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Google Accessibility Pilot Overview

Overview:

- » In late 2019, the Ameren Illinois Energy Efficiency Program partnered with Google, Easter Seals, and Minds Eye on a Pilot that examined the intersection of accessibility and energy efficiency
- » The Pilot provided smart, energy efficiency measures with voice assistance to customers of varying abilities
- » In early 2020, the Ameren Illinois Energy Efficiency Program interviewed participants to gauge their experience and learn how to better serve our customers with disabilities and improve their quality of life
- » Customers received:
 - Nest Thermostat E
 - Google Home Mini
 - Energy-Efficient Connected Lighting
 - Energy-Efficient Decorative Lighting
 - Smart Plugs
 - 2 Motion-Sensing Energy-Efficient Night Lights



ENERGY EFFICIENCY PROGRAMS

ACCESSIBILITY PILOT



CUSTOMER SATISFACTION

91% of participants were satisfied with:

- the equipment installed
- training at the time of installation
- their participation in the Pilot Program

POST INSTALLATION

91% of participants feel:

- that their home is more accessible
- more independent
- safer navigating their homes

VOICE ACTIVATED LIGHTING



91% of participants would recommend voice activated lighting to a **friend**

SMART THERMOSTATS



91% of participants would recommend a smart thermostat to a **friend**

ADVANCED POWER STRIPS



89% of participants are satisfied with their advanced power strips

GOOGLE HOME



100% of participants are satisfied with their Google Home Mini



PILOT PROGRAM PROMOTES ENERGY SAVINGS, INDEPENDENCE

Little Tucker Doubet of Pekin, Illinois, is an active, happy kid, a proud big brother, and an avid video gamer. His differences don't slow him down.

"Tucker was born without arms or legs. His way of getting around is rolling or scootin' across the floor," says Brad Doubet, a single father who works in a chemical plant to support his two sons: Tucker, 6, and Mason, 4. "Tucker doesn't really have access to a lot of the things the other kids have access to, but he makes his own way pretty well with what he's got."

Still, small things most of us take for granted, like turning on a light, require more time and effort for Tucker.

That all changed in 2019, thanks to the Ameren Illinois Accessibility Pilot Project, which partnered the utility with Google. Ameren Illinois turns to trusted local non-profits like Easterseals to identify potential candidates for the Program and to ensure that best practices in accessibility are followed.

"We are giving smart home makeovers to families and individuals living with a disability to allow them to be more energy efficient and comfortable in their home and to gain some accessibility benefits," says Kristol Simms, Director of Energy Efficiency.

Participating customers first receive an Energy Assessment to provide a customized energy efficiency and accessibility solution for their home. Ameren Illinois then partners with trusted local contractors, with an emphasis on diverse-owned businesses, to implement the upgrades.

"It's pretty neat that Tucker has the independence now to go into a room and turn the light on or off himself. He's pretty excited to be able to do that."

— Brad Doubet,
Ameren Illinois Customer

"One of my goals has been to ensure that all utility customers have an opportunity to receive real and meaningful savings from the Energy Efficiency Program they have been paying for."

— Richard Mark, Ameren Illinois
Chairman & President

91% of participants said they were satisfied with the Ameren Illinois Accessibility Pilot Program.

To learn more, visit
[AmerenIllinoisSavings.com/
AccessibilityPilot](https://AmerenIllinoisSavings.com/AccessibilityPilot)

or call **1.866.838.6918**

Access to Independence

At no cost to the customer, the Accessibility Pilot Program provides a custom set of measures which include:



Smart Thermostat



Google Home Mini



Connected Lighting



Decorative Lighting



Smart Plugs



Motion-Sensing Night Lights

Each of these items allows the customer to conveniently turn them on and off by voice command, or a phone app. More than 90% of participants were satisfied with the equipment installed, and would recommend voice-activated lighting and smart thermostats to a friend. 100% reported satisfaction with their Google Home Mini.

TUCKER DOUBET

In the Doubet home, the Ameren Illinois team — including Jarvis Electric and Green Home Weatherization — installed voice-controlled lighting in Tucker's bedroom, his father's bedroom, the living room, and kitchen, and made the living room TV voice-controlled as well. Throughout the home, lighting was upgraded to high-efficiency LED bulbs anywhere voice-activated lighting technology was not installed. Advanced power strips were provided to reduce energy use from the three television sets in the home, and a smart thermostat will help the Doubets save on heating and cooling costs.

"We took measures in several rooms to make it more convenient for Tucker to go about his daily life," says Simms. "We also added faucet aerators and efficient shower heads throughout the house so they can save money on their water bill."

A centerpiece of the Pilot is the Google Home Mini, a voice-controlled speaker that can be used to control smart home lighting and measures, play music, answer questions, create a shopping list, and many more helpful tasks.

"Tucker is happy that he can turn the lights on himself so he won't be scared at night to roll into different rooms in the house," says Brad Doubet, noting that Tucker can now take over a daily chore previously assigned to Mason: turning off the bedroom night light every morning. "It's pretty neat that Tucker has the independence now to go into a room and turn the light on or off himself. He's pretty excited to be able to do that."

Tucker is also pretty excited about the Google Home Mini's broadcast function, which allows him to communicate with his father and brother when they are in different rooms.

GREG DOYLE

In nearby Peoria, that same voice-activated and energy-saving technology is making a difference in the home of Greg Doyle, a print shop employee with cerebral palsy. Greg uses crutches or a wheelchair outside the home, but often crawls to get around his home.

"Before, I used one or two lights in my entire house depending on what level I was on. Now, I can use the smart lighting and choose which one I want to use instead of just what is closest to me. I like being able to hop into bed at night and get under the covers and then turn off the lights. That's the best ever," says Greg, whose morning routine now takes half the time it did before. "The Google Home Mini saves a lot of time. It's pretty awesome actually. I didn't realize how much it would help."

Greg is equally enthusiastic about the impact to one of his most challenging chores: laundry. It was dangerous for him to carry the basket to the basement laundry room without use of his legs, and have to flip on the light switch on the stairs and then again in the dark basement. Now he can control all of the lights with his voice.

"It's made a humongous difference with my laundry, because I used to have to basically get level with the light switch, get everything on, turn everything off," says Greg. "Now I can go down to my basement and turn on the lights as I go. I don't have to risk a fall; I don't have to risk pulling a muscle. That's been a godsend."

Like Greg, 91% of participants feel that their home is safer and more accessible, thanks to the Ameren Illinois Accessibility Pilot Program. Along with the safety benefits, smart technology will help these customers save money on their utility bill. In addition, the independence they gain is priceless.

Visit AmerenIllinoisSavings.com/AccessibilityPilot to learn more.



Springfield Urban League Landlord Tenant Research Report

Overview:

- » The Ameren Illinois Energy Efficiency Program and the Springfield Urban League partnered together to conduct a research project that examined landlord and tenant relationships in the Springfield area
- » The goal of this research was to identify and better understand the factors that lead to landlords and/or tenants making energy efficiency improvements
- » It also benchmarked the awareness of energy efficiency incentives offered, both from the utility as well as other funding sources

Ameren Landlord and Tenant Research Report

BACKGROUND

Energy efficiency investments are generally of immense benefit to utility customers due to the low-cost linked with such systems. However, such benefits are often out of the reach of low-income residents who live in multi-family affordable housing. Residents that fall within this category tend to spend a significant portion of their income on bills related to energy services compared to the general population with higher income levels¹." Specifically, households with income below 150 percent of the federal poverty level spend an average of 12% of their income on electricity, an expense that is double the average "affordable" cost and four-fold the average cost in electric-heating households across all income levels (APPRISE, 2018). Innovative strategies may be used to address this barrier to the benefits of low-income households' energy efficiency. Against this background, the Ameren Illinois/Springfield Urban League Landlord-Tenant research (subsequently referred to as the Landlord-Tenant research) seeks to examine the multifaceted barriers to energy efficiency program participation and practices among landlords and tenants of single and multi-family rental units.

Research Description and Goals

The Landlord and Tenant research was designed and administered to residents in the Ameren Illinois Company Territories through the Springfield Urban League Inc.—a non-profit organization in central Illinois. The research seeks to understand factors that limit landlord and tenant participation in the Ameren Illinois Company (AIC) energy efficiency programs. Additionally, the project is an early step towards developing effective practices to overcome identified barriers, including targeted outreach to increase the number of tenant-occupied single and multi-family residences participating in the energy efficiency programs. Specifically, this research will be valuable in:

- i) Establishing a baseline of knowledge that landlords and tenants have concerning energy efficiency programs and practices in the Springfield Illinois area
- ii) Informing the design of audience-specific informational resources, public education programs, and energy efficiency programs to enhance knowledge, eliminate identified barriers, and encourage effective long-term energy efficiency practices among tenants and landlords.

¹. This research study utilizes components of Ameren Illinois' report "Scaling up Energy Efficiency in Missouri and Illinois Multifamily Affordable Housing

- iii) Informing the direction of future research and effective collaboration with participating investment corporations, affordable housing organizations, contractors, and housing institutions, and community leaders and stakeholders concerning energy efficiency to develop optimal approaches to energy efficiency enhancement in Illinois communities.

SURVEY QUESTIONS AND PARTICIPANT RECRUITMENT

This exploratory empirical research commenced with the development of tenant and landlord survey instruments. The survey instruments were comprised of open- and close-ended questions aligned with the previously outlined research goals. The questions centered on energy efficiency, especially related to tenant and landlord behavior/motivation, knowledge and program awareness, perception of potential program effectiveness and participation, and recommendations for energy efficiency improvement. A small group of respondents (3 landlords and 4 tenants), roughly representative of the target landlord and tenant sample size (31 and 60 respectively), were recruited for a pilot test of the survey. The pilot test served to determine respondent comprehension and accurate interpretation of questions, enhance quality and avoid bias introduction based on the order of questions, limit respondent burden—including time spent on the survey, and identify and address any other challenges that may arise during the actual survey.

Revisions to the survey questions were made accordingly and distributed to 65² tenants and 31 landlords between February and April 2020.

The filled surveys were subsequently collected and processed for analysis using Microsoft Excel in April and May 2020. Preparation for analysis included the development of data analysis/scoring plans for the landlord and tenant surveys; all questions and respective answer options provided in each of the surveys were entered in an Excel spreadsheet. Responses of 65 tenants to all 16 questions and sub-questions posed were individually reviewed, recorded, analyzed, and summarized accordingly using the spreadsheet tool. The same steps were repeated to process and analyze 30 landlords' responses to all 14 questions and sub-questions in the landlord's survey.

². The actual number of landlords planned for the project was 60; an additional 5 was collected to make up for any instances of returned surveys with limited responses provided

ANALYSIS AND RESULTS

The following are key points from the data analysis. Refer to the “Results Narrative” document for other details as needed for landlords and tenants.

Description - Tenants

A total of 65 tenants participated in this research. Of the 65 tenants that participated in this research, about 34% of the respondents lived in single-family houses, 38.5% lived in apartments, and 15.4% live in duplexes. Only 9% lived in townhouses, and 3.1% lived in "other" type of residence (quadruplex) or did not specify the type of property they resided.

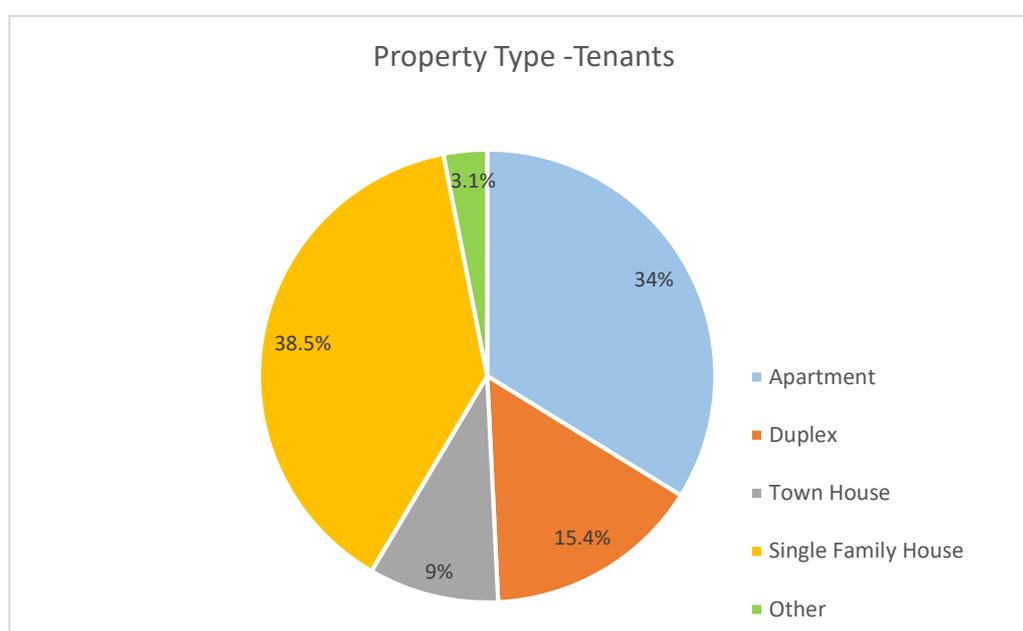


Figure 1. Type of property inhabited by tenants

Of the 65 residents, 6 or about 9% paid no utility directly, and 59 respondents or about 91% paid at least one utility. Utilities that respondents paid directly ranged from one to four, and electric was the most common (about 37%), as indicated by 56 respondents. Gas was the next most common utility paid directly (approximately 26%), as reported by 40 respondents, followed by water (21%), as indicated by 33 respondents. The least common utility paid directly was sewage (12%), as reported by only 18 respondents. About 6 respondents paid utilities with their rent, and this category accounts for 4% of the responses.

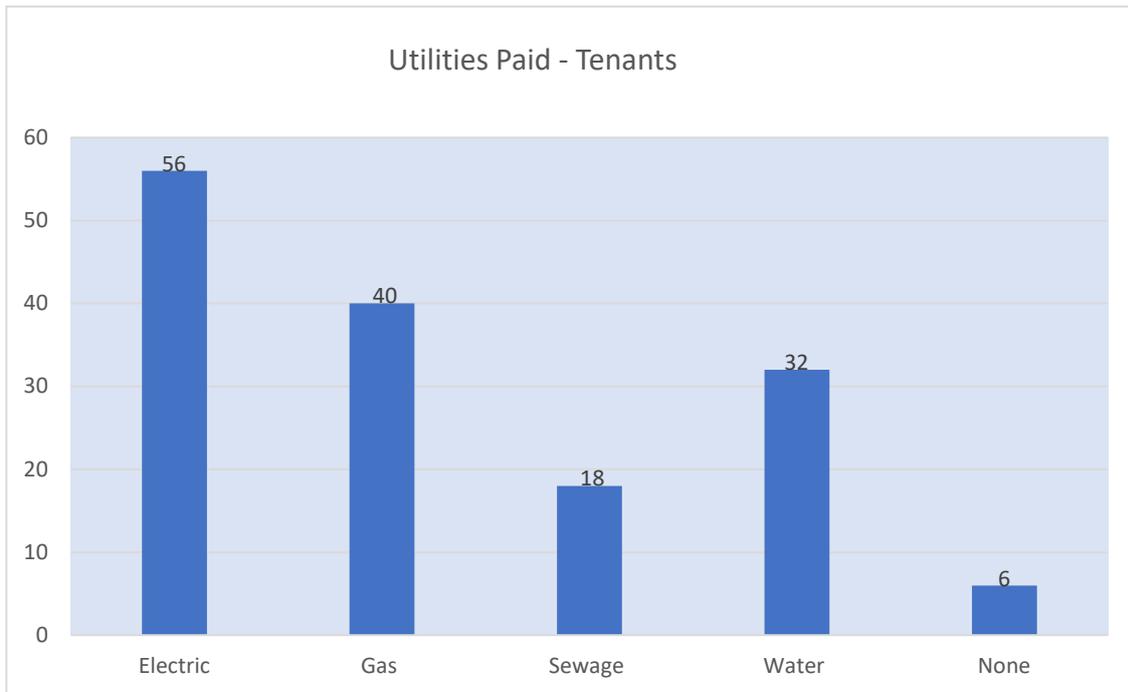


Figure 2. Utilities paid by landlords on behalf of tenants

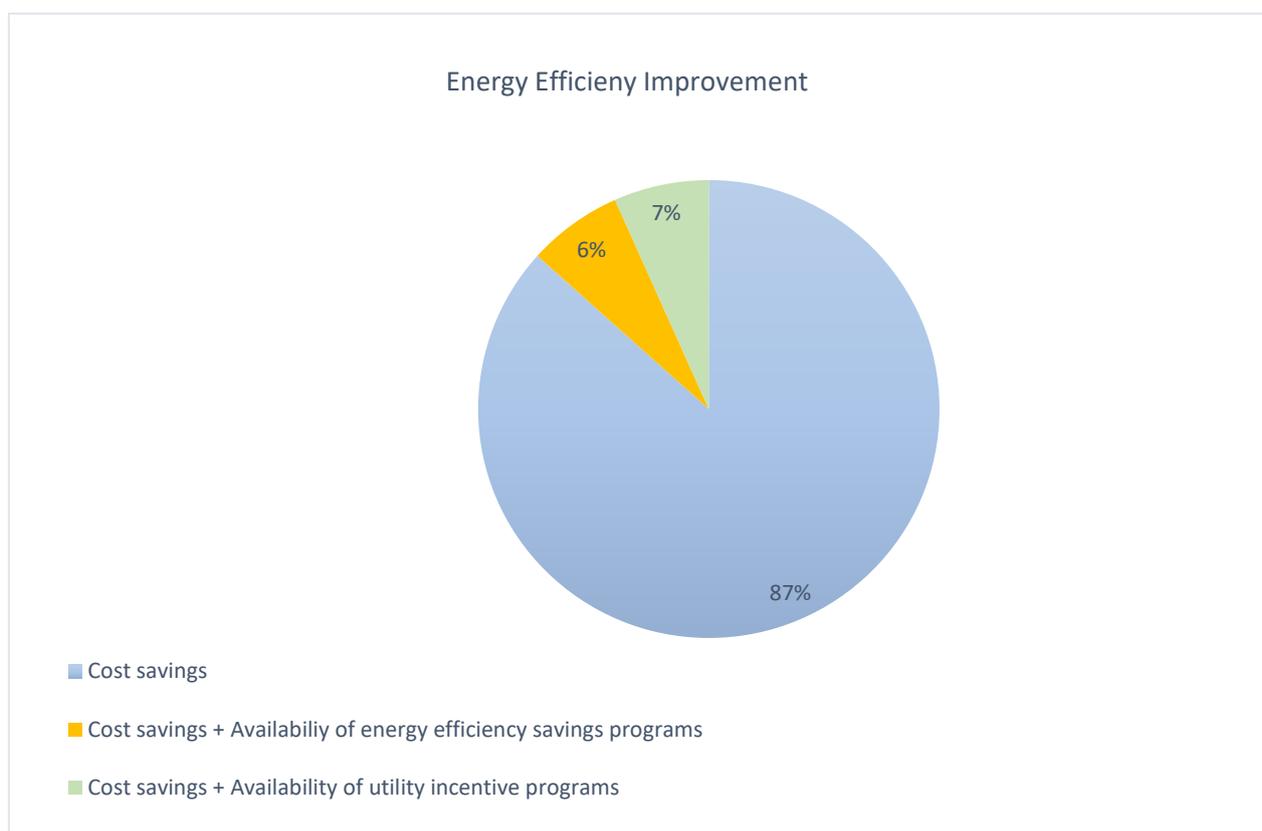
When the number of utilities paid per tenant was considered, 14 respondents paid at least one utility bill directly, electric being the most commonly paid utility (12). One respondent directly paid only for water, and another paid only for gas. None of the respondents paid directly for only sewage. Most respondents (20) paid two utilities directly, either in a combination of electric and gas (15) or electric and water (5). Some (8) paid three utilities directly—either a combination of electric, gas, and water (7) or electric, sewage, and water (1). Others (17) did not have any of the four utilities included in their rent and paid directly.

From these results, about 26 tenants directly paid electric, gas, or water bills, electric and water bills, or electric, sewage, and water bills. This trend partly satisfies a condition that could engender the issue of split incentives, which may result when inhabitants of residential property do not bear all associated energy costs—especially those that pertain to heating and cooling. The results have implications for tenants’ motivation to consume less energy and pursue energy efficiency in the home, either in terms of appliance installation or behavior that lead to such outcomes. The results also have implications for landlords’ low motivation to invest in energy efficiency measures (resulting in under-insulation or availability of less efficient appliances), especially if such investment may not be successfully recouped from rent over time. The potential for split incentives is worth considering in the development or enhancement of energy efficiency programs and incentives offered.

Drivers

The results generally reveal cost savings as a primary and recurrent driver for the active pursuit of energy efficiency in rented single and multi-family homes and participation in associated programs. Among the few respondents, about 20%, that made energy efficiency improvements in their homes, cost savings was an essential factor for such tenants³. Similarly, a majority of the respondents (about 87%) believed that others would take advantage of Ameren's Illinois energy efficiency programs, and cost savings emerged as one of the main reasons for tenants' potential participation in efficiency programs⁴.

Additionally, the ease with which energy efficiency improvements may be made in terms of installation, behavior, and/or immediate changes perceived upon installation are plausible factors that encourage energy efficiency improvement in homes. Lighting improvements and insulation measures, for instance, were the two most common



improvements that tenants made in their homes, and together accounted for about 63% of all reported improvements. Showerhead installations were reasonably common but less so by comparison, accounting for about 16% of tenants' improvements. Installation of low energy

³ See a full summary of responses to question 3a (Tenants Survey)

⁴ See a full summary of responses to question 8 (Tenants Survey)

appliances was one of the least commonly reported among this group, accounting for about 10.5%, and only surpassing energy-efficient aerators (9.2%)⁵.

Figure 3. Reasons for tenants' pursuance of energy efficiency

Similarly, landlords often installed improved light bulbs and made insulation-related improvements (sealed doors and windows or installed new ones) compared with other energy-efficient measures; these measures combined accounted for about 45% of all reported improvements. Showerhead installations and SMART thermostats were also relatively commonly reported as landlords (about 21% and 13%, respectively)⁶. Of the 36 respondents that indicated what improvements landlords made in their homes, about 20 or (56%) of the group acknowledged lower energy bills as a result of such enhancements. In comparison, about 11 respondents or 31% believed their energy bills were not positively affected by the improvements. Cost savings was the largest motivating factor for energy efficiency improvements. Energy efficiency savings and incentive programs must make a stronger effort to better articulate how the availability of energy efficiency savings programs and the availability of utility incentive programs result in cost savings. Respondents report making changes in lighting and insulation for energy efficiency. The changes being made on an individual level are intended to support individuals through the energy efficiency savings programs. The disparity between these percentages, implies that there is a disconnect between individuals seeing the program and supplemental to their motivation for cost savings not separate.

⁵ See a full summary of responses to question 3b (Tenants Survey)

⁶ See a full summary of the response to question 4a (Tenants Survey)

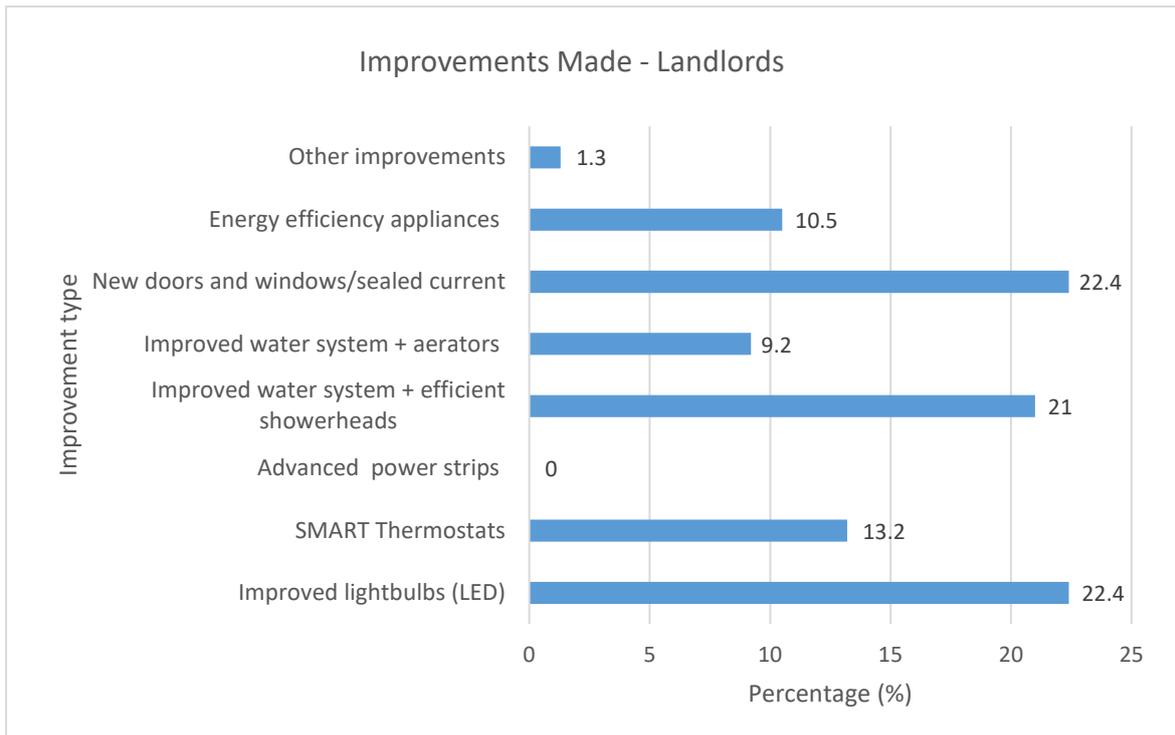


Figure 4. Energy efficiency improvements made by landlords

The plausible link between the ease of improvement and cost savings, relative to energy efficiency adoption, is further strengthened by tenants' perceptions of what constitutes positive energy efficiency behaviors in terms of installations or maintenance and upgrades. LED lightbulb installation and turning lights off when, not in use (improvement and maintenance) were the most prominent positive behaviors that respondents indicated. This is followed by SMART thermostat installations and thermostat regulation (maintenance). Energy-efficient shower heads were the third most indicated behaviors, while aerators installations were the least indicated in the installation sub-category. Cleaning and replacing filters and window caulking were the third and fourth most indicated behavior related to upgrades and maintenance. These are followed by shorter showers, laundry during off-peak hours, and light-blocking curtains respectively⁷. See figures 5 and 6.

⁷ See a full summary of responses to question 5 (Tenants Survey)

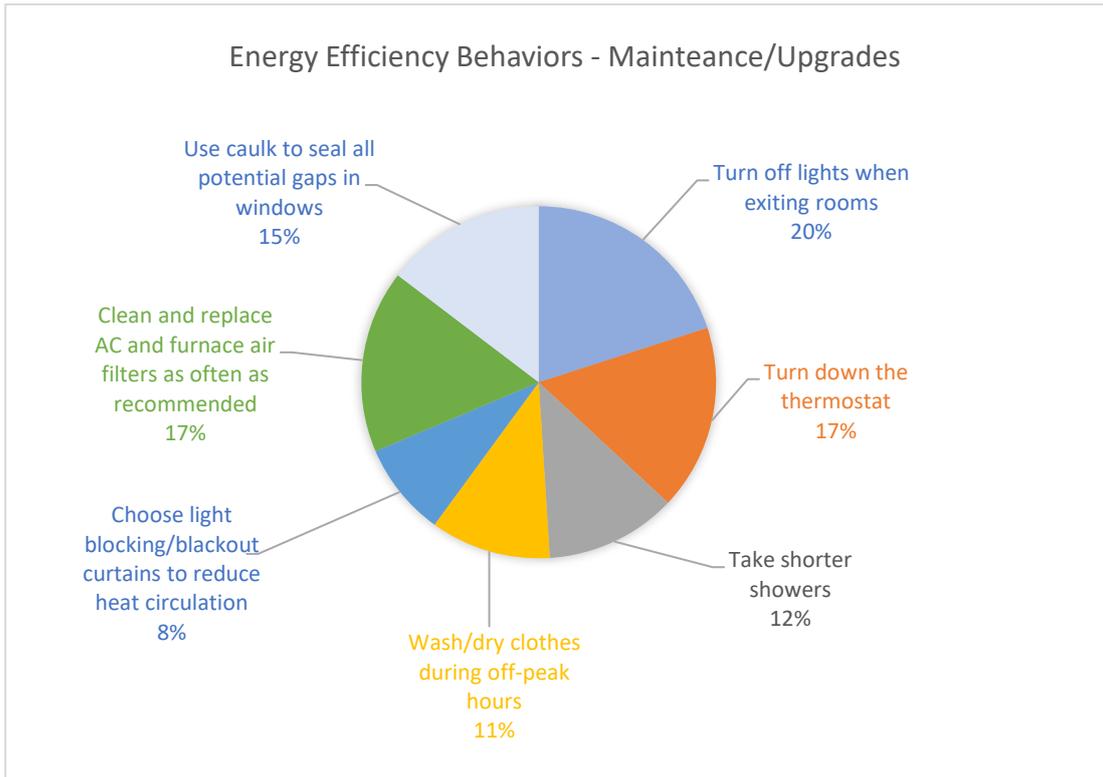
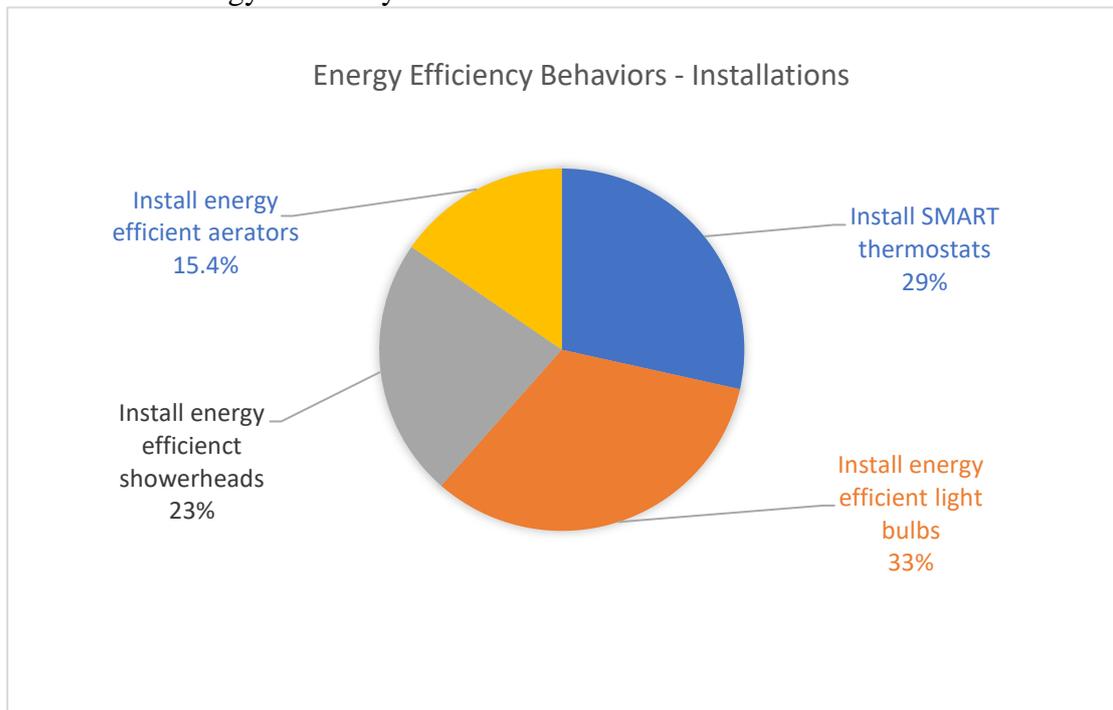


Figure 5. Positive energy efficiency behaviors for tenants - maintenance/upgrades

Figure 6. Positive energy efficiency behaviors for tenants – installations



These results mostly emphasize the role of cost savings as an essential driver for energy efficiency adoption and implications for strategies that may be employed to help tenants pursue

and enhance energy efficiency. Potential strategies include well-designed attractive cost-saving mechanisms and incentivized programs that encourage consistent participation and effectively influence adoption behaviors. Such a strategy could be especially beneficial to high energy usage for low-income customers that tend to be more burdened with energy bills. Bill payment assistance programs or discounts may, for example, be leveraged to reduce the energy bill burden for low-income tenants and concurrently encourage them to pursue energy efficiency improvements and participate in relevant programs continuously; linking certain services such as free audits or weatherization services with continuous bill discounts after an initial period of participation is a possible way to achieve such goals. The results also partly indicate that customer outcomes concerning energy efficiency improvements need to be tracked to determine if they are positive, and to detect factors potentially responsible for non-positive consequences experienced despite improvement efforts made. To be more successful with the previously discussed energy efficiency strategies, proper attention should be given first or simultaneously to issues of tenants' non-pursuance of energy efficiency in homes.

