ILLINOIS STRETCH CODES MARKET TRANSFORMATION INITIATIVE
ENERGY SAVINGS FRAMEWORK
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1.0 INTRODUCTION

The Illinois Stretch Codes Market Transformation Initiative (MTI) is a ComEd-supported effort to promote greater energy efficiency adoption through policy advancement and improved implementation of stretch energy codes. This MTI has potential to extend across Illinois through the implementation of stretch residential and commercial energy codes that exceed the minimum requirements in the Illinois statewide energy code. The ComEd-funded MTI is implemented through strategic partnerships, stakeholder engagement, and technical assistance, including direct collaboration with participating municipalities and the Illinois Metropolitan Mayor's Caucus.

In Illinois, electric and gas utilities administering a building energy code program can claim savings through a market transformation (MT) approach to program design and evaluation. This document describes the energy savings framework (ESF) for stretch codes, including the natural market baseline (NMB) and the expected energy impact of the MTI for the ComEd territory. The framework addresses the potential savings from ComEd supported MTI that both impact advancement of stretch codes, and implementation and compliance with stretch codes.

Attachment C of the Illinois TRM v121 defines MT as the strategic process of intervening in a market to create lasting change that results in the accelerated adoption of energy efficient products, services, and practices. Using an MT approach for stretch energy codes, utilities can claim savings for playing two distinct roles:

- **Policy advancement:** utilities can support state and municipal efforts to advance and adopt stretch codes through technical guidance and policy development.
- **Compliance support:** utilities can provide stretch code compliance support through programs that provide technical assistance, enforcement assistance, and training for municipalities, contractors, design professionals and building owners.

In 2021, the utility sponsor, ComEd, launched the Stretch Codes MTI. Slipstream and its partner, Midwest Energy Efficiency Alliance (MEEA), implement the Stretch Codes MTI for ComEd. Guidehouse, the MTI evaluator, is working collaboratively with ComEd, Slipstream, MEEA, Illinois Commerce Commission (ICC), and the Illinois Stakeholder Advisory Group (SAG) MT Working Group (WG) members to examine if the preponderance of evidence (PoE) suggests the Stretch Codes MTI is achieving the

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[1] The most recent version is here: https://www.ilsag.info/wp-content/uploads/IL-TRM_Effective_01-01-24_v12.0_Vol_4_X-Cutting_Measures_and_Attach_9-18-23-Final-Redline-1.docx

desired outcomes, and to develop and refine the Energy Savings Framework (ESF). This stretch code MTI was previously funded in part by other Illinois utilities including Nicor Gas, Peoples Gas and Northshore Gas, and Ameren.

This document sets the initial NMB and energy savings potential. As stated in Attachment C, the NMB should be revisited periodically and the criteria for triggering an adjustment of the NMB should be determined at the time of the original NMB development. The recommendation is that the NMB is revisited every three years after the code adoption cycle to determine if it needs to be adjusted. Criteria will be developed for determining when changes need to be made to the NMB.

2.0 METHODOLOGY

The NMB estimates and predicts market adoption of an MTI in a future where no utility intervention exists. For stretch energy codes, the market is defined in terms of square feet of annual new construction. Using Attachment C's definition of MT Energy Savings, the energy savings from stretch code adoption and compliance programs are as follows, with additional detail on the equation further below:

MT Energy Savings of Stretch Codes Adoption
$$= \text{Number of MT Units (Square Feet of New Construction and Major Renovation)}$$
$$\text{x Unit Energy Savings of Stretch Codes Adoption (change in EUI)}$$

MT Energy Savings of Stretch Code Compliance
$$= \text{Number of MT Units (Square Feet of New Construction and Major Renovation)}$$
$$\text{x Unit Energy Savings of Stretch Codes Compliance (change in EUI)}$$

and more specifically, accounting for noncompliance, natural market baseline, and utility attribution:

MT Potential Energy Savings of Stretch Code Compliance
$$= (Market\ Baseline\ Consumption - Code\ Compliance\ Consumption)$$

MT Gross Energy Savings of Stretch Code Compliance
$$= \text{Potential Energy Savings X CAF}$$

MT Net Energy Savings of Stretch Code Compliance
$$= \text{Gross Energy Savings} - NMB$$

MT Utility Energy Savings of Stretch Code Compliance
$$= \text{Net Energy Savings X AF}$$

Where:

- **Number of MT Units** = Annual Square Feet of new construction covered by stretch code policy *minus* NMB Square Feet covered by stretch code policy
- **Unit Energy Savings of Adoption** = Energy Use Intensity (EUI) of base code with historic compliance rate *minus* EUI of stretch code with historic compliance rate
- **Unit Energy Savings of Compliance =** Energy Use Intensity (EUI) of stretch code with historic compliance rate *minus* EUI of stretch code with improved compliance rate
- **Energy Use Intensity (EUI) =** Total building energy use per square foot
- **CAF** = Compliance adjustment factor
- **NMB** = Natural market baseline[2]
- **AF** = Attribution factor

Estimation of Amount of New Construction

The market for stretch code is defined as sectoral (residential or commercial) new construction square feet viewed annually. This requires a forecast of trends into the future. To do that, the project team gathered historical new construction square footage data at the municipal level and calculated the average amount of new construction during each of the last ten years (2013 through 2022).

