



NYStretch Energy Code:

A Tool for Meeting Your Community's Climate Goals

Beacon, NY

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Agenda

- Overview of Climate Leadership and Community Protection Act
- NYStretch Energy Code 2020:
 - What is a Stretch Code?
 - Overview of NYStretch
 - Benefits and economics
 - Comparison to 2020 ECCCNY
 - Available Resources
 - Timeline



New York Climate Leadership and Community Protection Act



NYSERDA

CLCPA by the Numbers, Targets Codified into Law

**Carbon neutral economy, mandating at least an
85% reduction in emissions below 1990 levels**

40% reduction in emissions by 2030

100% zero-carbon electricity by 2040

70% renewable electricity by 2030

9,000 MW of offshore wind by 2035

6,000 MW of distributed solar by 2025

3,000 MW of energy storage by 2030

185 Tbtu on-site energy savings by 2025

Energy Efficiency

New Efficiency: New York

- > New utility energy efficiency investments of \$1.6 billion

Additional existing activities and support:

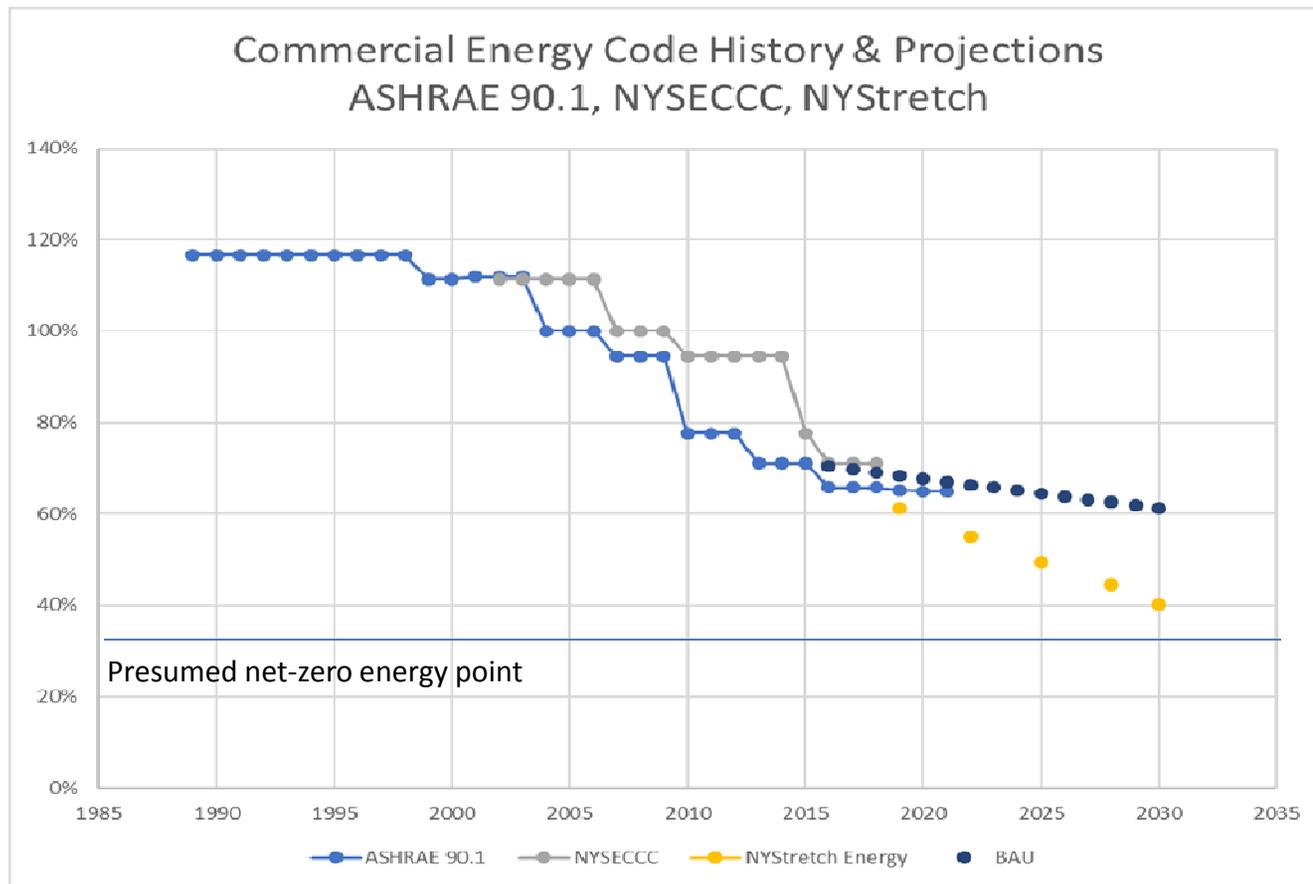
- > NYSERDA's Clean Energy Fund (\$2 billion over 10 years)
- > Currently authorized utility programs (\$1.21 billion)

