Stretch Energy Codes & Building Performance Standards

Update to IL SAG Market Transformation Working Group

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Agenda

Project background

Project progress updates

Next steps

Project Background

Advanced Building Policies Overview

Stretch Energy Codes

Alternative compliance path that defines a higher level of energy efficiency for new construction and major renovation

Building Performance Standard (BPS)

Policy that improves existing building stock through setting targets for efficiency upgrades

Project Background

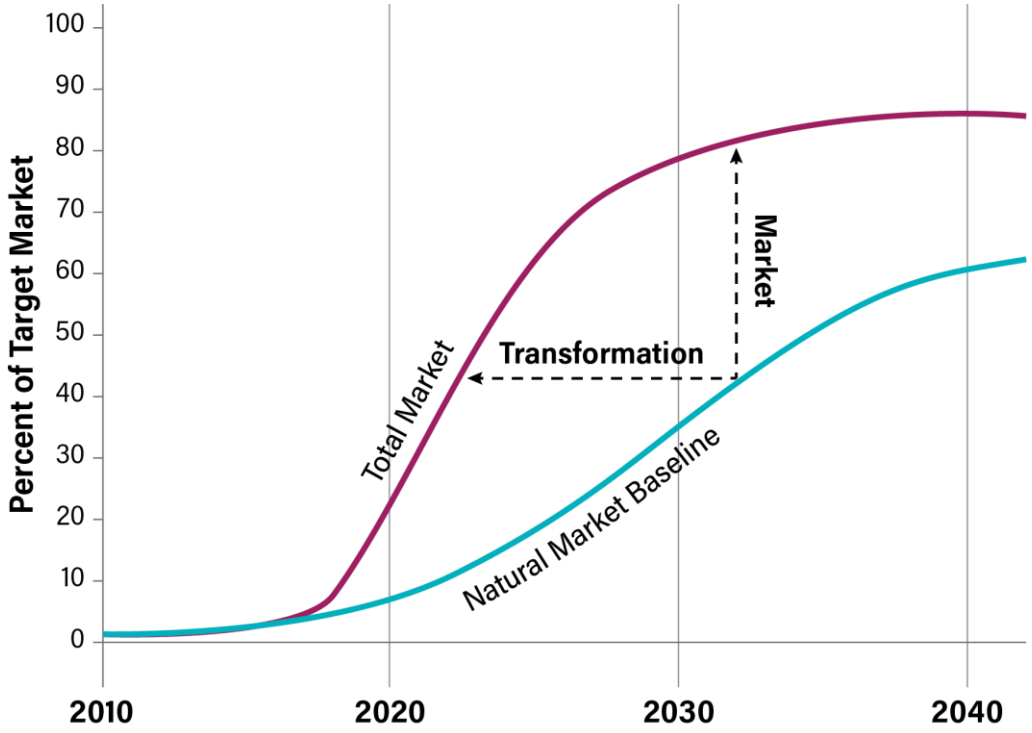
Project goal

- Engage with municipalities to adopt and implement stretch energy codes and building performance standards (BPS)
- Develop support programs to help implement these policies
- Develop savings and attribution methodologies that follow market transformation protocols (TRM Attachment C)

Role of Utility

Support for policy adoption, advancement and policy implementation

- Support can include incentives for builders and property owners, training and technical guides, plan review assistance, compliance support, and technical analysis
- Implementation support designed to increase likelihood of adoption



MT versus Resource Acquisition

- Long-term vision, goal is structural change
- Focus on savings that occur over a longer time horizon, incorporating many levels of engagement

MT Program Supporting Documents

Slipstream & MEEA

Document	Energy Savings Framework	Program Plan/Logic Model	Evaluation Plan
Summary of Document	*Market Characterization (Historical trends; market projection with NMB; unit sales & energy savings)*	*Program actions & intent; expected short-term and long-term outcomes; MPI's & measurement*	*Proposed evaluation research methods and plan – MPI's & ESF*
Document Developer	*Program Administrator (utility) with Implementation Contractor*	*Program Administrator (utility) with Implementation Contractor*	*Program Evaluator*
Review	*Program Evaluator (especially NMB); SAG*	*Program Evaluator; SAG*	*Program Administrator (utility) with Implementation Contractor; SAG*
Updating Process	*Evaluator assesses on-going adequacy of ESF; Change Recommendation reviewed by Program Administrator (utility) with Implementation Contractor and SAG*	*As needed by Program Administrator (utility) with Implementation Contractor with Recommendations by Evaluator*	*Updated annually by Evaluator; reviewed by Program Administrator (utility) and SAG*