Through analysis of historical new construction data over a ten-year period, we found that the amount fluctuates from year to year. We did not see consistent increases or decreases in the amount of new construction over time so we applied the average new construction square feet into future years rather than assuming a gradual increase in annual new construction square feet over time. This analysis assumes that the average among of commercial new construction in the ComEd territory is 32 million square feet each year between 2024 and 2030.

We used several sources of data to determine growth trends. The commercial data is from (1) the Midwest Building Inventory with data through 2019,[3] and (2) CoStar after 2019,[4] and includes the following nine building types: office, warehouse, retail, multifamily, lodging, healthcare, education, quick service, and full-service restaurants. These building types cover 75% to 85% of the total new construction market.[5]

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[2] IL TRM_Effective_010124_v12.0_Vol_4_X-Cutting_Measures_and_Attach_09222023_FINAL.pdf (ilsag.info). Natural Market Baseline is synonymous with Naturally Occurring Market Adoption or NOMAD; a forecast of the future in which no utility-funded energy efficiency programmatic intervention exists.

[3] The Midwest Building Inventory was created by NREL using Costar data up until 2018. It includes commercial building data, square feet, and year-built data. See: https://data.openei.org/submissions/906

[4] CoStar is a market leader in commercial real estate analytics and maintains the most comprehensive database of commercial proprieties in the United States. https://www.costar.com/

[5] Percent of new construction model covered by building types confirmed through DOE Prototype Buildings and EIA Commercial Building Energy Consumption Survey. https://www.energycodes.gov/prototype-building-models; https://www.eia.gov/consumption/commercial/

The residential data is from US Census data. The Building Permit Survey provides the number of new single-family and low-rise multifamily units that received building permits from 2010 to 2021.[6] The historical data on building permits is used to calculate an average number of new units each year that apply for a permit. To calculate the total square feet of new construction each year, the ESF uses US Census construction data which provides average square feet per unit by year, housing type, and region. [7] The average square feet per unit was multiplied by number of units of new construction in a year to get total residential square feet of new construction in a year.

In the evaluation of the MTI, it is expected that actual new construction data will be available for the past year. As discussed in the evaluation plan, this data will be adjusted to account for the difference between construction and occupancy.

Determining Likelihood of Adoption Without Utility Support

The NMB for stretch codes is measured as the square feet of new construction in municipalities that would adopt stretch codes without any utility support. A municipality's decision to adopt a stretch code is assumed to be affected by both utility intervention and other factors such as city climate goals, federal funding, and other technical support influence. We used surveys and interviews of a sample of municipalities to estimate the portion of effect from utility influence.

The stretch codes program team conducted surveys and interviews with municipalities in northern Illinois to understand current plans for adoption of stretch codes and the likelihood of adoption without utility support. Survey outreach conducted in 2023 included an email sent to 150 contacts from the Metropolitan Mayors Caucus' Environmental Committee. The team received responses from 30 separate municipalities through the survey or interviews. The surveys asked a series of questions around timeline for adoption, factors influencing adoption, and existing barriers. The survey was developed in partnership with the utilities and the program evaluator, Guidehouse. The full survey questions are included in

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[6] Building Permit Survey is provided by Census and provides all new data for residential construction. https://www.census.gov/construction/bps/index.html
[7] Census provides median square feet for multifamily and single-family homes. https://www.census.gov/construction/chars/current.html

5.0 Appendix A: Survey.

Figure 1 shows the results of a question focused on municipality's consideration of their timeline for adopting stretch code policies. The survey results indicated that a small percentage of municipalities are currently considering adoption of stretch codes in the next 1 to 3 years or 4 to 6 years, while a large percentage are unsure of plans for adoption or not considering adoption.