Barriers

Many tenants, about 70%, did not pursue energy efficiency improvements in their rented homes. Barriers indicated by 44% of this group include lack of funds (about 30%), sense of non-ownership of property (20%), lack of time (20%), age and "good" condition of the property (20%), and to a lesser extent, lack of knowledge concerning energy efficiency improvement in the home (5%). Furthermore, about 35% of the respondents had never seen or heard advertising for Ameren Illinois energy efficiency programs, and as a consequence, had never participated in such programs. About 65% claimed to have seen/listened to some advertising—mostly through flyers/brochures and community events/meetings (about 24.5% and 22.6% respectively) and rarely on radio and billboards (about 3.9% and 1.9% respectively)⁸. Nevertheless, some in this group subsequently indicated that they had never participated in the Ameren programs. A prominent reason for non-participation could be translated to tenants' lack of motivation to do so, as indicated by a majority of respondents (7) that indicated non-participation, this is followed by lack of time (4), having never heard of the program (3), lack of property ownership (2), and being on a different program (1).⁹ A few of these responses appear linked to some respondents' perception that other tenants will not

⁸ See the full summary on responses to question 6; including elements that comprise the "other" category

⁹ See the full summary on responses to question 7 (Tenants Survey)

participate in Ameren Illinois program offerings due to apathy or lack of awareness¹⁰. Interestingly, so also does the very low indicating that availability of utility incentive programs and/or energy efficiency savings programs were reasons for energy efficiency improvements made by tenants (compared with the cost factor discussed earlier).

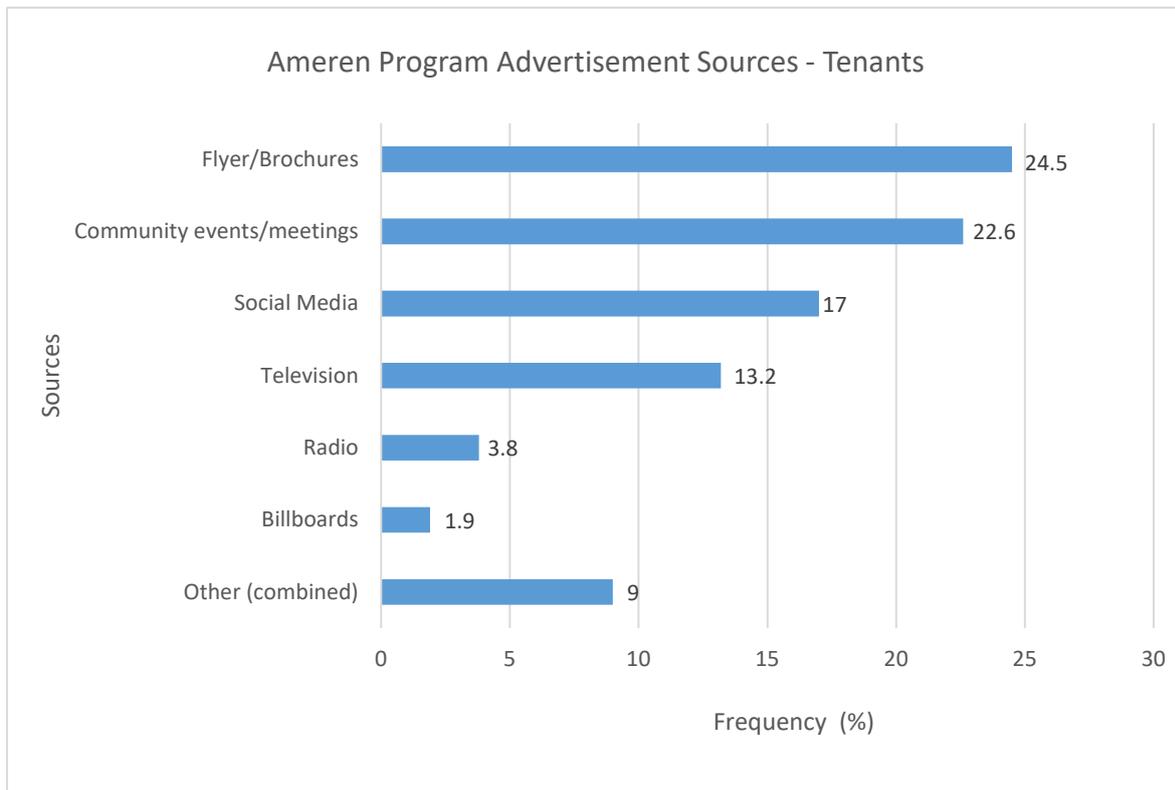


Figure 7. Sources of advertisement heard or seen by tenants

Opportunities Revealed

The trends previously discussed underline the need for aggressive audience-specific energy efficiency awareness programs including the definition of tenants' roles in *pursuing and maintaining* energy efficiency in the home—regardless of ownership status and age of the property—ease of participation, and delineated benefits that participants may derive from such programs, including cost savings. Other results in this research also point to the potential utility of such strategies. Most (45 respondents or 80%), for example, indicated that *public awareness events* could be effective in helping tenants increase energy efficiency in their homes; many among this group (36 respondents) believed that knowledge of energy efficiency would drive participation, which in turn could lead to cost savings. Some (about 13% of the 45 respondents) believe that the potential for cost savings would be the primary driver for public awareness

¹⁰. See a full summary of responses to question 8 (Tenants Survey)

events. Similarly, many respondents (57 of 61 that responded, or about 93%) believed that *energy efficiency programs* could be an effective means of helping tenants increase energy efficiency in their homes. Among the respondents, 43 or about 75% expanded on reasons for their belief; most, 25 or about 58%, indicated that the effectiveness of such programs would be mainly due to the cost-saving benefits. Some respondents (18 or about 42%) *implied* that such applications would generally create/increase awareness, with only a few explicitly mentioning energy efficiency or conservation (2), environmental protection(1), or healthier living (1). By extension, many of these factors potentially apply to the respondents themselves, with respect to their potential attraction to and participation in such awareness events and energy efficiency programs, especially those with sustained and significant cost-saving benefits¹¹.

Regarding the effect that energy efficiency programs may have on tenants, improved health and safety in the home accounted for over half of the responses or 50.5% of the impact that respondents thought energy efficiency programs might have on tenants. Improved health and safety in the home was indicated 45 times in combination with other factors but only twice as a sole effect. Cost savings accounted for 29 responses or 31.2% of the effects that respondents thought energy efficiency programs might have on tenants—recurring 14 times as a sole effect and 15 times combined with the other two factors. Pollutant reduction was the least effect indicated; they accounted for 17 responses or 18.3% of the effects that respondents thought energy efficiency programs might have on tenants. Pollutant reduction was suggested as a sole effect only twice, and 15 times in combination with the other two factors¹². These results have several implications: first, they generally imply what tenant customers potentially care about or outcomes they would like to experience from energy efficiency programs. Second, they reveal factors that may be employed in the strategic development of public awareness (and marketing efforts) targeted at tenants in the Springfield area to increase active participation in programs as well as the adoption and sustained pursuit of energy efficiency. Third, the relatively low indication of pollutant reduction plausibly implies that tenants are not aware or do not fully understand its relationship with energy efficiency. In addition to the benefits of improving health and safety in the home and cost savings, the benefits associated with pollution reduction should also be emphasized in energy efficiency awareness programs.

¹¹. See a full summary of responses to question 9 (Tenants Survey)

¹² See a full summary of responses to question 12 (Tenants Survey)

Table 1: Summary of perceived energy efficiency effects on tenants

Effect	Sole	Combined	Total	%
Improving health and safety in the home	2	45	47	50.5
Cost savings	14	15	29	31.2
Reducing pollutants	2	15	17	18.3
			93	100

Respondents thought lower equipment replacement costs would be the most prominent effect that energy efficiency might have on landlords—with the factor accounting for 35.6% of responses. Cost savings was the next most important factor, accounting for 32.6%, followed by increased tenant retention rate at 31.8%¹³. How these results may be leveraged to address potential split incentive issues should be further explored.

Results concerning tenants' thoughts on how Ameren Illinois could help tenants improve energy efficiency interestingly consisted of a mix of suggestions on tenant behavior and installation measures. Tenants suggested limiting washing/laundry during off-peak hours, limited use of water, insulation, lower heat consumption, unplugging appliances when not in use, and emphasis on light, especially as related to turning them off when not needed. Other tenants suggested installation measures such as furnace replacement, thermostat installation, refrigerator installation, low flow toilet, and even solar panels. These responses demonstrate that some tenants have a fair idea of measures to adopt to increase energy efficiency in their homes and that a combination of expert guidance and recurrent reminders, as well as incentives, can help to translate better knowledge to effective action is needed. The results also provide insight into products that could be valuable incentives and services to help tenants increase energy efficiency in their homes. Over half of the respondents did not have any recommendations to offer about what assistance they needed to improve energy efficiency in their homes—in few instances because the "landlord did everything" or their homes were in "good" or "tip-top" condition.

Similarly, less than half of the respondents gave at least one recommendation about how landlords could help improve energy efficiency in tenants' homes, and often times; recommendations pertained to maintenance and installation such as remodeling, replacement

¹³ See a full summary of responses to question 13 (Tenants Survey)

of appliances and thermostats, efficient plumbing, clean filters, window/door replacement or sealing, and electrical outlet replacement. Nevertheless, over half of the respondents did not have any recommendations. These results partially imply that respondents believe that major changes pertaining to energy efficiency improvement in homes are not within tenants' purview. Significant results also imply that many tenants generally have inadequate knowledge about the roles they could play. This latter interpretation further supports a similar barrier earlier identified in this research; it emphasizes the need to address and incorporate potential tenant roles in awareness efforts, as well as effectively incentivizing participation in programs towards achieving and maintaining energy efficiency, in addition to relevant actions taken by landlords.

Description – Landlords

A total of 31 landlords participated in this research and owned 8 types of properties, including an unspecified property type. Almost half or about 49% of the respondents owned single-family houses¹⁴, and 22% owned duplexes. Apartments made up 20% of the properties and were the third most common types of properties that landlords owned. Townhouses made up about 7%, and other property types (1 condominium, 1 multiunit, and 1 unspecified another property type) accounted for 2%. See figure 8.

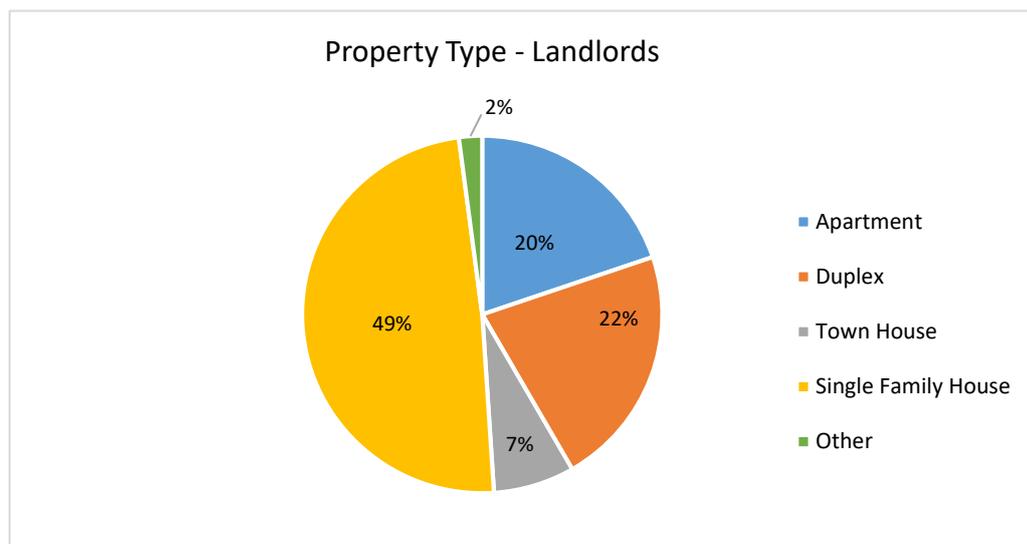


Figure 8. Type of property inhabited by landlords

Most, 19 or 61% of the landlords, did not include any utilities in the rent they collected from tenants. About 31% or 12 of these respondents charged at least one utility with their rent, typically electric, gas, sewage, and/or water. Water was the most commonly charged utility (23%), as indicated by 10 of the respondents. Electric was the next most common (13.6%) as indicated by 6 respondents, followed by gas (11.4%) and sewage (9%) as indicated by 4 and 5 people, respectively. In many cases, utilities were not charged, and this "none" category accounted for 43% of all the responses concerning types of utilities that landlords included in rent¹⁵. See figure 9.

¹⁴ Single-family houses were created from the "other" category due to high occurrence in results.

¹⁵ See full summary on responses to question 2 (Landlords Survey)

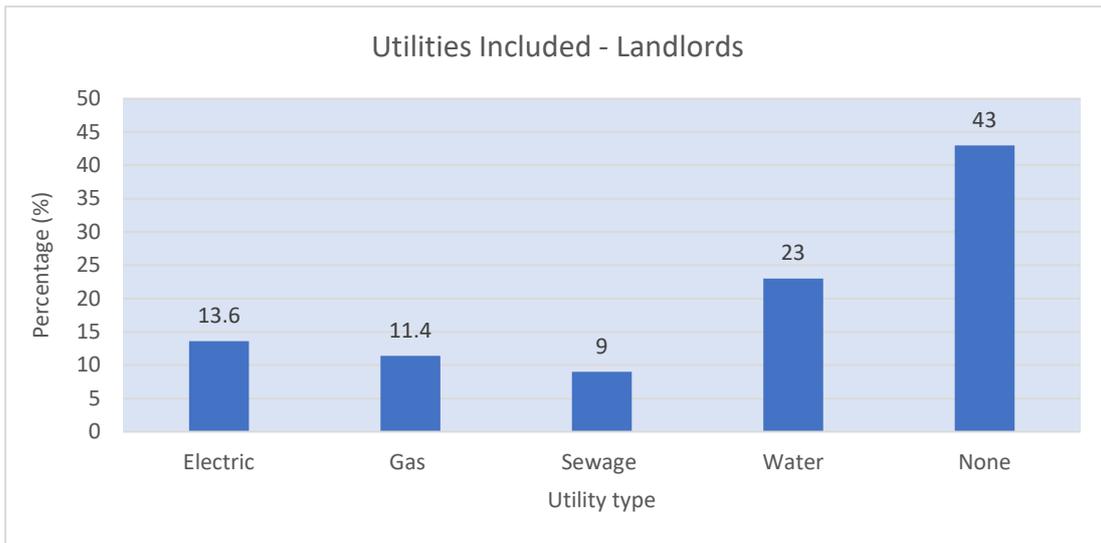


Figure 9. Utilities landlords charge with tenants' rent

Utilities collected per landlord ranged from one to four. Of the 12 landlords that charged utility with rent, 3 included all four utilities, that is electric, gas, sewage, and water. Another 3 of the landlords respectively included a combination 3 utilities—electric, gas, and water; sewage, water, and gas; or 2 utilities—electric and gas; 4 landlords included sewage and water in the rent charged, and only 2 landlords included one utility, water, in rent charges.

Concerning property ownership, about 65% or 20¹⁶ of the 31 landlords owned at least one single-family home, and 35% or 11 owned other property types excluding single-family homes. See Figure 10.

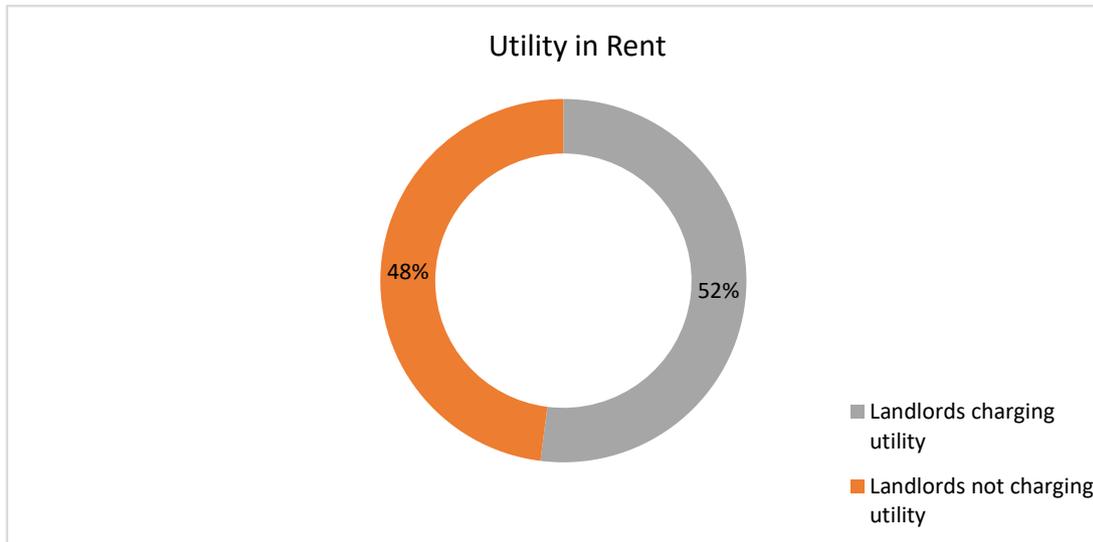
Figure 10. Property ownership among landlords



¹⁶ This figure represents all landlords that own at least one single-family property, whether by itself or in combination with other property types.

The results further indicate that many of the 31 landlords (16¹⁷ or 52%) were generally less likely to include utility in rent charges, and those that owned *only* single-family houses formed the majority of such landlords—about 15¹⁸ or 94%. By comparison, about 15 or 48% of all the landlords included utility in rent charges. See Figure 11.

Figure 11. Landlords' inclusion of utility in rent charged



About 87% or 13 in the sub-group of landlords that charged utility included those owning single-family houses *and* other types of properties. However, landlords that owned *only* other types of properties¹⁹—about 85% or 11—made up the majority. This trend implies that landlords who owned other property types are potentially more likely to include at least one utility in the rent they collected compared with those that owned only single-family houses.

These results have implications for the issue of split incentives and efforts that landlords may make to improve energy efficiency in their rental properties. Since most did not charge utility with rent, there is possibly less tendency for significant energy efficiency improvements in such properties. This line of suggestion is strengthened considering that while over half or 7 of the 15 the previously mentioned landlords who owned single-family homes made improvements in their properties; most or 4 of the 7 implied that the improvements they made were *needed*—with statements such as "replacement [of furnace and AC was] needed," "it [new furnace and windows] were needed." One interpretation of such statements is that this subset of landlords more likely replaced failed appliances to ensure the continued functionality of

¹⁷ This figure includes landlords that own single-family houses in addition to other property types (1) but do not include utility in rent charges.

¹⁸ This figure does not include landlords that own single-houses *and* other properties (1) *and* collect no utility with rent.

¹⁹ That is duplexes, apartments, townhouses, and "other," and excluding single-family houses.

their rental properties. The incentive for 2 of the remaining 3 landlords was the availability of energy efficiency savings programs. Only 1 landlord made an improvement (changed baseboard heat to forced air heating and cooling) and reported cost savings as an incentive—savings potentially for tenants since they paid utility directly, or potentially for the landlord on the long-term for investing more energy efficient heating and cooling systems.

Regardless of property type and inclusion of utility in rent, a total of 21 or about 68% of the 31 landlords indicated that they had made improvements in their properties, however only 16 or about 52% specifically reported the kind of improvements *and* reasons for their action²⁰. Further, when energy efficiency improvements²¹ made were considered along with two other factors—utility charged with rent and what landlords considered positive energy efficiency behavior—only those 16 provided valid responses²². Among the 16 landlords, 6 charged utility with rent and 10 did not; 5 of the 6 landlords that charged utility with rent made energy efficiency improvements that corresponded fully or in part with the utility and what they considered positive energy efficiency behavior. In one other instance, property improvements made (efficient light bulb installation) did not match utility charged (water) but the improvements pertained to at least one of positive behavior the landlord indicated. Most times, the property types that these 6 landlords owned were multi-family and only in two instances were single-family mentioned in combination with other property types. Among the 10 landlords that did not charge utility with rent, 7 had only single-family properties, while the remaining 3 had apartments, townhouses, or a combination of duplexes and single-family properties. The improvements made, reasons provided, and positive energy efficiency behavior that most of the landlords indicated appeared to follow a logical pattern, even for the 5 respondents²³ that mentioned that the improvements were needed. See Tables 2a and 2b.

²⁰ Other 5 of 21 landlords provided either information, not both. See full summary of responses to question 3.

²¹ See full summary of responses to question 3a

²² Excluding landlords that provided reasons but no information on improvements made (3); including one landlord that provided both information but no response on positive energy efficiency behaviors.

²³ Four single-family property owners and 1 townhouse owner

Table 2a. Link between property owned, improvements, rationales, and positive energy efficiency behaviors - landlords charging utility

Landlord	Property type	Utility	EE Improvements made	Reasons	Positive EE Behavior Indicated	Improvement Group
1	Apartment, duplexes, houses	All	Insulation, water saving tools, showers, LED	Cost savings	6; 3 linked & AC/Furnace maintenance, EE appliance installation	Installation; upgrade and maintenance
2	Apartment	Electric, Gas, Water	Insulation	Cost savings	3; 1 related to insulation & 1 to thermostat	Upgrade and maintenance
3	Apartment, town house, other: houses	Sewage, Water	Water sense toilets	Cost savings & utility incentive program available	6; 3 linked -EE showerheads/aerators; other: water efficient toilets	Upgrade and maintenance
4	Apartment, duplex, other: condo	Electric, Sewage, Water	Replaced portable heaters with direct-wired baseboard heaters with thermostat	Cost savings	9; 3 linked to insulation, 1 to AC/Furnace maintenance, 1 thermostat, EE showerhead/aerator/fans	Installation
5	Duplex	Gas, Sewage, Water	New windows, exterior doors, insulated attic	Cost savings	11; including improvements made	Upgrade and maintenance
6	Duplex, other: unspecified	Water	Light bulbs	Cost savings	5; 1 linked to light bulbs, 1 to EE showerheads	Installation

Table 2b. Link between property owned, improvements, rationales, and positive energy efficiency behaviors - landlords not charging utility

Landlord	Property type	Utility	EE Improvements made	Reasons	Positive EE Behavior Indicated	Improvement Group
1	Single-family	None	Changed baseboard heat to forced air heat and AC	Cost savings	4; 2 linked to insulation, 1 to AC/furnace maintenance	Installation

2	Houses	None	Replaced windows	Energy efficiency savings program available	7; 4 linked to insulation, 1 to thermostat, AC/Furnace maintenance	Upgrade and maintenance
3	Single-family	None	Insulation	Energy efficiency savings program available	3; All linked to insulation	Upgrade and maintenance
4	[Single-family]	None	Other: Water heater and insulation	Other: water heater [needed]	8; 4 linked to insulation, 1 linked to EE appliance installation	Installation; upgrade and maintenance
5	Single-family	None	Other: New furnace and windows	Other: it was needed	6; 2 linked to insulation/furnace maintenance, 1 thermostat	Installation; upgrade and maintenance
6	House	None	Other: Replaced furnace and AC	Other: replacement needed	5; 4 linked to insulation, AC/furnace maintenance	Installation
7	Single-family	None	Other: Furnace replacement	Other: furnace replacement needed	3; 1 linked to furnace maintenance	Installation
8	Apartment	None	New water heaters and shower heads	Cost savings	5; 1 each linked to EE showerheads/appliances	Installation
9	Duplexes, Single-family	None	New 97% efficient gas furnaces	Cost savings	2; 1 linked to AC/Furnace maintenance	Installation
10	Town house	None	Other: Insulation	Other: Insulation [needed]	No response	Upgrade and maintenance

The results discussed in this section suggest that landlords of multi-family properties may be more inclined to include utility in rent charges than landlords of single-family properties. The energy efficiency improvements that landlords of such multi-family properties made appeared, often than not, linked with the utility they charged with rent, their rationale for making such improvements, and what they considered positive energy efficiency behavior. Owners of single-family properties appeared less inclined to include utility in rent charges. While a substantial number made energy efficiency improvements in their properties, a need to maintain serviceable rental properties or access to incentives appeared to inform such actions rather than a desire to meet energy efficiency goals. Landlords that did not charge utility with rent generally made improvements that were in line with their reasons for taking such actions and their opinion of what constituted positive energy efficiency behavior. Nevertheless, the matter of split incentives is a potential challenge that is worth further consideration for such landlords. The literature²⁴ suggests that compared with landlords that charge utility with rent, landlords that do not charge utility with rent tend to be less inclined to make energy efficiency investments in their rented properties due to a disconnect between such investment and perceived benefits.

Drivers

Cost savings emerged as the main driver for energy efficiency improvements that landlords made in their properties. Compared with other factors, cost savings accounted for 55% of the reasons provided for improvements, while the availability of energy efficiency savings programs and availability of utility incentive programs each accounted for 10%, respectively. The presence of the last two previously mentioned drivers, however limited, may be considered to mean that landlords could pursue energy efficiency improvements if they had knowledge of relevant savings and incentive programs. Other five improvements were specified or implied as "needed" and collectively accounted for about 25% of the reasons landlords gave.

²⁴ See Astmarsson, et al. 2013; Charlier, 2014; and Melvin, 2018, for instance. While the issue of split incentives is discussed in this section, it should also be considered as a barrier that needs to be addressed.

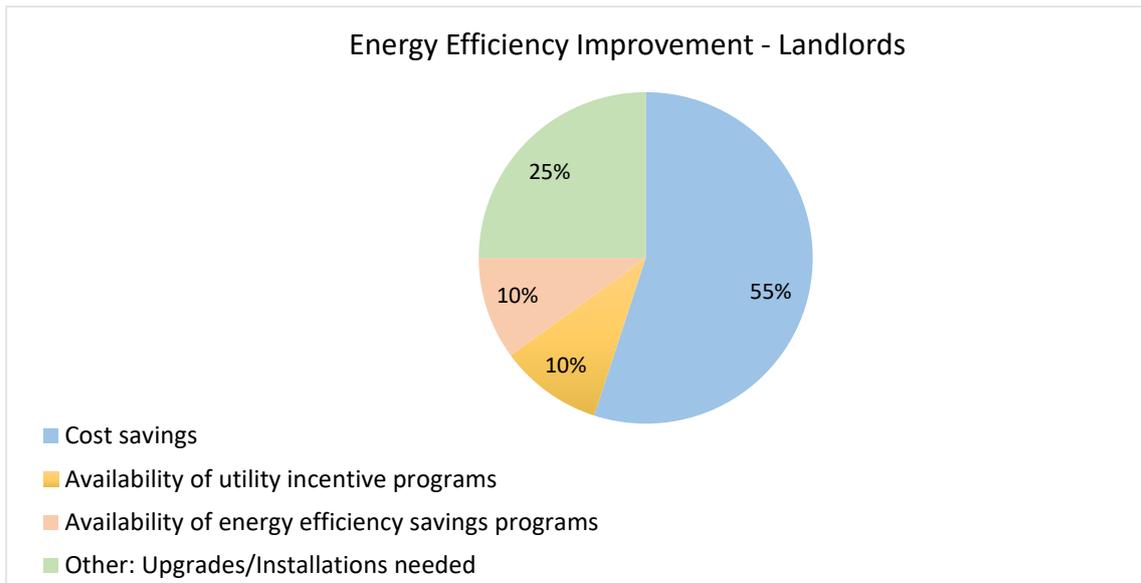


Figure 10. Reasons for landlords' pursuit of energy efficiency

The importance of cost savings is further emphasized as respondents shared why they thought other landlords would take advantage of the Ameren Illinois energy efficiency programs²⁵, why energy efficiency programs could be an effective means of helping landlords increase energy efficiency in their rental properties²⁶, and what effect they thought the programs might have on landlords²⁷. About 84% of the landlords thought other landlords would take advantage of the Ameren programs, and of the 19 that provided reasons for their response, most (10 or about 53%) stated that the potential benefit of cost savings would make such programs attractive. About 21% (or 4 respondents) felt that having knowledge of the programs will likely lead to participation, another 21% opined that participation would be informed by landlords' desire to improve or make their properties more attractive [to renters]. One respondent thought that other landlords would participate "for the good of everyone."

In a similar vein, 29 of the 31 landlords (or about 94%) thought energy efficiency programs could be an effective means of helping landlords, and cost savings for landlords and/or tenants was the most stated reason for such belief, accounting for 59% of the responses from 17 landlords that provided reasons. Awareness was the next most indicated response, accounting for 18% of the responses. Other (less common) reasons that the landlords provided centered on tenants—for example, when they implied that [energy efficiency could be an effective means] to increase tenants' comfort, or that such programs could be effective if it lessened tenants' worry about utilities [so that] they could pay rent.

²⁵ See the full summary on responses to question 7 (Landlords Survey)

²⁶ See the full summary on responses to question 9 (Landlords Survey)

²⁷ See the full summary on responses to question 11 (Landlords Survey)

The most recurring factor concerning the effect that energy efficiency might have on landlords was cost savings, accounting for 36% of the responses. Many of the landlords (22%) felt that energy efficiency programs could lead to increased tenant retention rates, some (19.8%) indicated that improved health and safety in tenants' homes as potential outcomes. In comparison, others (13.6%) mentioned lower equipment replacement costs and pollutant reduction (8.6%) as likely effects of such programs on landlords. These results collectively imply that cost savings could be an important incentive to make the pursuit of energy efficiency more attractive to landlords, paying attention to those that own single-family properties, since they appeared less inclined to make essential investments than landlords owned other types of properties. The results also indicate the need to enhance energy savings and utility incentive programs to increase landlords' participation.

Concerning positive energy efficiency behaviors, frequent cleaning of AC and air filters was the most indicated by landlords (29%), and installation of heat resistant radiator reflectors between radiators and exterior walls were the least indicated (9%). Some positive energy efficiency behaviors that landlords generally indicated are somewhat comparable to tenants' accounts of what improvements landlords made in their rented residence. For the most part, sealing window and door gaps (22%), installation of improved (LED) lightbulbs (21%), installation of energy-efficient showerheads, and thermostats (16% respectively) were among the top 6 behaviors indicated. Similarly, installing low energy appliances and improved water systems with aerators were comparable as some of the least indicated positive behaviors among landlords and tenants' reports of improvements landlords made. See Figures 11 and 12.