185 TBtu
end-use savings
in buildings and industrial sector
below forecasted energy use in 2025
by 2025

equivalent to fueling
and powering more than
1.8 million New York homes
by 2025

delivering **nearly one-third**
of the greenhouse gas
emissions reductions needed
to meet **40% reduction by 2030**

What is a Stretch Energy Code?



Why is NYStretch important?



We are facing a different future than what was envisioned
10-20 years ago.

To meet energy efficiency and net-zero goals, we need to move the needle.

185 TBtu
end-use savings



What is NYStretch Energy Code 2020?

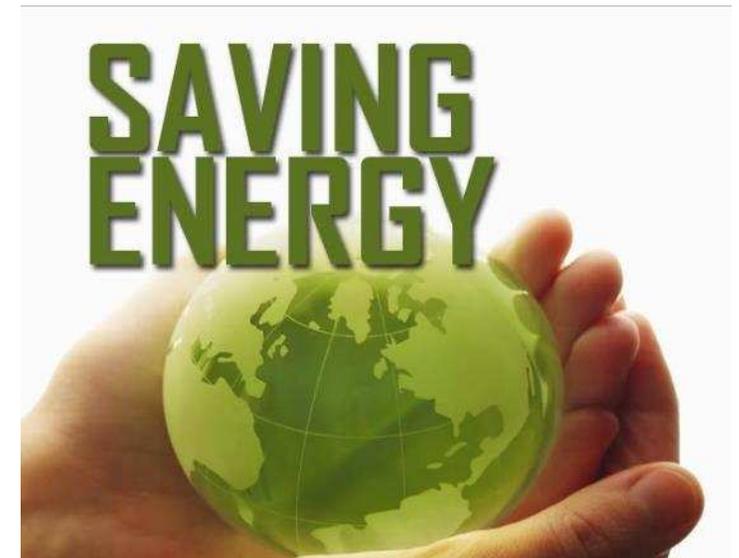
- Readily adoptable local energy code that is more efficient than NYS's base energy code.
- Based on proven technologies & construction techniques.
- A pivotal tool in supporting energy/climate goals.
- Calls for higher energy efficiency standards for new and renovated construction projects.



Roughly 11% more efficient than 2020 ECCCNY.

Why should a community adopt NYStretch?

- Saves energy and money:
 - Long-term benefits by building smarter today.
 - Use less energy, reduce operating costs, help achieve energy/GHG reduction goals
- Sets the path for future energy codes:
 - Increased emphasis will be on beneficial electrification
- Boosts the local economy:
 - Develops and utilizes local workforce, builds expertise in newer technologies, creates more green jobs



NYStretch - Benefits

- Improves community growth:
 - Increases community attractiveness as more home/business owners and tenants look for green & energy efficient buildings
- Increases property values:
 - New and renovated buildings benefit from long-term energy and cost savings
- Encourages Plan Review and Site Inspection by Third Parties / HERS Raters
 - Lessons load on Code Officials