Guidehouse

https://www.ilsag.info/wp-content/uploads/ComEd_Presentation_Final_Attachment_C_Comments_5-22-23.pdf

Progress Updates

Savings Assessment and Review Status

2023 Progress

- Compiled new construction and existing square feet data by municipality
- Developed energy use intensity metric for base energy code; applied EUI for stretch code required by CEJA to calculate savings impact per square foot
- Completed interviews and surveys with municipalities to understand impact of utility influence on adoption
- Review of documents by utilities and Guidehouse

2024 Items

- Solidify method to avoid double counting between MT and resource acquisition (RA) programs for stretch codes
- Review evaluation plan, energy savings framework (ESF), market progress indicators (MPI), and logic model (LM) for alignment
- Initiate expert judgment panel
- Finalize consideration of what triggers revision of natural market baseline (NMB)
- Assess program influence relative to construction timelines

Energy Savings Calculations

MT Energy Savings of Adoption = Number of MT Units (Square Feet of New Construction)
x Unit Energy Savings of Adoption (EUI)

MT Energy Savings of Compliance = Number of MT Units (Square Feet of New Construction)
x Unit Energy Savings of Compliance (EUI)

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* Energy use intensity of stretch code with historic compliance rate
- **Unit Energy Savings of Compliance** = Energy use intensity (EUI) of stretch code with historic compliance rate *minus* Energy use intensity of stretch code with improved compliance rate

Determining Market Transformation Units

Historical Square Feet Data

- Gather historical new construction square feet data by municipality and building type
- Use average growth by municipality and building type as projection for future growth

NMB Curve

- Estimate the likelihood of adoption for municipalities **without** utility support
- Assume that likelihood of adoption represents the percent of square feet under NMB curve
- Based on surveys to sample of municipalities

Overview of Municipal Data Collection

Data Collection

- Survey sent to 150 contacts across Northern Illinois through MMC networks
- Received responses from 30 unique municipalities; 35+ overall respondents
- Follow-up email sent to smaller set of municipalities to ask percent likelihood of adoption without utility support