Figure 1. Responses to question "If your municipality is considering adoption, what is the estimated timeline for adoption?" (November 2023)
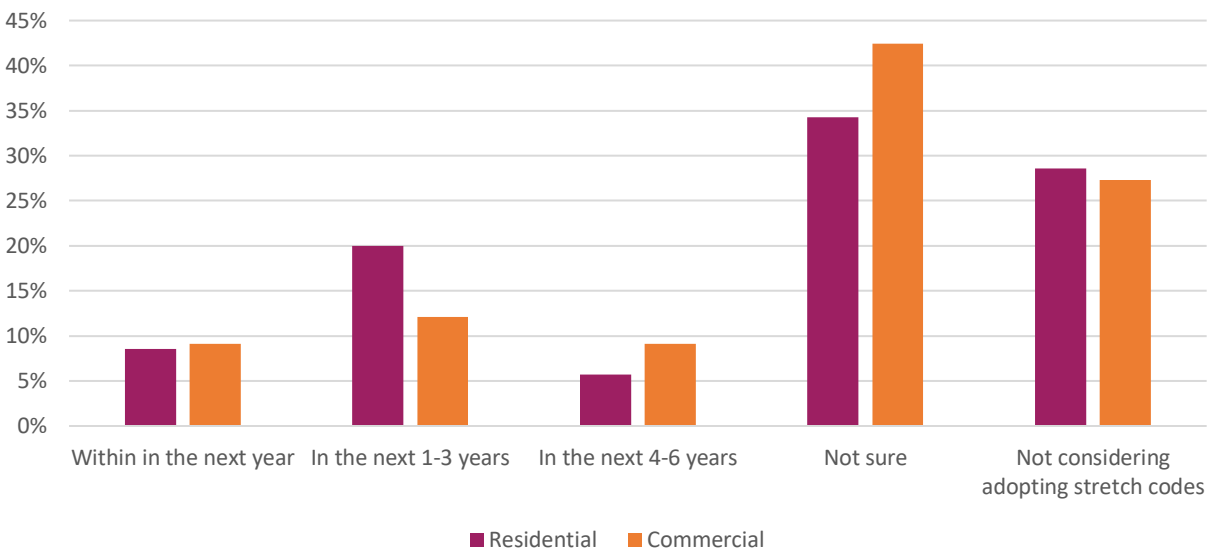
To determine what factors impact adoption, the survey also asked municipalities to rank the influence of different factors of adoption from 1 to 10. Figure 2 shows the average ranking across all respondents for both commercial and residential stretch codes. Most municipalities have several factors influencing their decision on whether to adopt stretch codes While there are slightly higher ratings for the influences of the availability of targeted stretch codes support programs and technical support, additional inquiry during evaluation will likely be necessary.

Figure 2. Responses to question "Rate the influence of the following on your municipality's decision to adopt an advanced building policy (0 to 10)"
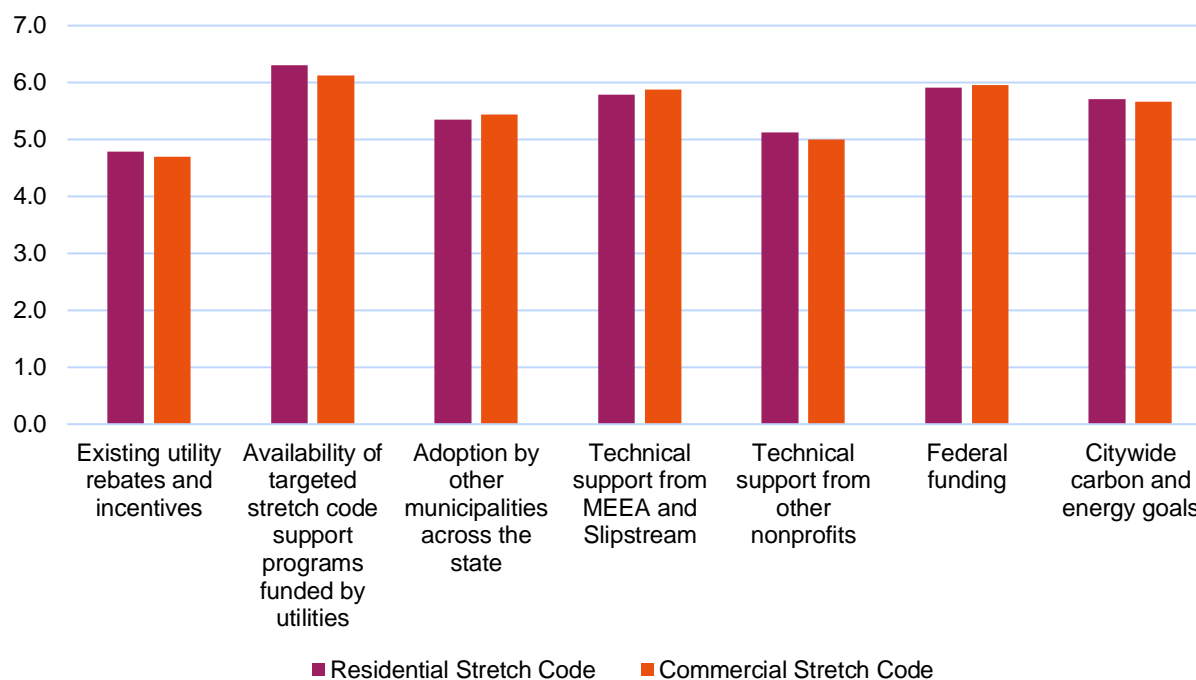
We sent a follow-up email to further probe on the likelihood of adoption. This email was sent to a smaller set of survey respondents that indicated they were open to follow-up questions. In the email, we asked respondents to estimate the likelihood of policy adoption without utility support within the next 1 to 3 years or 4 to 6 years. These additional questions will be incorporated into surveys and interview guides in the future.

