

# Energy Codes & Building Performance Standards

IL SAG – Market Transformation Working Group  
Code Advancement Small Group

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10/04/2021





# Goals of this Discussion



# Purpose of this Discussion

- Discuss proposed options for IL utility involvement and evaluation for stretch code advancement / support
- Address questions and feedback
- Determine clear next steps



# Agenda

- CEJA updates and stretch codes
- Review of Key Feedback from Pathways Document
- Next steps: Consensus building



# Stretch Code in CEJA

- Directs the Illinois Capital Development Board (CDB) to create a residential and commercial stretch energy code that can be adopted by individual municipalities.
- Stretch code must meet a set of specific “site energy index” performance targets that include “only conservation measures and excludes net energy credit for any on-site or off-site energy production.”
- Stretch code targets increase in energy efficiency every three years; first target is 9.1% more efficient than current Illinois code.
- Once formally adopted by a municipality, the stretch code takes the place of the state energy code and establishes the minimum energy efficiency requirements for new construction, additions, and major renovations.



# Stretch Code in CEJA

- Allows for an alternative compliance path for the stretch code through "project certification by a nationally recognized nonprofit certification organization specializing in high-performance passive buildings and offering climate-specific building energy standards that require equal or better energy performance than the Illinois Stretch Energy Code." One such example would be the Passive House Institute – US (PHIUS) standard.
- Allows utilities to engage in code compliance-related education and programming that can count toward their energy savings goals.
- Chicago will still be able to adopt its own stretch code.



# Stretch Code in CEJA – Next Steps

- The CDB must meet by mid-November to determine next steps in CEJA Stretch Code development.
- Recommendations for elements and requirements of the stretch code must be completed by July 31, 2023, with final language available for adoption by December 31, 2023.
- There may be opportunities for the utilities to assist in developing elements of the stretch code that could be supported by a program.
- The availability of a stretch code will now make it easier for municipalities to adopt. Slipstream and MEEA are continuing outreach.





# Key Points of Feedback



# Key Points of Feedback

Highlights below based on feedback received from our July 28, 2021 meeting and comments on the first draft of the evaluations pathway document:

- Utility participation – what should utilities do for code advancement
- Gross technical potential – statewide or within service territory or jurisdiction



# Utility Participation

Utilities can play a role in code advancement through:

- 1) The development of **detailed study reports**, which include market analysis, energy analysis, assistance with code language, assessment of statewide impacts
- 2) Utilities can **influence code advancement** by:
  - Presenting information to a group of key stakeholders
  - Attending and actively participating in public meetings
  - Writing and submitting comments
  - Reviewing public documentation and information
- 3) Utilities can promise **development of and develop support program**



# Gross Technical Potential: Statewide or by territory

Clarification in document on steps to estimate GTP

- 1) GTP calculated the **whole state** as if **every municipality** adopted stretch codes and achieved **100% compliance**.
- 2) GTP then calculated for **each utility territory and municipality** (based on adoption), either based on energy consumption, estimated construction permits or combination of both.
- 3) Savings ultimately will only be claimed **within a utility's service territory**



# Evaluation for Policy Advancement with Stretch Code Support/Compliance

Stretch Code Target

Compliance with Stretch Codes

NOMAD

Support program savings

Base Code Target

Compliance with Base Code

Net Savings for Support Program

Stretch code advancement savings

Gross Technical Potential

Gross Savings

Net Savings



# Measure savings vs. Whole Building Savings

A stretch code policy and how it is written will drive methods of estimating gross technical potential, either whole-building or measure based.

Phase 1 Report of Energy Stretch Code & Programs for Illinois presented methods and calculations of gross technical potential with whole-building energy reduction approach.



# Usefulness of a Delphi Panel

- The document includes additional details on Delphi panel benefits and how they are employed
- **Definition:** Delphi panel is a group of experts in the new construction and codes industry that reviews evidence and information and develops compliance numbers through a consensus-building process
- Delphi panels can be used for estimating compliance and/or attribution



# Baseline compliance study and compliance studies

- The Illinois-specific in-field energy code compliance baseline study was conducted and **completed in 2019**. This baseline study can be used as a starting point to determine the compliance moving forward.
- Subsequent studies that measure compliance are called “**compliance studies**” and are used in evaluation of both Advancement and Support. Delphi panels can estimate compliance as well.
- The document suggests a statewide in-field compliance study 6 years after the 2019 baseline study. Delphi panels can provide statewide estimated compliance 3 years after the 2019 study, and every 6 years thereafter. The statewide compliance study helps measure changes in the overall market.
- Delphi panels can determine estimated stretch code compliance in jurisdictions without conducting full in-field studies. Conducting full in-field studies for each jurisdiction would be cost-prohibitive.

