Compliance in the Cornhusker State

Nebraska's Energy Code Support Program

MEEA
MIDWEST ENERGY EFFICIENCY ALLIANCE

Chris Burgess, Nicole Westfall and Corie Anderson, MEEA

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Abstract

In 2019, Nebraska updated its statewide energy code from a weakened 2009 IECC to the unamended 2018 IECC. While a tremendous step forward for energy efficiency, the complex task of ensuring compliance with a new and vastly improved energy code takes time, resources and a well-structured program. This significant code update provided the opportunity to educate stakeholders on the new code requirements, the building science behind those requirements and emerging technologies to create a solid foundation from which to develop a highly skilled and appropriately educated workforce of the future.

This paper will explore Nebraska's first comprehensive, multi-year energy code support program, *The Continuum from Energy Codes to Advanced Technologies: A New Approach to Training,* and discuss how the program has expanded the traditional range of engaged stakeholders to meet workforce development needs more comprehensively. The program began in August 2020 and will run through August 2023. The paper will also explore key considerations for this type of program, including appropriate messengers and messaging, behavioral research to gauge knowledge gaps, novel stakeholder engagement strategies and in-state partnerships. This case study will demonstrate the benefits of proactive workforce training intervention to minimize confusion, increase compliance and gain energy savings.

Background

On May 8, 2019, Nebraska Governor Pete Ricketts signed LB 405 into law, updating the state's energy code from the 2009 International Energy Conservation Code (IECC) with weakening amendments to the unamended 2018 IECC. Prior to this update, the state's residential and commercial buildings were being constructed to a decade-old standard, with the adoption of the 2009 IECC occurring in 2011. The 2018 IECC became effective statewide on July 1, 2020.
With the adoption of the 2018 IECC, came substantial potential for greater energy efficiency, and related benefits in future buildings constructed in Nebraska.

Commercial buildings built to the 2018 IECC are approximately 32.8% more efficient than those built to the 2009 IECC, and residential buildings 27.5% more efficient (DOE 2021). However, this update also came with challenges, including getting the workforce in a mature, integrated industry to change decades-old habits in the way they design, review, build and inspect buildings in order to comply with the new statewide code.

About the Program

The Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE) issued the Advanced Building Construction with Energy Efficient Technologies & Practices (ABC) funding opportunity announcement on May 3, 2019 (DOE 2019). Funding was awarded to several proposals, including the one discussed in this paper: *The Continuum from Energy Codes to Advanced Technologies: A New Approach to Training* (DOE 2020). The proposal was submitted by a program team led by the Midwest Energy Efficiency Alliance (MEEA) with the goal of bringing comprehensive energy code education and resources to stakeholders in Nebraska.

The program began in August 2020 and is set to run through August 2023. It is funded in two phases: Phase One ran through January 2022 and Phase Two began in February 2022. Broadly, the program aims to develop and deploy an innovative training framework that integrates building science and advanced building energy efficiency practices and technologies into traditional energy code trainings. Through this integration, the program seeks to provide a more holistic training on the new energy code and advancements in building energy efficiency to better prepare the Nebraska workforce for current requirements and future changes. Potential stakeholders include government agencies, public officials, code officials, students at universities and community colleges, homebuilders, general contractors, subcontractors (particularly HVAC and insulation), design professionals and material suppliers.

The Team

Leveraging Existing Partnerships

The program also leveraged strong existing relationships in the state. MEEA co-facilitates (and was a founding member of) the Nebraska Energy Code Collaborative, which has been active since 2012. The group meets three to four times a year to discuss issues related to energy code compliance in Nebraska, and its members strongly advocated for an updated energy code during the 2019 adoption process. The group consists of individuals from all aspects of the construction industry and plays a critical role in the development and implementation of the program. This group has been essential in providing the program team with direction and spreading the word about offerings to their networks within the state.

In-State Expertise

In addition to MEEA, the program team includes key in-state partners that are essential to the program's success. The Nebraska Department of Environment

and Energy (NDEE) is the state energy office and a valuable member of the project team, providing key insights into local construction practices and the needs of stakeholders in the state. NDEE is a founding member of the Nebraska Energy Code Collaborative and has remained an active member since its inception. NDEE provides an important regulatory and cross-discipline perspective that informs training topics, locations, timings and networking contacts.

A second key partner on the team is the Nebraska Code Officials Association (NCOA). Addressing the needs of code officials in the state and gaining insight into the types of training and support that would be beneficial is essential for assuring compliance with the new code requirements. Since code officials are responsible for ensuring the energy code is appropriately prioritized and enforced, having NCOA as a partner was seen as critical to a successful program.