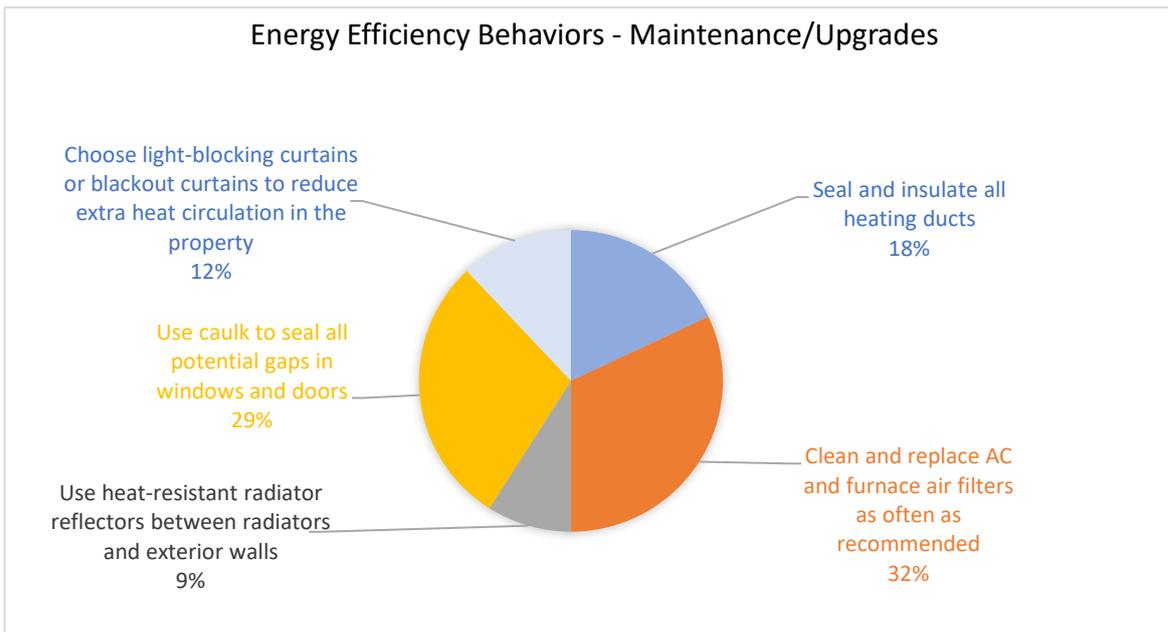


Figure 11. Positive energy efficiency behaviors for landlords – maintenance and upgrades

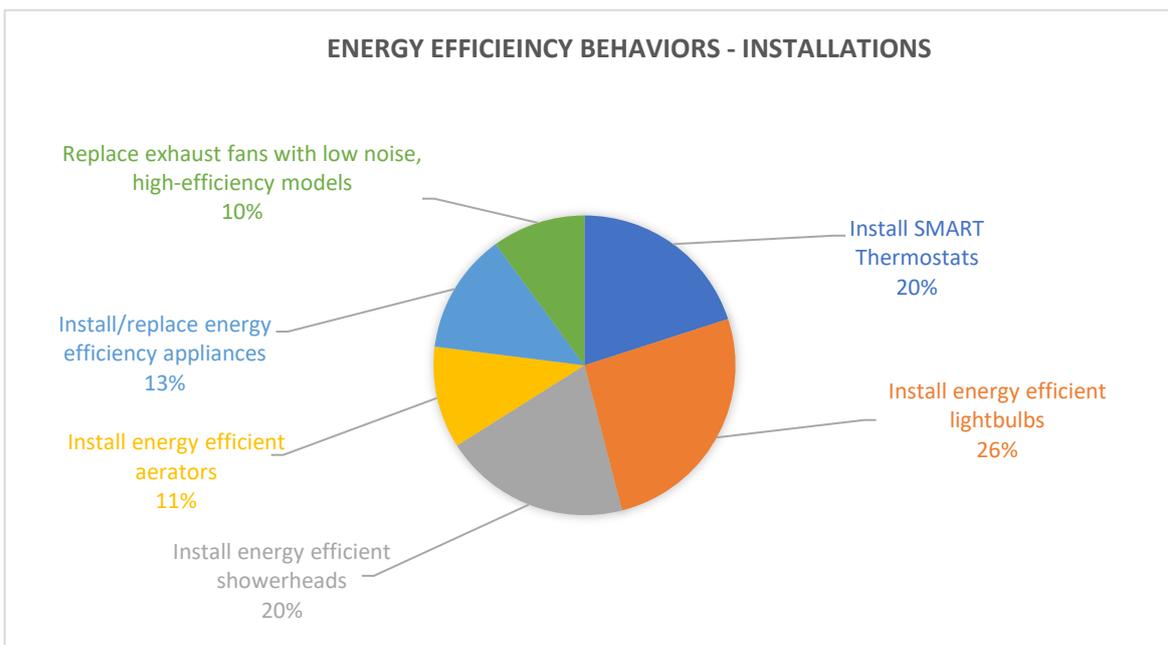


Figure 12. Positive energy efficiency behaviors for landlords – installations

Although not mentioned by any landlord as a reason, the ease of improvements—in addition to cost savings, the relevance of improvement made to utility charged with rent, and assurance of property functionality (often among those not charging utility with rent) for the pursuit of energy efficiency options—have a plausible link to the positive energy efficiency behaviors that landlords indicated and is worth considering when planning energy efficiency programs.

Barriers

About 23% (or 7) of the landlords did not make energy efficiency improvements in their rented properties; 3 of these landlords implied that energy efficiency improvements were not necessary, stating that their property "appeared okay" or "does [sic] not need improvement". One landlord implied that there were other pressing needs, stating that they were "too busy fixing things that tenants tore up." Others mentioned that they lacked capital or were "not certain [about] what to do [to make energy efficiency improvements]." When this sub-group of landlords is combined with those that did not provide any response, a total of 32% (potentially) did not make any efficiency-related improvements.

Additionally, about 29% (or 9) of the landlords had never seen or heard advertising for Ameren Illinois energy efficiency programs²⁸. While 71% (22) indicated that they had heard of the programs, only 52% mentioned where they had encountered them. Several reasons may explain why the remaining 19% in this sub-group did not provide more specific details; one possible explanation is that such landlords considered the program advertisements irrelevant to their properties and thus paid less attention to the source(s) and content. Landlords that did not mention where they had encountered Ameren program advertising and those that had neither seen nor heard Ameren program advertising made up about 48% or almost half of respondents in the survey; this high proportion has implications for the success of Ameren Illinois energy efficiency programs.

Among landlords that provided information on where they had seen Ameren's program advertising, community events were the most indicated sources advertisement that landlords had encountered, accounting for about 28.6%. Flyers/brochures were the second most indicated (about 25%), followed by television (21.4%). Radio was the least indicated source (3.6%), and none of the landlords mentioned encountering Ameren program advertisements through social media and billboards. These trends have implications, including the need for aggressive advertisement through all available media, paying attention to potentially far-reaching sources such as radio, social media, and billboards. See Figure 13.

²⁸ See a full summary of responses to question 5 (Landlords Survey)

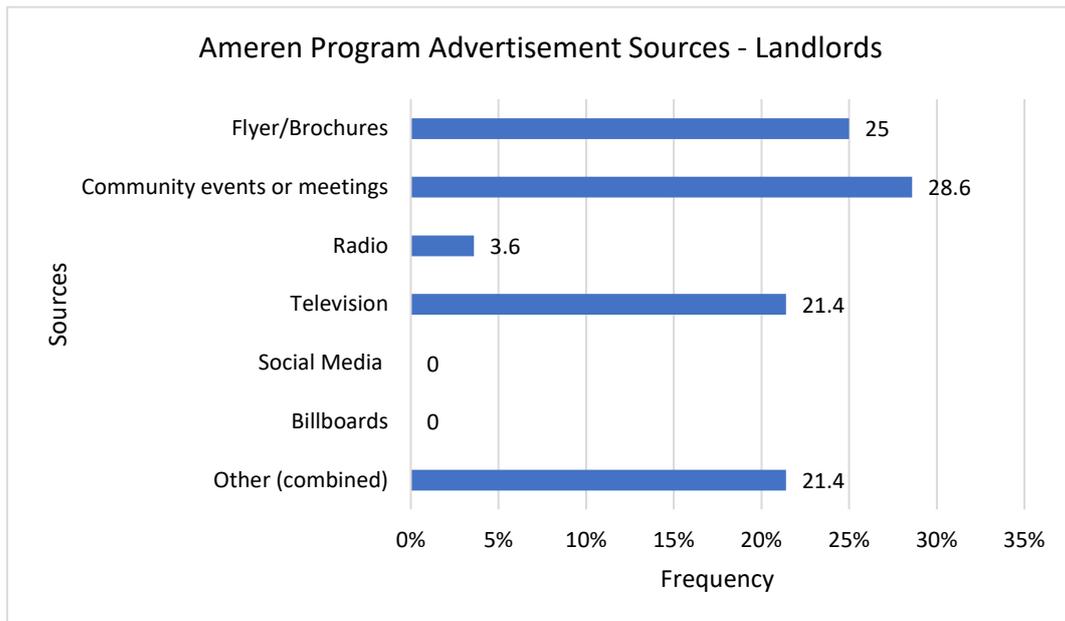


Figure 13. Sources of advertisement heard or seen by landlords

Compared with the 22 or 71% of the landlords that reported they had heard of Ameren programs, only 3 or 10% said that participated in Ameren programs ²⁹. Further explanation revealed such respondents' participation was limited and included the pursuit of thermostat replacement or rebate [offers]. An exception was one landlord's report of Ameren's energy audit services and subsequent financial assistance rendered to implement insulation measures. A total of 19 landlords or 61% reported non-participation in Ameren programs, and 9 or 29% did not provide any response, altogether these two sub-groups make up 90% of the respondents. Few (7 landlords) gave clear reasons for non-participation; some indicated they had never considered participation, others mentioned that they were yet to participate, but it was a good idea or indicated a lack of follow-through. A few other landlords reported that they did not know about the programs, were not eligible, or had no gas on their property. In addition to such reasons, the gap between participation and non-participation in Ameren programs may, again, be partly indicative of landlords' perception of program inapplicability or that potential benefits outweigh efforts involved in participation. Such interpretation has implications for the development of effective advertisement content that appeals to landlord interests and enhances the likelihood of the involvement. The results also support previous lines of suggestion on the need for more aggressive exploration of different means of advertisement and strategic follow-up as relevant.

²⁹ See a full summary of responses to question 6 (Landlords Survey)

Furthermore, only 9 or 29% of the landlords indicated that they advertised energy savings as a marketing tool or incentive to future and current landlords. Over half of the 9 landlords (8 or about 89%) indicated cost savings as the reason they advertised energy savings—6 of them directly indicated cost savings, sometimes specifically in terms of keeping utility bills down or informing/educating tenants on potential savings from low energy use. One landlord in this subgroup indicated that saving energy was not only suitable for the tenant, but it helps the environment.

Nevertheless, a majority, 22 (or about 71%) of all the landlords indicated that they did not advertise energy savings as a marketing tool or incentive to future and current tenants³⁰. While only 12 of the 22 landlords provided reasons, over half (6 respondents) in this sub-group indicated that they had never considered advertising energy savings, and about a quarter of the respondents (3 respondents) revealed that their properties were not energy efficient (enough in two cases) to make such advertisements. Another quarter reported they had little to no knowledge about energy efficiency to reference or track tenants' savings on bills; 2 landlords felt that tenants did not care about such information, and 1 landlord appeared not to trust tenants to keep their property safe [implied: if they made energy efficiency investment and advertised it]. In summary, cost savings seemed to be a significant driver for landlords' advertisement of energy savings to tenants. However, too few landlords made such an effort, and too many landlords did not. For the most part, reasons provided by landlords that did not advertise energy savings as a marketing tool could be interpreted as lack of motivation due to limited access to convincing information on energy efficiency and its potential benefits. While the results reveal a considerable barrier to energy efficiency, they also have implications for the development of effective public awareness strategies, including those that provide evidence-based results on energy savings and tracking in properties and may serve as effective points of reference for landlords as they advertise to current or future tenants. The results also reveal the general need for program strategies that help landlords improve and track energy efficiency on their properties to make benefits derived more discernable and encourage the continued pursuit of related goals.

³⁰ See a full summary of responses to question 12 (Landlords Survey)

Opportunities Revealed

The results reveal opportunities for energy efficiency awareness/promotion and adoption among landlords. For example, most of the landlords, about 94% (or 29), felt that energy efficiency programs would effectively increase energy efficiency in their rental properties. Over half of such landlords, 17 or about 55%, expanded on their response. Cost savings was the most common reason specified—accounting for 59% of reasons provided—whether for landlords, tenants, both groups, or general savings. Awareness was the next most indicated reason, accounting for 18% of the responses. Other reasons centered on helping tenants, with suggestions that [energy efficiency could be an effective means] to increase tenants' comfort, or programs could be effective if they lessened tenants' worry about utilities [so that] they could [focus on and] pay rent. Of the 29 landlords who answered "yes," 10 did not respond, and 2 others were unsure if the programs could be effective.

Concerning energy efficiency awareness, community events/meetings were the most indicated means of Ameren Illinois energy efficiency messaging among landlords, accounting for 21% of the responses³¹. Television and flyers/brochures were the second most indicated, accounting for 19%, respectively. This is closely followed by billboards and radio (15% respectively), and social media (11%). Few other suggestions include mailings [included with bill statements sent] to landlords, texting, luncheons, and student education as a possible means of information dissemination to other people. These results further support an earlier suggestion—based on gaps revealed in landlords' responses about where they had seen or heard Ameren program advertisement—and reveal opportunities for an enhanced and full exploration of different advertisement sources for effective program awareness among landlords.

Furthermore, about 84% (or 26) of the landlords believed that public awareness could help landlords increase energy efficiency in their rental properties. Of the 26 landlords with such belief, 20 provided reasons; among this smaller sub-group, about 55% or 11 felt that public awareness could be effective because landlords' knowledge of energy efficiency [through such events] may lead landlords to pursue it. Landlords expressed such sentiments with comments like "the more the knowledge, the better," "always better with education," "public awareness provides an opportunity for landlords to become aware of programs available," and "CWLP offers workshops and people attend"—implying that landlords will attend awareness events if existent. According to 25% (or 5) of the landlords, public awareness events could help landlords increase energy efficiency due to the potential cost savings

³¹ See a full summary of responses to question 10 (Landlords Survey)

[revealed by such events]. One landlord specifically indicated that the provision of data on energy/cost savings would convince landlords to adopt energy efficiency. A few other landlords, about 10% (or 2) either indicated that public awareness events will be helpful but did not specify how, or that such events may be an excellent way to meet landlords. Another 10% reported that [even though they thought public awareness events could be an effective means of helping landlords increase energy efficiency in their rental properties], they did not know that the programs were available.

The responses indicate a willingness among landlords in this survey to attend public awareness events and imply that landlords, to some extent, understand the value of knowledge that may be gained from such events. The perception that landlords may pursue energy efficiency based on the knowledge they gain from awareness events, including potential benefits, should be leveraged in designing such events and program advertisements through different media. Information pertaining to the "what," "why," and "how" of energy efficiency and associated programs, as well as tangible, transparent, and data-driven cost-benefit examples, should be given attention in the design of awareness events and energy efficiency programs, and advertisement.

Finally, only a few of the respondents had recommendations about how Ameren may help landlords and tenants improve energy efficiency on their properties. The guidance provided by the landlords, albeit few, give valuable insight into other considerations or further reinforce previously discussed opportunities for energy efficiency program enhancement, advertisement, and/or awareness for landlords. Recommendations provided by only 26% (or 8) of the landlords concerned the provision of energy efficiency incentives in tax breaks or cost-saving opportunities. Incentives suggested include the distribution of energy-efficient products and [the offering of] weather stripping services. Furthermore, 3 respondents respectively recommended dissemination of more information on energy efficiency, including data, use of multiple advertisement media (specifically television, flyers, and meetings, and scheduling visits to properties [implied: for audits and subsequent decision making]).

Concerning landlords' recommendations for tenants on improving energy efficiency in rented properties, only 17 provided responses. Many of the recommendations centered on maintenance actions that tenants may take and include keeping thermostats at reasonable temperature; requesting help [with energy efficiency] and being on the lookout for assistance that may lower costs; proper maintenance of rented energy efficient property and reporting damages to ensure repair or replacement; using low watt bulbs or energy-efficient bulbs; turning down or changing thermostats [if needed], turning lights/AC and fans off when not in

use, keeping doors closed, and dressing appropriately for the weather; using light-blocking curtains; changing filters frequently; sharing billing concerns with owner. A few other recommendations appeared directed towards Ameren rather than tenants; they include starting [energy efficiency education/awareness] in elementary school and placing flyers in monthly gas bills. These responses partly imply that landlords do not necessarily expect tenants to make heavy energy efficiency investments, including installing appliances or involving significant changes. The landlord-tenant role in the pursuance of energy efficiency could be further defined, emphasized, or considered in the enhancement of programs, design of public awareness events, or advertisements.

Summary of Findings and Recommendations

Through this research, certain patterns emerged in the participants' responses. Those patterns also revealed opportunities to improve direct education programs and outreach that would result in greater participation in energy efficiency programs and energy savings. The major takeaways and recommendations from this research are summarized below and make special note to programming that connects behavior modifications, cultural competency, and literacy levels that make participation in programs tangible and actualized as a benefit for AIC who would benefit the most from participation

- The role of cost savings as an important driver for energy efficiency adoption
- Perceived costs and lack of funds were the main reasons landlords and tenants do not implement energy efficiency improvements to the homes.
- Cost saving programs should be designed to engage high energy usage low-income customers that tend to be more burdened with energy bills. One example is leveraging participants in bill payment assistance programs by concurrently encouraging and educating them about the benefits of energy efficiency and ways to participate in other energy efficiency programs.
- Cost savings is a priority for landlords and tenants, while tenants also valued the potential health and safety improvements offered by energy efficiency.
- Utilities should develop strategic public awareness using and marketing efforts targeted to the priorities of tenants in the Springfield area to increase participation in energy efficiency programs. Marketing campaigns should utilize local community gatekeepers to target low-income communities.
- Targeted public awareness and education events emphasizing the cost savings associated with energy efficiency would help drive participation. In addition to

positive health and safety impacts, there is an opportunity to increase awareness of the benefits of reducing pollution through energy efficiency and the connection to the health and safety of the tenant and their family.

- To realize long-term energy savings, energy efficiency programs need to incorporate both incentives to remove cost barriers to installing energy efficient equipment / products and education about behavior changes to save energy in the home.
- Developing and marketing education on the tenant's role in saving energy through behavior choices is key to empowering and motivating the tenant to make energy efficient choices in their home.

SPRINGFIELD URBAN LEAGUE INC.



LANDLORD TENANT RESEARCH PROJECT

Debra Hereford
Marcus E. Johnson, MPH

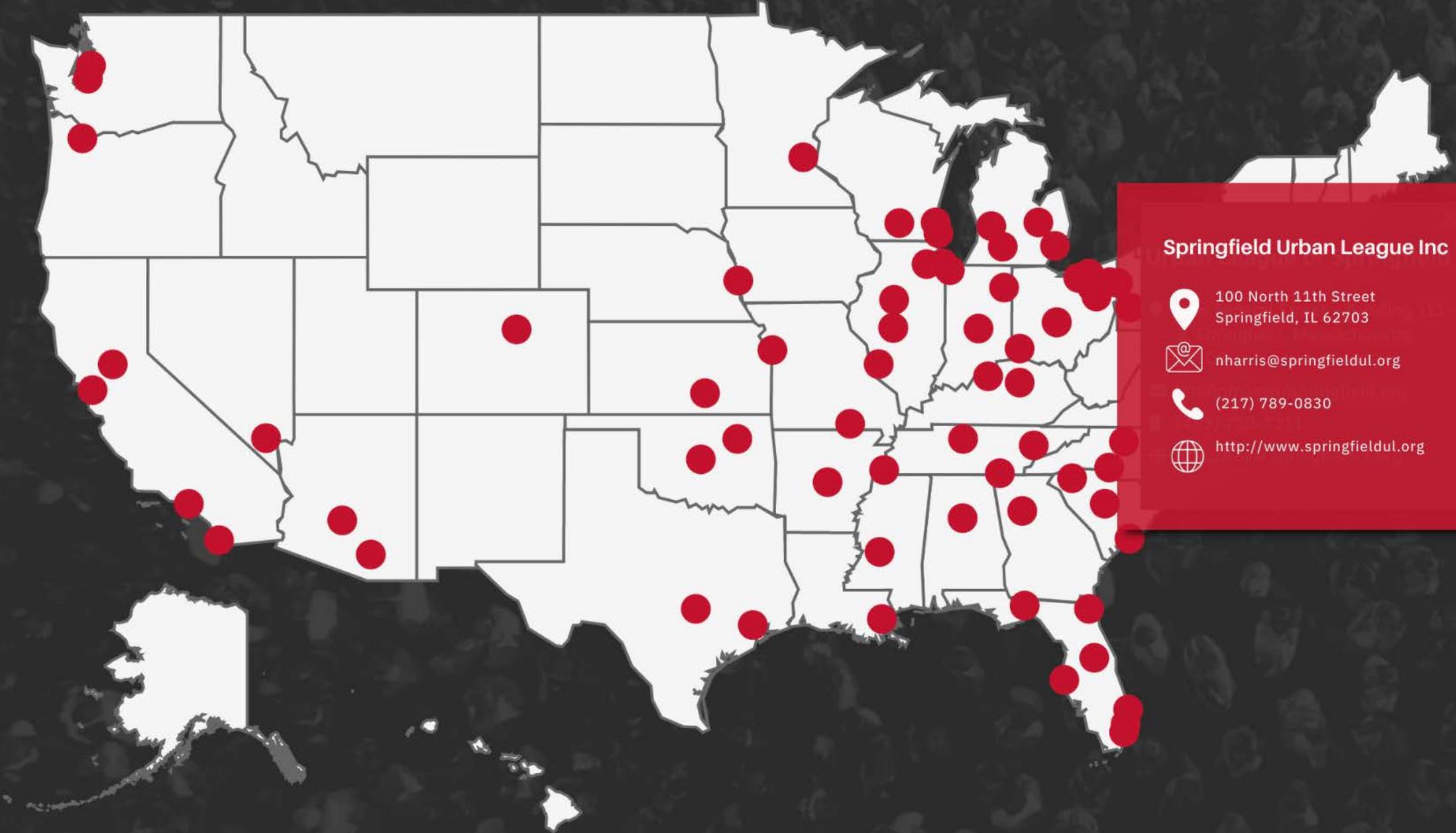




KEY PRESENTATION FEATURES

WHAT WE WILL COVER TODAY

Springfield Urban League Inc
Market Development Initiatives
Overview of Landlord Tenant Research Project
Knowledge
Attitudes
Behaviors
Summary of Findings and Recommendations



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Springfield Urban League

Devoted to empowering those who struggle to enter the economic and social mainstream by imparting a five-point strategy:

1. Education & School Age Youth Empowerment
2. Economic Empowerment and Workforce Development
3. Health & Quality of Life Empowerment
4. Civic Engagement & Leadership Empowerment
5. Civil Rights and Racial Justice Empowerment

MARKET DEVELOPMENT INITIATIVES



Landlord Tenant Research
Project



Energy Efficiency
Empowerment Program



Illinois Energy Efficiency
Jobs Board

LANDLORD TENANT RESEARCH PROJECT

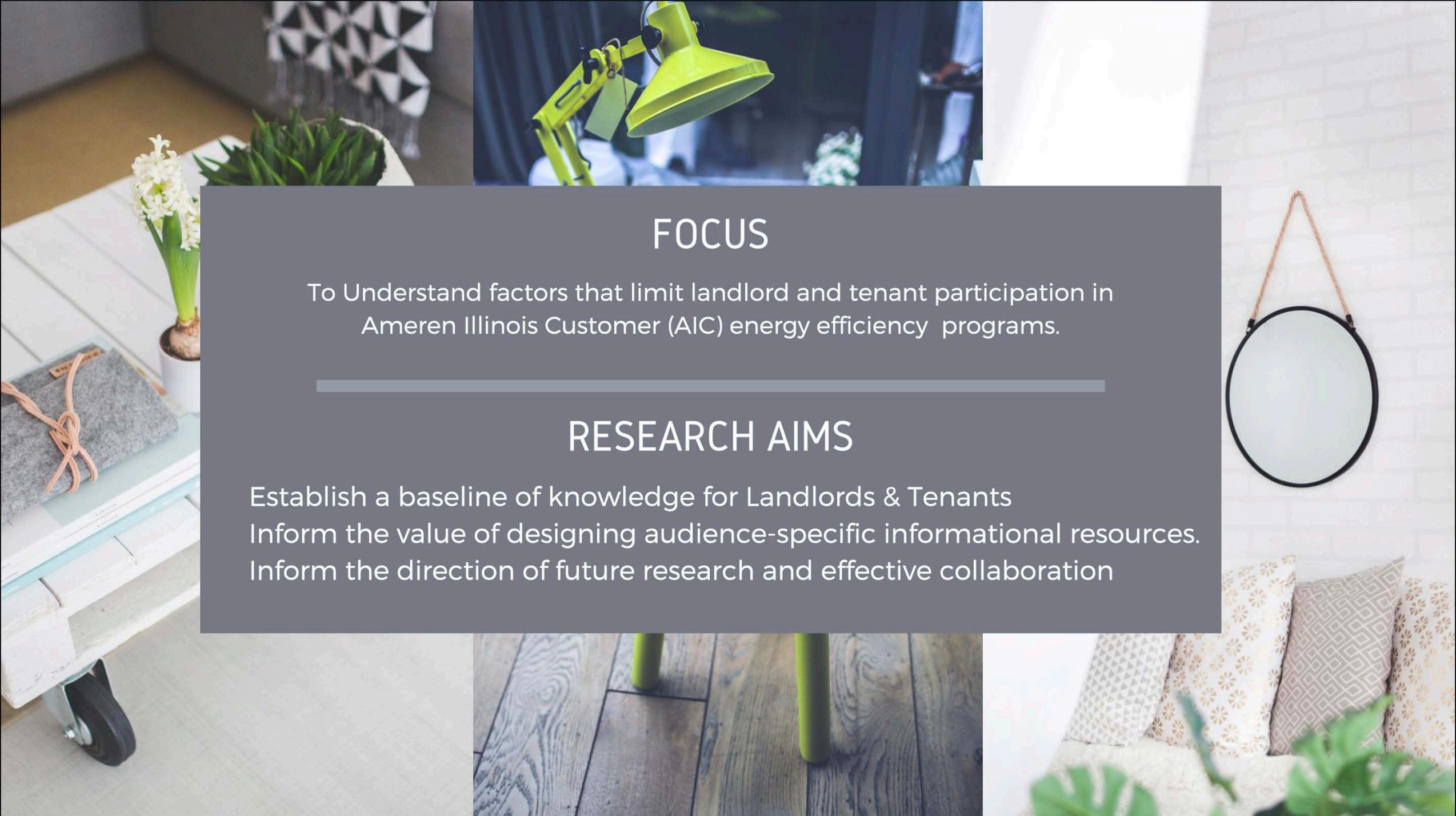
COMMUNITY BASED PARTICIPATORY RESEARCH

Bridging community and a variety of external partners to drive the research.

AMEREN ENERGY EFFICIENCY INVESTMENT

Utilizing previous studies and programming as a foundation for the research study





FOCUS

To Understand factors that limit landlord and tenant participation in Ameren Illinois Customer (AIC) energy efficiency programs.

RESEARCH AIMS

Establish a baseline of knowledge for Landlords & Tenants
Inform the value of designing audience-specific informational resources.
Inform the direction of future research and effective collaboration

RESEARCH TIMELINE



RESEARCH
DESIGN &
TRAINING

LANDLORD
RECRUITMENT

TENANT
RECRUITMENT

DATA
COLLECTION

DATA
ANALYSIS

DATA
SHARING

KNOWLEDGE

94%

LANDLORDS REPORTED
MAKING IMPROVEMENTS
IN THEIR PROPERTIES

71%

LANDLORDS HAD
KNOWLEDGE OF
AMEREN ILLINOIS
ENERGY EFFICIENCY
PROGRAMS

65%

TENANTS WERE AWARE
OF AMERENS ENERGY
EFFICIENCY PROGRAMS

89%

TENANTS SHARED THAT
THEIR LANDLORD MADE
OR HAS ENERGY
EFFICIENCY UPGRADES
IN THEIR RENTAL

See pg. 25

See pg. 10

ATTITUDES

84%

LANDLORDS WOULD
TAKE ADVANTAGE OF
ENERGY EFFICIENCY
PROGRAM OFFERINGS

See pg. 22

94%

LANDLORDS FELT THAT
ENERGY EFFICIENCY
PROGRAMS COULD HELP
LANDLORDS INCREASE
ENERGY EFFICIENCY

See pg. 28

94%

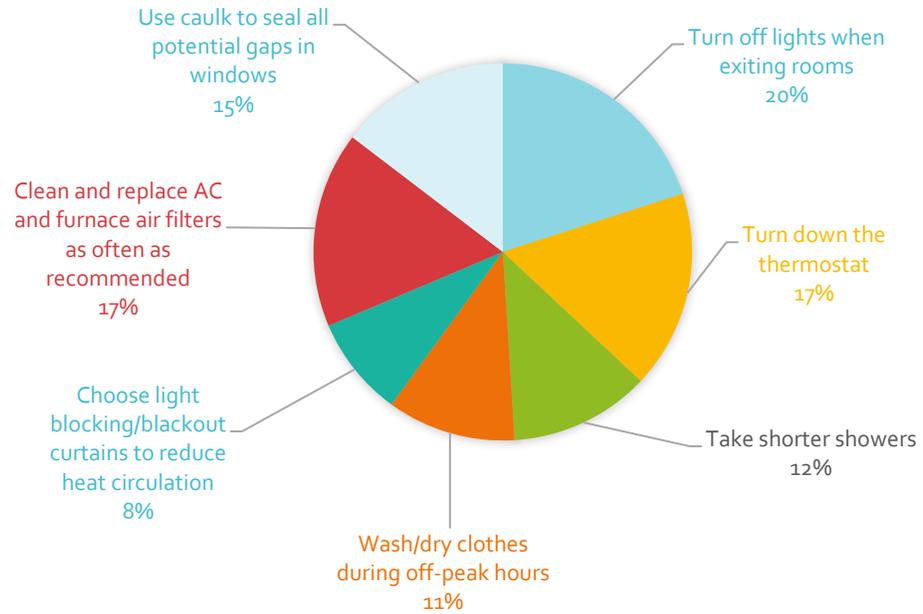
TENANTS SHARED THAT
ENERGY COST IMPACTS
THEIR RENTAL DECISION

93%

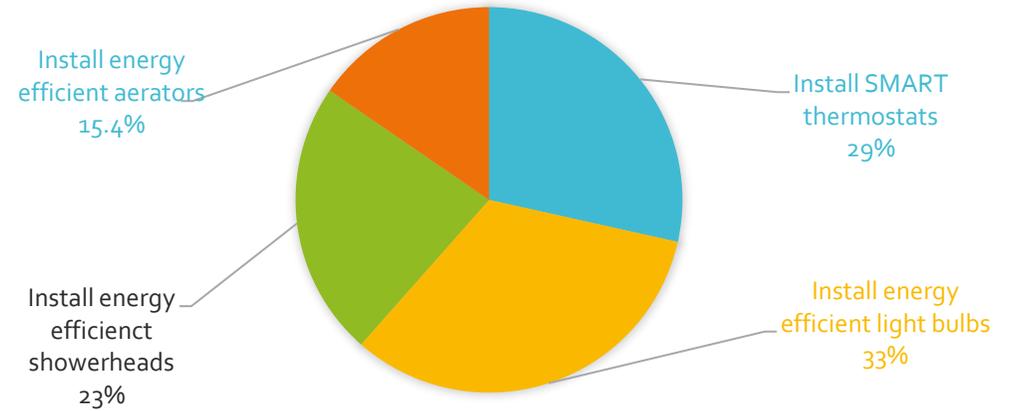
TENANTS SHARED THAT
ENERGY EFFICIENCY
PROGRAMS COULD BE AN
EFFECTIVE MEANS OF
INCREASING ENERGY
EFFICIENCY IN HOMES

See pg. 12

Energy Efficiency Behaviors : Upgrades



Energy Efficiency Behaviors - Installations



See pg. 9 for tenant Energy Efficiency Behaviors infographic details; pgs. 6-10 for discussion
See pg. 24 for landlord Energy Efficiency Behaviors infographic details; pgs. 21-24

Summary of Findings & Recommendations

1

BEHAVIOR MODIFICATION
PROGRAMMING

3

TARGETED PUBLIC &
CULTURALLY COMPETENT
AWARENESS EDUCATION

2

COST SAVINGS

4

PARTNERSHIP PROGRAMS
BETWEEN LANDLORD &
TENANTS



QUESTIONS

HOW TO REACH US

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THANK YOU FOR
YOUR TIME AND
INVESTMENT





Smart Energy Design Assistance Center (SEDAC) Workforce Literature Review

Overview:

- » In 2020, The Ameren Illinois Energy Efficiency Program and SEDAC partnered together to conduct workforce research that would ultimately inform the design of a workforce development pilot to be launched in 2021
- » The literature review contains industry research and best practices related to workforce development and equity, diversity, and inclusion in the energy efficiency industry

Growing and diversifying the energy efficiency workforce

Building a Resilient Energy Efficiency Workforce: A Literature Review

Submitted to Ameren Illinois by:

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Revision Submitted: 8/31/2020

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Building a Resilient Energy Efficiency Workforce: A Literature Review

Executive summary

The coronavirus pandemic has had an unprecedented impact on the energy efficiency workforce in Illinois. This literature review explores the current and future impact of the pandemic on the energy efficiency workforce and discusses the ways the energy efficiency workforce can overcome the current challenges, diversify, and become more resilient. We rely on lessons learned from previous crises (both longer and shorter-term disturbances), including the 2008 recession and several natural disasters. We discuss workforce development lessons learned from those events and offer suggestions and insights on how systems and organizations might adapt and become more resilient.