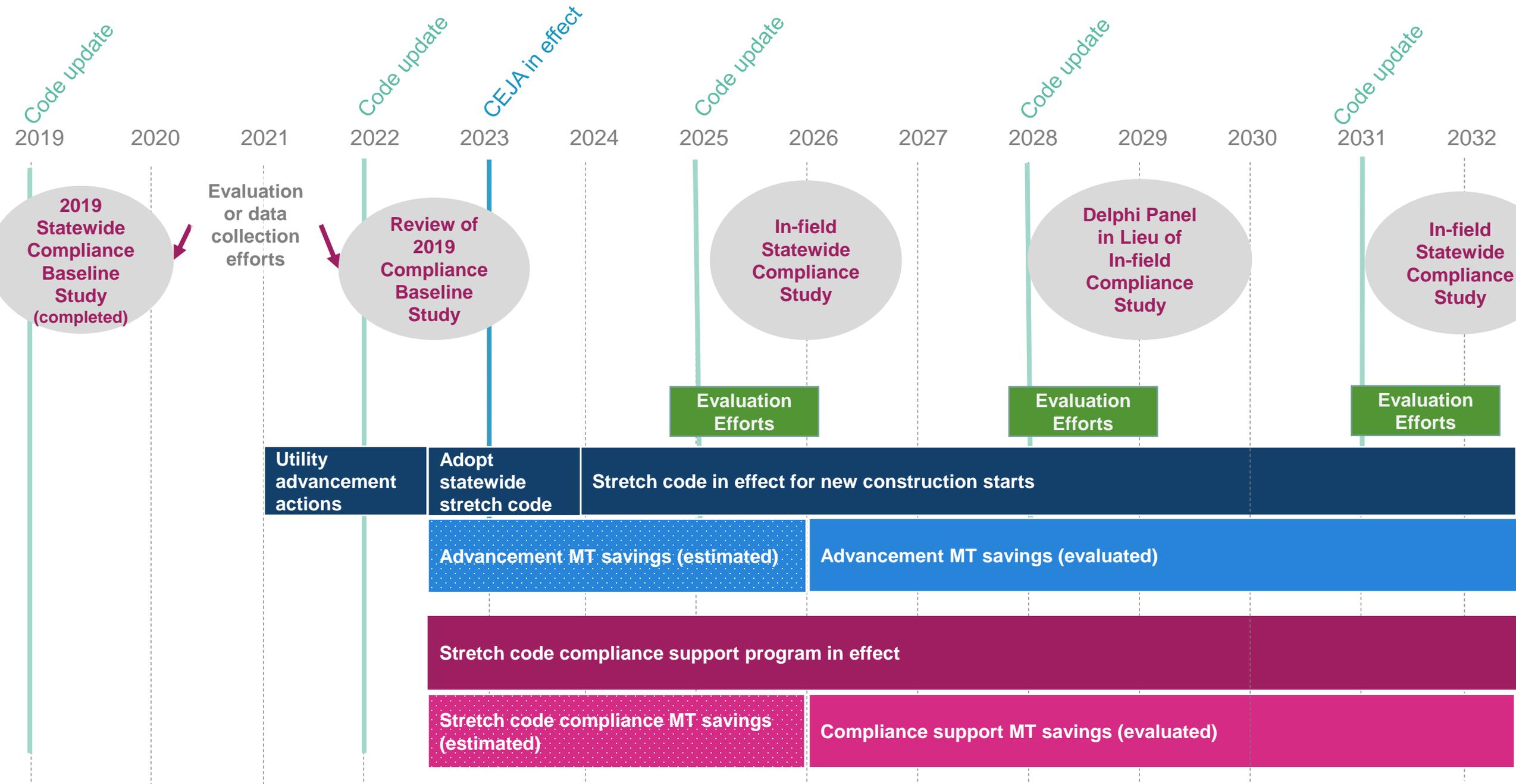


# Timing of Market Transformation Initiative

- Timing will vary due to code updates and individual jurisdiction adoption
- MT Savings can be estimated prior to evaluation, and could be claimed retroactively after evaluation
- Illustrative timeline on next slide



