



NYC ALL-ELECTRIC NEW BUILDINGS LAW

December 15, 2021

Groundbreaking legislation phases fossil fuels out of new construction starting in 2024.

HIGHLIGHTS

- Sets CO₂ limits that effectively prohibit fossil fuel systems in new buildings and gut renovations
- Phases in requirements starting with lower-rise buildings in 2024 and taller buildings in mid-2027
- Allows more time for affordable housing and hot water systems in buildings other than one- and two-family homes
- Includes exceptions where required for select uses like manufacturing, hospitals and restaurants

Urban Green Council helped shape the law, including as lead witness testifying at the City Council [hearing on November 17, 2021](#). Read our [written testimony](#) to see how our recommendations were incorporated into the [final law](#).

IMPACT

- With few exceptions, new buildings will be all-electric, using high-performance technologies like induction stoves for cooking and heat pumps for heating, cooling and hot water
- Efficient, all-electric buildings have lower carbon emissions and improve local air quality while making occupants more comfortable

WHAT DOES NEW CONSTRUCTION LOOK LIKE IN NYC?

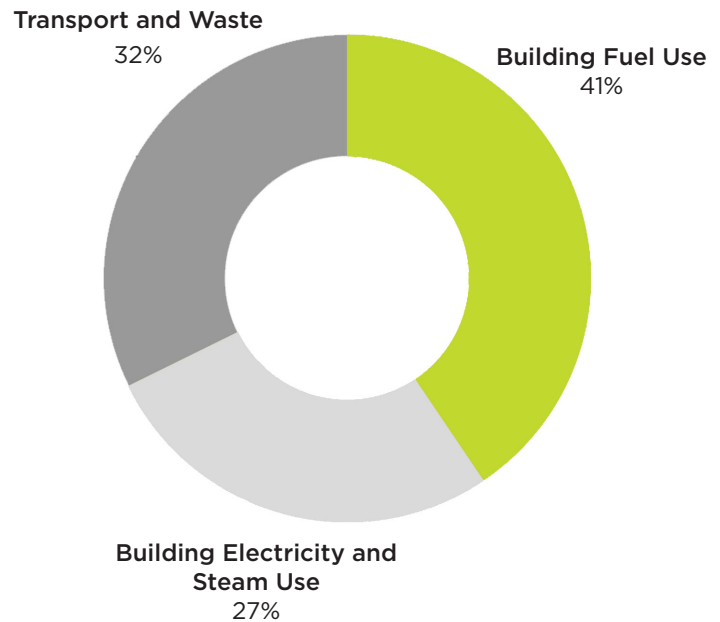
Construction rates vary significantly year to year, but statistics from the last decade shed light on potential impact:

- 1,000 to 3,000 new buildings are constructed in NYC each year. That's 35 to 45 million square feet of new building area annually¹
- Most new buildings are one- and two-family homes, plus about 200 new buildings that are seven stories or higher each year

The [latest NYC data](#) show that all-electric multifamily buildings are only about two percent more expensive to build, and that cost gap is closing.²

FIGURE 1
New York City GHG Emission Sources

On-site fossil fuels are NYC's largest source of carbon pollution



Source: 2019 NYC GHG Inventory

FOSSIL FUELS IN NYC BUILDINGS

Fossil fuel furnaces, boilers and hot water heaters cause over 40 percent of all NYC carbon emissions, more than all uses of electricity and district steam combined.³