COVID-19 impact and response

The Illinois energy efficiency workforce dropped from 91,000 workers in February to just under 79,000 workers in May. Though it gained jobs in June, the industry is still 10% below where it was at the beginning of 2020. Customer-facing programs and many smaller energy efficiency contractors saw 50-80% of their work dry up overnight due to shelter-in-place restrictions, and although things have opened up since, the energy efficiency workforce is still experiencing severe job losses and delays. In general, commercial and industrial energy efficiency implementation contractors have not been as hard hit as residential contractors.

Consistent with larger economic trends, minorities, particularly Hispanic and Latino energy efficiency workers, have been disproportionately impacted by the job losses in the energy efficiency sector. Black, Hispanic, and Latino customers in energy efficiency programs are also disproportionately affected by the economic and the health impacts of the pandemic. This racial disparity is likely to grow without intervention.

Job losses in energy efficiency are expected to continue into the near future even as some restrictions are lifted, especially if substantive action is not taken to support this sector. Some suggest that the energy efficiency workforce will likely continue to struggle for several years to come, as recessions typically have an outsized impact on construction jobs that make up a large portion of the energy efficiency workforce. Other impacts such as supply chain delays, disruptions, shortages and price increases for efficient products will only compound this sector's challenges.

Although energy efficiency is considered "non-essential" during an active state of emergency, energy efficiency measures are inextricably linked to the physical and economic health of our communities. Consequently, sound energy efficiency practices implemented by a strong energy efficiency workforce can play a critical role in ensuring a safe, prosperous and equitable recovery

from the COVID-19 pandemic. We consider the current challenges to be an opportunity to rebrand energy efficiency, to show that it is an essential tool to meet the new challenges we now face.

To date, we know of no stimulus funding that is specifically directed to support clean energy jobs. While some relief has been made available to small energy efficiency businesses, it is not enough to support the energy efficiency workforce during these challenging times. Energy efficiency policy groups and other advocates are pushing for energy efficiency to be included in future stimulus bills. Utilities, municipalities, and other organizations have been stepping in to support the energy efficiency workforce, with no or low interest loans, payroll protection programs, programs targeted to the most vulnerable customers, and more.

Building a resilient energy efficiency workforce

While legislative solutions are surely essential to helping the energy efficiency workforce bounce back from the pandemic, there are many more ways the energy efficiency workforce can become more resilient. From the literature, we describe the following core characteristics of resilient systems and how they can guide the energy efficiency workforce forward as it seeks to recover, grow and diversify during these challenging times. We consider resilience to be a system's ability to recover from a disturbance and the general persistency of service dependability in the face of faults (Holling, 1973).

Positive feedback loops. In ecological systems, positive feedback represents a circular link of effects that are self-reinforcing. It can stimulate rapid and long-term change. Like a complex ecosystem, the energy efficiency workforce is a complex web of connections and interdependencies among a large and diverse set of component pieces. It is more resilient when there are positive feedback loops among these players (Maru et.al., 2014). These feedback loops must be responsive, capable of transmitting economic opportunities and providing learning opportunities. They should operate both vertically and horizontally. These feedback loops should also reflect interactions within the system, as well as with the broader environment.

Addressing vulnerabilities. In order to become resilient, a system or organization must identify and address its vulnerabilities—the components that are most likely to suffer harm from external stresses and shocks (Gallopín, 2006). Addressing vulnerabilities is crucial in communities or organizations that value equity, recognizing that the organization is only as strong as its most vulnerable parts. There is a great need for additional support for our highly vulnerable and under-served communities and members of the workforce who are disproportionately impacted by economic fallout and unemployment.

Redundancy. Redundancy is the intentional duplication of system components in order to improve resilience. The energy efficiency workforce will be more resilient if it has redundant components with similar functions to ensure that the whole system does not collapse when one component fails (Molyneaux et.al., 2016). For instance, online training can replace in-person training when in-person training is not an option.

Efficiency. At a basic level, resilience is the ability for something to withstand disruption. Efficiency is the quest for optimal output with minimum waste. The energy efficiency workforce will be more resilient if it can minimize waste of resources to direct resources to more important priorities (Ribiero et.al., 2015). One possible way to reduce inefficiencies is to partner with other sectors (such as health or disaster management) to deliver services. Organizations that have similar goals can improve efficiency by working together and avoiding duplication.

Flexibility. A key component of resiliency is learning from experience and adapting to changing situations (MacEachen et.al., 2008). This suggests that opportunities for knowledge sharing and professional development are essential for a resilient workforce. There is ample evidence that the energy efficiency workforce has been learning and adapting to the current crisis, through no-touch programs, online marketplaces, and online audits for example.

Strength. The energy efficiency workforce will be more resilient if it is strong and healthy (Rashid et.al., 2014). One way to do this is to prioritize the health and wellness of employees, fostering a sense of purpose, autonomy, and collaboration, and engagement.

Diversity. Research suggests that diversity plays an important role in the development of resilience in organizations (Duchek et.al., 2019). Resilient systems have multiple components that are different from each other to resist diverse threats. Energy efficiency organizations with a diversity of positions, services offered, sources of funding, and a more diverse workforce will be more resilient. Training programs should also be preparing students for a diverse range of jobs to meet the evolving economic situation.

Interdependence and Collaboration. A resilient system has components that are interconnected, bolstering the system's ability to respond to crises. Similarly, resilient systems provide opportunities for participants to collaborate, both inside and outside the system, which helps them to be more responsive to crises (Richardson, 2002). Internal and cross-sector collaboration are both essential.

Autonomy. A resilient system should also be capable of operating independently, against outside forces (Flach, 1988). Too much interdependency can reduce the resilience of systems. Global connectivity, for instance, has exacerbated the spread of the virus and its outsized impact on the global economy. The ability to be autonomous, to produce our own energy efficiency products domestically or survive without federal funding, for instance, may improve the resilience of the energy efficiency workforce in times of crisis and budget cuts.

Lessons learned from past crises

The energy efficiency workforce can learn from past crises to guide recovery efforts, exploring how the principles of resilience discussed above can be leveraged to help the energy efficiency workforce not only bounce back but bounce forward. Lessons learned from past economic crises and natural disasters include:

1. Develop shovel ready programs to tap into funding opportunities

2. Develop criteria for prioritizing programs
3. Pay attention to the winners and the losers
4. Leverage communication channels to support rapid development of programs
5. Emphasize the secondary benefits of energy efficiency
6. Spur job growth through government mandates
7. Increase collaboration among stakeholders
8. Ensure long-term sustainability of programs
9. Don't neglect employee wellness
10. Provide opportunities to learn in response to changing circumstances
11. Plan for the next crisis

Next steps

This literature review is an initial step to summarize the impact of the pandemic on the energy efficiency workforce and to identify ways to help the workforce become more resilient. However, there is still much to learn. Though responses to past crises can provide some insight, we still need to know how energy efficiency stakeholders are responding to the unique challenges they are experiencing now. We need to develop *local* responses that will be responsive to *local* needs.

The Ameren Illinois Market Development Initiative is well positioned to play a significant role in energy efficiency workforce recovery efforts. It has demonstrated a commitment to help build and diversify the energy efficiency workforce, especially in underserved communities. It has developed strong connections with many stakeholders in these communities. Ameren Illinois has a rare opportunity to help the energy efficiency workforce not only recover from the current crisis, but to enhance its capacity to withstand future stress.

The next step is to learn from energy efficiency stakeholders, working together to build new initiatives to address vulnerabilities and help the workforce begin to rebound. To this purpose, SEDAC will be engaging in extensive outreach with energy efficiency employers, trainers, job seekers, workforce development coordinators, and community organizers this summer. Our stakeholder outreach results, together with the two literature reviews we have completed, will lead to the development of a pilot project to grow and diversify the workforce in this challenging time.

Introduction: COVID-19 impact and response

Job loss

The coronavirus pandemic has created an unprecedented level of uncertainty and job loss for industries the world over. “Pausing” the economy has created far-reaching consequences for an historic number of laid off workers, furloughed employees, indebted employers and small business owners forced to close their doors.

Research from the BW Research Partnership published July 10, 2020 estimates that 360,000 energy efficiency jobs have been lost since the start of the COVID-19 pandemic, a decline of 15.2%; In Illinois, cumulative job losses since pre-COVID are at 9,100, a 10% decline. The majority of job losses occurred in March and April; fewer jobs were lost in May, and June and July saw some job gain as businesses opened up (see Figure 1). The report speculates that the unemployment rate could be even higher, as unemployment claims do not typically count those who are furloughed temporarily or who are beneficiaries of the Paycheck Protection Program.

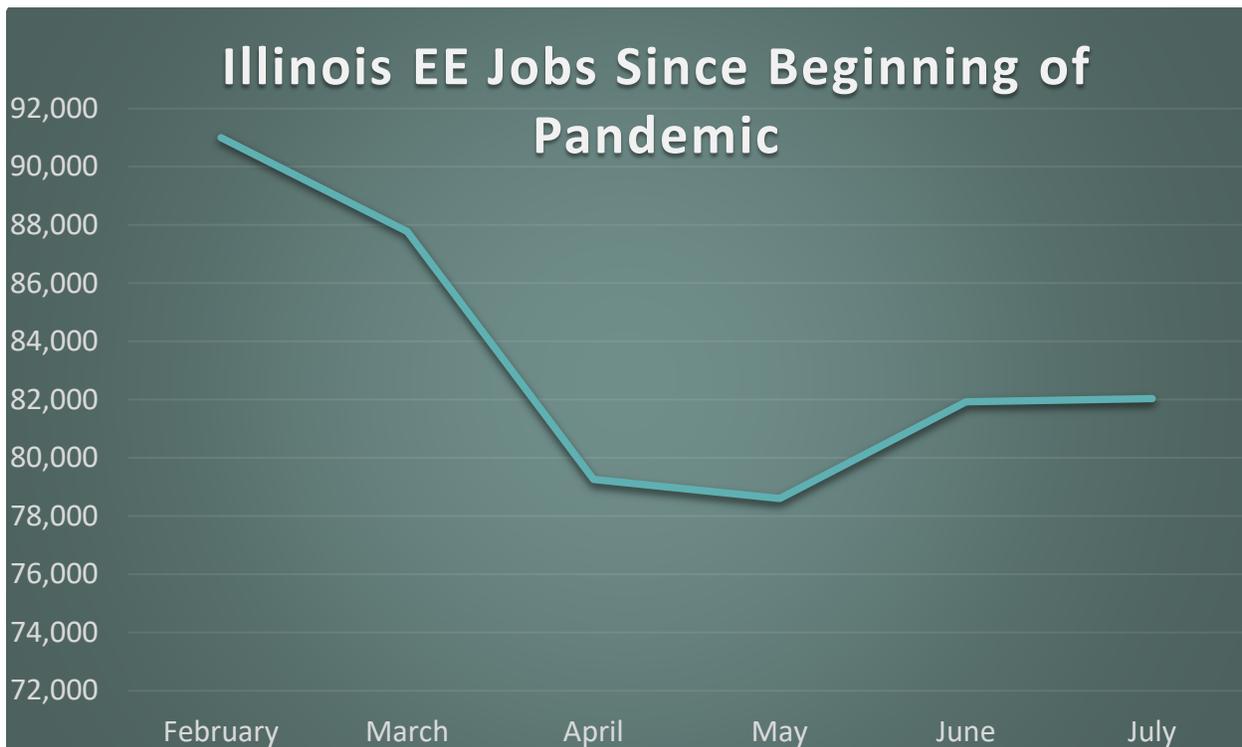


Figure 1. EE Job Losses in Illinois Since Beginning of Pandemic. Data from BW Research Partnership (August 10, 2020).

These job losses are especially discouraging considering the previously rosy job outlook for the energy efficiency industry. According to the 2020 US Energy Employment Report (USEER) released in March and authored by the National Association of State Energy Officials (NASEO) and the Energy Futures Initiative (EFI), energy efficiency added more jobs in 2019—over 54,000 (1,500 in Illinois)—than any other energy sector, bringing the national total to almost 2.38

million jobs. This 2.3% bump from 2018 continued an upward trajectory for energy efficiency jobs over the past few years. The report predicted 3% growth nationwide in 2020 and 4% growth in Illinois. This was already a downgrade from the state’s previously predicted 8.3% growth for 2019, which Illinois failed to deliver in 2019 (EE jobs grew by only 1.7% in 2019).

Table 1. Energy Efficiency Jobs in 2019 and 2020

	Illinois	U.S.
Predicted % EE job growth in 2019	8.3%	7.8%
Actual % EE job growth in 2019	1.7%	2.3%
EE jobs added in 2019	1,500	54,000
Total EE employees at the end of 2019	91,000	2.38 million
Predicted % EE job growth in 2020	4.0%	3.0%
EE jobs lost March-July 2020	-9,000	-360,000
% EE job loss since beginning of pandemic	-10%	-15%
EE Employes as of July 1, 2020	82,000	2,020,000

Because energy efficiency jobs are often project-based and customer-centric, the coronavirus has greatly disrupted workflows and employment. When states began to shut down all but essential services in mid-March, most energy efficiency personnel, such as contracting vendors, suppliers, and implementers for customer-facing programs confronted the prospect of furlough or unemployment if they couldn’t immediately shift to remote work.

According to *E&E News*, a trade publication, Lime Energy had “furloughed about 200 employees—about two-thirds of its workforce” by early April (Iaconangelo, 2020). Julian Boggs, policy director of the Keystone Energy Efficiency Alliance, told *Utility Dive* that “his organization has heard reports of some companies furloughing or cutting salaries for 80% of their staff. A few companies have laid off half their staff” (Walton, 2020). Smaller EE contractors, who often operate businesses with 20 or 30 employees, saw 50-80% of their work dry up overnight (Thill, 2020). MEEA notes that smaller companies have been seeing more layoffs, and that commercial and industrial implementation contractors have not been as hard hit as residential contractors.

Utility energy efficiency programs focused on residential and commercial buildings have been suspended, shut down, or are experiencing significant delays. In a webinar delivered in May, MEEA summarized how the the pandemic impacted utility energy efficiency programs in the early months of the pandemic. MEEA notes that utilities were a) focused on worker and customer safety, b) obeying stay-at-home orders, c) suspending customer-contact programs, and d) continuing some non-contact programs. The same happened to the Department of Energy's federal Weatherization Assistance Program (WAP). Administered by states and implemented through local nonprofit community action agencies, offices either closed or shifted to remote intake services with no expectation of any in-home energy efficiency implementation.

Racial disparities

Preliminary research suggests that Hispanic and Latino energy efficiency workers have been hardest hit by the economic downturn (BW Research Partnership, 2020). "The clean energy industry is 14 percent Hispanic/Latino," the Partnership writes, "but an estimated 25% of the job losses in the clean energy industry are Hispanic/Latino workers." This is consistent with the trend in the overall economy where "racial and ethnic minorities, women, young workers, and those with less educational attainment are currently suffering higher unemployment rates."

It is worth noting that the impact of the pandemic has been severe both for energy efficiency workers and their customers. Once again, this impact is greatest for certain racial/ethnic minorities. According to a survey by the Pew Research Center in April 2020, 61% of Hispanic Americans and 44% of black Americans indicated that they or someone in their household had experienced a job or wage loss due to the pandemic, compared to 38% of white adults (Hugo Lopez, Rainie, & Budiman, 2020). The survey found that 73% of black and 70% of Hispanic adults said they "did not have emergency funds to cover three months of expenses," while only 47% of white adults said the same. This loss of income makes it challenging to pay bills, including utility bills. The Pew Research Center found that 48% of black adults, 44% of Hispanic adults, and 26% of white adults indicated that they had trouble paying bills now, compared to a more typical month, where trouble paying bills was 46%, 28% and 20% respectively. This comes at a time when people are spending more time at home, leading to higher energy bills. Drehobl (2020) notes that residential electric usage has increased 15-20% in recent weeks.

In addition, Black Americans are also being hit harder by the coronavirus outbreak. A study by COVID Tracking Project (2020) found that the mortality rate for Black Americans is nearly 2 times higher than their population share. Black Americans account for 13% of the US population and 24% of deaths where race is known. While the reasons for the disparity are complex, environmental and workplace conditions are contributing factors. According to the Centers for Disease Control (2020), Black Americans are less likely to live in quality housing with good indoor air quality, and are more likely to be exposed to pollution, leading to higher levels of asthma and other diseases.

The CDC also notes that Hispanic, Latino and African American workers are more likely to work in jobs that do not provide health insurance. Compared to whites, Hispanics are three times as likely to be uninsured, and African Americans are twice as likely to be uninsured. They are also less likely to have paid sick leave and are more likely to keep working even when they are sick, for fear that they may lose their job. This is also likely true in the energy efficiency workforce, where Latino and African American workers are more likely to be in lower paying temporary construction and contracting jobs that offer fewer benefits.

The health and economic impacts of COVID-19 on energy efficiency customers, particularly African American and Hispanic customers, result in difficulty paying utility bills and less bandwidth to engage in energy efficiency when other concerns are more pressing.

Future forecast: Supply & demand challenges

While the job losses in energy efficiency declined in May from a record high in April, the BW Research Partnership predicts that we could see another upsurge in job losses when the Paycheck Protection Program (PPP) expires, if no further action is taken. Small businesses in the construction sector make up the largest segment of PPP loan recipients (13%), and the construction sector is the largest segment of the clean energy economy.

Energy efficiency employers and utility energy efficiency programs are cautiously optimistic that they will be able to get energy efficiency workers back into homes and businesses again soon, but there is a lot that needs to happen first. The table below, with information from an April 15, 2020 MEEA Webinar, summarizes what needs to happen before work can resume.

Table 2. Tasks needed to get back to work

From governors & state/federal agencies	From regulators	From employers
The green light	Approval of program changes	New protocols for field staff
Health & safety protocols for workforce	Guidance on programs & portfolios	Ways to retain skilled workforce
Address liabilities	Timelines & requirements	Readiness for onboarding

Even when people are allowed to go back to work, demand for energy efficiency services may be severely impacted for a long time. The nation has entered a major recession, signifying a stark course reversal after nearly a decade of sustained growth. Construction jobs play an outsized role in the energy efficiency industry, and construction jobs are typically hard hit during recessions. Generally, the effects of a recession on the construction industry are delayed 12 to

18 months, meaning that things could be very bleak in the upcoming year or two as well. Supply chain delays, disruptions, shortages, and price increases for efficient products only compound the industry's challenges, as manufacturers and distributors scramble to find alternatives.

In their May 15th memo, the BW Research Partnership warns that “job losses will continue to rise unless Congress and the Trump administration take quick and substantive action to support the clean energy industry and its workers.” The majority of these job losses will be in the energy efficiency sector.

Change begets opportunity

Future job losses in the energy efficiency industry are not a forgone conclusion. Though perhaps energy efficiency is “non-essential” during an active state of emergency, energy efficiency measures are inextricably linked to the physical and economic health of communities and the built environments that comprise them. Consequently, sound energy efficiency practices implemented by a strong energy efficiency workforce can play a critical role in ensuring a safe and prosperous recovery from the COVID-19 pandemic. We have an opportunity to rebrand energy efficiency, to show that it is an essential tool to meet the challenges we now face.

Energy efficiency as an economic recovery tool

Energy efficiency saves residents, businesses, and municipalities money for times like this when they need it most. MEEA (2020) recommends positioning energy efficiency as an economic recovery tool, targeting hiring efforts for the hardest hit communities. Energy efficiency stimulates the creation of direct, indirect, and induced jobs (Bell, 2012). Energy efficiency measures save businesses money, allowing them to hire more people and stimulating job growth. Of course, investing in energy efficiency will also create direct job growth within energy efficiency industry. Haynes (2018) recommends integrating job creation and workforce development programs with energy efficiency funding by hiring local, small business contractors to complete energy efficiency retrofits.

Energy efficiency as a tool to promote equity

Recent events have brought increasing attention to racial disparities in access to quality housing, clean air, education, and employment. Drehobl (2020) notes that households with high energy burden (African American and Hispanic households, renters, older Americans, etc.) are also those most affected by the health and economic impacts of COVID-19. For many of these households, energy bills are rising because people are unemployed or working from home. Energy efficiency services have the potential to reduce energy burden in these communities. They have the potential to create healthier, safer living environments for communities of color. And energy efficiency workforce development programs have the potential to provide avenues for long-term, equitable economic growth.

Energy efficiency to promote health and safety

Energy efficiency professionals and programs offer more comfortable, healthier, better spaces in which to live and work, which is especially critical during a pandemic. Poorly designed, installed, or maintained HVAC systems affect air quality and can contribute to the spread of diseases, including COVID-19. Microorganisms can be transmitted by air-conditioning systems, particularly when they are poorly maintained or when the number of fresh air exchanges per hour in a room is insufficient. While COVID-19 typically does not get drawn into air-conditioning systems, it can spread through intra-space air flows.

The energy efficiency workforce is well positioned to recommend and implement measures to reduce contaminants through filter systems, increased ventilation, UV lights, and proper maintenance of HVAC systems. As communities begin to reopen after long periods of vacancy, mechanical systems will need to be thoroughly checked to ensure proper ventilation, airflow and humidity levels. Many of the measures that reduce virus transmission will unfortunately increase energy use, so it is important to identify ways to mitigate these energy increases, when possible.

Too often, energy efficiency and healthy-building improvements are treated separately. However, energy efficiency measures do make buildings healthier, and energy efficiency workers are well positioned to implement building upgrades that address health problems, from COVID-19 to fatal falls, asthma attacks, and exposure to extreme heat and cold (Hayes, Kubes, & Gerbode, 2020). The Alliance to Save Energy's "Mission Critical Facility Renewal" stimulus proposal takes a holistic approach to updating critical infrastructure that are essential in times of disaster. For these facilities, they propose upgrades that address safety concerns (ventilation, drinking water quality, etc.), energy efficiency, and resiliency (backup power generation, energy storage, cybersecurity breaches, etc.).

Several energy efficiency organizations, including SEDAC are providing educational webinars, resources, and technical assistance but have yet to develop a formal program combining energy efficiency and COVID-19 health upgrades. Other programs, such as ICRT Utility programs could consider partnering with industry experts to offer services or training. Programs should rely on the latest recommendations and research from trusted organizations such as LBNL, ICRT and ASHRAE. Energy efficiency programs that seek to combine efficiency and COVID-19 health upgrades will need to be careful to not set unrealistic expectations that could lead to liability issues. These measures do not "prevent COVID-19" but can "reduce the risk of transmission" of COVID-19 and other diseases. Mask wearing, social distancing, and surface disinfection remain the most effective ways to reduce transmission.

Energy efficiency to mitigate climate change and build resilience

During this time of crisis, it's important to not lose sight of the other urgent crisis we face-- climate change. Coakley (2020) recommends that state and local governments should work to address both the COVID-19 pandemic and the climate crisis concurrently. She writes, "Federal, state, and local governments must prioritize COVID-19 economic recovery funding to restart the

economy by putting people back to work with valuable jobs to build a resilient, carbon-free economy.”

Energy efficiency measures not only mitigate climate change but can help buildings become more resilient to natural disasters. Nesler (2020) argues in an Alliance to Save Energy blog post that this pandemic should invite us to consider how we are designing or retrofitting facilities to meet future crises. These facilities should be able to “maintain critical operations during severe weather, seismic events, electric grid outages, cybersecurity breaches and public health emergencies.” Beyond traditional energy efficiency measures, he suggests considering backup power generation, energy storage, distributed generation, Internet of Things technologies, and micro-grids to make buildings more resilient.

Government and utility responses

Now is the time for energy efficiency stakeholders and lawmakers to place the industry on firm footing. Unfortunately, lawmakers have yet to prioritize energy efficiency in their response to the pandemic. Understandably, COVID-19 has pushed many legislative agenda items to the backburner. One such agenda item is the Illinois Clean Energy Jobs Act (CEJA), a proposed complement to the Future Energy Jobs Act that promotes ratepayer energy efficiency programs and additional funding to grow the energy efficiency workforce and help keep energy bills down for low-income households. CEJA is more important now than ever as the clean energy workforce is struggling with massive job losses. Although CEJA was not prioritized in the legislative session which ended in May, there is hope that it will be passed in a special summer session or in the fall. This would secure necessary funding for energy efficiency jobs for years to come.

To date, we know of no stimulus funding that is specifically directed to support clean energy jobs. While the CARES Act gave \$900M to the Low Income Home Energy Assistance Program (LIHEAP), this program provides funds for low-income households struggling to pay their energy bills. It does not provide funding to make homes more efficient. However, the CARES Act does provide stimulus funds for small businesses with fewer than 500 employees, through Economic Injury Disaster Loans and the Federal Paycheck Protection Program. These programs have provided some relief to small energy efficiency businesses to help overcome the loss of revenue they are experiencing. Illinois has also launched programs to help Illinois small businesses during this crisis including the Small Business COVID-19 Relief Program, the Illinois Small Business Emergency Loan Fund, and the Downstate Small Business Stabilization Program.

Unfortunately, some states are considering shifting funding from energy efficiency programs to other needs, such as bill payment assistance, as a response to the crisis. Organizations are pushing states to remove energy efficiency ratepayer fees for the time being to provide some financial relief for customers. However, Drehobl argues that cutting energy efficiency programs at this time is “shortsighted and unwise.” We need increased investment in *both* bill payment

assistance and energy efficiency, and these investments should be directed at the households who need it the most.

Energy efficiency policy groups and other advocates are pushing for energy efficiency to be included in future stimulus bills to combat the worsening economic situation brought on by COVID-19. For instance, the Alliance to Save Energy (2020) is proposing four energy efficiency-related items to be included in the next federal stimulus package:

- A small business retrofit grant proposal. This proposal would provide federal funding to small businesses to supplement utility incentives to make energy efficiency improvements.
- RIGHT proposal for mission critical facilities. This proposal seeks to support critical infrastructure, making these facilities safe, efficient, resilient, and flexible.
- Transportation/infrastructure priorities. This proposal would support electrification, transit systems, and energy efficiency/electrification in ports and airports.
- Tax proposal. This proposal would expand and extend existing energy efficiency incentives for homes and buildings.

In addition, the Building Performance Association (BPA) is proposing a HOPE4HOMES piece of legislation that would offer stipends to energy efficiency workers for online training in home performance contracting so that they can advance their careers during the pandemic and be prepared to conduct home retrofits. This program would be paired with the proposed \$6 billion Home Owner Management Savings Act (HOMES) which would offer rebates for home retrofits. Finally, [E4theFuture](#) is inviting people to bring their stories to Capitol Hill to get legislators to help energy efficiency businesses survive and recover.

Municipalities and other organizations have also been stepping in to support the energy efficiency workforce. Some utilities and energy efficiency companies are partnering with banks to provide forgivable, no or low interest loans for contractors. The City of Chicago has established a Chicago Small Business Resilience Fund for low-interest loans, and the Cook County Payroll Protection Program offers relief for businesses and nonprofits.

Organizations like the National Electrical Contractors Association are establishing safety and operational guidelines and providing legal resources to help energy efficiency businesses go back to work. The Building Performance Association, utilities, and other organizations are collecting resources and providing guidance on how to respond to the crisis—for vendors, residential customers, and businesses. For instance, Energy Efficiency For All released a Pandemic Response Guide (April 2020) to protect under-resourced communities. Energy Efficiency For All sees the needs of under-resourced more holistically, and is pushing for changes that go behind energy efficiency retrofits. Their detailed guidelines address a) ensuring access to energy and water, b) eviction and utility disconnection prevention, c) the preservation of affordable housing and

energy costs, d) protection of vulnerable workers, including energy efficiency workers, and 5) access to healthy housing through funds for emergency environmental healthy housing repair.

Some energy efficiency programs have found ways to serve public sector and other essential buildings during the pandemic. Schools and other public sector buildings prefer to implement retrofits and construction projects when buildings are mostly or completely unoccupied, and energy efficiency workers are seeking to tap into this opportunity. Contractors have found creative ways to conduct energy assessments and upgrades through the use of virtual technology and careful execution of social distancing guidelines.

Many utilities and other large energy efficiency employers are taking steps to support their customers during the crisis, from pledges to not shut off services, to implementing flexible payment options, extensions, and suspensions in rate increases. Some of these interventions are mandated at the state level, while others are voluntary. Some are helping to meet basic needs by delivering groceries, providing emergency loans to renters, and donating money and supplies (Koch, 2020).