Choosing the Right Messenger

Even with these strong in-state partnerships, much of the program's success hinges on trust between the intended audiences and the messenger. It is critical that the individuals delivering the trainings and engaging with stakeholders in the state have a strong understanding of the perspectives of these stakeholders, the challenges they face in the field and motivations to update their practices relative to the energy code.

The main energy code training partner selected for this program has extensive experience in the construction industry and has worked professionally as a code official, commercial builder, home builder and educator at a university. He also has previous experience providing trainings in Nebraska. This background has allowed him to fully understand the challenges the target audiences in Nebraska are facing and have enabled the trainer to tailor his message to different stakeholder audiences while keeping the core values of energy code requirements and compliance consistent. This ability is particularly critical when engaging with more skeptical audiences. Having a trainer with a reputation for being knowledgeable, experienced and understanding of the struggles of complying with new code requirements, allows the program to reach individuals who typically do not self-select trainings to gain a deeper knowledge of the new code. The program team feels any attempt to replicate this program model must place a strong emphasis on finding the right trainer to best inform and reach the specific audience.

Informing The Training Program

To ensure that the trainings were relevant to the needs of the construction industry in Nebraska, the program team analyzed the data collected in the state's residential field study and followed up with primary research on stakeholder perceptions of the new energy code.

Residential Baseline Study

In 2017, a residential field study was conducted in Nebraska to assess typical construction practices relative to the energy code. The study followed the DOE low-rise residential evaluation methodology and used the 2009 IECC as a baseline– the statewide energy code at the time (DOE 2018). For a statistically significant result, the methodology required a minimum of 63 in-field observations of nine key items (and associated measures) that were calculated to be the critical determinants of residential energy consumption: envelope air leakage, high efficacy lighting, duct leakage, ceiling insulation, above-grade wall insulation, window U-factor, window solar heat gain coefficient (SHGC), basement wall insulation and slab insulation.

The study's findings were used to inform curriculum development for the program. There were no non-compliant observations for envelope air leakage, window U-factor, window SHGC or slab insulation when compared to the 2009 IECC (PNNL 2019). When compared to the 2018 IECC, only slab insulation still had no non-compliant observations (PNNL 2019). Since virtually all key item observations were not compliant with the newly adopted code, the program team decided to include a general overview of the code requirements so they could be put in context by explaining the building science behind the requirements.

A closer look at the individual key item findings helped to identify specific areas that needed additional education and support. One surprising measure was envelope air sealing. While there would still be many individual non-compliant observations, the average envelope air leakage in the study was 2.48 ACH50 which would comply with the 2018 IECC requirement of 3.0 ACH50, and far exceeded the 7 ACH50 required in the 2009 IECC (PNNL 2019). Since blower door tests are not required under the 2009 IECC, this likely meant that most builders were building homes much tighter than they realized and were therefore not providing adequate ventilation.

Another measure where additional support was indicated was duct leakage. Both the 2009 IECC and the 2018 IECC require that all ducts be sealed but the system only needs to be tested where ducts or air handlers were outside a conditioned space. However, the study protocol required that all ducts be tested regardless of location. The study found the vast majority of homes had ducts and air handlers fully within conditioned spaces. However, there was an

average duct leakage of 24.77 CFM/100ft2, over double the limit of 12 CFM/100ft2 in the 2009 IECC and almost 6 times the limit of 4 CFM/100ft2 in the 2018 IECC. This indicated that the requirement that all ducts be sealed was consistently not being met.

A final measure identified for additional support was wood frame wall insulation. Although the requirement for R-20 cavity only insulation had been in place since 2011, the study found the most common wall R-value to be R15. There were no indications from the data collected that any significant number of homes were following a Total UA or Performance compliance path, making such a significant divergence to a long-established requirement surprising. There was also a significant number of observations of substandard insulation installation quality. Therefore, insulation requirements were included as a core element of the training program.

While this study only took a snapshot of the Nebraska residential construction conditions in 2017, it was helpful in illuminating the most beneficial topics to include in educational curriculum and proved valuable when designing a program to ensure compliance with the new code.

Stakeholder Survey

As part of this program, a stakeholder survey was conducted in the spring of 2021 to assess the views and perceptions of members of the Nebraska construction industry and other energy code stakeholders. The goal of the survey was to get a better sense of the construction industry in Nebraska, including stakeholder feelings, perceptions, expectations and knowledge about the new code but was not designed to elicit statistically significant findings.