NYStretch – Community interest

- New York City’s 2020 Energy Code is NYStretch with NYC-centric amendments.
- Ithaca using NYStretch as part of their Green Building Code.
 - Goal: Carbon-neutral community by 2030
- Other communities already expressing interest in NYStretch include:
 - Albany, Austerlitz, Croton, Marletown, New Paltz, North Salem, Pelham, Poughkeepsie, other Lower Hudson Valley towns and cities, Towns of Long Island



NYStretch vs. 2020 ECCCNY

Economics

- Commercial Savings and Incremental Cost

Weighted average results for **CZ4 Dutchess County**:

- Energy Cost Savings: 10.5%
- Incremental Cost: \$1.81 / SF
- Simple Payback: 10.5 years

NOTE: This does not reflect any available incentives

Based on prescriptive and mandatory provisions, 9 building prototypes. Results will vary depending on building / construction type, energy sources, location in NY State, and use of performance compliance paths.

Economics: Single Family and Multifamily by Climate Zone

Climate Design Zone	Single-family			Multifamily		
	Total Annual Energy Cost Savings (\$/dwelling unit)	Total Incremental Costs (\$/dwelling unit)	Simple Payback (Years)	Total Annual Energy Cost Savings (\$/dwelling unit)	Total Incremental Costs (\$/dwelling unit)	Simple Payback (Years)
4A-NYC	\$301	\$1,910	6.3	\$176	\$1,625	9.2
4A-balance	\$301	\$2,463	8.2	\$167	\$1,488	8.9
5A	\$351	\$2,202	6.3	\$172	\$1,751	10.2
6A	\$372	\$1,506	4.1	NA	NA	NA
NY State	\$348	\$2,057	5.9	\$171	\$1,591	9.3

Aggregated Energy Cost Savings in CZ5: 19.6%

Aggregated savings over 4 foundation types / 3 fuel configurations: electric heat pump, gas heat w/electric A/C, Oil heat w/electric A/C

NYStretch Costs/Benefits-CZ 5A- Dutchess County

Single-Family Home with Gas Furnace and Electric AC									
	Costs				Benefits		Net		
	Total Incremental Cost	Increase in Down Payment + Mortgage Fees	Increase in Annual Mortgage Payment	Increase in Annual Property Tax	Annual Energy Cost Savings	Non-Energy Benefits	Year 1 Cash Flow	Year 2+ Cash Flow	Simple Payback
Homeowner	\$2,202	\$475	\$77	\$39	\$233	Increased home value & thermal comfort	-\$344	\$131	9 years
Single-Family Home with Electric Heat Pump									
Homeowner	\$2,202	\$475	\$77	\$39	\$652	Increased home value & thermal comfort	\$77	\$554	3 years

NYStretch vs. 2020 ECCCNY

NYStretch requirements include:

Building Envelope:

Improved window performance, increased insulation requirements, air leakage testing, air barrier commissioning, mandatory mechanical ventilation

Lighting/Electrical:

Reduced interior and exterior lighting power, lighting controls, whole-building energy monitoring

Compatibility:

Renewable and electric vehicle readiness

Miscellaneous:

Commercial kitchen equipment efficiencies; introduces Passive House compliance path

Options:

Communities may also adopt code appendices requiring solar installations for New Construction

NYStretch Resources

- Template legislation: resolution/legislation template to help facilitate local adoption
- Single volume code manual: to aid in consistent interpretation among code officials
- Training: for Code Officials, Architects, Builders
- Updated REScheck and COMcheck tools
- FAQs document
- NYSERDA staff or Outreach Coordinators available for guidance/meetings
- Hotline for technical and interpretation assistance
- www.nyserdera.ny.gov/stretchenergy2020

Timeline

- NYStretch Energy Code 2020 Available now
- Template legislation, FAQs, Fact Sheets Available now
- Cost Effectiveness Analyses Reports Available now
- Training Opportunities Commence Q2/2020
- Single Volume Code Manual Q2/2020
- Updated RES*check* and COM*check* tools Q2/2020
- 2020 ECCCNY goes into effect 5/2020

www.nyscrda.ny.gov/stretchenergy2020

NYStretch Energy Code 2020

Questions?

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Thank you!