Building a resilient energy efficiency workforce

While legislative solutions are surely essential to helping the energy efficiency workforce bounce back from the pandemic, there are many more ways the energy efficiency workforce can become resilient in the evolving job market. Below, we consider the key principles of resilience and how they can guide the energy efficiency workforce as it seeks to recover, grow and diversify during these challenging times. We draw from examples of responses to other crises, such as natural disasters and economic recessions to provide insight into how this might be done.

We consider both **system resilience** and **workplace resilience**. We explore how energy efficiency as a system of employers, employees, trainers, community action agencies, workforce development coordinators, policy makers and more can work together to become more resilient. We apply systems thinking and review human-environment system resilience literature to inform our discussion. We also consider workplace resilience to explore how energy efficiency companies large and small can become more resilient in times of crisis.

Resilience is generally defined as the ability to resist damage, recover from, and adjust more quickly after stress. The concept of resilience in ecological systems was introduced by Canadian ecologist C.S. Holling, who described resilience to be a system's ability to recover from a disturbance and the general persistency of service dependability in the face of faults (Holling, 1973). A resilient system, according to Holling, can tolerate disturbance without collapsing into a qualitatively different state. Many scholars have built off Holling's work, applying the concept of resilience to social-environmental systems, communities, and organizations. The Urban Land Institute (2013), for instance, argues that resilience is "the ability not only to bounce back . . . but to bounce forward--to recover and at the same time to enhance the capacities of the community or organizations to better withstand future stresses." Generally, the literature describes resilient systems, communities, or organizations as having the following core characteristics:

Positive feedback loops

In their review of literature on human-environmental system resilience, Deal and Gu (2018) explain that the key to diagnosing why some systems are resilient while others fail is to identify and examine the interrelations between system components at multiple scales and levels. The energy efficiency workforce is a system with many different components, interrelations, and feedback loops. This complexity is one of the things that makes planning for resilience so challenging, according to Gu and colleagues (2018).

The resilience of a system such as the energy efficiency workforce depends upon the feedback loops among these different components, according to Rodin and Garris (2013). In ecological systems, feedback represents a circular link of effects that are self-reinforcing. Feedback loops can stimulate rapid and long-term change. Like a complex ecosystem, the energy efficiency workforce is a complex web of connections and interdependencies among a large and diverse set of component pieces. It is more resilient when there are positive feedback loops among these players (Maru et.al., 2014). Feedback loops, according to Rodin and Garris (2013) must be responsive, capable of transmitting learning throughout the system, and must be both horizontal and vertical. Feedback loops should include insights of local actors, and reflect the interactions within the system, as well as with the broader environment.

One example of a positive feedback loop in the energy efficiency workforce system comes from Janda and Parag (2012), who explain why it is important to “activate the middle,” the energy efficiency building professionals. These professionals are defined broadly as “any person or group whose work involves the construction, refurbishment, management, letting or valuation of buildings, as well as businesses that supply materials and technologies to support these services.” These intermediary groups “have their own habits, practices and ways of thinking about problems,” and can therefore play an important role in identifying barriers and solutions. Janda and Parag note that innovation in the energy efficiency industry often comes from the top down (policy imperatives) or bottom up (driven by client demand). However, innovation at the “middle level” can be just as powerful.

Energy efficiency building professionals should be empowered to transmit learning throughout the system. Examples of “middle level” feedback loops include building professionals serving as experts on a government commission, or trade associations developing public reports or policy recommendations. Building professionals also transmit learning to other through professional networks, and transmit learning to clients by providing a set of energy efficiency options and defending or expanding this set of options.

The current crisis has brought to the forefront the need for coordination and integration as different components of the system struggle to respond to the crisis. Dismantling silos and establishing beneficial feedback loops is more important than ever, and will be key to energy efficiency workforce resilience.

Addressing vulnerabilities

Vulnerability, according to the Stockholm Resilience Center (2016), is often seen as the antonym of resilience. In order to become resilient, a system or organization must identify and address its vulnerabilities—the components that are most likely to suffer harm from external stresses and shocks (Gallopín, 2006). The system might, for instance, assess how vulnerable populations are likely to be impacted by a natural or economic disaster. Addressing vulnerabilities is especially crucial in communities or organizations that value equity, recognizing that the organization is only as strong as its most vulnerable parts. The energy efficiency workforce can become more resilient by identifying its own vulnerabilities, as well as the vulnerable populations it serves.

The pandemic has revealed many of these vulnerabilities. From the beginning of the pandemic, energy efficiency programs have found that they are vulnerable to disruptions in the supply chain of energy efficiency products. In-person energy efficiency services are vulnerable to stay-at-home orders. As noted earlier, Hispanic and Latino workers have been more vulnerable to energy efficiency job loss. Certain populations are more vulnerable to the health and economic impacts of the pandemic.

If the energy efficiency workforce is to be more resilient, it will need to address these vulnerabilities, seeking to strengthen workforce development initiatives for underserved minority groups, and finding ways to reduce the energy burden in communities of color. There is a great need for additional support for our highly vulnerable and under-served communities and members of the workforce who are disproportionately impacted by economic fallout and unemployment.

Redundancy

Redundancy is the intentional duplication of system components in order to improve resilience. The energy efficiency workforce will be more resilient if it has redundant components with similar functions to ensure that the whole system does not collapse when one component fails (Molyneaux et.al., 2016). An example of redundancy within the energy efficiency workforce is when multiple programs offer similar or overlapping energy efficiency services. Federal weatherization programs and utility energy efficiency programs may offer similar services. Similar training programs may be provided at community colleges, trade schools, and universities. Training may be offered both online and in-person. The benefit of this redundancy is that 1) the different programs are more likely to reach different audiences, ensuring that energy efficiency services and training programs are widely available, and 2) when one program fails, other programs can step in and offer services. For instance, when in-person training programs were put on pause, online training programs were in place so that training could continue uninterrupted.

Efficiency

At a basic level, resilience is the ability for something to withstand disruption. Efficiency is the quest for optimal output with minimum waste. Systems are more likely to withstand stress if they are conserving resources and can accomplish more with fewer workers, services, or

products. The energy efficiency workforce will be more resilient if it can minimize waste of resources to direct resources to more important priorities (Ribiero et.al., 2015).

One way to improve the efficiency of energy efficiency programs is to partner with other programs to avoid duplication of efforts, and to reduce the labor and resources needed to deliver services. A recent ACEEE study (Hayes, Kubes, & Gerbode, 2020), for instance, recommends that weatherization programs could be modified to include measures that promote health. They estimate that by allowing weatherization programs to treat four common health risks (asthma, falls, exposure to extreme heat or cold), they could “save more than \$228 million due to avoided health harms.”

Likewise, energy efficiency and disaster management have “complementary policies, actors, interest groups, regulatory systems, goals, and desired outcomes” (Martel, 2014). And yet, these two fields seldom work together, “missing opportunities for greater positive impact.” Phillips (2017) argues, “A lack of collaboration between those interested in increasing energy efficiency and those seeking improved disaster resilience is a potential source of inefficiency because both groups strive to improve the performance of the same buildings.” Getting the two fields to work together will take some work. Stakeholders will need to motivate property owners to value energy efficiency and disaster resilience in the (re)building process, identify sources of funding, and work with insurance providers to allow/encourage upgrades (ibid.).

Flexibility

A key component of resiliency is learning from experience and adapting to changing situations (MacEachen et.al., 2008). As Rodin and Garris explain, resilient systems “constantly iterate to adapt and improve in the context of changing environments.” If they are not flexible, they “risk failure, irrelevance, or creating harm.” To facilitate this learning and adaptation, the Urban Land Institute (2013) recommends creating “programs to provide knowledge sharing and professional development,” and making “critical information easily understandable and readily accessible.”

Since the beginning of the pandemic, there have been numerous examples of how the energy efficiency workforce is learning and adapting. Utility programs and other organizations such as MEEA are sharing resources for a variety of different stakeholders and offering webinars and other opportunities for knowledge sharing. MEEA (2020) describes some of the program innovation the energy efficiency industry is experiencing as they are learning and adapting. Utilities are “emphasizing no-touch programs” such as behavior programs, online marketplaces, online audits, and even virtual treasure hunts. Ameren is supporting self-installation through a “Handyman hotline” and other “safe and virtual” energy efficiency (SAVE) options. Customers meet virtually with a community partner, and the community partner fills out the SAVE Kit order form. Customers receive the kit and can install the kit with the help off a virtual assessment and virtual install assistance. Other options are also available for verified and non-verified self install. Organizations are promoting how-to videos, bulk deliveries, and energy efficiency measures that don’t require trips to the store. Programs are offering lower risk installs & retrofits, especially in

empty commercial buildings & schools. They are adapting to online training and education programs.

A blog post by the E4theFuture (Stanton, 2020) makes the case that energy efficiency workers are masters at adapting, innovating, and improving, and they can leverage this experience in the current crisis. Because each building is unique, energy efficiency workers have learned to assess facts on the ground, make adjustments based on unforeseen circumstances, and find innovative solutions to challenges.

Strength

Resilient systems are strong and healthy (Rashid et.al., 2014). Kohll (2017) argues that organizations are more resilient when they prioritize the health and wellness of all employees at all times, not only in times of crisis. In addition to encouraging both autonomy and collaboration, he recommends building a strong, healthy workplace through the following:

- Foster a sense of purpose by encouraging employees to find meaning in their work
- Create a culture that “views change as a welcome challenge, rather than an unwelcome roadblock”
- Address stress levels both individually and as a group
- Provide opportunities for learning and professional development
- Use positive messaging

Though Kohll recommends implementing these strategies at the individual business level, utilities can drive industry-wide culture changes with their network of contractors through professional development opportunities, positive messaging, and by encouraging contractors to share their innovative ideas for programmatic or technological solutions to the current challenges.

In another study, favorable employee attitudes and employee engagement were strongly correlated to business success, particularly during bad economic times (Harter et al., 2020). Employee engagement can be fostered through executive involvement in employee tasks, manager education, strong communication channels, and by ensuring that employees are accountable for what they do. The study further found that strong, resilient business cultures had clear expectations, opportunities for employees to do what they do best, and connection to the mission and purpose of the organization.

Diversity

Research suggests that diversity plays an important role in the development of resilience in organizations (Duchek et.al., 2019). A resilient system has multiple components that are different from each other and can resist diverse threats. The Stockholm Resilience Center (2016) notes that “systems with many different actors or sources of knowledge are generally more resilient than systems with few components.” In the energy efficiency workforce, diversity could refer to positions, services offered, sources of funding, or even diversity of staff. Wilkinson and

colleagues (2017) note that the resilience of subcontracting businesses during times of crisis, such as natural disasters, depends upon their ability to diversify their services. They recommend starting with core strengths, but then diversifying into other markets to meet the evolving demands of their customers.

Rincon (2019) recommends that training programs should prepare students for a diverse range of jobs to meet the demands of an evolving job market, advice that is especially pertinent in the current crisis. The skills that students learn should be “comprehensive enough to translate to various employment opportunities, including some outside of energy efficiency.”

Finally, McClure (2019) argues that employee diversity (racial, ethnic, age, gender, etc.) is important to foster innovation, drive competition, showcase a company’s commitment to economic growth, improve corporate culture, retain and attract top talent, and better serve the communities where companies operate. A diverse group of employees is much better equipped to identify and address vulnerabilities. Beyond making sure that their own employees reflect the diversity of the people they serve, utilities like Ameren Illinois should track the diversity of their contractors and the partners that administer their energy efficiency programs (staff as well as ownership).

Interdependence and collaboration

A resilient system has components that are interconnected to support each other. Connectivity can help to bolster a system’s ability to respond to crises. Wilkinson et al (2017) notes that contractors need not provide diverse services themselves. They can partner with other contractors to provide a range of services, which will help to grow their business without requiring them to develop an entirely new range of skills. Subcontractors, when faced with increasing demand for services following an earthquake in Christchurch, survived by “maintaining good relationships with main contractors and outsourcing work to provide flexibility.” When organizations or colleagues are dependent on each other, they can provide necessary support to meet challenging demands, and can support each other when one component fails.

Similar to interdependency, a resilient system provides opportunities for participants to collaborate, both inside and outside the system (Richardson, 2002). Investing in trust and cooperation building activities can uncover new perspectives and solutions (Rodin & Garris, 2013). Systems that collaborate internally can be more responsive to crises, creating up-to-date program changes and curriculum recommendations to meet evolving needs (Green & Galetto, 2005). In the energy efficiency industry, business advisory committees and stakeholder advisory groups can be leveraged to develop coordinated responses and innovative solutions to the current crisis.

The Stockholm Resilience Centre (2016) goes one step further and recommends that systems foster democratic collaboration. They advocate for polycentric governance structures. They explain that polycentric, democratic governance structures allow a system to deal swiftly with

disturbances because the people closest to the problem are involved and empowered to find solutions that work.

In contrast, the Johnson Foundation (2013) argues that systems will be more resilient if they collaborate with entities *outside* of the system. They recommend the following strategies to foster cross-sector collaboration:

- Develop cross-sector communication channels
- Partner with stakeholders in these sectors on education and outreach
- Engage in collaborative planning with these stakeholders
- Reduce disincentives and risks for collaboration
- Identify regulatory constraints and opportunities across sectors

Autonomy

A resilient system should also be capable of operating independently, against outside forces (Flach, 1988). The Stockholm Resilience Center (2016) warns that too much interdependency can reduce the resilience of systems. Our global connectivity, for instance, has exacerbated the spread of the virus and its outsized impact on the global economy. The ability to be autonomous, to produce our own energy efficiency products domestically or survive without federal funding, for instance, may improve the resilience of the energy efficiency workforce in times of crisis and budget cuts.

On the individual employee level, Kohll (2017) argues that employees will be more effective if they have ownership over what they do. An autonomous agent is one who has a sense of control, confidence, independence, and purpose. Energy efficiency stakeholders at all levels need to be empowered to provide a vital role in shaping responses to a crisis, and need to be capable of operating independently when channels of communication are disrupted and in-person interaction is no longer possible.

Lessons learned from past crises

During this time, we can learn from previous crises to guide recovery efforts, exploring how the principles of resilience discussed above can be leveraged to help the energy efficiency workforce not only bounce back but bounce forward.

Lesson 1. Develop shovel ready programs to tap into funding opportunities

In an effort to save existing jobs and create new ones during the financial crisis of 2007 and 2008, the American Recovery and Reinvestment Act of 2009 (ARRA) established an economic stimulus package estimated at \$831 billion (Congressional Budget Office, 2012). ARRA included an allocation of \$27.2 billion for energy efficiency and renewable energy research and investment. The Alliance to Save Energy (2013) describes the ARRA as the “single largest investment in energy efficiency in U.S. history.”

One of the primary purposes and promises of the Act was to launch a large number of “shovel ready” projects that would generate jobs (Calmes & Hulse, 2009). However, a sizable number of

these projects, most of which pertained to infrastructure, required longer to implement than expected and never came to fruition (Cooper, 2010). This was largely attributed to the regulatory process that is involved in such projects.

In contrast, the ARRA expenditures for energy efficiency and renewable energy required less regulatory burden and were, by-in-large, successful at stimulating job creation in the relevant energy sectors (Lim, Guzman & Bowen, 2020). Though the American Recovery and Reinvestment Act of 2009 had its setbacks, many energy efficiency organizations used funding to successfully increase demand for services.

Energy efficiency stakeholders looking for support should pursue resources built into the recent federal and state stimulus package and stay abreast of legislation to come. If the energy efficiency industry wants access to stimulus funding, having “shovel ready” projects will be crucial, as will identifying ways to more successfully navigate and streamline complex regulatory processes. The Alliance to Save Energy’s proposals for federal stimulus funding provide opportunities for developing “shovel ready” retrofit projects for small businesses, mission critical facilities, and transportation infrastructure (rest stops, airports).

Lesson 2. Develop criteria for prioritizing programs

There is no shortage of suggestions for how to help the energy efficiency workforce rebound, grow, and become more resilient. Yet, it can be challenging to decide how to prioritize strategies when budgets are tighter than ever and resources are limited. The Urban Land Institute (2013) offers recommendations for prioritizing programs, in the context of rebuilding key infrastructure after natural disasters. They recommend criteria for prioritization that include assessment of criticality of need, protection of market value, potential market value to be created, and additional performance considerations. These criteria could be adapted to prioritize funding for energy efficiency programs and training programs. The table below summarizes these criteria.

Criticality of Need	The degree to which a given measure mitigates a risk with a higher probability of occurrence <i>Example: land uses in the lowest elevations are more at risk to future flooding and surge conditions</i>
	Urgency of need, that is, how important a measure is implemented by a given milestone in time <i>Example: the introduction of submersible equipment by electric utilities in time for next year's hurricane season</i>
	The degree to which a measure mitigates risk to public health and safety
	The degree to which a measure mitigates multiple sources of risk <i>Example: wind, water, surge, storm</i>
	Establishment of multiple layers of risk mitigation that create redundancy across urban systems
Market Value Protected	Assessment of value of infrastructure and real estate assets to be protected
	Adverse impact on property values arising from damage to other urban systems <i>Example: transportation, utilities, health care, essential supplies (gas, food, water)</i>
	Economic value to be protected <i>Example: jobs, workforce capacity, tax revenue</i>
	Social and cultural values to be protected <i>Example: affordable housing, neighborhood integrity, cultural resources</i>
Potential Market Value to Be Created	Measures that create new revenue streams or create future value potential
	Measures that achieve climate mitigation goals <i>Example: energy efficiency</i>
	Measures that create other cobenefits and achieve other public purposes <i>Example: open-space creation</i>
Additional Performance Considerations	Ease of project execution across multijurisdictional permitting authorities
	Opportunity to leverage the existing finance and delivery capacity of existing development entities
	Certainty and availability of funding <i>Example: timing, probability, complexity of comingled funding</i>
	Durability and designed life cycle of a given measure
	Operations and maintenance costs
	The degree to which a project is a component of a systematic implementation strategy; demonstration projects to establish political feasibility; projects that advance research and development objectives

Energy efficiency or training programs are more likely to secure funding and be considered “essential” if they meet these criteria. Do the programs not just make buildings more efficient but also address other “critical needs” such as mitigating risks from natural disasters or making buildings healthier as a response to the pandemic? Do they address multiple vulnerabilities in the system? Do they protect the market value of critical infrastructure? Do they provide opportunities to enhance market value, add jobs or create new revenue streams? Are they easily executed and delivered? Is future funding likely to be available? Answering these questions can offer guidance for which new programs to pursue, and can also provide avenues for selling energy efficiency programs at a time when resources are scarce.

Lesson 3. Pay attention to the winners and losers

The economic recession of 2008 and 2009 had a disproportionate impact on communities of color and young people (Kalleberg & Wachter, 2017). African American and Latino homeowners

experienced higher rates of default on mortgages and foreclosures than white homeowners. They were also more likely to lose their jobs or experience large drops in their wages.

Young workers entering the job market in 2008 and 2009 also experienced more adverse effects, which have extended in the 12 years since the start of recession (ibid.). These workers experienced lower earnings during the recession and afterwards, accepted worse jobs, and subsequently saw reductions in their wealth accumulation, health and wellbeing. They delayed milestones such as forming a family and buying a home, and were less likely to have confidence in public institutions and believe that hard work pays off.

We are only beginning to see the impacts of the pandemic and subsequent recession on vulnerable populations, but it is already clear that there are outsized impacts for certain minority populations. It's also clear that young workers entering the job market are being severely impacted. The energy efficiency workforce will need to be proactive in developing programs that can help these individuals gain access to quality training and jobs so that racial and economic disparities do not widen, as is typical in recessions.

Lesson 4. Leverage communication channels to support rapid development of programs

Many states invested in energy efficiency and green jobs as a response to the 2008 recession. Some states like Illinois already had legislation in place requiring utilities and state energy offices to provide energy efficiency programs to meet energy savings goals. In 2008, the Illinois General Assembly passed a \$31 billion capital investment program that included \$4.4 billion in funding for building energy efficiency, mostly for public and state facilities and urban weatherization initiatives (Chicago Green Collar Jobs Initiative, 2009).

This increase in funding for energy efficiency services prompted increased investment in job training programs. The Chicago Green Collar Jobs Initiative identified job shortages in several key energy efficiency occupations, including certified assessor/auditor, site supervisor, contractor, and measure installer. They noted that Illinois, and the Chicago region in particular, was well positioned to respond to the increasing demand for energy efficiency services because of the following assets:

- A strong regional workforce development infrastructure, with workforce boards and community colleges that work together to identify and meet needs
- A track record of developing sector-specific workforce strategies, working with local workforce investment boards to grow businesses
- Experience in green curriculum development
- Funding opportunities. Illinois prioritized some of the ARRA and state building energy efficiency funding for training programs, and stakeholders applied for jobs-related grants
- Existing provider base for green workforce strategies--including education and training providers with programs to prepare workers

These assets are likely to support job growth in energy efficiency during the current crisis as well, provided that the funding opportunities are available. A strong regional workforce development infrastructure, with a strong existing provider and training program base, will be essential. This infrastructure may need to be mobilized quickly to take advantage of funding opportunities.

Lesson 5. Emphasize the secondary benefits of energy efficiency

Litman (2017) interviewed Jim Barrett, chief economist at American Council for an Energy-Efficient Economy (ACEEE) to explore why some states invested in green jobs during the recession (including energy efficiency) while others did not. States with high energy prices were much more likely to invest in green jobs, while some states invested in green jobs despite low energy prices because of “strong political will.”

Barrett noted that states considering investing in green jobs during the recession had to consider opportunity cost: “When you think about spending to create green jobs, you also have to think about what that money would have done otherwise.” He admits that there are alternative investments that could potentially create more jobs, but argues that states should consider the “secondary benefits” of green jobs. Energy efficiency, he explains, gives businesses a competitive advantage, reducing their operating costs. Investing in energy efficiency makes states “a more competitive home for business” and opens the door for businesses to grow and create more jobs. It creates safer, more comfortable, and healthier indoor environments. States that recognized these benefits were more likely to invest in green jobs. State agencies such as the Department of Commerce and Economic Opportunity are ideally situated to promote clean energy jobs as an economic opportunity, not just an environmental opportunity.

Lesson 6. Spur job growth through government mandates

One way to increase demand for energy efficiency services and generate jobs during a recession is to push for legislation that mandates energy efficiency. In New York, the Greener, Greater Buildings Plan (enacted in 2009), required annual benchmarking and energy audits every 10 years for large buildings, adoption of energy codes, and code-compliant lighting in commercial spaces. These laws were estimated to generate \$700 million in savings and create roughly 17,800 construction jobs (Casey, 2013). Small energy efficiency contracting businesses saw a huge surge in employment because of this act.

Lesson 7. Increase collaboration among stakeholders

Research on natural disasters can provide some guidance on how we might cope with the current crisis. One approach encourages increased collaboration among stakeholders including governments, higher education, nonprofits, and industry. For example, in response to natural disasters, the NSF-sponsored Build Efficiency for a Sustainable Tomorrow Center established communications between industry and educational institutions that support 2- and 4-year college programs in energy efficient building systems (Mosley, 2018). The same study looked at how the Emerald Cities E-Contractors Academy provided training for small, minority, women or veteran owned energy efficiency retrofitting contractors in the aftermath of a natural disaster.

Emerald Cities helped connect companies to apprentice pipelines within their states' union networks.

Lesson 8. Ensure long-term sustainability of programs

In another example of recession-funded energy efficiency, the Corporation for Ohio Appalachian Development (COAD) utilized \$62 million in ARRA weatherization funding for two years, and was able to expand its workforce by 400 people (Casey, 2013). Manufacturers of insulation equipment also experienced significant job growth as a result of this funding. Unfortunately, this funding disappeared after two years, and COAD was forced to lay off many of these workers. While federal stimulus funding may provide essential funding for a short period of time, lawmakers, utilities and other programs need to work together to ensure the long-term sustainability of such efforts.

Lesson 9. Don't neglect employee wellness

Kleinberg (2004) explored how workers developed “worker’s block” in the weeks and months after 9/11. Many employees were emotionally disengaged. They had “diminished interest or participation in significant activities, feelings of detachment or estrangement from others.” Kleinberg warns that if organizations ignore these problems and don’t take steps to build employee morale and foster cooperation, worker’s block can lead to reduced performance and threaten the health of the organization.

Kohll (2017) contends that workplaces are more resilient when employees have a group of people who can build them up when times are tough. What makes the current situation so challenging is that employees are physically removed from the people who can build them up. It will take extra effort to build employee morale and foster cooperation in the current situation, but the cost of ignoring such efforts could be severe.

Governments and businesses are recognizing that supporting employees during times of crisis can be a cost-saving measure. While discussing the impact of California wildfires, Deloitte (2019) points out that it is often more cost effective to provide for the physical and emotional needs of employees during a crisis, rather than recruiting and training new employees if a natural disaster or global pandemic displaces workers or takes them out of commission for a while. While individual businesses can develop their own policies and programs regarding sick leave, wellness services, and disaster response, broader changes and employee protections could make a much bigger impact: small business loans so that employers don’t have to fire and rehire employees, generous sick leave and parental leave packages, and universal health care and preschool, to name a few. Ameren Illinois can set an example for other companies by providing robust wellness services, employee benefits and protections, and encourage other organizations to do the same—especially its partner organizations.

Lesson 10. Provide opportunities to learn, in response to changing circumstances

After a major earthquake in Christchurch, Wilkinson and colleagues (2017) noted that “most subcontracting businesses [were] not well equipped with business knowledge and thus

jeopardize[d] the permanency of their businesses.” Specifically, subcontractors had defective managerial skills and financial literacy, making it challenging for them to manage the increased demand for contracting services in the aftermath of the earthquake. When contractors were given opportunities to enhance their business knowledge, they developed more resilient business practices. They were able to strengthen their core businesses, diversify their business operations, find flexible ways to meet challenges, and improve their finances.

Ameren Illinois has provided similar training opportunities for minority businesses through a partnership with the Minority Business Development Center (MBDC) in Peoria. This spring, they offered a “boot camp” for five diverse-owned businesses that received individualized coaching to help them expand their energy efficiency work. Training topics included licensing and certification, quickbooks and accounting, preparing financial statements, operations and administration, contractor insurance, safety, and customer services. MBDC also provides back-office support to participating contractors, including invoicing and program documentation. These opportunities are likely to be especially valuable during the pandemic as small businesses are struggling to recover from the economic impacts of the pandemic.

Lesson 11. Plan for the next crisis

If there’s anything that the pandemic has taught us, it’s to plan for the unexpected. Obviously, a system or organization that has a plan in place will be more resilient when the next crisis comes. Based on their review of responses to California wildfires, Hirsch and Strawser (2014) describe how organizations can plan for unanticipated long-term disruptions, using some basic crisis management principles. They recommend

- developing a base plan for all business functions
- streamlining the decision-making process
- recognizing remote workforce challenges and opportunities (for staff, contractors and program administrators, who may need training, accommodations, and extra time to complete work)
- establishing relationships and agreements with recovery providers far in advance¹
- being present and visible
- developing internal resources
- developing multiple channels of communication so that critical information is readily accessible before and after a disaster

Next steps

The coronavirus pandemic has had an unprecedented impact on the energy efficiency workforce and will likely continue to reshape the workforce in profound ways. Though perhaps energy

¹ Recovery providers include vendors prepared to aid with clean up after a natural disaster (flood, tornado, fire). As Hirsch and Strawser point out, “If there is no disaster mitigation firm pre-contracted, it is not ideal to start the search as the water is moving toward the mechanical floor and expensive electronic equipment.” Plans should be in place for all facilities, including leased facilities.

efficiency is “non-essential” during an active state of emergency, energy efficiency measures are inextricably linked to the physical and economic health of communities and the built environments that comprise them. Consequently, sound energy efficiency practices implemented by a strong energy efficiency workforce can play a critical role in ensuring a safe and prosperous recovery from the COVID-19 pandemic.

The Ameren Illinois Market Development Initiative is well positioned to play a significant role in this recovery effort. It has demonstrated a commitment to building and diversifying the energy efficiency workforce, especially in underserved communities, and it has developed strong connections with many stakeholders in these communities.

This literature review is an initial step to summarize the impact of the pandemic on the energy efficiency workforce and the responses so far, and to identify ways to help the workforce become more resilient. However, there is still much to learn. Though responses to past crises can provide some insight, we still need to know how energy efficiency stakeholders are responding to the unique challenges they are experiencing. We need to develop local responses that will be responsive to local needs.

The next step is to learn from energy efficiency stakeholders, working together to build new initiatives to address vulnerabilities and help the workforce begin to rebound. To this purpose, SEDAC will be engaging in extensive outreach with energy efficiency employers, trainers, job seekers, workforce development coordinators, and community organizers this summer. Building on the work we have done in this literature review, we will invite these stakeholders to share their experience regarding a) the impact of the pandemic and their response, b) the challenges we now face in growing and diversifying the workforce, and c) how we can work together to help the system can become more resilient. Our stakeholder outreach results, together with the two literature reviews we have completed, will lead to the development of a pilot project to grow and diversify the workforce in this challenging time.

Ameren Illinois has a rare opportunity to help the energy efficiency workforce not only recover from the current crisis, but to enhance its capacity to withstand future stress. The goal of this study is to develop recommendations that will help the energy efficiency workforce adapt, innovate, diversify, grow stronger, become efficient, and collaborate to not only bounce back but bounce forward.

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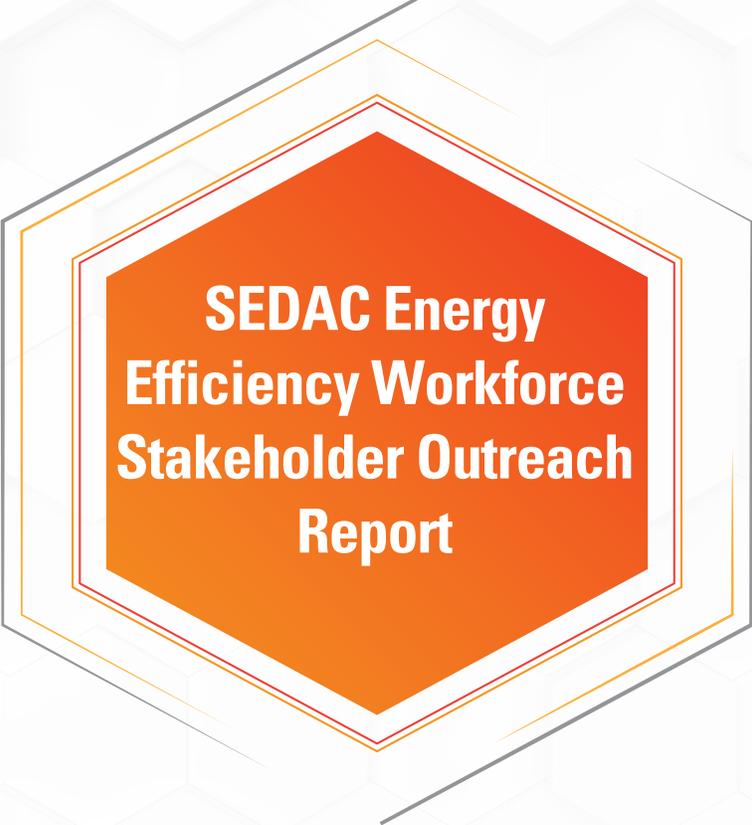
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SEDAC Energy Efficiency Workforce Stakeholder Outreach Report

Overview:

- » Following the Ameren Illinois and SEDAC Workforce Development Summit, SEDAC compiled in-depth interviews into a final stakeholder report with detailed accounts and real-world examples of the issues and barriers identified in their literature review
- » This final analysis was used as the framework for their Workforce Development Pilot launched in February 2021



ENERGY EFFICIENCY
PROGRAMS



Energy Efficiency Workforce Stakeholder Outreach Report

February 5, 2020

Produced by SEDAC
and Submitted to Ameren Illinois





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Executive summary

SEDAC interviewed 38 energy efficiency stakeholders to better understand the energy efficiency job needs, the skills required, as well as barriers to growing and diversifying the energy efficiency workforce. The purpose of SEDAC's stakeholder outreach was to assess workforce development and diversification needs related to energy efficiency in the Ameren Illinois service territory and develop recommendations for a workforce development program based on the identified needs. This report summarizes the findings from these interviews.

