

ILLUME



ILLUME Delaware Energy Codes & New Construction

Emma Weaver, Arianna Zrzavy
Bahareh van Boekhold

Initial Research Findings

April 2024

Agenda

Introduction

Research Goals & Activities

Initial Findings

Lessons From Other States

Discussion

The background of the slide features a close-up, slightly blurred image of wooden blocks and a checkerboard pattern. A semi-transparent red overlay covers the entire image. A dark horizontal band is positioned across the middle, containing the title text.

INTRODUCTION

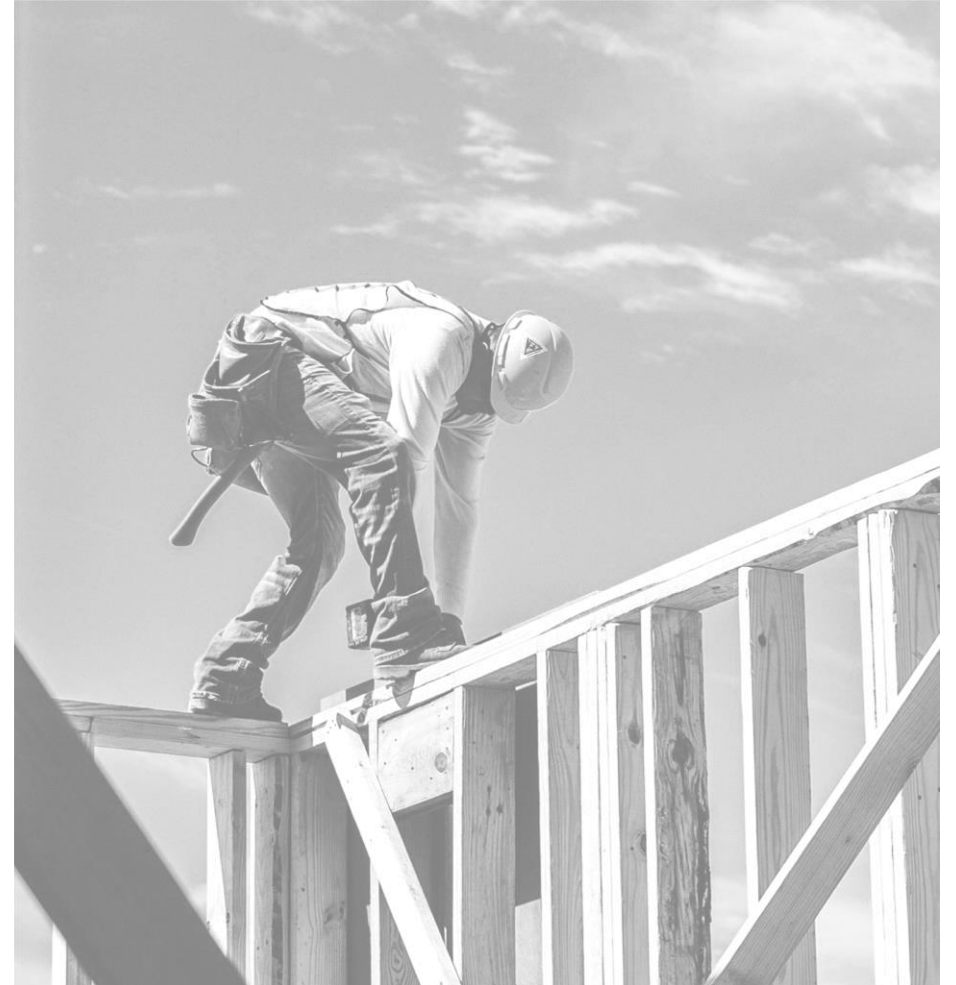
Research Goals & Activities

Our research goals were to:

- Understand the **challenges and opportunities** for:
 - Adoption of the new energy codes
 - Achieving Delaware's net zero capable construction targets
- Understand **best practices** to support energy code adoption and compliance

To address our research goals, we completed:

- **In-depth interviews** with key new construction market actors
- **Secondary research** on new construction and code support programs



Market Actor Interviews (n=16)

3

DELAWARE
CODE
OFFICIALS

9

BUILDERS &
ENGINEERS*

2

THIRD-PARTY
RATERS*

2

DELAWARE
REALTORS

*This includes a mix of commercial and residential.

