NYStretch Energy Code–2020

Frequently Asked Questions

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GENERAL QUESTIONS

1. What is a stretch energy code?

A stretch energy code is simply an energy code that is more stringent than New York State's base energy code that can be adopted by local jurisdictions. Jurisdictions on Long Island, in the Hudson River valley, in the state of Massachusetts, and elsewhere, including New York City, have adopted stricter energy standards to ensure constituents enjoy reduced energy costs. Local adoption of a stretch energy code shows leadership by protecting the environment while creating healthier, more comfortable buildings with lower operating costs. In order to prevent a patchwork of stricter energy codes, the New York State Energy Research and Development Authority (NYSERDA) developed a model stretch energy code that is effective, flexible, and enforceable.

2. What is the NYStretch Energy Code–2020?

NYStretch Energy Code–2020 (NYStretch) is a model, voluntary, locally adoptable stretch code that saves more energy than the forthcoming 2020 Energy Conservation Construction Code of New York State (2020 ECCCNYS).

This fact allows NYStretch to be adopted by any jurisdiction in New York. NYStretch amends the 2020 ECCCNYS with a standard that is 10–12% more efficient, depending on climate zone and building type. Many of the changes are already being considered for the next national energy codes. To a large degree, NYStretch is an early look at New York State's next energy code.

3. Why did NYSERDA develop NYStretch?

NYSERDA and its team of stakeholder advisory groups and consultants developed NYStretch to provide a stretch code that is easily adoptable and enforceable, provides a consistent signal to the market, and delivers energy and greenhouse gas savings. NYStretch is a pivotal tool for New York jurisdictions to accelerate the savings obtained through their local building energy codes.

The 2020 ECCCNYS will be the minimum energy efficiency requirement for new buildings in New York State. However, technologies and strategies exist that are significantly more efficient than the state's minimum code requirements. NYStretch will be 10–12% more efficient than the 2020 ECCCNYS and will significantly reduce energy consumption, operating costs, utility costs, and greenhouse gas emissions.

Developers often build homes and buildings to meet the State's base energy code with lower initial capital costs than energy-efficient or green building designs. This approach passes higher utility costs to renters, tenants, and owners. While homes and buildings built to NYStretch may cost more initially, long-term energy and cost savings will be passed on to renters, tenants, and owners.

Adopting a stretch code also prepares design and construction firms for future state code requirements and can increase property values and overall community attractiveness as more homeowners are seeking green or energy-efficient homes. Multiple popular online real estate websites now have filters for prospective homeowners to search for green or energy-efficient homes. Similarly, more corporations are adopting sustainability plans and initiatives, which often include energy efficiency requirements for the buildings they operate.

4. How can communities benefit from adopting and enforcing a stretch energy code like NYStretch?

Voluntary stretch codes are permitted by law in New York State, as a more stringent local energy code. Communities can benefit from adopting and enforcing a stretch energy code in many ways, including, but not limited to:

- Significant energy and utility cost savings for homeowners, tenants, renters, and building owners
- Reduced building operational costs
- Reduced environmental impact
- Increased occupant comfort and health

- Increased real estate value and community attractiveness
- Research and development stimulation and commercialization of products that improve energy efficiency performance
- Green job creation related to next-generation technologies, code enforcement, quality control, building commissioning, energy auditing and modeling, among others.

A more stringent energy code requires homes and commercial buildings to be more efficient, which reduces the amount of electricity, natural gas, and fuel oil used. While energy efficiency improvements often make sense to implement financially, these improvements may not be implemented for a variety of reasons. Adopting a stretch energy code is an effective way to implement energy efficiency and renewable energy measures, as it will be required by law for the communities that adopt it. In turn, communities that adopt a stretch energy code will reduce energy costs for current and future homeowners and renters and mitigate operating costs for small and large businesses located within the community.

5. What are the key changes in NYStretch compared to the 2020 ECCCNYS?

Changes from the 2020 ECCCNYS in NYStretch are highlighted by the sidebar markings to indicate the specific change in the code. The key changes include:

- Envelope: improved insulation and window performance, air-barrier commissioning, and air-leakage testing
- Lighting: reduced interior and exterior lighting power and lighting controls
- Electrical: whole-building energy monitoring
- Renewable and electric vehicle readiness
- Mandatory mechanical ventilation for residential buildings

SCOPE

6. Which building types are covered by NYStretch?

NYStretch covers the same building types as those covered by the ECCCNYS. For jurisdictions that adopt NYStretch as a local energy code, it will amend the base 2020 ECCCNYS and become the binding energy code language for building projects in that municipality.