Using these responses and the information gathered through surveys and discussions with municipalities, we determined the percent of total square feet of new construction in the NMB. We assumed that the 25 to 30% of municipalities that are not considering adoption to have zero NMB square feet as the likelihood of adoption without utility intervention. For the remaining 70% to 75% of municipalities, we applied the percent likelihood of adoption without utility support to total square feet of new construction as a representation of what would happen without utility support.

Table 1 illustrates the likelihood of adoption in the next 1 to 3 years and next 4 to 6 years. Oak Park, Evanston, and Chicago were assigned different likelihoods of adoption than the other municipalities as they have already adopted or are in the process of adopting other new construction code policies, such as the Chicago Clean and Affordable Buildings Ordinance (CABO) and the Oak Park Electrification Ordinance. As the City of Chicago represents a significant portion of new construction data, we use a range to demonstrate the range for potential impact. Through conversations with the City of Chicago, the project team is continuing to work on refining the percent likelihood of adoption without utility support for the full stretch code in the city.

The likelihood of adoption is applied to square feet to estimate the NMB curve. In the evaluation process for savings, these likelihood of adoption percentages should be updated to reflect actual adoption actions. A survey will be deployed to ask municipalities that did adopt a stretch code about the factors that impacted the decision; this survey should be conducted by a third-party and can be used in the evaluation process.

Table 1. Likelihood of adoption without utility support (November 2023)

|	Next 1 – 3 years	Next 4 -6 years
Chicago	25% - 75%	50% - 90%
Evanston	30%	60%
Oak Park	30%	60%
Other Cities	10%	27%

Allocating Square Feet to ComEd Territory

New construction square feet data is available by municipality. To allocate savings directly to ComEd, the project team collected lists of municipalities served by ComEd and filtered the new construction square feet data to the municipalities served by ComEd.

Accounting for Double Counting Between Market Transformation and Resource Acquisition

Through traditional resource acquisition programs, ComEd offers several programs that address new construction directly, including the Commercial/Industrial New Construction, Affordable Housing New Construction, and Electric New Homes Construction programs. These programs count savings for anything installed above the base code as defined in Illinois. However, the programs do not currently incentivize based on stretch code or expected stretch requirements.

The approach to avoid double counting from a stretch code market transformation program is for the resource acquisition program to count savings for anything installed above the stretch code for municipalities that adopt the code. This method allows the existing RA programs to continue to count savings above the adopted code and allows MT to capture all savings between base and stretch code for municipalities that adopt.
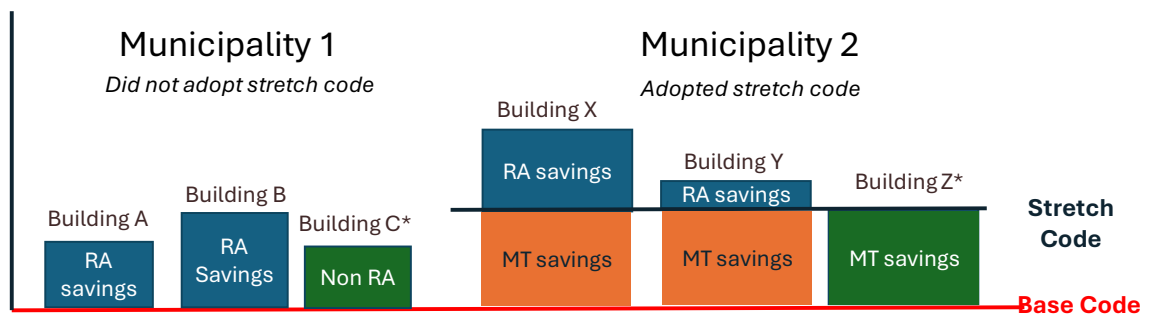
*Buildings C and Z did not participate in the utility RA program.

3.0 ENERGY UNIT SAVINGS

Energy Use Intensity

Energy use intensity (EUI) is measured as a building's total energy use divided by square feet and is used to represent unit energy consumption. The difference between energy use intensity under a stretch code and energy use intensity under a base code represents the unit energy savings for adoption.