*One of the raters we spoke with had limited experience in DE. Her thoughts were only included where applicable.

An aerial, long-exposure photograph of a complex highway interchange. The image shows multiple levels of overpasses and curving ramps. Light trails from vehicles create a sense of motion, with white lines indicating the flow of traffic. The overall color palette is a monochromatic teal or seafoam green. A dark, horizontal band is superimposed across the center of the image, serving as a background for the title text.

INITIAL FINDINGS

Awareness

Energy Code

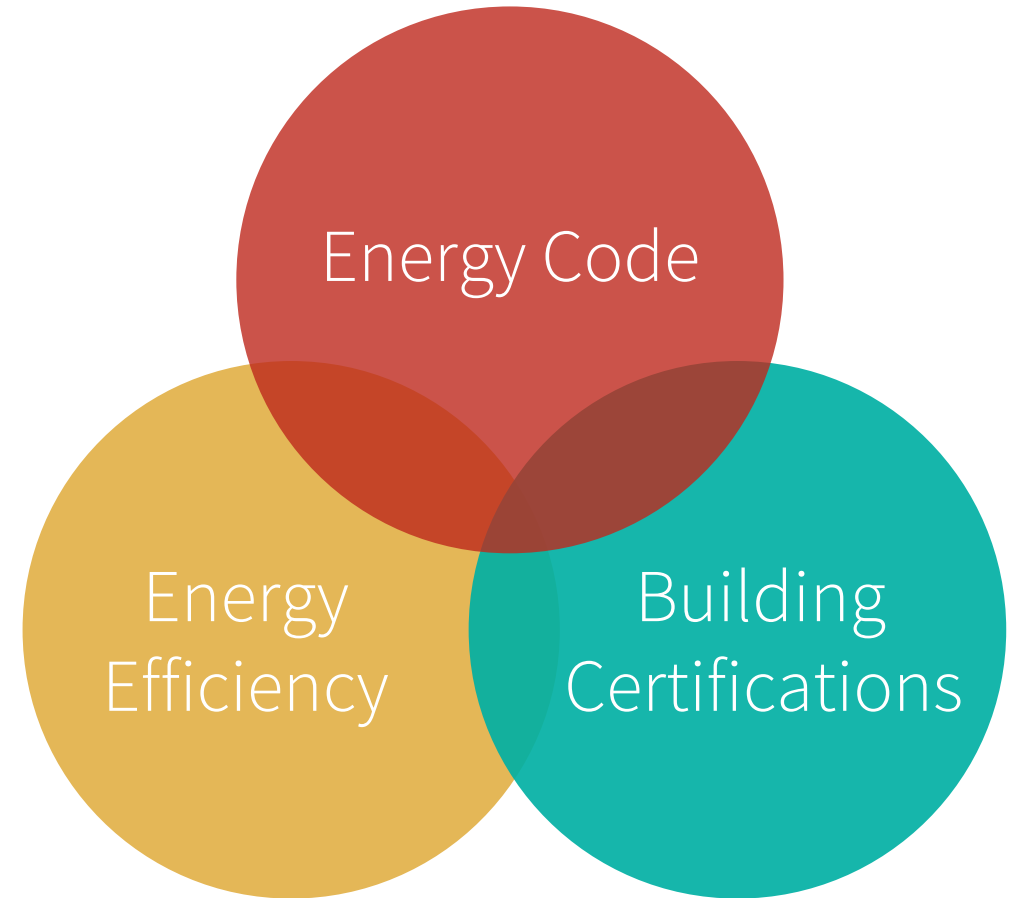
- Code officials had greatest awareness.
- Production builders were familiar with the code or had in-house experts.
- Salespeople (realtors) had the least awareness.

Energy Efficiency

- For commercial construction stakeholders, “energy efficiency” was often associated with efficient lighting.

Building Certification

- ENERGY STAR was frequently mentioned.
- On the commercial side, LEED certification was also mentioned.