A compilation and analysis of survey results were completed in May 2021 (Improve Together and MEEA 2021). These findings shed critical light on how code requirements are perceived, ways that stakeholders learn about code changes and other vital information. Survey respondents included all major stakeholder sectors: code officials, general contractors, home builders, architects, engineers, government officials, advocates, academics and consultants. About 70% of the respondents said that they encountered the energy code in their work either "a great deal" or "a lot." Over half the respondents said that parts of their work are regulated by the energy code and over 40% said that they provided education or enforced the energy code.

The survey asked how respondents learned about new energy code updates. Almost 60% said through professional associations, with "local code officials" and "government announcements" being the next two top categories. Respondents were also asked how knowledgeable they felt about nine specific

changes from the old Nebraska energy code (2009 IECC) to the new one (2018 IECC). While responses varied for the specific measures, the overall pattern was a standard bell curve with most respondents saying they were "moderately knowledgeable," fewer saying they were either "very knowledgeable" or "slightly knowledgeable" and very few saying they had either "mastery level knowledge" or "not knowledgeable at all". The project team felt that this was a strong indicator of an education and code support opportunity.

The survey also asked open-ended questions that, not surprisingly, elicited wide-ranging responses. For example, responses to the question "How has the code update changed the work that you do?" ranged from very little (including one comment that stated not much changed "because there has been very little enforcement") to there being significantly increased time spent on education and energy-related matters. The overall tone of the responses might be characterized as one of uncertainty and concern. This, coupled with respondents feeling that the two biggest barriers to implementing the energy code were "traditional design and construction practices" and "lack of trained personnel", indicated that putting more emphasis on explaining the building science behind the code requirements and how these new requirements can be win/win for everyone might be a useful approach.

The program team also wanted to know about stakeholders' preferences for learning about the energy code and what aspects of the new code they felt the industry needed training on. The number one response to learning about the energy code was "in-person trainings", closely followed by "topic-specific trainings" and "small group seminars." The top responses to industry training needs were air sealing, diagnostic testing (specifically blower door, duct tightness and commissioning), equipment sizing and thermal envelope/insulation.

The survey also asked questions about the perceived impacts of the updated code, what was felt to be the most and least important aspects of the new code, what more advanced energy efficiency technologies respondents had used in their work and what barriers they saw to greater implementation of more advanced technologies. In this context, advanced technologies were defined as typically above code but readily available in the marketplace. It was somewhat surprising that of the 15 advanced technology choices in the survey, over a third of the respondents had implemented or used 11 of them. This led the program team to conclude that including advanced technologies in the trainings would be beneficial.

Program Design

The program provides training and education on the commercial and residential energy code at no cost to participants. Continuing education credits are provided through the American Institute of Architects and International Code Council to further incentivize participation. The program's comprehensive approach to training involves engaging with traditional and non-traditional stakeholders and takes an innovative approach to frame the issues and delivering tailored messages about the benefits of improved building energy efficiency.

Target Audiences

As in most of the country, Nebraska has a mature construction industry with many key players involved in the design, construction and inspection of new commercial and residential buildings. The program team has identified several stakeholder groups for whom the program will target and create training, resources and educational opportunities. The approach, messaging and format for engaging with audiences are tailored to fit the needs of each group. The target audiences are detailed below.

Residential builders

The significantly improved energy efficiency between the 2009 IECC and the 2018 IECC (which includes mandatory blower door testing, upgraded insulation requirements and improved duct tightness) requires modest changes to be made to familiar but outdated residential construction practices. Educational opportunities for residential builders that discuss code requirements, building science and advanced technologies available in the marketplace (like cold climate heat pumps, thin triple pane windows, structural insulated panels and advanced framing techniques) help ensure that builders are receiving comprehensive information about how to build a better product. Showing how this can result in greater client satisfaction and fewer call-backs, as well as offering a glimpse into what new beneficial technologies and techniques are coming next was felt to be the appropriate framing. It is critical for homebuilders to understand that complying with new code requirements will result in a better-quality home, greater customer satisfaction, little if any additional cost and does not require significant changes in the way they do business.