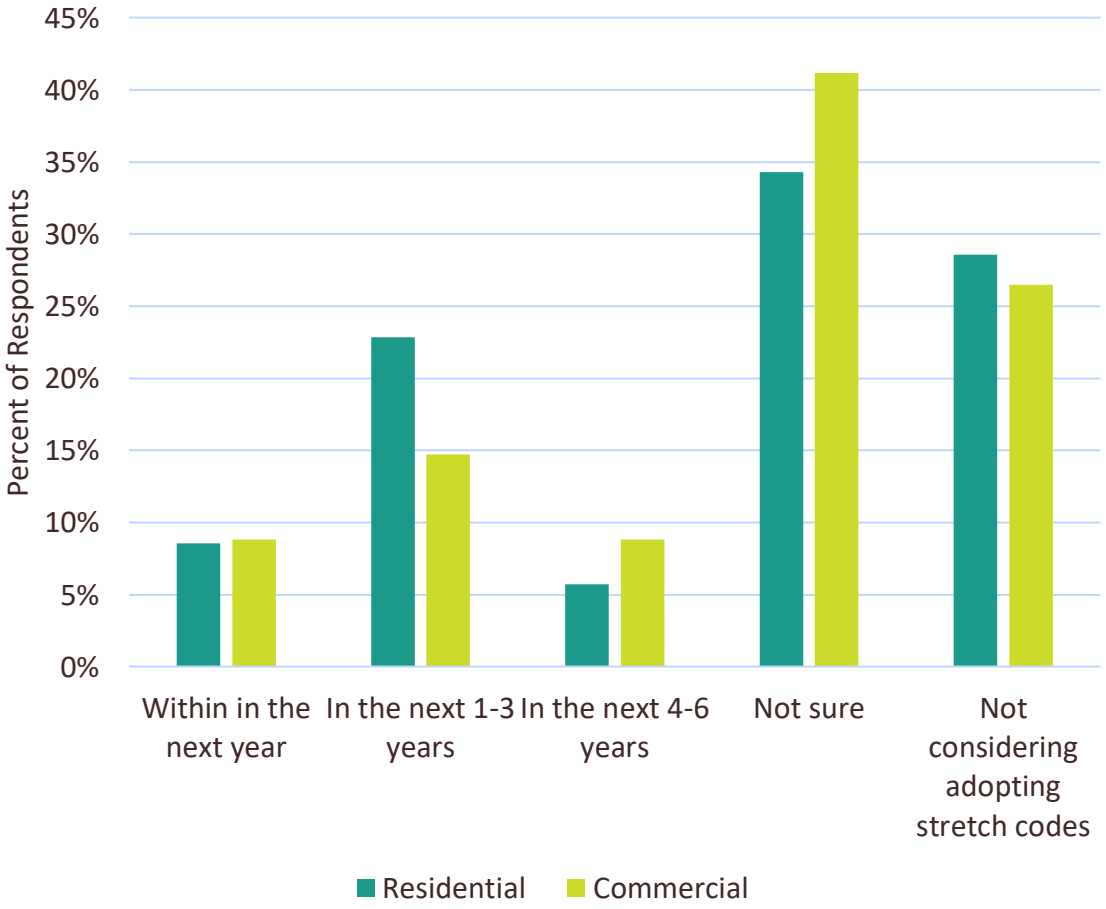
Instrument Development

- Instrument was developed in collaboration with Guidehouse and funding utilities
- Administered through online survey platform