Energy Code Adoption



Previous Code Adoption

Not considered disruptive:

- Code officials considered it ‘business as usual’
- Builders already adopted building practices needed for the code



Questions on Code

Several sources:

- **International Code Council (ICC):** to improve understanding and interpretation
- **Code officials:** to understand enforcement
- **In-house resources:** Production builders have designers or raters on their team



Previous Code Trainings

More helpful if:

- Real-world examples of code changes (specific to DE)
- Led or co-led by builders
- Intent of the code (the “why”) explained



Code Hotline

DNREC has a code questions hotline:

- Builders use the hotline, but more to ask about future changes

Barriers, Motivations & Decision-Making



Costs

- Upfront costs
- Cost of materials
- Long-term savings



Non-energy Benefits

- Saving space
- Indoor air quality
- Comfort



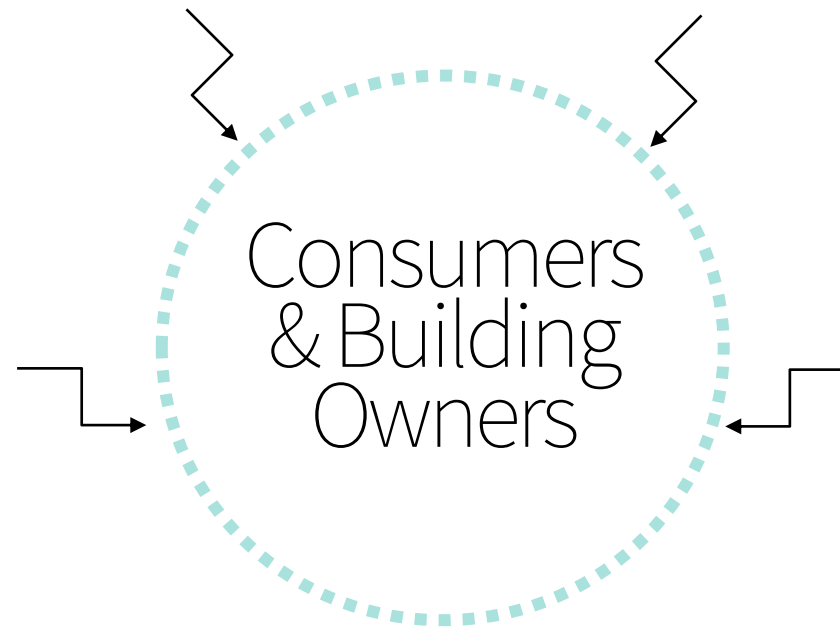
Customer Demand

“If there is demand, builders will accommodate it.”