Our findings first address the **problem**: how the energy efficiency workforce in Illinois is struggling to meet the demand for energy efficiency products and services, how there is a lack of qualified candidates to fill jobs, and how there is a lack of diversity in the energy efficiency workforce.

- **Meeting demand, filling jobs.** Participants indicated that demand is strong for energy efficiency products and services, with weatherization, installation, and residential services in particular demand. Though demand has decreased somewhat because of the pandemic, employers nevertheless explained that they are having trouble meeting the demand for energy efficiency services and products. They indicated that energy efficiency jobs--particularly technician, installation, weatherization, and auditor positions--are difficult to fill.
- **Lack of diversity.** The strong consensus from interviewees was that the energy efficiency workforce was largely white and male. Trade professions were described as strongly male-dominated, while participants noted that leadership and advocacy positions were becoming more diverse. There was an overall recognition that the playing field is not level, and that some groups have multiple barriers that make it difficult to take advantage of opportunities. Participants saw value in diversifying the energy efficiency workforce because diverse employees can better engage customers who are like them, and they present different, creative ways of thinking.

Next, we discuss **barriers and solutions** to grow and diversify the energy efficiency workforce around seven topics:

1. **Awareness and attitudes.** The need to raise awareness of energy efficiency jobs permeated the interviews. Participants complained about lack of awareness of a) energy efficiency in general, b) energy efficiency jobs, and c) energy efficiency career paths. Participants noted that minority and low-income communities in particular had very little exposure to energy efficiency, jobs, and career paths. For those exposed to energy efficiency and trade jobs, negative attitudes about the work also limited people's



willingness to pursue energy efficiency careers. These negative attitudes included perceptions that energy efficiency jobs were dirty, dangerous, and physically demanded, and that trade jobs in general were less desirable than jobs requiring a college degree. Participants recommended strategies to raise awareness of energy efficiency among underrepresented groups. They also suggested ways to combat negative attitudes, and to introduce energy efficiency to students at a younger age.

2. **Skills and training.** Many employers and workforce coordinators noted that job candidates often lacked the skills and training needed for the positions--from technical skills to basic math and use of tools. There was an enormous cost associated with training underprepared employees. In general energy efficiency employers who recruited from within trade programs felt that individuals lacked specific training in energy efficiency and whole-building analysis. In contrast, weatherization professionals felt that some people were not prepared for TCP and BPI training and required additional remedial training and hands-on learning opportunities. There was also concern that energy efficiency training opportunities were not accessible to people. Participants recommended ways to fill skills and training gaps--in particular through internships and apprenticeships--and to make training more accessible through online and mobile training options.
3. **Non-technical “soft” skills.** Employers, training providers, and community support providers all described the need for job candidates with soft skills, which included “business” type skills like leadership, financial literacy, communication, and teamwork, as well as more “basic” skills like meeting employer expectations, dressing for the job, and being courteous. Training programs and community support providers discussed ways they teach these soft skills by taking a “whole person” approach and by offering career readiness training. **Personal/social issues.** Interviewees recognized that there are multiple barriers that keep people out of the energy efficiency workforce. The availability of quality training opportunities is a necessary part of the pipeline towards employment. But it is by no means sufficient. Quality training programs are useless if students cannot find their way to class. Students living in economically depressed conditions may have a host of personal and social issues that prevent them from successfully completing training or maintaining employment. Because people of color are disproportionately represented in distressed communities, these barriers prevent the diversification and growth of the energy efficiency workforce. Barriers discussed by participants included trauma, geographic isolation, transportation, childcare, training costs, and health issues. Multi-faceted support was seen as the solution and included scholarships for tuition, stipends for childcare, transportation and even housing vouchers. Participants noted the importance of good mentors and acknowledged how expensive it can be for organizations to provide multi-faceted support.
4. **Funding.** Many participants advocated for more funding for energy efficiency programs, services, and training programs, and several hoped to see stimulus funds directed towards clean energy jobs, as they were a decade ago. Participants argued that



government and utility funding has not been distributed equitably, and that cash needs to flow towards black and brown communities.

5. **Recruitment and Hiring Practices.** There was a general agreement, if not an unspoken assumption, that it was important and necessary to provide opportunities for members of underrepresented groups. Participants described recruitment and hiring practices that failed to draw minority applicants, or that unfairly excluded people. Several participants were in favor of diversity mandates and recommended ways to review and revise hiring practices to create a more diverse and inclusive workforce.
6. **Stereotypes.** Participants described stereotypes of women, minorities, and formerly incarcerated individuals that made it more difficult for them to join the energy efficiency workforce or feel like they belonged. Others noted that these stereotypes reflected ignorance and recommended ways to improve workplace culture and educate those in power.

Finally, we discuss the need for **greater coordination among stakeholders** and how improved coordination will help overcome barriers to workforce growth and diversification. Several participants felt that there was an overall lack of connection among stakeholders in the energy efficiency workforce, while others described weak connections among certain stakeholder groups. There was an acknowledgement that some connections were relatively strong, while many others needed to be strengthened. Participants offered many suggestions for building an infrastructure that will improve connections with communities and among stakeholders.

We have used the results of this stakeholder analysis to develop the conceptual framework for our workforce development pilot project, which we will deliver through the Ameren Illinois Market Development Initiative in the coming year. This pilot project takes a regional approach to enhance coordination among stakeholders, fill jobs, and diversify the workforce. Our approach addresses the major barriers identified in this report and builds off of the solutions described by participants.

We thank Ameren Illinois for providing the opportunity to learn from stakeholders through this outreach process and look forward to continuing to build relationships with stakeholders as we deliver the pilot project.



Introduction and methods

Energy efficiency employers throughout the U.S. are experiencing a lack of skilled workers. At the same time, women and minorities remain disproportionately underrepresented in energy efficiency. It is crucially important to understand what jobs are needed, where they are needed, the skills required, as well as barriers to training, employment, and the diversification of the workforce.

To address these knowledge gaps, SEDAC first conducted a review of existing literature on energy efficiency workforce development and existing AIC-connected workforce development programs as they relate to current and future energy efficiency workforce needs in Illinois. We completed a second literature review to explore issues of resilience and crisis response in energy efficiency workforce development, spurred by the challenges associated with the pandemic.

This report documents the results of our second task: stakeholder outreach. The purpose of SEDAC's stakeholder outreach was to assess workforce development and diversification needs related to energy efficiency in the Ameren Illinois service territory and develop recommendations for a workforce development program based on the identified needs. For this project, we engaged with key stakeholders to identify the major issues and potential solutions in relation to the need for a larger and more diverse pool of qualified workers for energy efficiency companies.

SEDAC convened phone interviews with 38 energy efficiency workforce stakeholders from June 2020 through September 2020. We identified 5 categories of stakeholders and sought to interview 8 individuals from each category:

1. **Training providers:** community college instructors and administrators, adult education programs, union and trade training programs, construction training programs, high school shop instructors, etc.
2. **Employers:** large and small businesses, AIC trade allies, women and minority owned businesses, HVAC service providers, electricians, weatherization professionals, etc.
3. **Community support providers:** community action agencies, community-based organizations, ministries.
4. **Workforce coordinators:** state agencies and nonprofits in Illinois that advocate for growth in the clean energy workforce.
5. **Job seekers:** individuals who may potentially join the energy efficiency workforce.



To recruit participants, we worked with Ameren Illinois and others to compile a list of individuals for each category. We reached out via phone or email, inviting people to participate in interviews. We specifically reached out to participants from underrepresented groups and to participants that served women, underrepresented minorities, formerly incarcerated people, and people in hard-to-reach, underserved geographical areas, such as rural communities. We mapped all identified stakeholder organizations and selected a broad geographical range of stakeholders to pursue for interviews.

Almost all participants were involved in energy efficiency work, training, or workforce development in some way. However, we included a few community support providers that were not specifically focused on energy efficiency, but who provide broad workforce support to underrepresented groups (formerly incarcerated individuals, for instance) to gain their perspective on support service needs.

Most interviewees were located in Ameren Illinois territory, though some of the workforce coordinators lived in the Chicago area and were included because of their knowledge of statewide workforce development initiatives. We also sought to include participants who served a wide range of age groups, from high school students to seniors. In total, we interviewed 38 participants, reaching or exceeding our target number of participants (8) for all stakeholder categories except job seekers. Job seekers proved to be much more difficult to recruit at this time. A description of the participants is in Table 1 below.



Table 1. Description of participants

Stakeholder category	Participants
Employers	9 participants: <ul style="list-style-type: none">● 5 women, 4 men● 4 AIC implementation contractors, 5 AIC program allies
Education and Trainers	8 participants <ul style="list-style-type: none">● 1 woman, 7 men● 6 from community colleges or trade programs, 2 from community organizations that provide training to underserved groups
Community support (including CAAs)	12 participants <ul style="list-style-type: none">● 2 women, 10 men● 7 community action agencies, 5 organizations serving special interest groups, such as formerly incarcerated people
Workforce coordinators	8 participants <ul style="list-style-type: none">● 4 women, 4 men● Large and small workforce development organizations in Illinois represented
Job seekers	1 participant (male)
Total	38 participants <ul style="list-style-type: none">● 11 women● 27 men

The hour-long phone interviews were conducted via Zoom. Participants were invited to provide verbal consent to participate in the interview process and were given a \$25 gift card for their participation. Questions addressed the demand for energy efficiency jobs and services, the ability to fill jobs, skills and training gaps, as well as the lack of awareness of energy efficiency jobs. They were also asked questions about who is underrepresented in the energy efficiency workforce, why they are underrepresented, and what can be done to recruit and support underrepresented groups and help connect people to jobs. Finally, participants addressed questions about policy, legislation, and coordination among stakeholders. The interviews were recorded, transcribed, coded by a team of researchers, and thematically analyzed. To protect participants' identities, we have not included any identifying information, such as participants' names, organization, role, and location, in our results.

Our results are organized as follows. First, we discuss the problem: how the energy efficiency workforce in Illinois is struggling to meet the demand for energy efficiency products and services, and how there is a lack of diversity in the energy efficiency workforce.



Next, we discuss barriers and solutions to grow and diversify the energy efficiency workforce around seven topics:

1. Awareness and attitudes
2. Experience, training, and technical skills
3. Non-technical “soft” skills
4. Personal/social issues
5. Funding
6. Recruitment and hiring practices
7. Stereotypes

While many of the barriers and solutions were applicable to job seekers generally, some of them were particularly applicable to underrepresented groups. Participants recommended solutions to help overcome these barriers. Some described solutions they personally have implemented or have seen other programs implement. Other participants described “dream programs” that they would like to see implemented to grow and diversify the workforce.

Next we discuss the need for greater coordination among stakeholders and how improved coordination will help overcome barriers to workforce growth and diversification. In the final section, we conclude with a summary of our overall findings and next steps for moving forward with the pilot project.

The problem

Meeting the demand for energy efficiency products and services

Summary: *Participants indicated that demand is strong for energy efficiency products and services, with weatherization, installation, and residential services in particular demand. Though demand has decreased somewhat because of the pandemic, employers indicate that they are having trouble meeting the demand for energy efficiency services and products. They note that energy efficiency jobs--particularly technician, installation, weatherization, and auditor positions--are difficult to fill.*

Most people we interviewed indicated that there was strong demand for energy efficiency products and services, and that they were having difficulty hiring individuals to meet this demand. The word cloud below (Figure 1) describes the relative frequency of mentions of high-demand energy efficiency products, services and hard-to-fill jobs.



Figure 1. Word cloud of high-demand energy efficiency products, services and jobs

High demand products and services. Among energy efficiency products and services believed to be in high demand, weatherization and installation services received the most mentions (9 each), with HVAC, LED, and solar also receiving strong responses. Smart equipment, controls, electrification, indoor air quality services, and electrical vehicles were each mentioned by a few individuals. A fair number of participants indicated that demand for energy efficiency services and products was strong “across the board.”

Many participants indicated that there was a particularly strong demand or need for residential energy efficiency services (8). Among these participants, about half indicated that these services were most needed in low-income housing, where the quality and age of housing has created a strong demand for upgrades. However, other participants noted that low-income residential customers are often not aware of energy efficiency opportunities, and do not have the money to pursue retrofits, without assistance. They argued that higher-income households are more likely to demand residential energy efficiency services. “Most people think about energy efficiency upgrades as luxury items, accessible only to those who are relatively well-to-do,” one energy efficiency employer noted. Not surprisingly, several also noted that demand was stronger in urban areas than in rural areas.

Finally, several participants noted that demand for energy efficiency was strongly linked to government or utility program funding. When funding was available, demand was strong. When funding dried up, so did the work. One workforce coordinator insisted that demand for energy efficiency services was driven by utility funding, rather than stricter building energy codes, because the majority of energy efficiency work was done on existing buildings rather than new buildings.

Pandemic impact. Fourteen participants (most of the employers and CAAs we interviewed plus a few trainers and workforce coordinators) noted that the pandemic negatively impacted



demand for energy efficiency services, products and training, especially in March, April, and May. A fair number of employers, especially contractors, indicated that they were essentially shut down for the early part of the pandemic. One employer complained, “We’ve lost one-third of the year right off the bat. I simply had to send my folks home completely for 100 days.” Others felt less of an impact: “I would say maybe a little less work,” one employer said. Another admitted that “it’s definitely put us in a hold for hiring and also slowed some of our operations.” One trainer said that they had to cancel their training program for a little while, while three other training providers described finding ways to offer their training online.

Several employers and workforce coordinators were more positive, noting that they were “slowly ramping back up” as restrictions have eased: “People are starting to kind of come around now. We’ve had a few calls, but, I mean, phone’s not ringing off the hook.” Another employer suggested that their heating and cooling activities were “considered a necessary business” and they had not seen a real slowdown. One employer even suggested that people are investing in their homes right now, creating more opportunities to do energy efficiency work.

Job shortages. Despite the negative impact of the pandemic on demand for energy efficiency services, many participants described challenges with filling jobs. In general, the high demand services and products were linked to energy efficiency jobs experiencing hiring difficulty. Participants who indicated that there was strong demand for installation, HVAC, and LED services and products also noted that the technician and installation positions that offer these services were difficult to fill. Weatherization jobs were noted as particularly difficult to fill.

Many participants also noted that it was hard to fill auditor positions. One participant noted that the shortage of auditors was making it difficult for contractors to get their work done: “Our contractors are not necessarily wanting to slow down. They actually want to expand. But we’re limited by the number of jobs that we can get out to them” because of the shortage of energy auditors. A few participants noted that there were too few energy educators, as well as sales, marketing and customer outreach professionals. Several employers also noted that it was challenging to retain employees. Contractors frequently were lured over to higher paying, less physically demanding jobs--many of them outside energy efficiency. Employers indicated that competition was strong for construction workers, installers, and technicians of any type.

Lack of diversity in the energy efficiency workforce

Summary. *The strong consensus from interviewees was that the energy efficiency workforce was largely white and male. Trade professions were described as male-dominated, while*



leadership and advocacy positions were described as increasingly more diverse. There was an overall recognition that the playing field is not level, and that some groups have multiple barriers that make it difficult to take advantage of opportunities. Participants saw value in diversifying the energy efficiency workforce because diverse employees can better engage customers who are like them, and they present different, creative ways of thinking.

Participants were largely in agreement that the energy efficiency workforce is not as diverse as it should be. The groups most frequently described as underrepresented were women (mentioned by 19 respondents) and racial minorities (also mentioned by 19 respondents). Among racial minorities, specific attention was called to African Americans (11 respondents), followed by Latinx (7), then Asian people (5); people from India were mentioned by one person. Women of color were noted by one person as being particularly underrepresented. Several people mentioned that there are fewer minorities living in rural areas, compared to places like Chicago, and so there are fewer minorities in energy efficiency jobs in these areas. Other groups of people mentioned by one to three respondents included people with disabilities, young adults/recent graduates, seniors, people from rural areas, low-income individuals, veterans, and formerly incarcerated people.

It was noted by several participants that there is more diversity in program management, audit, sales, advocacy, and data entry jobs, than within the trades, where the workforce is largely male and white. One workforce coordinator noted that in the advocacy community, “the folks that are promoting utility energy efficiency programs, trying to engage consumers . . . are significantly younger than middle aged and significantly more diversified than simply white males.” When it came to leadership, several participants noted that leadership has been largely male dominated in the past, but now we’re “seeing more women in leadership and key roles.” However, another workforce coordinator noted that minorities, particularly women of color, “are most certainly underrepresented” when it comes to leadership in policy development.

Trades, in contrast, had far less female representation. “We don’t have anybody on crews as far as women,” one employer explained. “Most of them got office jobs; [they] aren’t interested in crawling around underneath houses and stuff.” And in fact, one female energy efficiency employer noted that some people had problems taking her seriously because she was a woman in a male-dominated field: “There’s been men that . . . won’t talk to me, they’d only talk to John.”

Training providers pointed to some positive trends. One said that they’ve been seeing “many more females enter.” Another noted that the amount of female representation was “steadily increasing” on a long-time scale, and that they were “making better in-roads with minority



students lately.” One training provider in construction trades noted that his program actually has “more young ladies than we do young men, right now.”

Several employers indicated that they do track the number of diverse employees and partners they have, while others don’t track but felt like they had strong diversity in their workplaces. One employer noted, “I think we have a nice mix of diversity so to speak. We have a nice mix of some younger people and some more experienced people.” One employer admitted that the majority of their diversity came from a single diverse partner organization, and another one said that she knew many partners that “reached their diversity numbers by purchasing vehicles, for example, from a minority-owned dealer,” which she didn’t feel was in keeping with the spirit of diversity mandates and goals. As she put it, “I’m not sure how that really represents, true diversity; a diverse voice, right?”

Participants overall saw value in diversifying the energy efficiency workforce and many noted the benefits that diversity can bring. The two benefits noted most often by participants were:

- **Ability to successfully engage with customers who are like them.** One trainer said diverse workers could relate better to diverse clientele, generating more interest. Another employer noted that “they bring perspectives unique to their experiences that would substantially improve service delivery for their peers.” Diverse workers were able to “interface with people who look like them in a more in-depth and respectful way,” and better understand the problems they face. These workers made people who are like them feel more comfortable.
- **Different, creative ways of thinking.** One workforce coordinator argued, “I believe diversity, thinking differently, in the workforce creates opportunities for thinking outside the box and creating new ideas and new great ways to make things happen.” Diverse employees, according to participants, bring “fresh eyes, maybe different backgrounds, different skills.”

Participants also identified several benefits that specific populations bring to the table, beyond the benefits described above.

- Two participants noted that **older workers** bring “credibility” to a public that is skeptical about utility programs. Older workers are great spokespeople for their peers. They are also capable of “talking straight” in a way that people understand, making for a “more disarming consumer engagement experience.” Finally, they bring to the table their life experience, maturity, and a tendency to be more methodical.



- According to one participant, **workers with disabilities** can be more empathetic, able to understand “the specific needs of their peers on the other side of the service.” They bring “an understanding of what it is to be disabled, and ingenuity in navigating their daily world. . . They’re problem solvers.”
- Several participants noted the unique skills and temperaments that women can bring to the workforce. According to one employer, **women** in energy efficiency trade jobs “probably would be more understanding with some of the people’s problems.” Another participant noted that female employees typically “paid more attention to detail.”
- Two people noted the benefits of hiring **formerly incarcerated people**. “They’re hard workers, they want to please,” one service provider noted. They “have a kind of resiliency . . . or strength [of] lived experience that can be channeled and harnessed.”
- One participant noted the benefits of having **Spanish speakers** on their crew. These individuals were able to better communicate with Spanish-speaking customers.
- Three participants noted the benefits of hiring **local, diverse workers**. One participant explained, “You really have the most impact in your own communities where you have commonalities. . . where you know the region.”

Barriers and Solutions

Awareness and attitudes

***Summary.** The need to raise awareness of energy efficiency jobs permeated the interviews. Participants complained about lack of awareness of a) energy efficiency in general, b) energy efficiency jobs, and c) energy efficiency career paths. Participants noted that minority and low-income communities in particular had very little exposure to energy efficiency, jobs, and career paths. Negative attitudes about energy efficiency work also limited people’s willingness to pursue energy efficiency careers. These negative attitudes included perceptions that energy efficiency jobs were dirty, dangerous, and physically demanded, and that trade jobs in general were less desirable than jobs requiring a college degree. Participants recommended strategies to raise awareness of energy efficiency among underrepresented groups. They also suggested ways to combat negative attitudes, and to introduce energy efficiency to students at a younger age.*

Lack of Awareness. Several participants said that developing basic energy efficiency literacy was needed to raise awareness of energy efficiency careers. “There’s a whole bunch of people who have absolutely no idea about anything related to energy . . . other than paying their bill every month,” one workforce coordinator explained. Another educator noted, “I would be hesitant to apply for a position if I didn’t know what it was.” This educator argued that everyone needs basic energy efficiency literacy: “Making sure your house is energy efficient, air



sealed, insulated, and good indoor air quality is just as important as learning to balance a checkbook.”

Several participants noted that people may not want to join the energy efficiency workforce if they don't understand how energy efficiency “benefits your community and you specifically.” One participant described how most underserved communities have few if any solar arrays. Why would people from these communities be interested in solar careers if they've never seen a solar panel, and don't understand how solar might benefit their community?

Several participants also noted misconceptions about what an energy efficiency job is and how wide the field is. One employer complained, “It's a whole specialty trade that nobody really understands.” When one job seeker was asked what kind of jobs came to mind when he thought of energy efficiency, he responded with “solar panels and wind turbines,” not technically energy efficiency but renewables. When asked about what a typical utility job was, he responded, “climbing up telephone poles all day and running the wire.” Energy efficiency work is seldom the first thing that comes to mind when students think of utility jobs. Participants noted that young people “need to be more aware of the range of opportunities, from customer service to engineering.”

Conflating renewable energy generation (solar, wind, geothermal) with energy efficiency is an error many people make. Energy generation entails capturing energy from the environment and converting it into a form that customers can use. Energy efficiency involves practices that minimize or reduce the loss or waste of energy by the customer. Delineating the two fields could be a critical task of an awareness raising campaign. It is important to note that Ameren, IL is not able to take action on energy generation.

Several employers, trainers, and community action agency representatives complained that young people are not choosing energy efficiency because there is too much competition from other related fields. Students are thinking about many different career paths, and it can be overwhelming to decide what to pursue. “The problem is that kids have too much to choose from,” noted one training provider.

Many people also complained that career paths to energy efficiency jobs are not clear. “People kind of come to it accidentally,” one employer noted. Another trainer explained that while he was aware of energy efficiency training opportunities, “That's just because I'm a grown-ass adult and somebody told me. . . I would have no clue, being a sophomore, junior or senior. I would have no idea that there's building controls or HVAC or sustainable energy programs that exist.”



Others complained that recruitment efforts were mediocre at best, and that the application process can be difficult to navigate. One training provider felt that utility programs don't do enough to raise awareness and recruit people for energy efficiency jobs: "There's never been a direct spiel saying, 'We're interested in people.'" Instead, they say, "'Oh, just put an application in.' Uh, where? How? They don't know who to contact in the industry."

Negative attitudes. Negative attitudes about energy efficiency jobs also prevented growth in the energy efficiency workforce. Several community action agency representatives and employers noted that some energy efficiency jobs--particularly in weatherization--were not perceived as desirable. People didn't want to work in low-income housing or neighborhoods they perceived as unsafe. Installation and retrofit work was perceived as difficult, dirty, physically demanding and potentially dangerous. As one employer put it, people who do this work come home "unrecognizable they're so doggone dirty." Weatherization jobs require crawling into dirty and uninsulated crawlspaces and attics that are sweltering in the summer. According to several employers and community action agencies, the physically demanding and dirty nature of these jobs was a major reason why women are underrepresented in the field. Several employers claimed that women do not want these kinds of dirty jobs, while others felt that women were not strong enough to meet the jobs' physical demands.

Others noted that energy efficiency is seldom conveyed in a way people can relate to. It may be seen, for instance, as a way of "going green" rather than a way of saving money and creating a more comfortable indoor environment. While "going green" may appeal to some people, it has political connotations that may make others wary. One employer talked about the need to overcome perceptions about big government and energy efficiency: "I have a neighbor who thinks energy efficiency programs are pure political, government waste of time, and he's just like, 'Oh my gosh. I can't believe you're doing that.'" Selling the benefits of energy efficiency in ways that people can relate to can help increase engagement in energy efficiency programs and raise awareness of energy efficiency careers more generally.

One weatherization professional noted that the people who do the installation work sometimes don't feel like they are "living their values through their work," which further leads to dissatisfaction. Whereas auditors or program managers may gain satisfaction from customer interactions, the people who do the installation typically have less customer interaction. He complained, "It's hard to find people that want to work in this industry anymore." Another noted, "We've got to figure out somehow how to make insulation interesting to the younger generation of workers."



Several employers and trainers noted that trade careers in general are seen as less desirable than so-called white-collar work. Young people aren't encouraged to "turn a wrench and change out the lights" when they grow up. Instead, they're told to prepare for college. People often look down on those who work with their hands, and so many of the construction-oriented energy efficiency jobs are seen as less desirable. Several participants complained about how high schools push college at the expense of other trade school or community college options. One workforce coordinator described an experience of attending a high school career event where only college was discussed: "There was not one thing discussed about other avenues that kids can take." Another workforce coordinator noted that shop classes have been removed from many high schools, especially in inner city black and brown neighborhoods, and so few students have opportunities to gain experience in or learn about the trades.

Low pay. There was also the perception that some energy efficiency jobs, particularly in installation or weatherization, were not desirable because they do not pay what people are worth or have low job security. Representatives of community action agencies noted that low wages made it difficult for them to retain workers. One community action agency participant explained that contractors have enough work already without needing to sign up with the weatherization program, and "they're a little bit afraid when we set the prices," which they perceive to be too low. Another participant complained about young people demanding higher pay: "Across the board, whether they're experienced or non-experienced . . . it seems like that they're \$50 an hour people and they're not going to work for nothing less."

Increase awareness through early education. Participants emphasized raising awareness of energy efficiency among young people, catching them "right out of high school" or even sooner. One employer explained, "I just think that we got to get the word out there somehow . . . I think that the skilled trades and energy efficiency need to be . . . taught [to] a younger generation." Participants recommended ways of engaging younger students and providing more guidance on career pathways. There was a general understanding that it was important to be attentive to young people's developmental stages, interests, and communication networks when reaching out to them.

Several participants mentioned the importance of involving young people (high school age or younger) in energy efficiency as a way to increase awareness of the industry and the well-paying jobs that are available. Participants talked about reaching out to schools or sponsoring extracurricular activities to give students opportunities to learn about energy efficiency and perhaps develop a passion for it. One training provider summed up the problem with lack of awareness among young people:



I would have no clue, being a sophomore, junior or senior. I would have no idea that there's building controls or HVAC or sustainable energy programs that exist. And then you gotta make your mind up. You gotta go to college. And so, those then are like, "I don't know. I'll go to Heartland Community College." It's too late at that point. ... I don't see how else you're going to get somebody to understand all these new areas of emerging technology and careers if [they] don't know it exists.

As high school students begin to think and plan for their futures they focus on the menu of options available to them from their own experiences and exposure from their education and family history, etc. At the moment, energy efficiency careers do not appear on many students' menu of options. Options not on the menu tend not to be considered.

In order to begin to encourage students to start considering energy efficiency as a potential career path, one employer emphasized the importance of early educational experiences:

I would... talk to these school districts nationwide and tell them they have to get an industrial arts program back in service. You gotta get these people at a young age trained to figure out what kind of things they want to do in life because college isn't for everybody. And pay attention to your math teacher because that'll get you someplace.

Another employer also suggested targeting high school students for outreach. But he emphasized the potential of finding a good paying job without a college degree:

I would start with education in the high schools. Certainly, letting people know that, hey, right out of school with the right training you can get a very good paying job. Well above \$15 an hour, right as an 18-year old and start putting money away and building a career at something that has proven through this pandemic to be a resilient occupation. It's still needed.

When asked about potential solutions for building the energy efficiency workforce, one training provider described how he would raise awareness of the field by offering high school students something many of them value - college credits:

I think one of the great things, solution-wise, that I'd love to do if I could have time is to run a summer program. Where you could get three college credits. And you could do two to three weeks where high school kids come in and they



could do a week of – I don't know, electronics. A week of welding. Bring in somebody from all of these areas and have them explore this stuff, so they know it exists.

Building on these ideas, this training provider described his idea for an electric bike summer program for high school students:

You could have kids build the electric bike from start to finish and cover fundamentals of stuff... You could still talk about powerline, AC and DC, sustainable practices. And all of that, even the drive controls that are in an electric bike is what they're going to be using similarly at an electric vehicle level.

In order to build and expand the energy efficiency workforce pipeline, participants expressed beliefs that reaching out to students in high school or even elementary school is necessary to increase awareness of the field, give students opportunities to explore various possibilities, and allow them to consider options that offer good paying jobs without a college degree. Implicit in many of their responses is the notion that when reaching out to young students, it is necessary to draw students in by offering something of value: transferable credits (either to college or trade school), opportunities for fun like building a bike, or finding a good paying job.

Once students are engaged in an activity or program, they begin to learn some of the fundamental concepts and skills necessary to work in the energy efficiency field. The belief is that, with these experiences, students will become curious about energy efficiency and some of them will actively find their way into the industry.

Combat negative attitudes. Several participants discussed ways to combat negative attitudes and make energy efficiency more desirable by emphasizing how energy efficiency helps people by “putting money back in their pocket.” One employer recommended letting young people shadow energy efficiency workers to “get more of a feel [for] what we do and get pleasure out of helping people and saving people energy.” Making training programs more “interesting” and “hands-on” was also perceived as a way to make energy efficiency more desirable. On the other hand, another employer argued that we need to be more honest about the kind of work that is required in energy efficiency jobs. He suggested being honest about the work conditions that they will be in: “Are you afraid of heights? You do realize, hey that they are out there when it’s 10 degrees or when it’s tornados, right?”

Raise awareness among underrepresented groups. Participants discussed the need to raise awareness of energy efficiency careers among underrepresented groups (women, minorities,



vets, disabled, older people, formerly incarcerated people, and vulnerable youth) by actively targeting these groups. Several participants asserted the need for employers and organizations to have clearly defined and targeted efforts to reach underrepresented groups and ensure greater representation in the energy efficiency workforce. They used language like “required,” “mandated,” and “intentionality” to describe these efforts. Participants provided advice for how to reach underrepresented groups to raise awareness and recruit participants for training programs and employment opportunities.

