will be given the opportunity during the hearing to indicate that you would like to provide comments, we prefer that you sign up in advance. You can speak for up to three minutes.

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