# IL Codes Program Timeline – Municipal Example



# Logic Model

Logic model is presented on next slide



**Purpose for stretch code program:** to transform the market by advancing energy code adoption that support energy and carbon reduction goals of the Illinois municipalities

**Input / Resources:** Utilities have strong new construction programs that can be leveraged to support stretch codes  
The construction market is accustomed to building according to a set of codes

**Code Advancement**

### Constraints

Building energy codes have a longer time horizon of impact as compared to other EE technologies (TM1)

Business and contractor community pushes back against new regulation and updates to the code (TM2 and TM3)

Municipalities have limited resources to understand, adopt, and enforce more complex code (TM1, TM3)

**Code Support**

Higher upfront costs and more complex design needs for some energy efficiency investments (TM2)

Design and construction contractors and code officials are not aware of updated or more complex codes (TM2) due to perceived lack of customer demand, perception of energy codes and life/safety, and/or time/personnel shortages.

Equity concerns surround resources to implement stretch codes across diverse communities (TM1)

### Advancement Actions

Influence adoption at state level, with study reports, letters of support, published statements, attending meetings promising to develop support program that fits the specific technical needs of the stretch code policies. (TM1, TM2, TM3)

Influence adoption of stretch code at municipal level, convening key stakeholders, providing research documents, developing technical reports (TM1, TM2, TM3)

Participate in industry groups (Compliance Collaborative), provide ongoing policymaker education, and maintain good relationships to understand/mitigate key adoption issues. (TM1, TM2, TM3)

Provide support program to stretch code jurisdictions and projects in jurisdictions without a stretch code. (TM1, TM2, TM3)

### Support Actions

Develop and implement trainings and education, including a circuit rider, that target both building professionals, code officials, and realtors. (TM2, TM3)

Development of stretch code compliance documents, outlining how stretch codes can be followed in design, construction, and enforcement. (TM2, TM3)

Development of support for under-resourced city code officials, including third party support systems (TM2, TM3)  
Reinstatement of the Illinois Energy Code Compliance Collaborative to disseminate trainings and impact biggest areas of non-compliance (TM2, TM3)

Development of programs that provide technical assistance and incremental cost incentives (TM1, TM2, TM3), including development of equitable program design to support underserved communities (e.g. higher incentives or credits, prioritize workforce trainings in underserved communities.) (TM1, TM3)

### Outcomes from advancement

**Short term (1-3 years):** Policies are adopted both at the statewide level and in 2-5 early adopter communities

**Medium (4-9 years):** Stretch code policies are adopted for 10-15 communities

### Outcomes from Support

**Short term (1-3 years):** Realize energy savings and increased compliance stretch code communities

**Medium (4-9 years):** Increased understanding of design and construction practices to meet stretch codes so that stretch code adoption, enforcement, and building practices increase

Support workforce development – increase trained building auditors, installers etc., to assist program implementation contractors. (e.g. ICC certification).

### Long Term (10+ years) Impact of Market Transformation\*

Stretch code policies are adopted across a majority of municipalities in Illinois

Stretch code target has met net zero

Achieve ~90% compliance in entire new construction market

Building community has the resources (technical understanding, tools) available to build to net zero stretch code

Building code officials understand where to find technical resources and support for code

*\*Note: advancement and support merge here in long-term impacts. We could separate out the outcomes, but they would sound very similar. However, we should keep in mind that advancement and support would have different utility actions and evaluations.*

### Context

Energy codes are an extremely effective way to increase energy efficiency of buildings  
Municipalities want to take action on energy goals in their community  
Recent legislation (CEJA) will provide a stretch code as an option for municipalities to adopt

# Evaluation Costs

- The cost of evaluation will be determined by the evaluator based on the final evaluation scope.
- Utilizing Delphi panels in lieu of conducting compliance field studies every code cycle can balance cost with accuracy.
- Many data-gathering steps for policy advancement and of compliance support can be streamlined to reduce costs.



# Additional Questions?



# Next steps

- What do we need for consensus to move forward?
- What is the timing for reaching consensus?
- What are the biggest issues that still need to be resolved?



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