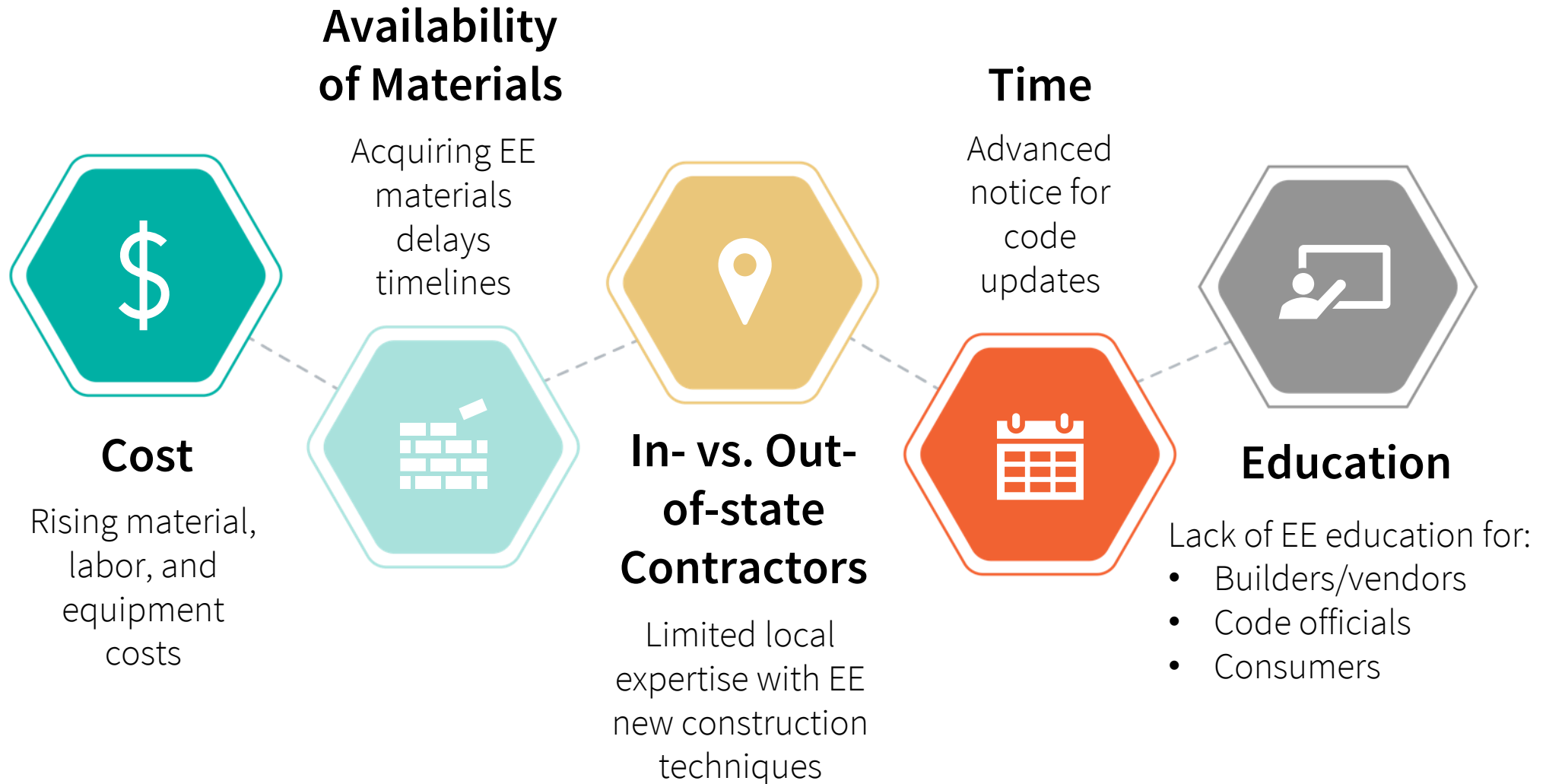


Building Certifications

ENERGY STAR has high brand recognition with consumers.



General Challenges



Energy Code Challenges

Air Sealing

Achieving ACH requirements



Insulation

Higher cost, low availability, installer knowledge gap

One builder who is a member of the Home Builders Association of Delaware (HBADE), formerly BRAD, sent us a document of proposed changes/revisions to the code they submitted to DNREC in 2022. Many of the suggestions we saw here were reflected in our interviews with builders.