7. Does NYStretch apply to major renovation projects as well as new construction?

Yes, in the same manner that the ECCCNYS is applicable to major renovation and new construction projects.

8. Does NYStretch apply to minor additions to existing buildings?

As it is with the ECCCNYS, additions to existing commercial and residential buildings that are large enough to require code compliance are treated as renovations. In both cases, these additions can follow the performance approach to code compliance or a simplified prescriptive path.

9. Are multifamily buildings considered residential or commercial buildings under NYStretch?

NYStretch does not modify the definitions of residential and commercial buildings. Therefore, multifamily buildings will be handled identically in the 2020 ECCCNYS and in NYStretch.

LOCAL ADOPTION AND ENFORCEMENT REQUIREMENTS

10. How do communities adopt NYStretch?

Local jurisdictions will follow their normal procedures for introducing an amendment to a local law. A NYSERDA representative may be available to present NYStretch to members of a committee or at public hearings and to answer questions.

NYSERDA has developed template language for a resolution, amendment, or ordinance. It is included in an Adoption Guide and Model NYStretch Adoption Bill to assist local municipalities with adopting NYStretch.

11. Does NYStretch need to be approved by the New York Secretary of State?

No, pursuant to Article 11, section 11-109 of the New York State Energy Law, and subject to the provisions and requirements of that section, any municipality has the power to promulgate a local energy conservation code that is more stringent than the 2020 ECCCNYS.

However, after a local law, revision, or amendment has been enacted, it must be filed and indexed by the Department of State.

12. When does the local law need to be filed with the New York Secretary of State?

Within 30 days of enactment. Instructions for filing a local energy conservation construction code can be found here: dos.ny.gov/DCEA/pdf/Energy/Filing-of-a-Local-Energy-Conservation-Construction-Code-11-109.pdf

13. How are interpretations of NYStretch handled?

A jurisdiction's local code official in the municipality is permitted to interpret provisions of NYStretch that are (1) in addition to the provisions of the 2020 ECCCNYS or (2) more stringent than the provisions of the 2020 ECCCNYS. NYSERDA plans to offer code officials interpretation assistance in the form of a hotline or a technical consultant.

14. How would NYStretch be implemented and enforced?

Implementation and enforcement will be handled by the same authority who handles implementation and enforcement of other building codes in a community.

15. Can a jurisdiction adopt just the residential or commercial portion of the NYStretch?

Yes. While a jurisdiction may adopt one or both of the Commercial and Residential provisions, it is NYSERDA's desire, but not a rule, that the NYStretch be adopted as written. Changes to or deletions of the provisions contained in NYStretch may affect energy savings, cost savings, and enforceability. Jurisdictions are encouraged to contact codes@nyserda.ny.gov before considering any changes to the NYStretch.

16. It seems like the NYStretch has efficiency requirements for HVAC equipment that exceed federally mandated levels of efficiency. How can local jurisdictions have the authority to mandate higher levels of efficiencies for HVAC equipment?

NYStretch does not mandate the use of HVAC or water-heating equipment measures that exceed federal energy efficiency levels.

RESIDENTIAL BUILDING QUESTIONS

17. How does a new home meet the residential requirements of NYStretch?

The compliance paths include the same paths as in the ECCCNYS, including versions of RESCheck™. NYStretch also allows for Passive House approaches.

18. For residential buildings, is additional testing equipment and verification required to meet the NYStretch compared to the 2020 ECCCNYS?

Yes. For example, a provision in NYStretch requires that a mechanical ventilation system be tested and verified to ensure it is working properly so as to deliver the expected performance and energy savings.

19. How much energy will each new home save if built to meet NYStretch?*

On average, residential buildings that meet NYStretch can save an estimated 19.7% in terms of energy cost compared to those built to the 2020 ECCCNYS. Likewise, a homeowner would see, on average, an estimated 19.7% reduction in their utility bill over the course of one year. The prescriptive residential provisions of NYStretch were modeled using whole building energy simulation software to quantify energy savings beyond what will be expected under the 2020 ECCCNYS.

**Note that these savings strictly reflect energy efficiency components and do not include any energy offset by renewable energy generation such as solar photovoltaic (PV) panels. Additional savings would be realized for projects that include renewable generation technologies.*

20. How much more does it cost to build a new home to meet NYStretch compared to the current 2020 ECCCNYS?

There are multiple ways to comply with NYStretch. Third-party incremental cost analyses show that incremental costs range from $1,506 to $2,463 per home for single family homes. Multifamily apartments will have incremental costs ranging from $1,488 to $1,750 per dwelling unit.