Stretch Code EUI

Stretch code EUI reflects performance targets over time as set by the Illinois Climate and Equitable Jobs Act (CEJA).[8] The performance targets are defined using a Site Energy Index, a ratio of how efficient the adopted code is compared to the ASHRAE 90.1 -2004/2006 IECC code as modeled by the Pacific Northwest National Laboratory (PNNL) for various building types and climate zones.[9] [10] Those values are applied (

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[8] CEJA full text is available here:
https://epa.illinois.gov/content/dam/soi/en/web/epa/topics/ceja/documents/102-0662.pdf
[9] Modeled energy use intensity of the 2004/2006 ASHRAE commercial code is available here:
http://www.energycodes.gov/sites/default/files/documents/2013EndUseTables.zip
[10] On the PNNL calculation of Site Energy Index for each commercial energy code, from
https://www.energycodes.gov/determinations: "The quantitative analysis relies upon prototype buildings reflecting a mix of typical U.S. building types and construction practices. In creating its prototypes, DOE leverages recent U.S. construction data that is mapped to the commercial building types defined by the Energy Information Administration (EIA) and adapted for use by Standard 90.1. In combination with resulting building type weighting factors, the prototypes represent approximately 75 percent of the total square footage of new commercial construction.

Table 3) to each building type to calculate actual energy use intensity. Table 2 includes the established stretch code energy indices for 2024 and onward.

Table 2. Site energy index of stretch codes targets as directed by CEJA – 2024 and forward

Stretch Code Version	Residential Site Energy Index	Commercial Site Energy Index
2024	0.50	0.60
2026	0.40	0.50
2029	0.33	0.44
2032	0.25	0.39

Table 3. 2004-ASHRAE/2006 IECC energy use intensity by building type as modeled by PNNL

Building type	Energy Use Intensity
Warehouse	32.8
Office	53.6
Single-Family	62.3
Multifamily (>5 units)	62.9
2 to 4 Unit Multifamily	66.6
Schools	66.9
Retail Store	88.2
Strip Mall	98.9
Hotel	106.3
Clinic	158.2
Hospital	175.1
Restaurant	525.9
Fast Food	740.8

Base Code EUI

Base code EUI is a forecast of energy use per square foot over time, taking into account the effective dates of future versions of the base energy code. The base code EUI is expected to decline over time as the base energy code becomes more stringent.

PNNL has modeled site energy index over time for each state, taking into consideration strengthening or weakening amendments that are added to the model building energy code.[11] Using this data, the percent decline in site energy index is calculated over the past three 3-year code cycles (past nine years) and applied to each future code cycle.

The estimated site energy index is then applied to the ASHRAE 90.1-2004 EUI as estimated by PNNL for each building type (for both residential and commercial). Table X provides the residential and commercial site energy index for base code in each of the following projected code update cycles for Illinois.

Table 4. Site energy index for base code – 2024 and forward

Base Code Version	Residential Site Energy Index	Commercial Site Energy Index
2024	0.64	0.61
2027	0.60	0.59
2030	0.56	0.57
2033	0.52	0.55

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[11] Historical site energy index is found here:
https://public.tableau.com/app/profile/doebecp/viz/BECPStatusofStateEnergyCodeAdoption/ResidentialStateEnergyIndex_1

Compliance Rates

The team is working with PNNL to receive final compliance estimates for residential and commercial stretch codes. The current assumption is that the historical rate of approximately 75% compliance will continue absent utility intervention. This assumption is used to calculate savings from municipalities that adopt stretch codes. The compliance rate is applied as a derate factor to reduce overall savings from code elements that that are not complied with. We assume that greater compliance would achieve 98% compliance of the stretch energy code. The compliance rate should be assessed on a regular basis, ideally in the form of a representative compliance study that assesses new construction compliance rates across the state.

Duration of Claimed Energy Savings

The energy efficiency improvements made at the time of construction under stretch code continue to result in savings compared to buildings built under base code for many years. Attachment C notes that the duration of energy savings for codes and standards is distinct from the lifetime of measures embodied in the energy code. The duration claimed adoption savings should instead reflect the amount of time that a utility can claim credit for changing the code.

A key consideration is when the code would have reached the level targeted by the market transformation efforts. For commercial stretch code, the 2024 stretch code is only a slight efficiency upgrade so it is expected that future base codes will reach the same site energy index. However, the 2027, 2030, and 2033 versions of the stretch code are expected to be more efficient than any future base code version for the foreseeable future. Similarly, for residential, it is expected that all versions of the stretch code will always be more efficient than base code for the next 10 years. As a result, the assumption is a 17-year lifetime for the 2024 commercial stretch code but a 25-year lifetime for all the other stretch code versions.[12] The 25-year lifetime represents the improvement of envelope measures in stretch code compared to base code and relatively long lifetime of those measures.