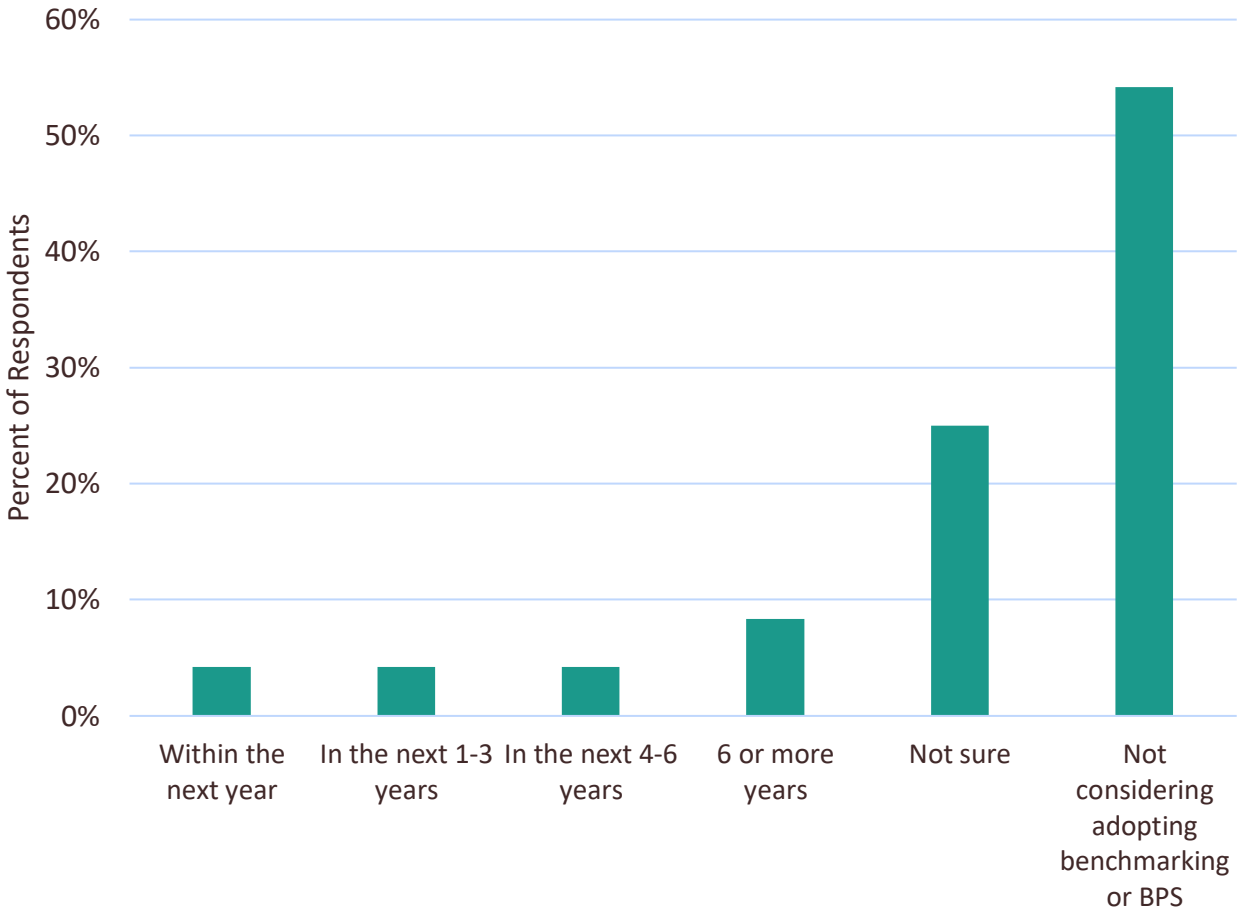
Likelihood of Adoption

If your municipality is considering adoption, what is the estimated timeline for adoption?

Stretch Codes



BPS



Considerations on Triggers for Future NMB Changes

Draft Approach

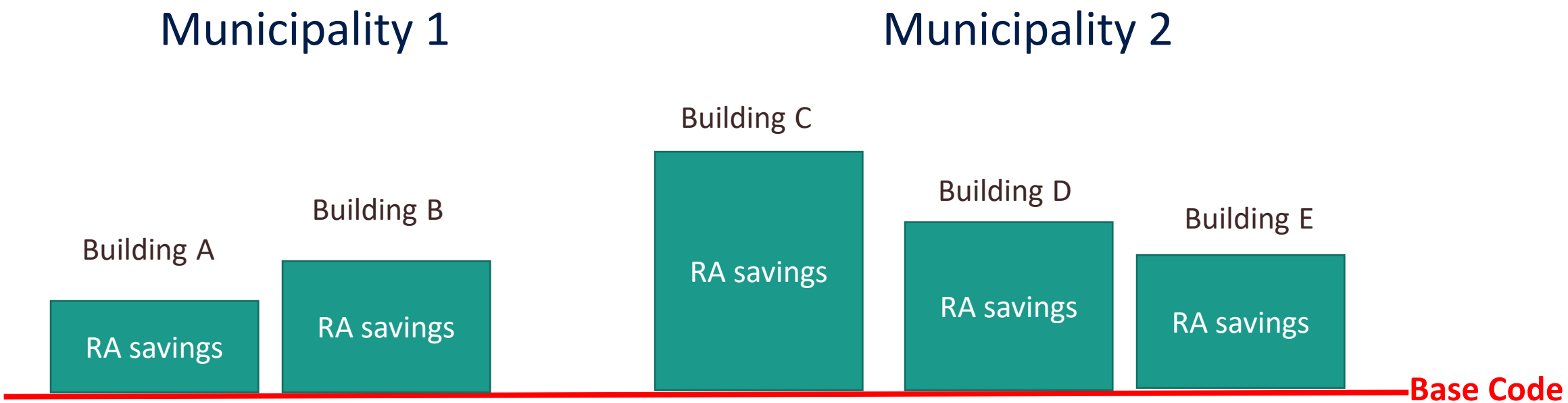
- Reassess if NMB needs to be updated with the current code adoption cycle
- Potential metrics that require reopening
  - Percent adoption of stretch code changes by previously agreed amount
  - Code compliance study completed and presents significant change in compliance rates

Next Steps

- Solicit and incorporate feedback from expert judgment panel
- Stakeholder discussion of potential metrics that require reopening