Commercial builders

Similar to the residential code, there are significant changes in the commercial energy code provisions between the 2009 IECC and 2018 IECC (such as improved fenestration, upgraded insulation requirements, more efficient lighting power density, higher fan efficiencies, as well as the requirement for Additional Efficiency Packages), resulting in a great opportunity for education and support. However, the commercial measures in the 2018 IECC are also more complicated, emphasizing the need for targeted training on the new code to

be provided for the commercial side of the industry. Typically, there is no single individual or sub-contractor responsible for energy code compliance. Therefore, commercial builders (superintendents in particular), code officials and design professionals need to understand how non-compliance in one measure can negatively impact the efficacy of other measures or the efficiency of the entire project.

Code officials

Code officials carry the responsibility of enforcing building codes, making them a traditional and critical stakeholder group for energy code education. Successfully engaging with this group is essential to improving compliance and ensuring that any advanced technologies and practices are implemented properly. While it is critical for code officials to know the quantitative requirements of the code, giving them an understanding of why these requirements exist and how they integrate with other aspects of the code, it also allows them to better adjudicate the real-life situations they encounter in the field.

Design professionals

Architects and engineers have a significant impact on the built environment. However, they often have little training on building energy efficiency strategies and limited energy efficiency budgets to work with. Engaging with design professionals both during traditional trainings and through focused seminars in conjunction with professional association events enables the program team to communicate the changes in the new code and demonstrate the myriad benefits advanced technologies and techniques have for their clients and businesses. It is important for design professionals to understand the letter *and* the intent of code requirements so that they have the tools needed to creatively solve the unique challenges posed by their client's design program.

Public officials

Unlike most places, Nebraska's energy code is adopted through a legislative process, but like most places, the code is enforced by local jurisdictions. Public officials set the priorities for these local jurisdictions, so it is critical for them to understand the value energy code advancement and proper enforcement has on their communities. These trainings focus on the positive impact updated energy codes and advanced technologies have on the health, comfort and wallets of residents, building owners and tenants, as well as the important community resilience benefits. Energy code adoption and enforcement can also aid in grid reliability and help to achieve the sustainability goals established by a state or local jurisdiction.

Students

Providing energy code training to students is an opportunity to share information with, and hopefully influence, the workforce of the future. By talking to university and community college students, the program team can introduce the energy code as a critical life safety code on par with other building codes, as well as explain that building science and construction practices are at its foundation. This is also an opportunity to discuss how advanced techniques and technologies can seamlessly move a given project from a code minimum platform to a net-zero or even a grid-integrated efficient building. By giving students an understanding of how the energy code is integrated across virtually every trade, we help create a native understanding of the critical role energy codes play in future construction.

Framing the Topic

Training on nearly a decade of improvements in strategies and approaches to building energy efficiency can seem intimidating for many in the industry and may be met with reluctance or resistance. The program team has taken several steps when designing curricula to present the changes in the code as readily achievable and good for business. The trainings also emphasize the building science behind the code requirements. In addition to overview presentations, curricula have been developed and delivered on specific sections of the code or targeted at a particular audience. In addition to overview trainings, targeted trainings have been delivered for code officials, home builders, residential air sealing and ventilation and commercial building envelopes. These trainings allow the trainer and participants to get into more detail about the nuances of the topic and the needs of the audience.

Integrating Advanced Technologies

In addition to new requirements in the 2018 IECC, there have been significantly more changes in building energy efficiency practices and technologies since Nebraska last updated the energy code. The training program is designed to holistically help prepare the Nebraska workforce, not only for the changes between the 2009 IECC and 2018 IECC, but also for advancements in construction practices and technologies that are likely to soon become commonplace.

Technologies to incorporate into trainings were identified in consultation with DOE, the program team, the Collaborative and results from the stakeholder survey. Including both building science fundamentals and advanced technologies in energy codes into trainings allows the trainer to show that the new technologies are simply a logical extension of current construction practices and are grounded in the same building science.

Code Consultant Program

Results from the stakeholder survey indicate that stakeholders in Nebraska strongly prefer to receive information and support in a one-on-one or small group setting. This spurred the program team to pilot a code consultant (or circuit rider) program as part of the broader program offerings, which was not initially included. The goal of the code consultant program is to proactively engage stakeholders at their place of business or job site and provide tailored support on the specific issues they are experiencing with energy code compliance.

The code consultant not only provides technical support but works to establish a trusted advisor relationship and provides exposure for other program offerings. This proved to be an unexpected benefit to the program that allowed the team to build and expand the network of individuals that engage with the program. As with the trainings, it is critical that the code consultant is a trusted, experienced figure that can appropriately address immediate stakeholder concerns and explain why energy code compliance is necessary for the performance, health and resilience of buildings, and the benefits it can provide to the builder's business and customers.