Year	Commercial Adoption Lifetime	Residential Adoption Lifetime	Compliance Lifetime
2025	17	25	25
2026 - forward	25	25	25

provides an overview of the numbers for commercial adoption savings, residential adoption savings, and compliance savings.

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[12] https://www.ilsag.info/wp-content/uploads/ComEd-CY2022-Summary-Impact-Evaluation-Report-2023-08-14-Final-Revisedv2.pdf; https://www.ilsag.info/wp-content/uploads/Nicor-Gas-2021-TRC-and-Program-Summary-Tables-2022-10-12-Final.xlsx; https://www.ilsag.info/wp-content/uploads/NSG-2021-Verified-Savings-and-Cost-Effectiveness-2022-10-11.xlsx; https://www.ilsag.info/wp-content/uploads/PGL-2021-Verified-Savings-and-Cost-Effectiveness-2022-10-11.xlsx

Table 5. Duration of Energy Savings Claim

Year	Commercial Adoption Lifetime	Residential Adoption Lifetime	Compliance Lifetime
2025	17	25	25
2026 - forward	25	25	25

Gas and Electricity Savings

For final allocation across utilities, the total energy savings (calculated as kBtu) will be divide between electricity and natural gas savings. To do this, the project team collected historical data on electricity use as a percent of total energy use by building type. The EIA provides this data by building type in its Commercial Building Energy Consumption Survey (CBECS) and its Residential Energy Consumption Survey (RECS).[13] This assumption should be revisited over time and as better data becomes available.

Table 6 includes these values across building types. As an example, for single-family homes, 43% of total energy use is electricity, while 42% is natural gas use, and the remaining percent is a mix of propane/wood/fuel oil/etc. The percentages represent total energy use across all single-family homes in a region but serve as a good proxy for the average home. In the evaluation phase and if the NMB data is updated, these percentages should be reviewed and updated if new data is available.

Table 6. Percent electricity vs gas in a building

| Building type	Percent Electricity	Percent Natural Gas
Single-Family*	43%	42%
2-4 Unit Multifamily*	43%	42%
Warehouse	62%	38%
5+ Unit Multifamily	63%	37%
Hospital	57%	43%
Hotel	60%	40%
Office	76%	24%
Clinic	74%	26%
Fast Food	58%	42%
Restaurant	58%	42%
Retail Store	74%	26%
Strip Mall	60%	40%
Schools	57%	43%

*Amounts do not sum to 100% - other fuels (propane, wood, fuel oil) make up remaining percent

4.0 RESULTS

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[13] All values come from EIA – either the Commercial Building Energy Consumption Survey or Residential Energy Consumptions Survey https://www.eia.gov/energyexplained/use-of-energy/commercial-buildings.php

Results for the natural market baseline illustrate relatively low market adoption for the first stretch code cycle (2024) and then increased natural market adoption for the second code cycle (2026). Figure 3 and Figure 4 illustrate the commercial and residential natural market baseline, respectively. The top dark green straight-line shows assumed total new construction each year in the ComEd territory while the natural market baseline curve applies the percent likelihood of adoption of stretch without utility intervention. The two different natural market baseline curves represent the difference between a likelihood of adoption of 25% and 75% for the City of Chicago. We are working with the City to finalize this value and should be revisited during evaluation. The potential utility impact in gray is quantified as total potential square feet impacted (100% adoption) minus the NMB square feet (square feet that would have been impacted by the stretch code without intervention).