- **Go to where the people are.** Several participants explained the importance of reaching out to high schools, churches, afterschool programs, and community organizations that serve underrepresented groups.
- **Use known communication channels.** Participants discussed raising awareness through communication channels that reach underrepresented groups (e.g., social media groups, posters in community spaces, radio or TV advertisements).
- **Partner with local community-based organizations.** Several participants discussed the importance of working with local community-based organizations and employment agencies to raise awareness and recruit job seekers. Efforts should be made to work with organizations that have access to underrepresented groups.
- **Enlist female and/or minority recruiters.** Several participants highlighted the importance of asking members of underrepresented groups to spearhead awareness and recruitment efforts. Members of underrepresented groups brought direct insights on the needs of local communities. Several participants noted the importance of having people who “look like me” as part of discussions. They served as positive role models and helped to build relationships in underserved communities.

Technical skills, training & experience

***Summary.** Many employers and workforce coordinators noted that job candidates often lacked the technical skills, training and experience needed for the positions--from technical skills to basic math and use of tools. There was an enormous cost associated with training underprepared employees. In general energy efficiency employers who recruited from within trade programs felt that individuals lacked specific training in energy efficiency and whole-building analysis. In contrast, weatherization professionals felt that some people were not prepared for TCP and BPI training and required additional remedial training and hands-on learning opportunities. There was also concern that energy efficiency training opportunities were not accessible to people. Participants recommended ways to fill skills and training gaps--in particular through internships and apprenticeships--and to make training more accessible*



through online and mobile training options.

Technical skills desired. One major barrier to filling jobs was candidates' lack of technical skills, training and experience. Some participants talked about how they wished they could hire employees with more technical knowledge, basic trade skills, energy efficiency knowledge, and mechanical aptitude. They weren't necessarily looking for experience in energy efficiency retrofits, but they did want some basic trade skills. "It's just a lot easier to train someone that already has a background in the trades," one workforce coordinator explained. "If you hire the right person, you can get through all this training and all these certifications in less than a year. If you hire the wrong person with zero experience, that same training period can take a year-and-a half to three years." Another employer explained that ideally, they would like new employees to already possess the "knowledge and skill set to be able to walk through the door and walk right on to an installation without having to do months upon months upon months of training."

These employers wanted people with mechanical inclination, who knew how to work with their hands, problem solve, and use tools: "You have to have a lot of intelligence but you also have to be good with power tools and you have to be strong. You can't be clumsy with power tools. That can't be taught."

The ability to do math was also described as essential. Employees needed to be able to "understand numbers and calculations, [though] not necessarily to the level of engineering." They noted that it can cause frustration and impede employee retention when people "get overwhelmed with some of the actual numbers on the spreadsheet." Employees also needed to be able to use technology, "especially with the new world of continual remote work." One employer summed up the technical skills needed for new employees:

General tech savviness, and general understanding of the utility industry and the calculations is needed; those are things that we really need somebody to be up to speed on. If they're not, it makes the training process quite a bit longer.

Racial disparities in skills and training. The need for technical skills and experience with technology put underrepresented minorities at a disadvantage. One workforce coordinator noted that minorities in underserved areas did not have access to or experience with technology from a young age, and this made it so "we cannot compete . . . we can't even keep up. We can't run with the same wolves." When describing the digital divide in her community, she explained, "[We] don't have computers, don't have internet service, can't afford it. . . . Our two-year olds don't have their own little baby computers like they do on the north side." This



disparity, she noted, has only increased because of the pandemic: “Here comes COVID where everything . . . if it’s going to continue at all, for the moment, it’s primarily going to continue inside a digital idiom.” It was therefore crucial that young people have improved access to technology and training to use it.

She also noted that shop classes have been removed from the schools in these communities, further limiting young people’s ability to gain the skills and training they need.

Skills and training gaps. Several participants noted that energy efficiency employees usually come from the trades, and so “the deficits in the construction trade are the deficits in the CAA [weatherization] network.” The main deficits people noted were a) a general lack of information about energy efficiency, and b) a lack of a whole building system approach. People doing home repairs, for instance, “don’t have a ton of exposure to energy efficiency.” Several complained that basic carpentry and trade classes don’t address energy efficiency and weatherization. “I took basic carpentry and mechanical and different things and what I use now never got brought to me,” one installation supervisor explained.

Other employers did not expect new employees to have much knowledge or experience in energy efficiency. One employer described a recent job interview:

I could tell this person wasn’t fully understanding all of energy efficiency, yet felt compelled to try to make it sound like he really understood it at the time. And my response was, It’s OK. We can just take good clear-thinking people. The job functions are teachable. This isn’t rocket science. . . I think anybody who is open-minded, wants to learn and work hard, you can do great things.

In fact, one energy efficiency employer noted that too much experience or knowledge can be a barrier. They jokingly tell their new hires, “All that stuff that you knew before, just forget all that . . . because . . . this is a whole different animal, a different approach at looking at things—at the housing system.” Trade school training doesn’t usually take a whole system approach, like energy efficiency audits do. This employer noted that sometimes you end up with a better assessment/inspection staff with “minimal amounts of experience because it’s hard to teach an old dog new tricks.”

One workforce coordinator noted that some of these technical skills used to be taught in high school shop classes, but that these classes have been removed from many schools, especially in low-income areas. This prevents students from gaining the basic skills that would help them succeed in an energy efficiency training program.



Training of energy efficiency basics was hard to come by, especially for people outside major metropolitan areas. Instead, vocational training focused on “carpentry skills, mechanical skills, auto mechanics, welding, things of that nature,” but not energy efficiency. In rural areas, one participant noted that no one has the BPI training. If you want to get them the BPI training, “you have to pay for that.” One employer noted a need for more education on residential energy efficiency and the utility programs that are offered.

Employers also noted the lack of training about the building as a whole system:

I know that's something we see in training all the time too is people who maybe have been in somewhere in carpentry, but they've not had to do the whole system approach before. It's a different approach at looking at things, at the housing system and things of that nature.

Another workforce coordinator concurred:

I think there's probably some opportunity for more education for individuals to be better versed in energy efficiency . . . to bring the bigger picture together, not just the pieces. That it's not just lightbulbs, but it's how do you connect the heating and cooling system and the lightbulbs and all of the things.

On the other hand, other employers noted that their current training program (ICRT's TCP program) did a wonderful job of covering energy efficiency basics and “systems thinking,” but it was not enough for people who didn't have basic skills, skills that are typically acquired with a trade background.

One community action agency professional described the frustration people experience when they lack the technical skills and mechanical inclination needed to succeed in the TCP program: “They get maybe halfway through or farther. They're not understanding it. They're behind in knowing how stuff goes, and even some that get through it, then quit within the first few months.” Another participant lamented, “We really don't have the training set up to just do the basics. But I think what we more or less need is someplace where we can go and they can get their hands dirty.”

Filling Technical Skills Gaps. Participants provided several recommendations for filling technical skills gaps they claimed existed in TCP and BPI programs. For students in these programs with little or no experience in the trades, several employers recommended providing remedial courses as part of TCP or BPI programs that cover the basics to “get people to the point where they can more quickly absorb the information that they're going to be getting as they continue through the class to ultimately be more successful.” Others recommended more hands-on



training where students can “learn to caulk and insulate.”

Several participants described recommendations to fill skill gaps of community college programs--namely, a lack of training and hands-on experience specifically focused on energy efficiency. One workforce coordinator suggested incorporating energy efficiency into existing trade program curriculum and coordinating with employers to make sure certificates are accepted. Another energy efficiency employer recommended pairing community college programs with energy efficiency related internships and hands-on training opportunities: “Offer a joint program where you work at Stacy’s Heating and Cooling, and after six months of training you start going on service calls.” Another recommended that community colleges offer more credentialing and certification--not just “an Associate’s degree in energy efficiency, but maybe you have a certification in solar panel installation.” Then they recommended working with employers to recognize those credentials and certifications “as a currency to be able to do the job.”

Several participants recommended ways to teach technical skills in K-12 education. Shop classes were described as great opportunities to introduce trade and energy efficiency skills. One participant recommended short learning modules that teach specific skills rather than a full year of classes. Another participant even recommended that the training start sooner: “Even if it starts in middle school, for goodness sake, with a little notebook about turning lights on and not letting water run. You know, there’s got to be more education out there.”

Apprentice/Internships. Participants were asked to describe their dream programs for expanding and diversifying the energy efficiency workforce - assuming unlimited funding. The most common descriptions of dream programs focused on some form of apprenticeship or internship program. There was a recognition that the financial burdens students face while training for energy efficiency careers need to be addressed along with quality training and opportunities for job placement upon completion of programs. Several participants specifically mentioned paid apprenticeships and internships. For example, while describing his dream program, one community support provider said, “I would develop the program to a point where it’s a paid internship program, of course.” Another mentioned the importance of having employment ready for trainees upon completion of the program: “So basically, educate them, train them, and they already have a position somewhere and they get an incentive bonus as part of completing the training.” There was consensus that paid internships or apprenticeships are critical in offsetting the impact of lost wages trainees experience as they replace paid work with training.



Accessibility. Several participants recommended ways to make training more accessible. Many participants described how online options made training more accessible for young people. They noted that online programming has been expanded during the pandemic. One training provider explained, “Our website’s becoming much more powerful [during the pandemic] because we’re doing more video recordings of how to set up and operate devices . . . where people can get on there and learn how to actually do this.” Online teaching allowed people to take courses on an as-needed basis, rather than pursuing a complete program of study. Online training options are typically more accessible for people who already have jobs, or for those whose schedules do not permit them to attend long training sessions.

Some trainers worried that online training would compromise learning. One admitted, “I don't think it will be as in-depth or certainly not as thorough as what it had been....There will be more flexibility for the students, but the cost will be they will not be as prepared.” Others recommended more of a hybrid model, one that pairs online courses with more hands-on training or internships.

Mobile training programs were described as ways to reach more rural areas. One workforce coordinator described how training programs should be delivered through “community hubs” to make training more accessible for underserved communities.

Non-technical “soft” skills

Summary. *Employers, training providers, and community support providers all described the need for job candidates with soft skills, which included “business” type skills like leadership, financial literacy, communication, and teamwork, as well as more “basic” skills like meeting employer expectations, dressing for the job, and being courteous. Training programs and community support providers discussed ways they teach these soft skills by taking a “whole person” approach and by offering career readiness training.*

Soft skill needs. Many employers mentioned the crucial need for job seekers with soft skills. These skills included classic business skills such as financial literacy, entrepreneurial skills, leadership skills, and teamwork skills. Multiple participants mentioned the importance of good communication skills, both within the organization and with clients: “They have to be able to understand, hear what the client is saying. . . you need someone who can understand the value of the relationships you make.”

Employers also described a need for more basic soft skills such as being aware of employer expectations, showing up on time, courtesy, hygiene, and accountability. One employer



emphasized the need to teach students to wear proper work clothing, and to “socialize properly.” Several employers stereotyped certain groups of underrepresented minorities as lacking these soft skills. Black males were described as needing to “learn how to deal with society.” One trainer was “not happy” with his at-risk students’ social skills and offered etiquette classes to teach students how to express feelings and disagree.

Filling soft skill gaps. Several training programs described how they are working to help their students learn the soft skills that employers say job candidates lack. They described how they teach their students to be more aware of employer expectations, to show up on time, and to communicate well with customers. Another training program focused on business soft skills such as leadership and teamwork.

Soft skill development was often discussed in the context of helping job seekers from underrepresented or at-risk minority groups enter the workforce. One training provider who served at-risk youth described how his program helped students learn to dress appropriately for the job (“no hanging pants”), maintain eye contact, have good posture, and communicate effectively. His program used body cameras so that he could critique trainees’ behavior and provide suggestions for improvement. He also checked in with some participants daily to make sure that they were in class and showing up to work sites on time, playing both “good cop” and “bad cop” with his trainees.

Several training programs provided career readiness training, with mock interviews and resume building activities. One program taught students how to advocate for their own needs, watching out for jobs that do not provide health and dental insurance. This program discussed how to turn a job into a long-term career. These training programs also typically provided on-site tutoring and GED courses to help students get the education they need to qualify for jobs. One training provider talked about how he treats the “whole man,” and helps his students develop basic soft skills that include self-control, discipline, and a workplace code of ethics. This training provider helps his students demonstrate energy and passion for their work.

Personal/social barriers

Summary. *Interviewees recognized that there are multiple barriers that keep people out of the energy efficiency workforce. The availability of quality training opportunities is a necessary part of the pipeline towards employment. But it is by no means sufficient. Quality training programs are useless if students cannot find their way to class. Students living in economically depressed conditions may have a host of personal or social issues that prevent them from successfully completing training or maintaining employment. Because people of color are disproportionately*



represented in distressed communities, these barriers prevent the diversification and growth of the energy efficiency workforce. Barriers discussed by participants included trauma, geographic isolation, transportation, childcare, training costs, and health issues. Wrap around services were seen as the solution and included scholarships for tuition, stipends for childcare, transportation and even housing vouchers. Participants noted the importance of good mentors in providing this support and acknowledged how expensive it can be for organizations to provide this support.

Trauma. Several participants explained that many low-income, minority, and formerly incarcerated individuals have had traumatic pasts that make it difficult to engage in training programs and maintain employment. Participants described individuals who have grown up experiencing generational poverty, who find it hard to believe that they can be socially mobile. Their past experiences with social services or public education may also make them doubtful that promises of training or jobs are genuine.

Geographic isolation. Several participants noted that people in rural areas, described as “forgotten customers,” lacked access to nearby energy efficiency training opportunities, support services, and energy efficiency jobs. Interestingly, participants described inner city neighborhoods similarly, explaining that these neighborhoods have been disinvested in resources, and people in these neighborhoods lacked access to energy efficiency training opportunities, support services and jobs. One workforce coordinator noted that if training opportunities are not available nearby, minorities may be unwilling or unable to attend training opportunities in outside communities, especially if there is a history of racism in those communities.

Transportation. Transportation barriers were mentioned by a majority of participants. These barriers included lack of access to a car, lack of a driver’s license, a history of DUI, lack of money for insurance, and lack of access to reliable public transportation. Many individuals lacked money for public transportation fees, or public transportation had limited services where they lived. These transportation barriers were most often mentioned in the context of the challenges underrepresented minorities face when trying to join the energy efficiency workforce.

Childcare. Several participants pointed to limited, poor quality childcare, as well as costs of childcare, as impediments to training and employment. Childcare and family responsibilities were sometimes seen as limiting women’s desire to move up in companies. Participants noted that this barrier has only intensified during the pandemic with many kids learning remotely from home. Families are finding it more difficult than ever to access quality, affordable, convenient childcare.



Training costs. The cost of training was also seen as a barrier to participation, especially for underrepresented minorities. Tuition, books, and fees were perceived as too expensive. One employer noted that students don't get financial aid for union trade programs or for short term courses and certifications. Even when training was free or subsidized, participants noted that many individuals had to choose between being paid at their current job or losing their income to participate in training.

Health issues. Substance use was described as a major barrier by a number of participants. One community service provider described drug and alcohol addictions as "one of the biggest challenges" to getting and holding down a job. She described an individual who had successfully graduated from her program:

It's like he's in and out of addiction, he holds a job and then he can't stay off the drugs and alcohol so he loses his job. He's had transportation then he gets a DUI, you know? ... They need help with the addictions ... I'd say 95% of the population in our county jail is drugs and alcohol.

Another participant noted that people in underrepresented groups often have serious health issues such as diabetes or asthma, which may limit their ability to work on a consistent basis or complete physically demanding tasks.

Reentry challenges. People who have been released from jail or prison were described as having almost all of the challenges listed above, in addition to others. One community service provider described how hard it was for people to be released into an environment where they have to all of a sudden make so many decisions: "They just think, 'Well, all my choices, all my decisions were made for me and now I have too many out here and it's just overwhelming.'" Those who have been behind bars for a long period of time may struggle to socialize with others, may have no idea how to use new technologies, and may be overwhelmed by simple things like crossing the street after being locked up for so long. Many of them struggle for months to secure their ID and do not have access to transportation or stable housing. When they are struggling to meet these very basic needs, participating in a training program or finding stable employment can seem practically impossible, especially with the discrimination they will almost certainly face.

Multi-faceted support. The consensus was that multi-faceted support was needed to help individuals overcome these barriers. For instance, participants believed that helping to provide transportation to trainees and job seekers was key. One training program provider offered



transportation to work sites for his students. Another participant recommended buying cars from minority dealers to give to minority workers. When asked how Ameren, IL might help, one community support provider emphasized transportation assistance:

Like a grant or something that gave them money, each person X amount of dollars for their transportation. And I'm not saying to buy a car but I'm saying maybe that they could do the public transportation here... So, if Ameren provides some kind of transportation whether it be a grant or whatever. I don't know if this was part of Ameren years ago, the Clinton Power Plant in our area, Ameren came, Clinton's like 35 miles away but they came to Champaign-Urbana and picked up—they had busses where they could fit five or six in there.

Participants believed that it is important to provide potential job seekers with financial incentives to participate in training programs. Three training providers described how they use scholarships to cover students' tuition and books. One company indicated that they gave one student a childcare stipend to make it possible to finish training. Others described how even with tuition assistance, some students will struggle unless you are able to provide a stipend or paid internship.

Participants described how support should be specific to people's unique needs. Some job seekers may need help with substance use or mental health issues. They may need to go to counseling or doctor's appointments which requires time away from work. Job seekers may be homeless or lack stable housing. One training program addressed this barrier by providing housing vouchers for participants. People who are disabled may need accommodations to be able to complete work or training tasks. Older job seekers or trainees may need extra support to address cognitive or mobility limitations.

Participants noted that a key aspect of support should be mentoring, role modeling, and motivational support, with mentors playing both "good cop" and "bad cop" roles. Participants noted that job seekers in poverty needed motivational support to help them believe that they can overcome obstacles and get off the "hamster wheel." Mentors, instructors, and employers should coordinate with each other to make sure that students are staying on track and receiving the support they need. Mentors should have a long-term commitment to students' employment and career success. This mentorship should start early with high school students and continue as students complete training and are hired. Apprenticeship and internship programs were described as opportunities to mentor and support students, ensuring that they receive the scaffolding and hands-on guidance to succeed.



Several participants pointed to the need for wraparound services. While describing his dream training center, one community support provider said, “I would have a component in there for some of the social services inside that center.” The CEO of a local economic development council highlighted some of these issues while describing his dream program:

If I had unlimited resources, I would create a program that took everybody who said that they were interested in energy efficiency and figure out all the reasons they aren't doing it and try to address those issues, not through handouts, but through providing them the help they need in order to take care of [their issues]. So, if it's transportation, then they get Uber vouchers. And every day, an Uber will pick you up and will take you work. Something like that. Because I think the playing field is so unequal that it's just that much more difficult. If we truly want a diverse workforce, we have to address the reason that we have these inequities.

The cost of support services. One workforce coordinator recognized that support services are difficult to implement and recommended that these wraparound services be built into CEJA legislation and programming:

I think that the trick is not just providing the educational opportunity but, also the resources and wraparound services to make sure that folks stay involved and have a career. So, if we can create . . . and put money into a program that can buy CTA passes; Do reimbursement for transportation; Can provide funding for childcare and a food stipend and things like that. If you can provide supporting services through legislation and build this program into . . . CEJA . . . then we can make this happen.”

Some training providers and employers expressed a desire to provide the support services to people who needed them but felt that they didn't have the money or staff to do so. A company may not be willing or able to work with someone who has a substance use problem or may not have the ability to provide extra training and support for people with a criminal background, or for those who dropped out of school. Educational programs too are seldom able to put money into providing wraparound services and resources: transportation reimbursement, childcare, food stipend, etc. It was not perceived as cost effective for these organizations to hire or train individuals who required extra resources and support. Connecting training programs or employers with available local and regional support services would be a useful approach to address this barrier.



Funding and policy

Summary. *Many participants advocated for more funding for energy efficiency programs, services, and training programs, and several hoped to see stimulus funds directed towards clean energy jobs, as they were a decade ago. Participants argued that government and utility funding has not been distributed equitably, and that cash needs to flow towards black and brown communities.*

The need for more funding. Participants recognized that government and utility funding created the demand for energy efficiency products, services and jobs, and that without those funds, “it would be a significantly smaller amount of this work being done.” While most talked about funding sources generally, some mentioned how funding for income qualified programs had successfully generated market demand. Still, several workforce coordinators felt that current funding levels were not adequate. When one workforce coordinator was asked what the major hindrances were to building a larger and more diverse energy efficiency workforce, she responded, “There’s only one thing. It’s cash.” She clarified, “You have to have the proper funds to pay your subject matter experts, your trainees and instructors. You have to have the adequate space that you need to keep an operation going.”

Several people described how the Recovery Act funding of 10 years ago was used up and we just “don’t have the funding available anymore” to grow the clean energy workforce. One workforce coordinator complained that clean jobs programs were underfunded by the current administration and hoped that with a new administration, more funding at the federal level would be available to invest in clean jobs and help the economy recover from the pandemic. Another workforce coordinator complained that Workforce Innovation and Opportunities Act (WIOA) funding was hard to come by and wasn’t a good fit for them. “There were so many rules and regulations they had to follow to be part of the WIOA grant,” they explained.

Funding disparities. One workforce coordinator complained that racism influenced how funds were distributed—in society at large, as well as in energy efficiency programs. She noted that cash flows for training programs, jobs, and services have typically been rigged to go towards white people, and that racism exists within the system. She used FEJA as an example: “Illinois Solar for All or some of the FEJA programs have been predicated on a financing that required a 650-credit score. You have knocked us down and charged us for falling.” This workforce coordinator also felt like DCEO funding was not distributed in an equitable way. She complained about DCEO, “I don’t care who’s running it. There’s no trust.”



Funding solutions. Participants--workforce coordinators in particular--noted that smart policy could go a long way to funding growth in the energy efficiency workforces while addressing climate change more generally. One workforce coordinator who works at the state level on CEJA legislation said they were “calling for the decarbonization of the power sector by 2030.” He stressed that equity was really important in forming these policies to decarbonize the power sector: “The intersectionality between climate change, local environmental contamination and the respiratory health, pandemic, aka, COVID-19, is very, very strong, very pronounced.” Any funding directed towards reducing emissions should also address health, poverty, and equity in communities as well.

Workforce coordinators described their efforts to advocate for policies in CEJA legislation that allocate funding to grow and diversify the energy efficiency workforce in Illinois. They hoped for more funding through stimulus bills and rate payer funded programs, set by the Illinois State legislature, and supported the goals of FEJA and CEJA. They advocated for raising rates and earmarking a certain percentage of the funding for education, training in energy efficiency, energy efficiency programs low-income households, older adults, and research projects to understand needs, barriers, and solutions for underserved groups.

Workforce coordinators were especially sensitive to the need to reallocate funds in a more equitable way—in utility energy efficiency programs and in society at large. One participant advocated for leveling the playing field, not by “giving a few more dollars over here,” but by making sure “the cash flow goes to black and brown communities.” She outlined what this might look like: “Equity is black and brown people come to the front of the line. They are first. Second thing is, they are [there] more frequently. And then the third thing is they are larger” or receive a larger share of the cash flow. Another workforce coordinator recommended that CEJA fund more training programs that provide wrap-around support services to help people from underrepresented groups join the energy efficiency workforce.

On an organizational level, employers appreciated programs that provided funding for salaries or internships, especially when it meant they could hire people from underrepresented groups. One weatherization professional described a program through the Community Services Block Grant program where they trained income-qualified individuals, and CSBG would “pay for a portion of their salary. I think it was a 50/50 split. Programs like that are definitely great.”

Recruitment and hiring practices

Summary. *There was a general agreement, if not an unspoken assumption, that it was important and necessary to provide opportunities for members of underrepresented groups.*



Participants described recruitment and hiring practices that failed to draw minority applicants, or that unfairly excluded people. Several participants were in favor of diversity mandates and recommended ways to review and revise hiring practices to create a more diverse and inclusive workforce.

Participants believed that traditional hiring practices, such as recruiting from within their own networks, did not reach underrepresented groups. Several energy efficiency employers described recruiting job seekers through referrals from current employees or family members. This strategy typically does not help underrepresented groups get in the door, especially if the organization lacks diverse employees. Thus, participants described a need to be open to new hiring practices and strategies to recruit from underrepresented groups.

Some participants described company hiring practices that unfairly exclude returning citizens. Complicated application processes, with “too many hoops to jump through” were noted as barriers for many minority job seekers. Others pointed to a lack of minority trainers or mentors as a reason why they fail to recruit minority participants.

Several participants asserted the need for employers/organizations to have clearly defined and targeted efforts to reach underrepresented groups and ensure greater representation in the EE workforce. They used language like “required,” “mandated,” and “intentionality” to describe these efforts. Participants recommended that organizations review their hiring practices, set clear targets, and be intentional about meeting these targets. The same strategies described in “raising awareness” above were seen as good ways to reach underrepresented groups to recruit for energy efficiency jobs. Participants also noted the importance of having people from minority groups on hiring committees.

According to several participants, policies have to include “explicit mandates” and measurable requirements that ensure that good ideas are implemented and meet the intended goals. This was particularly true for diverse participation and hiring. One participant noted that it may be more helpful to think of diversity requirements as “goals” rather than “quotas”:

Quotas make it, to me, feel like it's something you have to do, whether you like it or not, versus something you want to do because you see that this is good for, not only your company and your community.

Another participant recommended “blind” applicant review where the name, ethnicity and gender of the applicant is removed when reviewing applicants to prevent conscious or unconscious bias from influencing the process: “If you just basically interviewed based off of



the application--without the ethnicity or anything . . . I think you would see a change in those numbers.”

There was also a recognition that hiring practices that restrict formerly incarcerated individuals from participating in the energy efficiency workforce also need to be reviewed and revised. Several participants said employers need to be willing to give formerly incarcerated individuals a “fair shot,” as they have already served their time.

Retaining workers. Others noted that hiring wasn’t as much a problem as retaining workers. They described a fair amount of turnover, driven by competition from other skilled trades or energy efficiency jobs. When there are other jobs that pay more, crawling up in attic spaces may no longer seem so appealing. Several employers went so far as to claim that training programs are “training people to leave the job.” That is, training programs teach students skills that make them competitive in other related fields, and they lose interest in weatherization work. “We train them, we get them interested in it and somebody flips them, a different job with more money and they just run off,” one community action agency representative complained. Some energy efficiency jobs were seen as physically demanding and “dirty” jobs with low pay and little upward mobility. Some employers indicated that they lacked the ability to pay their employees what they deserved and recognized that the low pay was a barrier to filling jobs. The low pay made it more likely for employees to leave.

To address this issue, workforce coordinators and service providers emphasized the need for employers to pay workers what they are worth and provide benefits like health insurance. Programs that fund energy efficiency service providers may need to reassess salaries and compensation to pay workers a competitive wage. As one community action agency professional put it,

I would assure that the folks are monetarily being paid what they’re worth, as opposed to some arbitrary number that’s made up by the CEOs and the boards . . . that don’t necessarily know . . . what it takes to work in this program. I’d like to see the folks being paid at a wage that will retain those folks, so we’re not just training folks for other people.

Stereotypes

Summary. *Participants described stereotypes of women, minorities, and formerly incarcerated individuals that made it more difficult for them to join the energy efficiency workforce or feel*



like they belonged. Others noted that these stereotypes reflected ignorance and recommended ways to improve workplace culture and educate those in power.

Participants acknowledged that stereotypes contributed to the lack of diversity in the energy efficiency workforce. Women were viewed by some participants as preferring office jobs as opposed to manual labor jobs that require physical strength. Several employers had experiences with women that reinforced these stereotypes. One employer described an encounter with a woman his organization had recently hired:

She was talking yesterday about wanting to go out and work on the crew some. I said, 'Well, we'll get you underneath a mobile home and see how you like it.' And, she decided she didn't even want to go out on the crew then. Of course a lot of the guys don't really want to do that too bad either, but it's all a part of it.

Another employer noted, "I think some of the women we've hired in the past, uh, can't handle the heat." Women were described as not aspiring to move up in companies because they have to balance family and work, or because they don't desire to advance. In contrast, men were said to prefer field work to office jobs, or to prefer technical fields. In general, the gender stereotypes appeared to have origins in previous decades where there were stricter gender roles.

Several of the employers and trainers we interviewed held or described stereotypes about minority groups as well. Minority workers were assumed to have poor work ethic and were described as often late for work or inconsistent in their efforts. People also assumed that because minorities didn't apply, they weren't interested. One employer remarked, "In the past we've had some African American workers but it just doesn't seem like they want to apply for the job, you know?" Minority workers were perceived to have multiple personal problems that interfered with holding a job.

This was also true for formerly incarcerated people. Many participants noted that employers, trainers, and the general public feared "former felons," believing that they could not change, that they were dangerous, and that they had substance use issues that would prevent them from being successful. They believed that it was unwise--or even against the law--to put them in situations where they would be in people's homes doing energy efficiency work. People with prior criminal backgrounds, as one participant put it, were put at the bottom of the que, and were systematically disenfranchised. Several employers described experiences that reinforced these stereotypes. One had a negative experience with one of their workers stealing, and



another described times when formerly incarcerated individuals came to work drunk or stoned.

On the other hand, some participants felt that negative stereotypes against women, minorities, and formerly incarcerated individuals “reflected ignorance,” and these individuals were equally capable and hard-working--if not more so--than their white male counterparts. They advocated for providing support to help them overcome the barriers they face.

Some companies were described as having workplace cultures that were unfriendly towards women, low-income individuals, minorities, and formerly incarcerated people. One employer described companies that had an “old school” culture that is not sensitive/open to minorities. There was a recognition of a male culture in many organizations that was not always friendly and accepting of women, especially by older men. Participants described how some men did not want to work with the women who try to enter.

Combatting stereotypes. One participant pointed to the need to educate those in power about the challenges and barriers faced by underrepresented groups that constrain their ability to take advantage of opportunities. She recommended helping people in power recognize that the playing field is not equal. Social mobility was described not only as “providing opportunities,” but as “challenging the societal ethos.” When people in power better understand the social factors and racism that people face, they are less likely to assume that the problem is with individuals from these groups. Another workforce coordinator suggested that employers need to rethink what the “ideal” employee looks like and be more open to difference and diversity.

There were also suggestions for improving workplace culture. One employer recommended sensitivity training to help make staff aware of biases against underrepresented groups. A workforce coordinator recommended providing nuanced discussions on the factors that make it difficult for underrepresented groups to take advantage of educational and employment opportunities. There was a general recognition that organizations need to learn to be more culturally sensitive, open, and aware of the needs of diverse groups, to offer second chances, grace, and support.

Connections among stakeholders

Summary. *Weak connections among stakeholders contributed to the barriers and challenges discussed above. Several participants felt that there was an overall lack of connection among stakeholders in the energy efficiency workforce, while others described weak connections among certain stakeholder groups. There was an acknowledgement that some connections were relatively strong, while many others needed to be strengthened. Participants offered many*



suggestions for building an infrastructure that will improve connections with communities and among stakeholders.

The barriers discussed above were exacerbated by weak connections among stakeholders. Participants described both strong and weak connections among stakeholder groups and noted that weak connections prevented growth in the energy efficiency workforce, for many of the reasons discussed above. The disconnect among stakeholders described below is reflected by employers' frustration in finding qualified job candidates and training providers' difficulties recruiting students into training programs without a clear sense of what jobs are available after training is complete. For the energy efficiency workforce pipeline to be effective, this disconnect must be bridged.

One workforce coordinator used multiple metaphors to describe the lack of connections in the energy efficiency workforce system, especially in underserved communities: "We typically don't coordinate with one another. We don't have enough neurological connections for the synapses to occur." Next she switched to a plumbing metaphor: "It's like you went out and you bought all the pieces and the parts. And you laid them out on the floor but you never put them together, that's what we have." Finally, to get her point across, she described the workforce system as a dead zone in an ocean: "There's not enough oxygen in the water to support life. It's just a black hole that's just there."