Deep Dive Videos

One of the more innovative components of the program is the inclusion of deep-dive videos as another avenue of engagement. Prior to the COVID-19 pandemic, these were initially intended to be the only online component of the program. The videos are designed to discuss specific challenging topics identified through training evaluations, stakeholder surveys and questions asked at the trainings. The on-demand videos provide details on code requirements, strategies for compliance and real-world implementation examples. As of this writing, two videos have been created. The first is focused on residential air sealing and the second is on residential insulation. Both videos are hosted on MEEA's YouTube page[1] and available for everyone to view. The videos are available with English and Spanish subtitles. Two more videos are in production now. The next is focused on controls and commissioning and the final video will be on air sealing in commercial buildings.

Partnership with Metropolitan Community College

Early in the program development, the team made a connection with the Metropolitan Community College (MCC) in Omaha, Nebraska and was offered

[1] To learn more, view the videos here: https://youtu.be/C7nPynX1YpM and here: https://youtu.be/URLeqmuH-ys.

the opportunity to create an online, 8-week, non-credit certificate course[2] with a modest registration fee ($50) and was open to anyone. The course was focused on the residential energy code but also included sections on building science, advanced technologies and business benefits. While the course was listed in the college offerings, almost all registrants were working professionals. The class was delivered in weekly, two-hour sessions from January to March 2021. The program team feels that this partnership will be central to engaging with students going forward. A version of this class focusing on commercial construction is currently being developed with MCC and will include a more focused marketing effort to students at the college.

Challenges

Combatting Existing Perceptions

One of the biggest challenges to implementing this program is the existing perception, particularly among some residential builders, that the energy code is costly to implement, complex to comply with and less vital to life and safety than other building codes. Consequently, a lower priority is often placed on the energy code when it comes to the permitting, construction or inspection of a building. Additionally, improved efficiency is sometimes seen as an added beneficial feature as opposed to a necessary component like running water. Many times, improved efficiency is not considered unless a customer specifically asks for it. These embedded perceptions can make trainings on energy codes a tough sell and emphasizes the importance of thoughtfully framing the issues and having the right messenger.

Amending the Code

Nebraska's energy code is a mandatory statewide code. However, jurisdictions are able to make amendments to the code if they can demonstrate economic or other hardships due to having to comply with the new provisions. These amendments must be submitted to NDEE in a formal letter, detailing what the changes are, why they are being made and how they result in a code that is substantially similar to the adopted statewide code. If a jurisdiction does not submit a letter within two years of adoption, the statewide code automatically goes into effect.

To date, it appears that a fair number of the larger jurisdictions in Nebraska have opted to make changes to the statewide code, however obtaining more than anecdotal information about which jurisdictions have made what amendments

[2] More information about the course is available on the MCC website: https://www.mccneb.edu/Community-Business/Community-Programs/Continuing-Education/Noncredit-Certificate-Programs/Nebraska-Energy-Codes-Training-Program.

has been challenging. Far more local builders say the jurisdiction has modified the code than having sent letters to NDEE but there is a scant official record of the change. This situation has made it challenging to discuss provisions in the new statewide code, as many stakeholders see them as not applicable to where they work. Emphasizing the rationale for the new code requirements has helped combat this issue, as has focusing training materials on the code's connection to building science and best practices.

Transitioning to Virtual Program Offerings

The program was initially conceived as an in-person training offering. In-person instruction has many benefits, including better engagement with training participants, more free-flowing discussion on topics and quality networking opportunities. However, the COVID-19 pandemic required the program team to quickly pivot to virtual offerings, which has come with both challenges and opportunities.[3]

Virtual offerings enable flexibility for attendees, and stakeholders who are interested in participating no longer have to take a half-day off of work and drive to attend an in-person training. Instead, participants can conveniently attend training at their homes or offices, making participation less demanding on their time. In addition, presentation slides and video recordings of the virtual trainings are made available on the MEEA website so people can view them on-demand. This also enables the program team to engage with stakeholders outside of the metropolitan areas where in-person trainings are typically held, expanding the reach of the program.

Redesigning an in-person training program as virtual offerings also comes with challenges. The team benefited from having an established network of individuals in the state thanks to the long-running Nebraska Energy Code Collaborative, however it remains a challenge to engage with stakeholders outside of that group. Further, as the program is entering its second phase, generating stakeholder interest in virtual trainings is becoming more difficult. Many participants are experiencing burnout from virtual trainings/meetings, and the market is flooded with offerings, making it harder to differentiate and incentivize the program offerings.