Opportunities

Additional Training

For builders, raters,
code officials



Third-Party Verification

To provide compliance
support

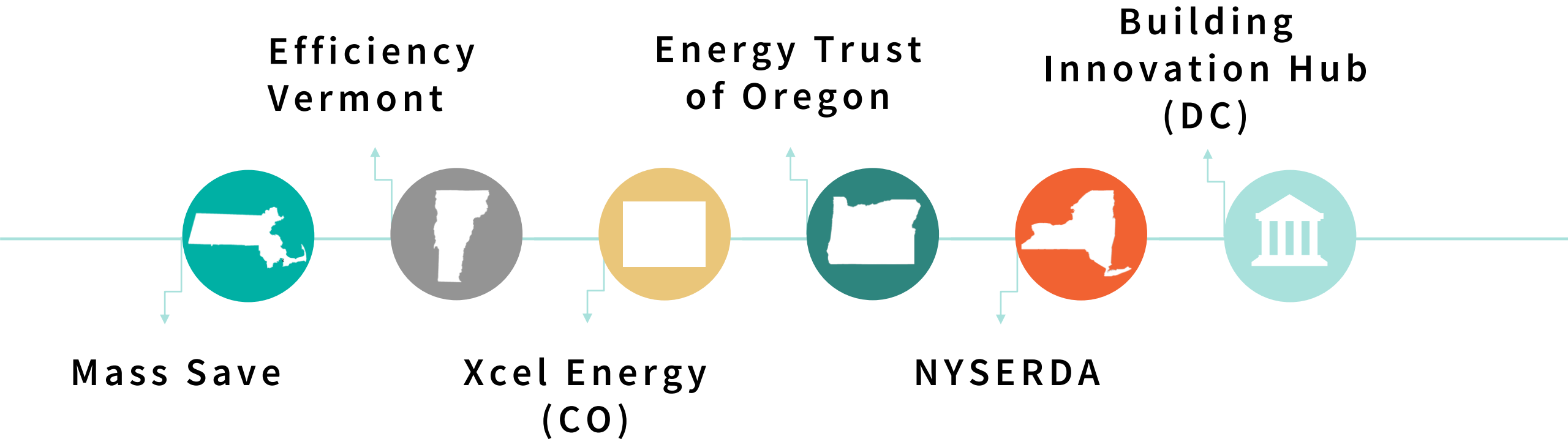
Incentives

To reduce initial
cost barrier

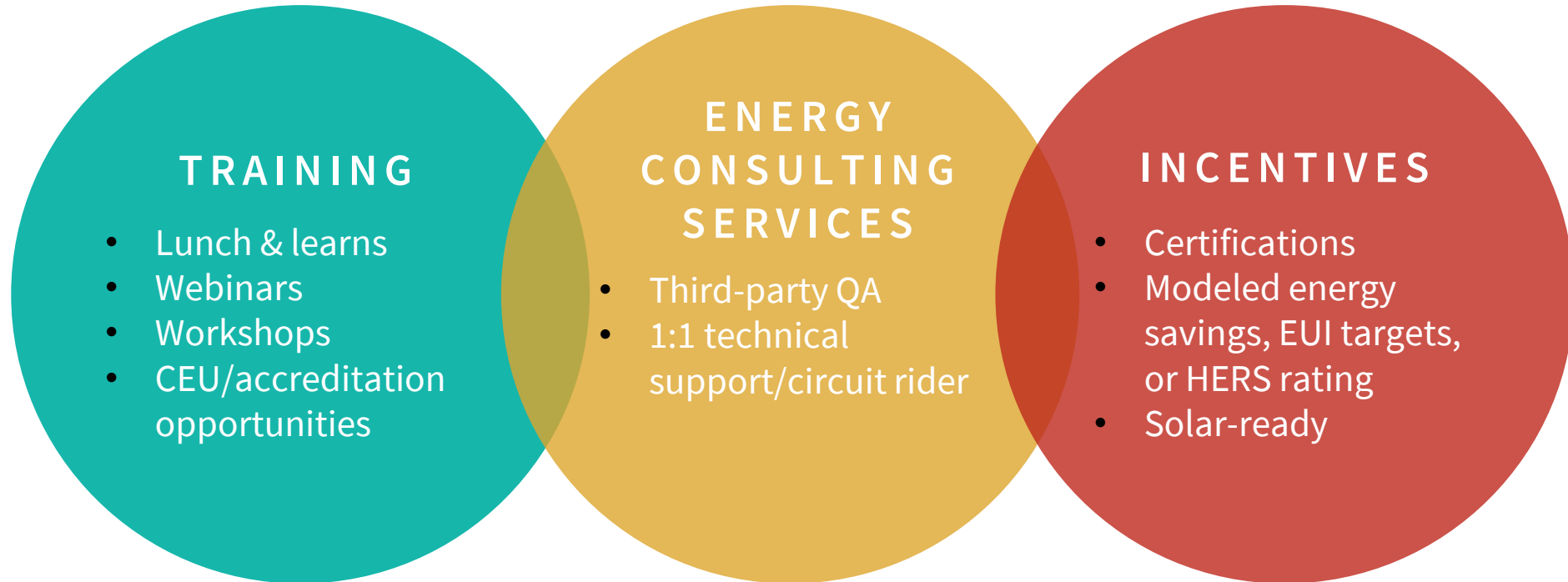
An aerial photograph of several large, circular industrial storage tanks, likely for oil or gas, arranged in a row. The tanks have a radial ribbed structure. A semi-transparent dark horizontal band is overlaid across the center of the image, containing the title text in white.

LESSONS FROM OTHER STATES

New Construction & Code Support Programs



Best Practices



The background of the slide features a 3D grid of light-colored cubes. A dark, semi-transparent horizontal band runs across the middle of the image, serving as a backdrop for the title text.

DISCUSSION

Contact



Emma Weaver

Managing Consultant

emma@illumeadvising.com

Arianna Zrzavy

Consultant

arianna@illumeadvising.com