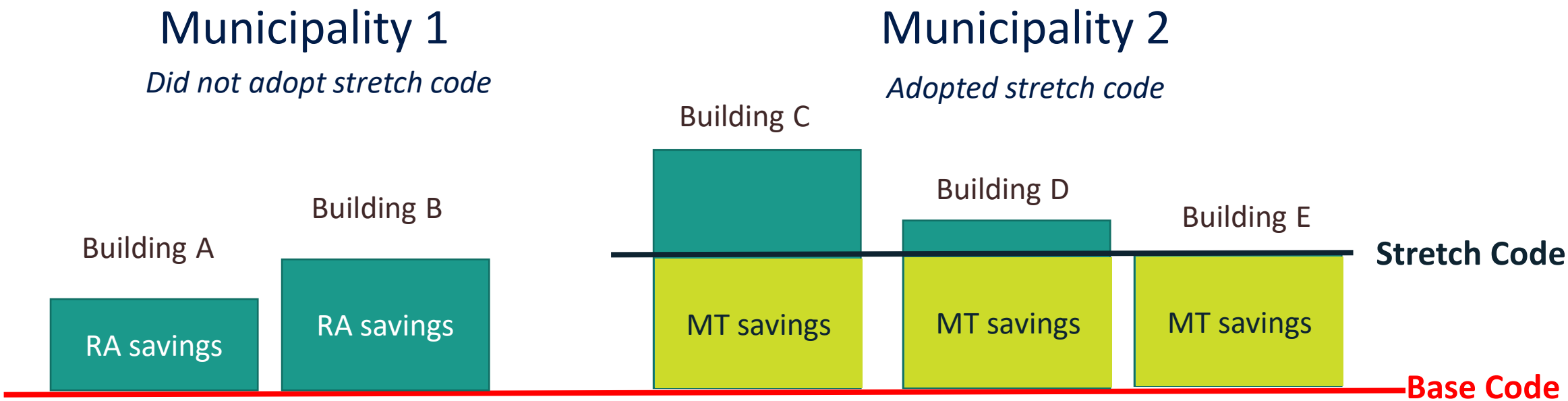
Avoiding Double Counting: RA and MT

Current Resource Acquisition Approach



Avoiding Double Counting: RA and MT

Proposed Approach



Considerations for Program Influence Relative to Construction Timelines

Background

- Municipalities will adopt stretch code at various times of the year
- Permit data represents a point in time during construction process; actual occupancy of building is later

Approach

- **Adoption by municipalities:** covered in evaluation; account for actual adoption dates
- **Lag between permitting and construction**: Assume 1-year construction lag for commercial and 6-month construction lag for residential
    - Account for in evaluation

Next Steps

Next Steps

MT Supporting Document	Timeline
Energy savings framework	Finalizing with Guidehouse and utilities
Program logic model	Final version available
Evaluation Plan	Guidehouse drafting plan

Supporting documents for Stretch Codes will be delivered in late spring 2024
Supporting documents for BPS will be delivered after Stretch Codes

Slipstream and MEEA contacts

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Appendix

Previous SAG Market Transformation Presentations

March 17, 2021
https://www.ilsag.info/event/wed-march-17-market-transformation-savings-working-group/

May 7, 2021 – Small group
https://www.ilsag.info/event/friday-may-7-mt-code-advancement-small-group-meeting/

July 27, 2021 – Small group
https://www.ilsag.info/event/tuesday-july-27-mt-code-advancement-small-group-meeting/

October 4, 2021
https://www.ilsag.info/event/monday-october-4-market-transformation-savings-working-group-meeting/

April 21, 2022
https://www.ilsag.info/event/thursday-april-21-market-transformation-savings-working-group-meeting/

August 16, 2022
https://www.ilsag.info/event/tuesday-aug-16-market-transformation-savings-working-group-meeting/

May 22, 2023
https://www.ilsag.info/event/monday-may-22-market-transformation-savings-working-group-meeting/

Oct 25, 2023
https://www.ilsag.info/event/wednesday-october-25-market-transformation-savings-working-group-meeting/