NYStretch–Average Residential Savings, Costs, and Payback

Building Type	Annual Energy Cost Savings ($/home)*	Incremental Cost of Construction ($/home)*	Simple Payback (years)*
Single Family Home	$348	$2,057	5.9
Multifamily Unit	$171	$1,591	9.3
Weighted Average NY State	**$278**	**$1,795**	**6.4**

*Results will vary depending on building and construction type and location in NY State.

Adoption of a more stringent standard for buildings may result in slightly higher costs for new construction, but costs will be offset by the energy cost savings associated with a home that meets NYStretch. In the case of single family homes, the costs will be offset within 4 to 8 years, depending on location. Similarly, the costs for a multifamily building can be paid back in 10 years or less. In addition, for existing homes undergoing significant renovation, there are numerous efficiency programs across the state that provide financial incentives. These programs can help reduce the up-front costs and allow for faster returns on the investment in energy-saving measures. Check with your local utility company about financial incentives or rebate programs that may be available.

COMMERCIAL BUILDING QUESTIONS

21. For commercial buildings, what other compliance paths are there in NYStretch aside from the prescriptive path?

Like the 2020 ECCCNYS, NYStretch allows commercial buildings to comply using the performance paths in ASHRAE. However, in NYStretch, the IECC performance path is not available for commercial buildings.

22. For commercial buildings, is additional testing and/or verification required to meet NYStretch?

Yes. For example, NYStretch includes a new section for air-barrier commissioning. This section requires design and construction checklists, field inspections, and a compilation of a final commissioning report, among other requirements not in the 2020 ECCCNYS.

23. How much energy and money will each new commercial building save if built to meet NYStretch*?

The prescriptive commercial provisions of NYStretch were modeled using whole building energy simulation software to quantify energy savings beyond the 2020 ECCCNYS, following the ASHRAE prescriptive path. Depending on the building type, climate zone, and compliance path selected, commercial buildings that meet NYStretch will save an estimated 7.1% in terms of energy cost compared to those built to the 2020 ECCCNYS.

**Note that these savings strictly reflect energy efficiency components and do not include any energy offset by renewable energy generation such as solar PV. Additional savings would be realized for projects that include renewable generation technologies.*

24. How much more does it cost to build a new commercial building to meet NYStretch compared to the 2020 ECCCNYS?

Adoption of a more efficient standard for buildings is likely to result in slightly higher initial costs for new construction, but lower energy bills. Initial costs will differ based on building type, the heating and cooling system included in the design, and the compliance path selected. Based on a NYStretch cost study of the prescriptive provisions for commercial buildings, the incremental costs and simple payback for the most cost-effective packages are as follows:

NYStretch – Average Commercial Savings, Costs, and Payback

Building Type	Percentage Savings*	Incremental Cost ($/sq ft)*	Simple Payback (years)*
Large Office	4.1%	$0.31	3.3
Stand-alone Retail	15.8%	$3.39	13.3
Secondary School	8.1%	$0.55	5.4
Large Hotel	8.7%	$1.64	8.8
Full-service Restaurant	12.1%	$4.29	4.6
Outpatient Healthcare	6.1%	$2.85	12.0
Warehouse	12.9%	$0.77	13.3
10-story High-rise Apartment	3.0	$0.43	11.5
20-story High-rise Apartment	3.4%	$0.47	13.5
Weighted Average NY State	**7.1%**	**$1.14**	**10.5**

*Results will vary depending on building type and location in NY State.

In addition, there are numerous efficiency programs across the state that provide financial incentives. These programs can help reduce the up-front cost of complying with NYStretch and allow for faster returns on investment in energy-saving measures. Check with your local utility about financial incentives or rebate programs that may be available.

25. How does NYStretch work with green building programs such as LEED® for New Construction?

Both NYStretch and LEED for New Construction have the option to use ASHRAE 90.1 Appendix G modeling protocols.

26. Does NYStretch require installation of solar panels for commercial buildings?

No, but Section C405.11 does require buildings to be solar-ready per the provisions of Appendix CA of the 2018 IECC. However, municipalities may decide to adopt Appendix CC which requires buildings to comply with at least one of five options, one of which is to add on-site renewable energy.