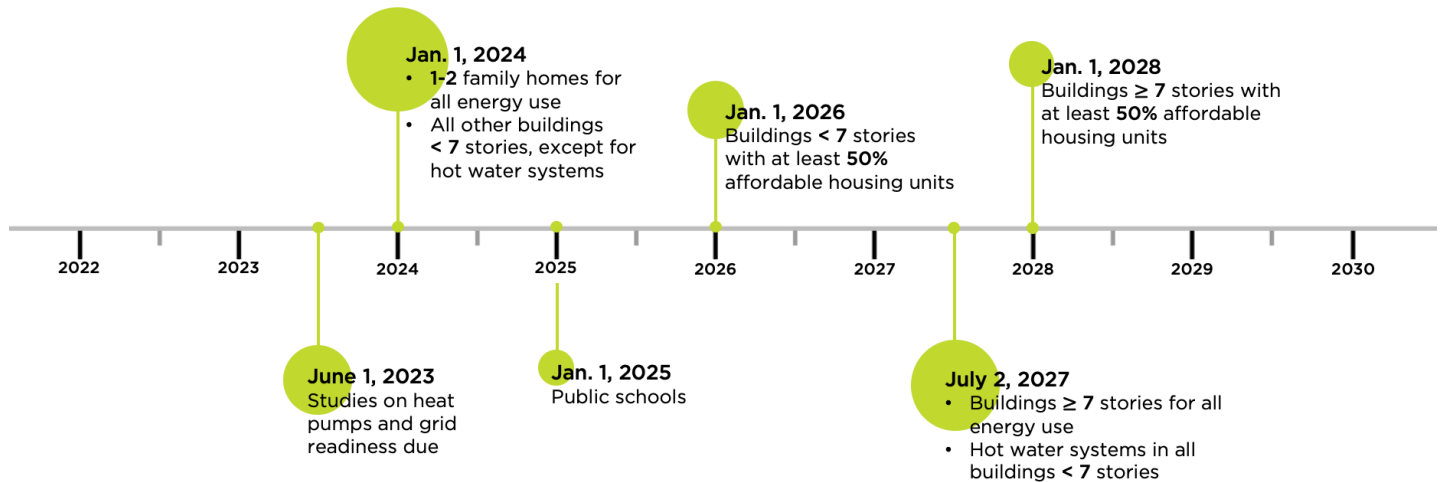
Gas and oil fired appliances can last 15 to 20 years, locking in decades of warming emissions for every appliance installed. Electrifying space heating and hot water with highly efficient heat pumps reduces emissions now, and emissions will continue to decline as the electric grid gets greener.⁴

Read more about how NYC's electric grid can support this transformation in Urban Green's latest publication, [Grid Ready: Powering NYC's All-Electric Buildings](#).

FIGURE 2

Implementation Timeline

Requirements phase in over five and a half years, allowing time for the market to ramp up with more products, training and design strategies



ADDITIONAL DETAILS

Requirements

- Prohibits combustion emitting more than 25 kg of CO₂ per million British thermal units (MMBtu) of energy within a building, well below emissions for natural gas (~53 kg) and fuel oil (~74kg)⁵
- Applies when buildings submit an application for approval of construction documents
- Expressly covers new buildings but also covers any gut renovations that meet the Department of Buildings threshold for alterations that need to comply with new building requirements

Affordable Housing

To accommodate longer design timelines in NYC’s affordable housing, the law delays requirements for buildings with 50 percent or more affordable housing units by two years (to January 1, 2026) for buildings under seven stories, and by six months (to January 1, 2028) for buildings seven stories or higher.

Domestic Hot Water

Highly efficient electric heat pump water heaters are already widely available for 1-2 family homes. But the law delays requirements for hot water systems in larger buildings.

Products and design strategies are ramping up for multifamily buildings and the additional time will help the market meet the challenges in that sector at scale, including greater hot water demand, heat loss during distribution, and limited space for larger tanks.

EXCEPTIONS

The law provides exceptions for:

- Spaces where combustion is required for manufacturing or laboratories, laundromats, hospitals, crematoriums or commercial kitchens—but only to the extent necessary and in the space used for that purpose;
- Fuels occasionally burned in appliances not connected to gas lines or fuel oil piping and not used for heating or hot water (e.g. propane grill);
- Buildings used by utilities to generate electricity or steam; and
- Buildings used to treat sewage or food waste.

STUDY: HEAT PUMPS AND GRID READINESS

The law requires that the Mayor’s Office conduct two studies by June 1, 2023 related to all-electric buildings assessing: (i) the feasibility and cost of heat pumps, and (ii) the reliability and resiliency of the city’s electric grid under electrification scenarios.

The city will consult with industry experts and may leverage findings from existing studies like Urban Green’s [*Grid Ready: Powering NYC’s All Electric Buildings*](#) and [*Going Electric*](#).

REFERENCES

- ¹ The lower end of this range comes from analysis of properties in PLUTO with construction years from 2010 and 2019. The higher area number comes from [REBNY’s Quarterly New Building Construction Pipeline Report](#) analysis of DOB job application filings between 2008 and 2020.
- ² [NYSERDA Buildings of Excellence](#)
- ³ 2019 NYC GHG Inventory
- ⁴ [Going Electric](#), Urban Green Council. 2020.
- ⁵ [US Energy Information Administration](#)

This summary is for informational purposes only. For full details on the law and questions related to compliance, please contact the City of New York.