Figure 3. Commercial and residential natural market baseline curve (new construction square feet)
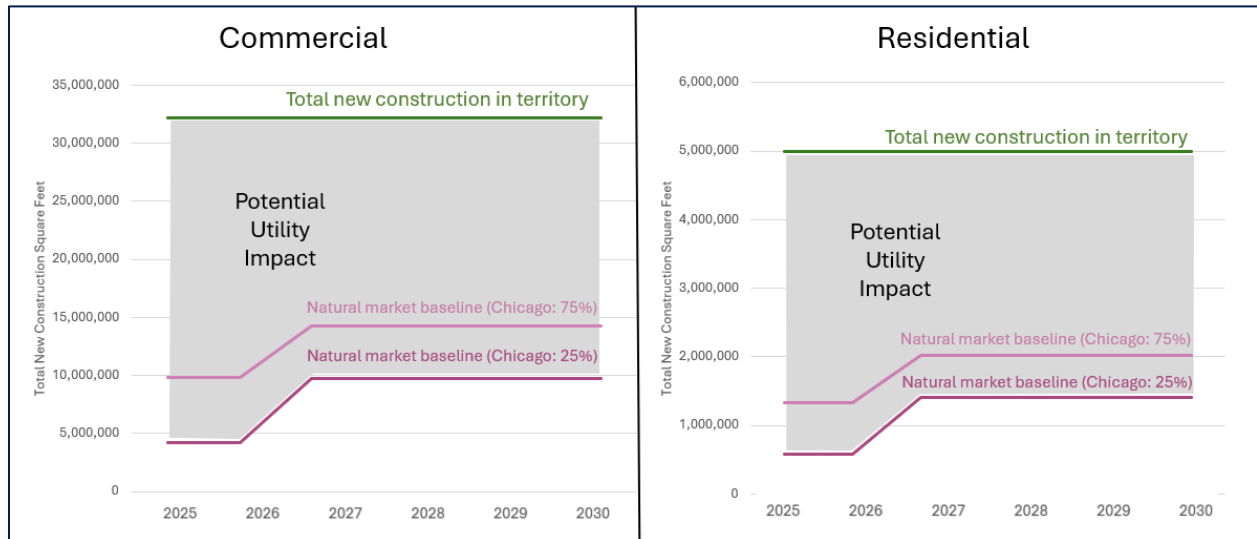
The results for ComEd are shown in Table 7 and Table 8 for commercial and residential stretch code savings, respectively. The savings are technical potential savings for stretch code adoption across ComEd territory and are split between adoption and compliance savings for year 1 and lifetime savings based on effective useful life (EUL). Adoption represents savings from municipalities adopting stretch code and compliance savings indicate savings from reaching a higher compliance rate of 98% compared to the historical rate of 75%.

The range in the tables is reflective of the range used for the likelihood of adoption for Chicago. The low end represents a high likelihood of adoption without utility support (75%). The high end represents the low likelihood of adoption without utility support (25%).

To summarize how these savings were developed, the 2025 NMB assumed that there is a 30% likelihood that Oak Park and Evanston adopted a stretch code without utility support, a 25 to 75% likelihood that

Chicago adopted a stretch code, and a 10% likelihood that the other 70% of municipalities considering the stretch code adopted the code. The savings represent the difference between stretch code and base code energy use intensity in 2025 multiplied by the assumed new construction square feet that is not considered part of the NMB. Attribution will be applied to the savings below during the evaluation process, as described in the Evaluation Plan.

Table 7. ComEd technical potential estimated commercial stretch codes electricity savings (MWh)

Year	Year 1 Adoption Savings	Year 1 Compliance Savings	Lifetime Adoption Savings	Lifetime Compliance Savings
2025	1,546-2,078	474-637	26,290-35,334	11,856-15,935
2026	13,227-17,909	4,056-5,492	330,687-447,721	101,411-137,301
2027	10,822-14,653	3,319-4,493	270,562-366,317	82,972-112,337
2028	10,822-14,653	3,319-4,493	270,562-366,317	82,972-112,337
2029	18,037-24,421	5,531-7,489	450,937-610,528	138,287-187,229
2030	15,632-21,165	4,794-6,491	390,812-529,124	119,849-162,265

Table 8. ComEd technical potential estimated residential stretch codes electricity savings (MWh)

Year	Year 1 Adoption Savings	Year 1 Compliance Savings	Lifetime Adoption Savings	Lifetime Compliance Savings
2025	8,435-9,123	2,587-2,798	210,877-228,076	64,669-69,943
2026	12,123-13,028	3,718-3,995	303,073-325,710	92,942-99,884
2027	10,110-10,870	3,100-3,334	252,756-271,759	77,512-83,339
2028	10,110-10,870	3,100-3,334	252,756-271,759	77,512-83,339
2029	13,624-14,633	4,178-4,487	340,605-365,824	104,452-112,186
2030	11,612-12,475	3,561-3,826	290,288-311,872	89,022-95,641

5.0 APPENDIX A: SURVEY

Survey Questions

Introduction

A group of Illinois utilities, Commonwealth Edison, Nicor Gas, Peoples Gas and North Shore Gas, wish to understand the potential for advanced building policies in Illinois, including stretch energy codes and building performance standards.

They are working to understand how municipalities view these policies, their likelihood of adoption, and current barriers to adoption. Slipstream, MEEA, and MMC are conducting this survey on behalf of the utilities.

The responses you provide today will be anonymized before being shared with the utilities or anyone else.

Definitions

A stretch energy code is an alternative compliance path that goes beyond the minimum base energy code requirements and defines a higher level of energy efficiency for new construction. If adopted by a municipality, the stretch code becomes the new minimum level new buildings must hit. A stretch code impacts both residential and commercial buildings.

A building performance standard policy (BPS) is a requirement that focus on improving the existing building stock through setting minimum targets for efficiency upgrades. A BPS is typically only for commercial buildings.