Lessons from Program Phase One and Next Steps

Lessons Learned

[3] Presentation slides and recordings of past virtual trainings are available on the Nebraska Energy Code Training Program page on MEEA's website: https://www.mwalliance.org/nebraska-energy-codes-training-program.

The team has learned a great deal in Phase One of this program that has helped inform program offerings in Phase Two (which began in February 2022). First, getting the right timing is challenging. The program team received mixed feedback from participants on the length of the trainings as well as the time of day they are offered. However, in general, the two-hour time slot that we had originally scheduled was felt to be too long by most participants. Adjustments will be made in Phase Two to shorten the training times to one hour or one and a half hour-long segments. The time of day that trainings were offered was also flagged as something that makes attending challenging. Initially, most trainings were offered over lunch, the exception being the MCC class which was held in the evening. Following mixed feedback about how that midday timing worked for participants, the team has decided to diversify timing for program offerings going forward.

Second, interactivity in the virtual world is key to meaningful participation, which can be challenging. Experience from this program and others like it have made it clear that participants can often be hesitant to chime in with their comments and questions, regardless of how much they are encouraged to do so. Finding ways to make the trainings more interactive through polling questions, established Q&A sections throughout the training and a less formal delivery of training materials has helped boost participation, however there is still noticeable hesitancy. Moving forward, the program team is exploring ways to increase interactivity in the curricula created by adding small group exercises and other engagement strategies to help get participants talking with the instructor and each other.

Third, how you present a topic and who is presenting can make a big difference. This is a concept that has been explored throughout this paper but cannot be overemphasized. There have been multiple instances in the first phase of this program where the team has had to reassess how we are delivering information about more controversial or, as the program team calls them, stickier subjects (such as performance testing and mechanical ventilation). Framing the importance of these provisions in a way that is meaningful for the audience is essential to delivering the message effectively. Taking time to genuinely listen to the questions, concerns and thoughts expressed about those subjects helps the program team better understand the underlying issues and identify more productive and engaging ways to talk about them.

Lastly, it is clear to the team that the most promising path forward is meeting folks where they are, which in this instance means both literally and figuratively. The piloting of the code consultant program has been critical to expanding the program's reach in the state and has provided the team with a way to be physically present in situations where stakeholders are experiencing compliance

issues. Understanding where the in-state stakeholders are coming from, and building the curricula and resources from that foundation, is essential to ensuring that the educational materials and delivery are useful to the target audiences.

Program Shifts in Phase Two

There have been several adjustments in the second phase of the program to better deliver training and education to stakeholders in Nebraska and address the compliance issues they find challenging. Among other things, the success of the code consultant pilot in Phase One has led to this aspect of the program being formalized in Phase Two.

The program will also be adding an in-person Duct and Envelope Verifier Training (DET) offering in the fall of 2022. The team decided to offer this training in response to many stakeholders in the state expressing concerns about the limited availability of professionals in Nebraska who are qualified to conduct the performance testing required in the 2018 IECC. The program will provide a subsidized DET training course for individuals interested in becoming certified. Additionally, the DET training will also offer a "train-the-trainer" component, so stakeholders in Nebraska who have been DET certified would then be able to train and certify others, further building the workforce in the state and preparing for future code changes.

Lastly, Phase Two of the program hopes to establish in-person training as part of the program. As the world adjusts to the new COVID-19 normal, the team has begun safely meeting in-person again, both via the code consultant program as well as regular trainings. To encourage accessibility, the program will also continue offering virtual trainings that are more convenient for some people and complement in-person offerings. The program team is looking forward to the new opportunities that come with in-person instruction and hopes to continue providing useful information on energy code requirements and compliance pathways to the full range of stakeholders in Nebraska.

Conclusion

Nebraska's jump from the 2009 IECC to the 2018 IECC is an important step toward increasing energy efficiency in buildings throughout the state. To ensure the benefits of the new code are realized, a strong, knowledgeable and flexible program team that includes key in-state partners has been established. The program has been running for almost two years at the writing of this paper and has made numerous adjustments in response to stakeholder preferences and training feedback. The program has been well received in Nebraska and many lessons learned on how to offer an effective and supportive training program. The team has developed an innovative, approachable and informative

curriculum for residential and commercial energy code trainings, adapted to a virtual format and learned about best practices for training timing and length. The information gathered so far is already being implemented in the program's second phase, which ends in August 2023. MEEA looks forward to publishing full program results at the conclusion of Phase Two.

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