Benchmarking is ongoing review of energy performance of existing buildings with the goal of informing and motivating performance improvement and often comes before a BPS policy. A BPS is typically only for commercial buildings.

Questions
1. What municipality do you work for?
2. What is your current role and title? What department are you in?
3. How long have you worked for the municipality?
4. Please tell us how your role at the municipality may interact with stretch codes and building performance standard (BPS) adoption activities.

Stretch Codes
5. If your municipality is considering adopting stretch codes, what is the estimated timeline for adoption?
   a. In the next year
   b. In the near-term (next 1 to 3 years)
   c. In the medium-term (next 4 to 6 years)
   d. In the long-term (6+ years)

    e. Never
    f. Not sure

6. Does the consideration for adopting stretch codes differ for residential versus commercial stretch code? If so, how?

7. How would you describe your municipality's general interest in adopting a stretch code?

8. How does interest in the policies vary across internal and external stakeholders (e.g. residents, businesses, municipal staff, elected officials)?

9. Are there different factors influencing your decision to adopt a residential versus commercial stretch code?
    a. Yes
    b. No

IF YES – ask below question twice for residential and commercial. IF NO – skip to general question about stretch codes

10. Rate the influence of the following on your municipality 's decision to adopt a stretch code?

    a. Existing utility rebate and new construction programs (e.g. commercial new construction program, appliance and equipment rebates)
    b. Availability of targeted stretch code support programs funded by utilities
    c. Adoption by other municipalities across the state
    d. Technical support from MEEA and Slipstream (the utilities' implementers for stretch codes and BPS support activities)
    e. Technical support from other nonprofits
    f. Federal funding
    g. Citywide carbon and energy goals
    h. Other:

11. As needed, provide additional feedback on how various factors you just ranked are impacting your municipality's stretch code adoption decisions or discussions.

12. What are the perceived barriers at your municipality preventing the adoption or consideration of stretch codes?
    a. Cost concerns for the city
    b. Cost concerns of businesses and residents
    c. Stakeholder and political pushback
    d. Lack of knowledge/education
    e. Concerns about city capacity to enforce
    f. Perceived lack of benefits to adopting
    g. Other:

13. What technical assistance or resources would help to overcome these barriers? (examples include policies, staffing needs, funding needs, incentives, technical education, etc.)

14. Is there anything else you think is important to share about your municipality's perception or stance on stretch codes?

BPS

We are now going to ask similar questions for benchmarking and building performance standards. Both of these policies typically only apply to commercial and large multifamily buildings. As a reminder, definitions for benchmarking and BPS are below:

A building performance standard policy (BPS) is a requirement that focus on improving the existing building stock through setting minimum targets for efficiency upgrades.

Benchmarking is ongoing review of energy performance of existing buildings with the goal of informing and motivating performance improvement and often comes before a BPS policy.

15. If your municipality is considering adopting a benchmarking ordinance or building performance standard (BPS) policy, what is the estimated timeline for adoption?
    a. In the next year
    b. In the near-term (next 1 to 3 years)
    c. In the medium-term (next 4 to 6 years)
    d. In the long-term (6+ years)
    e. Never
    f. Not sure

16. How would you describe your municipality's general interest in adopting building performance standards?

17. How does interest in adoption vary across internal and external stakeholders (e.g. residents, businesses, municipal staff, elected officials)?

18. How would you describe interest in a benchmarking ordinance?

19. How would you describe external stakeholder interest in a benchmarking ordinance?

20. Rate the influence of the following on your municipality's decision to adopt a BPS ordinance?

    i. Existing utility rebate and new construction programs (e.g. commercial new construction program, appliance and equipment rebates)
    j. Availability of targeted benchmarking or BPS support programs funded by utilities
    k. Adoption by other municipalities across the state

l. Technical support from MEEA and Slipstream (the utilities' implementers for stretch codes and BPS support activities)

m. Technical support from other nonprofits

n. Federal funding

o. Citywide carbon and energy goals

p. Other:

21. As needed, provide additional feedback on how various factors you just ranked are impacting your municipality's BPS adoption decisions or discussions.

22. What are the perceived barriers at your municipality preventing the adoption or consideration of BPS?

a. Cost concerns for the city

b. Cost concerns of businesses and residents

c. Stakeholder and political pushback

d. Lack of knowledge/education

e. Concerns about city capacity to enforce

f. Perceived lack of benefits to adopting

g. Other:

23. What technical assistance or resources would help to overcome these barriers? (examples include policies, staffing needs, funding needs, incentives, technical education, etc.)

24. Is there anything else you think is important to share about your municipality's current perception or stance on BPS?

25. Are you open to us reaching out with follow-up questions?

a. Yes

b. No