This workforce coordinator described several historical reasons for the weak connections in underserved communities. First, connectivity was severely compromised when shop classes were removed from high schools' standard curriculum. Young people were no longer exposed to traditional trade careers and had fewer connections to employers and training programs. Similarly, connections were compromised when "labor organizations moved out of the city and into the peri-urban perimeter." This led to an "intentional disavowment and disinvestment of the black community." People in inner cities no longer had access to these labor organizations and therefore had less networking opportunities to connect to jobs. Finally, she noted that the digital divide has contributed to the lack of connections. "You've heard people talking for at least two decades . . . really, three, about the digital divide . . . and then comes COVID." She described how everything is now going on "inside a digital idiom," but the underserved cannot connect to programs and services if they do not have access to computers: "It's just one more layer in which we cannot compete."

Job Seekers + Training Programs. Participants noted that the connections among job seekers, those who support them, and training programs are present, but need strengthening. A few training providers described attending career fairs to encourage young people to take



advantage of training opportunities, and others described visiting high schools or shop classes. However, training providers, by and large, struggled to connect to young people to encourage them to take advantage of these training programs. All in-person outreach to students was halted because of the pandemic. Widespread lack of awareness of energy efficiency as a potential career was seen as a major reason for low enrollment. Current energy efficiency professionals explained that they came to energy efficiency “accidentally,” stumbling upon energy efficiency careers after working in other fields. Training pathways are unclear. “There is a lack of information on the opportunities,” one trainer explained, and no widely accepted understanding of the depth and bounds of the field.

Employers + Job Seekers. Participants described relatively weak connections or influences among job seekers, those who support them, and employers. Job seekers have few opportunities to meet energy efficiency employers and workers or gain firsthand knowledge of the field and the opportunities it presents. The employers we interviewed described the challenge of finding qualified job seekers. The lack of awareness of energy efficiency careers again prevented job seekers and those who influence them from connecting with employers.

Participants described the connections between employers and underrepresented, minority job seekers as particularly weak for several reasons. First, employers may not have connections to diverse communities. One workforce coordinator noted that there was a “trust issue” in some communities because potential job seekers cannot see how energy efficiency has benefited their community, or they may have had negative experiences with energy efficiency or utility companies in the past. This lack of trust prevented employers and job seekers from connecting.

Another participant described how diverse job seekers aren’t going to be interested in energy efficiency jobs if they don’t see people like them in the field: “Once [job seekers] see other people walking it that have been in their shoes then they’re going to be more willing to jump on the bandwagon.” Another participant noted that diverse job seekers aren’t joining the energy efficiency workforce because they lack the access to networking opportunities and are in general not included. In energy efficiency, as in many professions, finding a job is largely about who you know. As one workforce coordinator put it, “We are underrepresented because we are not interfacing with people who are trying to give us information or include us. There’s just a big gulf.”

Employers + Training Programs. Most educators we interviewed indicated that they make considerable effort to determine what employers need to ensure that training programs are preparing students for energy efficiency jobs. They also frequently reach out to employers to help their students find jobs, apprenticeships, and internships. One workforce coordinator



described community colleges' efforts to work with employers when developing training programs, noting, "If we're producing people that no one's hiring, then it's just a program. It's just there to make me look good." He continued, "If the employers don't put their stamp of approval on it, then it does no one any good." Another trainer said that every technical education program at their college was required to have an advisory board, though they admitted, "We haven't used our employer advisory board to the fullest."

In contrast, employers noted fewer formal avenues that allowed them to provide feedback to training providers regarding their training needs and the quality and preparedness of job seekers. This resulted in skills and training gaps. One employer complained, "People in the construction trades don't have a ton of exposure to energy efficiency." Students were unprepared for job requirements, and employers described how they must train the employees themselves, at great cost.

One community action agency coordinator described an encounter with a community college instructor in which they discussed the need for more training in weatherization. The instructor admitted to him, "I've been in carpentry for 30 years and never realized that this is really what you guys do." The coordinator gave the instructor their standards book and they built a weatherization class around it.

Employers also expressed a need for stronger connections with training programs so that they could recruit qualified job candidates, rather than searching for candidates on their own. One employer noted, "We have not been approached by any kind of training programs that are able to provide qualified applicants for what we do." Several participants also expressed a need for stronger communication channels between employers and training programs to support diverse job seekers, who may need more mentoring and support to successfully enter the energy efficiency workforce following training program completion.

Even in cases where educators were successful in connecting with employers, those connections were often described as informal and dependent on the networking abilities and communication skills of the individuals involved. Since the connections have not been institutionalized, when trainers or educators leave their positions, those connections often leave with them.

Community collaborations. Interview participants detailed the importance of partnering with community-based organizations and community members to grow the energy efficiency workforce. They recommended that such collaborations be characterized by trust and a real openness to the voices and input of community members. One workforce coordinator argued



that people from underserved communities need to be valued partners with “authentic” roles in programs. “Make sure you ask them to dance,” she put it. Participants also recommended that targeted outreach be cognizant of the needs of underserved communities and communicate in ways they can understand. Underrepresented groups need to see that their investment in job training and education will lead to actual employment and a living wage.

Several workforce coordinators emphasized the need to make sure that people’s voices are heard when developing policies. They wanted to “make sure everyone has not just a voice at the table, right, but a chance to really make a difference.” Another participant said, “Let’s give somebody else’s idea a chance. Let’s not pretend like we know what the way forward would look like. [We should] let something new happen that has a possibility of producing a new result.” They also emphasized the need to get buy-in from communities when developing policies.

Solutions for improving connections. A few participants discussed what improved coordination should look like, sometimes based on their own experience in organizations that play coordinating roles. Participants described how important it was to have stakeholders work together, while avoiding the problem of “too many cooks in the kitchen.” As one workforce coordinator put it, “You need all those groups communicating, on board together because if there’s one . . . piece missing it I feel like it’s hard for these folks to do what they need to do.” They complained that there are “so many different people all trying to do things . . . and it’s not necessarily in a coordinated fashion.”

Participants advocated for developing the infrastructure to make the coordination work. For starters, they argued that all of the different stakeholder groups needed to be at the table. Stakeholders should include educational institutions (community colleges, universities, local high school districts, regional offices of education), essential services institutions (minority business development centers, urban leagues, ministries), and employers (trade unions, large and small employers, CEO councils).

Next, participants discussed different ways to bring these stakeholders together and help them coordinate more effectively to grow and diversify the energy efficiency workforce. Participants often described workforce coordinators or workforce development organizations as the glue that brought stakeholder groups together. They also described community-based organizations as playing critical roles in connecting stakeholders and job seekers. Strategies for improving coordination included the following:



- **Broadcasting job and training openings** throughout the energy efficiency network was described as a critical workforce coordinator task. One workforce coordinator how he helped to spread information about funding opportunities and job openings. “Some of my folks don’t get those emails . . . [so] I forward that on to these contacts that I have.” One workforce coordinator explained what this might look like:

Work with these community college programs and let them know, “Hey, even without financially supporting them, we can align you with people who need your skills.” Work with the [trade] allies to tell them, “Hey, let us know if you need electricians, if you’re looking for certain kinds of people.” And try to coordinate those two parties meeting up as opposed to just, “Hey, we’ll pay for your school and good luck.”

- Organizations providing **social support services** were described as playing a coordination role in helping connect formerly incarcerated individuals with jobs. One participant described how his ministry’s “local manpower office” coordinates with employers. They have a network through the local churches that has a lot of business people and lawyers. These individuals volunteer their skills and help line people up with jobs.
- **Critical handoffs** were described as an essential part of this coordinating infrastructure: “We need to take a very intentional look at who does what for whom and with whom and how do we have a handoff between the organizations.”
- **Virtual conferences, workshops, and webinars** were described as good ways to bring stakeholders together to engage diverse businesses and address hiring practices and social justice. One participant recommended that Ameren Illinois play more of a workforce coordinator role with their large pool of contractors, offering summits and regional workshops to address workforce challenges and diversity initiatives.
- Participants recommended that **community hubs** be used to make connections among stakeholders. One such community hub was described as a “green hub in the hood” that connects educators, employers, advocates and others in a “tightly woven interface of relationships.”
- **Formalized stakeholder advisory groups** or employer advisory groups were recommended as a way to ensure that curriculum aligned with the needs of employers.
- One workforce coordinator recommended **surveying local employers** to determine the essential skills that were needed and the jobs that were most in demand. Another described the work she did to better understand the challenges employers face.

Participants felt that improved coordination was crucial to addressing the barriers described above. They described ways stronger connections between stakeholder groups could help to



raise awareness of energy efficiency jobs, recruit a more diverse workforce, combat stereotypes, and bridge skills and training gaps.

Conclusion

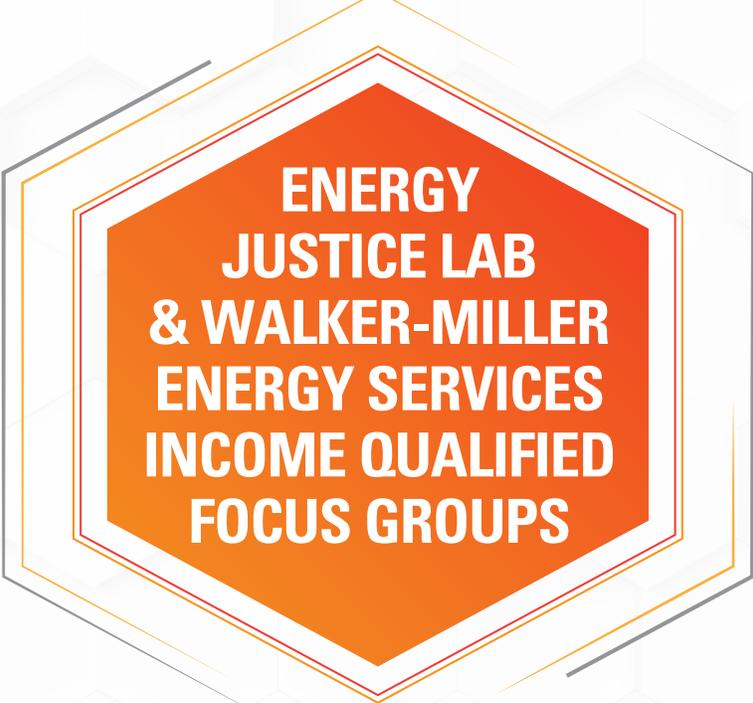
SEDAC conducted interviews with 38 stakeholders to explore the barriers and solutions to grow and diversify the energy efficiency workforce. Interview findings reinforce the conclusion of previous research that the energy efficiency workforce is in crisis. While demand for energy efficiency work is strong, employers are indeed struggling to fill jobs and recruit people from underrepresented groups.

Interviewees described many of the barriers previously identified in our literature review: lack of awareness, technical skills and training gaps, soft skill gaps, and personal and social issues prevent the workforce from becoming more diverse. The interview results also introduced several new barriers not addressed in depth in our literature review, including the struggle to pay employees what they deserve, and the specific geographic challenges of the Ameren Illinois territory. They emphasized the need for increased funding and revisions to recruitment and hiring practices. Finally, participants described how a lack of coordination among stakeholders exacerbates the many barriers that prevent workforce growth and diversification. It's clear that many interviewees felt that the lack of formalized connections was contributing to the lack of awareness, the technical skills gaps, the lack of diversity, and hiring difficulties.

Participants offered many helpful recommendations to overcome these barriers and increase coordination among stakeholders. They described ways to raise awareness through K-12 education, fill skills and training gaps, help job seekers receive the support they need to succeed, increase funding, and overcome stereotypes. They also outlined ways to strengthen the infrastructure of the energy efficiency workforce network to improve connections among stakeholders.

The results of this stakeholder analysis have been used to develop the conceptual framework for our workforce development pilot project, which we will deliver with the Ameren Illinois Market Development Initiative. This pilot project takes a regional approach to enhance coordination among stakeholders, fill jobs, and diversify the workforce. Our approach addresses the major barriers identified in this report and builds off of many of the solutions described by participants.

We thank Ameren Illinois for providing the opportunity to learn from stakeholders through this project and look forward to continuing to build relationships with stakeholders as we develop the pilot project.



ENERGY JUSTICE LAB & WALKER-MILLER ENERGY SERVICES INCOME QUALIFIED FOCUS GROUPS

Research Purpose

- » To support Ameren Illinois' commitment to "Energy Efficiency for All" by identifying the best practices to:
 - Engage a larger number of diverse businesses in the delivery of its Energy Efficiency Program
 - Increase meaningful participation of diverse customers in the same Program
- » Identify opportunities to increase diversity, equity, and inclusion in utility managed energy efficiency programs:
 - Providing equitable access
 - Hiring inclusive implementation teams
 - Affording easy access to opportunities

Key Findings

- » Barriers and constraints identified by diverse businesses
- » Best practices to increase diverse businesses as program providers
- » Recommendations for increasing diverse business participation
- » Barriers and constraints identified by diverse residential customers (focus group findings)
- » Best practices to increase diverse customers as program participants
- » Recommendations for increasing diverse residential customers as program participants

EMPOWERED.

Diverse Business Development and
Customer Engagement in Energy Efficiency



EMPOWERING PEOPLE
ENRICHING
COMMUNITIES

ACKNOWLEDGEMENTS

We would like to thank the following individuals and organizations for their support of the enclosed report as well as their commitment to diversity and the development of equitable energy efficiency systems. The research conducted would not have been possible without their enthusiastic efforts and contributions.

Springfield, IL NAACP

C.E.F.S. Economic Opportunity Corporation

Diverse Business Survey Participants

Additional Walker-Miller Energy Services Team Members

Focus Group Participants

Utility Company Representatives

Energy and Utility Trade Organization Representatives

Focus Group Moderators

Gusto Partners

University of Illinois at Urbana-Champaign iCenter Interns

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ABOUT THE AUTHORS

This report was produced for Ameren Illinois Company (Ameren Illinois). It was written collaboratively by Walker-Miller Energy Services (Walker-Miller) and the Urban Energy Justice Lab at the University of Michigan School for Environment and Sustainability.



The Walker-Miller research team was led by Erika Dominick and Amber Anderson, with assistance from Charles Buysse. Walker-Miller is a Detroit, MI-based Black and woman-owned company dedicated to changing lives through energy efficiency. A core values driven company celebrating its 20th year in the energy industry and its 11th year as an energy efficiency as an Implementation Contractor (IC) for electric and gas energy efficiency programs, Walker-Miller's high performing team enters tens of thousands of homes performing an array of services that help families save energy and money. Walker-Miller helps utility companies achieve energy reduction goals, that at the same time, reduce the energy burdens on families, create local jobs, diversify the local energy workforce, and serve the needs of income constrained families with compassion. Walker-Miller is committed to bringing underrepresented communities into the clean energy economy, including Black people and people of color, women, individuals identifying as LGBTQ+, veterans, people living with disabilities, returning citizens, and others. In keeping with its mission to "Empower People and Enrich Communities", the Walker-Miller team works tirelessly to increase the diversity of energy efficiency program participants, the industry's workforce, and the suppliers of utility energy efficiency programs.

The Urban Energy Justice Lab research team was led by Dr. Tony Reames, and graduate students Sabrina Vivian and Larry Borum III. The Urban Energy Justice Lab launched in 2015 to conduct research at the intersection of energy and equity focusing on the production and persistence of spatial, racial, and socioeconomic disparities in accessibility and affordability of energy services, technology, and programs. The School for Environment and Sustainability's overarching objective is to transform higher-education and its impact through research, teaching, and engagement in society. It is focused on solving the climate crisis and creating a world that is economically robust, environmentally sound, sustainable and just, from the scale of watersheds and communities in Michigan, to the entire planet. "The mission of the University of Michigan is to serve the people of Michigan and the world through preeminence in creating, communicating, preserving and applying knowledge, art, and academic values, and in developing leaders and citizens who will challenge the present and enrich the future."¹

Walker-Miller and the Urban Energy Justice Lab are hereinafter collectively referred to as the "Research Team."

¹ University of Michigan, "Mission Statement," Office of the President, accessed November 25, 2020, <https://president.umich.edu/about/mission/>.

EXECUTIVE SUMMARY

In the face of a global climate crisis, countries around the world continue to transition to energy efficiency and sustainable energy solutions. Energy efficiency is recognized as one of the easiest and most cost-effective ways to combat climate change, clean the environment, and reduce energy costs for residential customers and businesses.² In the United States, state-level regulatory policy changes have driven energy utilities and other companies to adopt strategies that reduce their environmental footprints and create sustainable impacts. According to the 2020 U.S. Energy and Employment Report published by the National Association of State Energy Officials, energy efficiency is the second largest employer sector in the energy industry and the fastest growing segment of the energy industry*.

Ameren Illinois is a regulated electricity and gas delivery company based in Collinsville, IL with a service territory that spans 43,700 miles and serves more than 1,200 communities in Central and Southern Illinois.

Ameren Illinois has a long-standing, organization-wide commitment to Diversity, Equity, and Inclusion (DEI) that extends to the communities it serves. In compliance with the Illinois Future Energy Jobs Act (FEJA), Ameren Illinois is committed to generating energy savings for its customers through ratepayer-funded energy efficiency programs. Ameren Illinois partnered with Walker-Miller and the Urban Energy Justice Lab to explore strategies to increase the engagement of diverse suppliers and diverse customers – groups which have been historically underrepresented in utility-managed energy efficiency programs.

The importance of this partnership, and the strategies being pursued, have been brought into sharper focus by America's reignited racial justice movement and the disproportionate negative impact of the COVID-19 pandemic on Black communities and communities of color. As both legislative and corporate change is widely demanded, equity is nearly universally recognized as a critical business conversation. This report seeks to advance that conversation and set the stage for further action.

With utility managed energy efficiency programs being funded by ratepayers from all customer classes, equitable program provision requires utilities provide equal access to procurement opportunities for Diverse Business Enterprises (DBEs), and ensure all communities reap the benefits. This approach is consistent with FEJA's efforts to help correct historical underinvestment in energy efficiency programs in economically disadvantaged communities.

Further, with more than 50% of all Americans employed by small businesses, the success of many communities is inextricably linked to the success of their small businesses. These myriad businesses, many of which are also DBEs, have been hit particularly hard by COVID-19. The solutions investigated by this report will help provide a roadmap to spur DBE recovery both during and after the pandemic.

The Ameren Illinois energy efficiency portfolio includes energy efficiency programs targeted to specific ratepayer classes, such as the Home Energy Income Qualified (HEIQ) Program, the Small Business Direct Install Program (SBDI) and the Market Development Initiative (MDI). Much of the work of these programs is performed by local contractors, referred to as Program Allies, who apply utility-managed market incentives to decrease the costs of energy efficiency measures to customers.

² "Climate Change." Energy.gov, www.energy.gov/science-innovation/climate-change

* 2020 U.S. Energy and Employment Report (USEER), www.usenergyjobs.org/.

The purpose of this research was to support Ameren Illinois' commitment to "Energy Efficiency for All" by identifying the best practices to: (1) engage a larger number of diverse businesses in the delivery of its energy efficiency programs; and (2) increase meaningful participation of diverse customers in those same programs.

There is high potential for energy efficiency programs to showcase the benefits of inclusive vision while driving the best and highest use of resources, supporting local economic development, facilitating the growth of a diverse workforce, and fueling the wellbeing of every community served. To this end, opportunities to increase diversity, equity, and inclusion in utility managed energy efficiency programs include:

- Provide equitable access for customers from all demographics to all offerings.
- Hire inclusive implementation teams to deliver services with a high level of cultural competence.
- Afford easy access to opportunities for DBEs to provide expertise, goods, and services in support of both the design and execution of programs.

Aligning energy efficiency programs around these three opportunities would both better orient the industry's current direction and create a path towards achieving energy efficiency for all.

In composing this report, the Research Team focused on both qualitative and quantitative research methods. At the onset of their work, a survey of diverse energy efficiency businesses was conducted to understand the unique challenges they face when attempting to participate in local utility energy efficiency programs.

The Research Team also gathered key expertise from Walker-Miller's significant experience in the engagement of diverse businesses. This process shed light on specific procurement policies and processes limiting or outright excluding diverse-owned business participation. Oft occurring reasons for exclusion include lack of access to networks organically connected to key opportunities for diverse entities, limited working capital, and the scarcity of intentional and innovative investments in the development of small businesses. The Research Team identified best practices for reducing barriers within the procurement process and recommends several interventions on behalf of diverse contractors, including:

- Incorporate Diverse Spending Goals into Energy Efficiency Contracts;
- Expedite Invoice Payments;
- Increase Access to Capital;
- Provide Customized Training, Mentoring, and Business Development for DBEs;
- Make this list Increase Visibility and Access to RFPs and other Opportunities;
- Adjust Contract Eligibility and Requirements to fit Scope of Work; and
- Increase Portfolio-Wide DBE Participation.

The Research Team also studied a number of diverse residential customers in an area targeted by Ameren Illinois to understand barriers to participation in local energy efficiency programs. The Research Team conducted a literature review, refined qualitative research methods, and facilitated two focus groups to gather wide ranging perspectives on knowledge of and experience with Ameren Illinois' portfolio of energy efficiency programs. During focus groups, most residential customers reported a high level of awareness of energy savings measures, both in terms of Do-It-Yourself projects and through Ameren Illinois energy efficiency programs. The team's research showed most participants adopt energy efficiency measures primarily to save money but also revealed high up-front cost of heating and cooling system retrofits and appliance upgrades as a barrier for many.

Best practices identified for increasing engagement and participation of diverse customers in Ameren Illinois' energy efficiency programs includes the following recommendations:

- Build trust, cultivate abiding relationships, and coordinate engagement efforts;
- Fill gaps in energy efficiency knowledge by educating customers;
- Investigate the connection between energy efficiency and health disparities; and
- Target customers by geography.



Future Energy Jobs Act

In the absence of federal-level clean energy and carbon emission reduction policies, states have established their own goals and standards. The Future Energy Jobs Act (FEJA) (SB 2814), passed by the Illinois General Assembly in December 2016, is an example of a state-powered policy.³ The FEJA focuses on supporting clean energy and carbon emission reduction measures that provide benefits and opportunities accessible to all community members. The primary measures of FEJA call for updating the Illinois' Energy Efficiency Portfolio Standards, Renewable Portfolio Standards and introduced Zero Emission Standards. Supporting programs, such as community solar and job training, were established as pathways to reach policy goals and equitably distribute the benefits of these programs.

In response to the FEJA, Ameren Illinois, one of Illinois' largest investor-owned utilities, must reach a 16% energy efficiency savings goal by 2030. Savings can be realized through a variety of methods, such as updating grid infrastructure and reducing customer energy waste. Ameren Illinois partnered with the Research Team to determine the most effective methods for advancing FEJA's required energy efficiency goals while serving the interests of its diverse customer base.

Research Objectives & Desired Outcomes

The enclosed report focuses on reducing customer energy waste through utility-offered energy efficiency programs.

The research seeks to:

- 1) Identify best practices for addressing challenges diverse-owned energy efficiency businesses face in providing products and services in support of Midwest utilities' energy efficiency programs; and
- 2) Understand how Midwest utilities can increase engagement in energy efficiency programs for those diverse customers who have traditionally been underrepresented.

³ Cutler and Chapman, LLC, "Illinois' Future Energy Jobs Act (P.A. 99-0906)," May 2017, accessed November 25, 2020, <https://www.chapman.com/insights-publications-illinois-Future-Energy-Jobs.html>.

Background & Approach

The primary elements of most utility administered energy efficiency programs are typically managed by energy efficiency experts referred to as Implementation Contractors (ICs), supported by the work of local businesses and nonprofits. Most often energy efficiency programs focus on upgrades to building envelopes, appliances and systems, and occupant behavior. Companies involved in the delivery of these programs represent industries that not only support building upgrades and the adoption of energy efficiency behaviors, but also customer outreach, engagement, and education. For the purposes of this research, an **energy efficiency business** is defined as a business that provides products or services in support of the delivery of energy efficiency programs. This definition applies to many different types of businesses, including energy auditors, insulation and weatherization contractors, heating and cooling companies, office supply vendors, lighting and window manufacturers, suppliers and distributors, as well as food and meeting service providers, IT companies, branding and promotional item providers, and many others.

The Research Team studied the interplay between Midwest utilities and the DBEs engaged in or trying to enter the energy efficiency industry to identify barriers and offer recommendations for significantly increasing DBE participation across all elements of energy efficiency program delivery.

The Research Team administered a survey to over 300 energy efficiency businesses led by diverse owners located in Illinois, Indiana, Michigan, Missouri, Ohio, and Wisconsin. These Midwest states were selected to attain a regional perspective relevant to Ameren Illinois. Survey participants were identified using publicly available information, such as city and state managed DBE registration databases, Minority Business Enterprise (MBE) Certification databases, and other sources. In addition, the Research Team drew upon Walker-Miller's decades of energy industry experience developing programs focused on diverse businesses. The Walker-Miller team offered valuable insights to the challenges and barriers diverse businesses face in the energy efficiency industry, and shared key observations with the Research Team.

The results of the survey and insights from Walker-Miller are presented in the Barriers to DBE Participation section.



Definition of Diverse Business Enterprise

For the purposes of most utility diversity programs, the term diverse business refers to 51% owned, operated and controlled by ethnic and racial minorities, veterans, and women. A woman-owned businesses is not classified as a minority owned business. First codified in the 1970's, statutes for diverse business contracting were established as a mechanism to help address systemic discrimination against ethnic minorities – particularly Black and Indigenous people – who have historically been severely impacted by systemic racial injustice including being denied equitable access to business and employment opportunities.

In ensuing years, additional mechanisms were created to support the growth of diverse business procurement and further address inequitable access to opportunities for other groups experiencing systemic biases. Among the diverse groups most widely recognized in utility DBE procurement programs are racial and ethnic Minorities (MBE), Women (WBE), Veterans (VBE), individuals who identify as Lesbian, Gay, Bisexual, or Transgender (LGBTBE), and individuals who live with Disabilities (DOBE).

A Minority Business Enterprise (MBE) is 51% owned, operated, and controlled by one or more people who identify as one of five racial or ethnic minority groups. These groups are Black or African American, Native American or Alaskan Native, Hispanic, Latino or Latinx, Native Hawaiian and other Pacific Islanders, and Asians. Native Americans, American Indians, Alaskan Natives, Native Hawaiians, and other Pacific Islanders may also be referred to as Indigenous Americans.⁴ The acronym BIPOC, which stands for Black, Indigenous and People of Color, is an inclusive term widely used to refer to this group.

Diverse Business Certifications

Utilities rely on third party entities to ensure businesses meet the DBE certification criteria. In Ameren Illinois' case, there are affiliations with the National Minority Supplier Development Council Inc. (NMSDC), the St. Louis Minority Business Council, the Chicago Minority Supplier Development Council (CMSDC), the Women's Business Enterprise National Council (WBENC), and the National Gay and Lesbian Chamber of Commerce (NGLCC). Ameren Illinois also uses more localized certifying agencies to verify diverse business status, including Metro Transit St. Louis, Missouri Department of Transportation (MODOT), Illinois Department of Transportation (IDOT), U.S. Small Business Administration and the City of St. Louis.

Certification in a particular category of diverse business does not preclude certification as another type of diverse business as any business can be certified in all categories for which they qualify.

With strong encouragement from utilities, large energy efficiency ICs increasingly seek to partners with or hire certified DBEs as subcontractors. The DBE certification enables the prime IC to apply the revenues paid to the DBE as diverse spend, a category for which there are often utility suggested or required amounts for each contract. Thus, third party DBE certification is extremely valuable in providing diverse businesses the opportunity to participate on large contracts.

However, the vast majority of DBEs are not third-party certified as there are often significant challenges to completing certification processes, especially for businesses who are applying for the first time. For many DBEs, the benefits of certification must be balanced against, in some cases, significant challenges. These challenges are explored later in this report.

⁴ As diverse groups continue to advance their preferences for how they are referenced, it is best practice to honor and update according to those preferences. In this document, some widely used group names are used interchangeably, for example Hispanic and Latinx, Black and African American.

Barriers to DBE Participation

Diverse Business Survey Findings

The Research Team surveyed DBEs to better understand the types of businesses, their experiences in the energy efficiency industry, and relationships with the energy efficiency programs of Midwest utilities. The COVID-19 pandemic began during the data collection period of this research and prompted the Research Team to add questions to elicit feedback on the effects of the pandemic.

The Research Team distributed surveys to over 300 businesses believed to be diverse and received responses from 61 survey participants. As respondents were not required to answer all survey questions, the response statistics reflect the total number of responses per question. In addition, survey responses from respondents who represent multiple diversity categories (e.g., woman-owned and minority-owned) are recorded in all qualifying categories. (See Appendix A for a full list of survey questions.)

Key Demographics

This report draws on responses to the Research Team’s demographics survey collected from DBEs across six states with the following breakdown geographically:



More than half of the responses (61%) came from businesses operating in a commercial space and 39% of respondents operate businesses from a home office.

The top four products and/or services provided by surveyed businesses include energy auditing (15%), consulting (15%), lighting (14%), and HVAC/R (12%) (Figure 2). Combined these categories represent 56% of respondents. Eleven different categories comprised the other 44%.

About 59% of respondents served commercial (34%) and industrial (25%) market sectors. Of the 41% of respondents serving residential market segments, 22% served multi-family and 19% served single-family sectors.

Almost half of the businesses surveyed (49%) have been operating for 10 years or less. Nearly 26% have been operating for 10 to 25 years, and 21% have been operating for 25 to 50 years. A few respondents (4%) have been in operation for over 50 years.

The majority of businesses (56%) surveyed employ fewer than five people. Just over a quarter (26%) employ 5 to 10 people, 18% employ more than 10 people, with one business employing more than 100 people. (Figure 3). Businesses surveyed represent a wide range of revenues⁵ that span from less than \$100,000 to over \$5 million. (See Appendix B for additional details.)

⁵ Revenue cited in this report was reported in 2019.

Figure 1: Locations of diverse business survey participants.

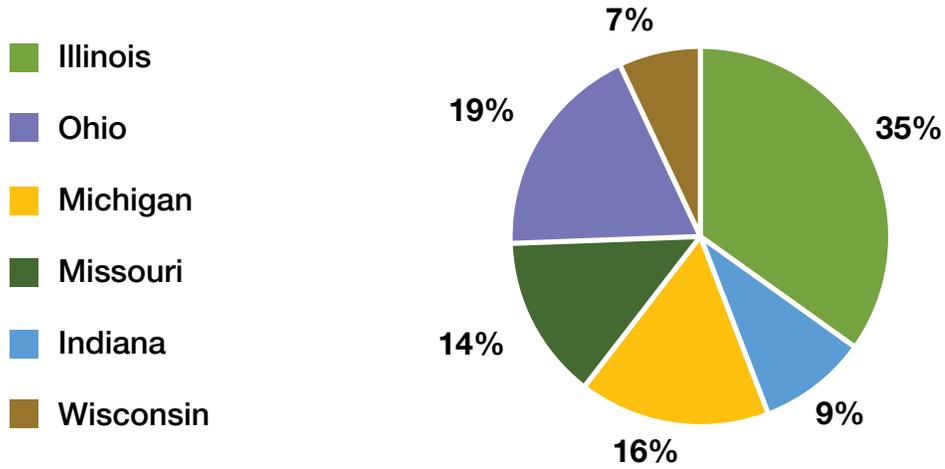


Figure 2: Products and services offered by diverse business survey participants.

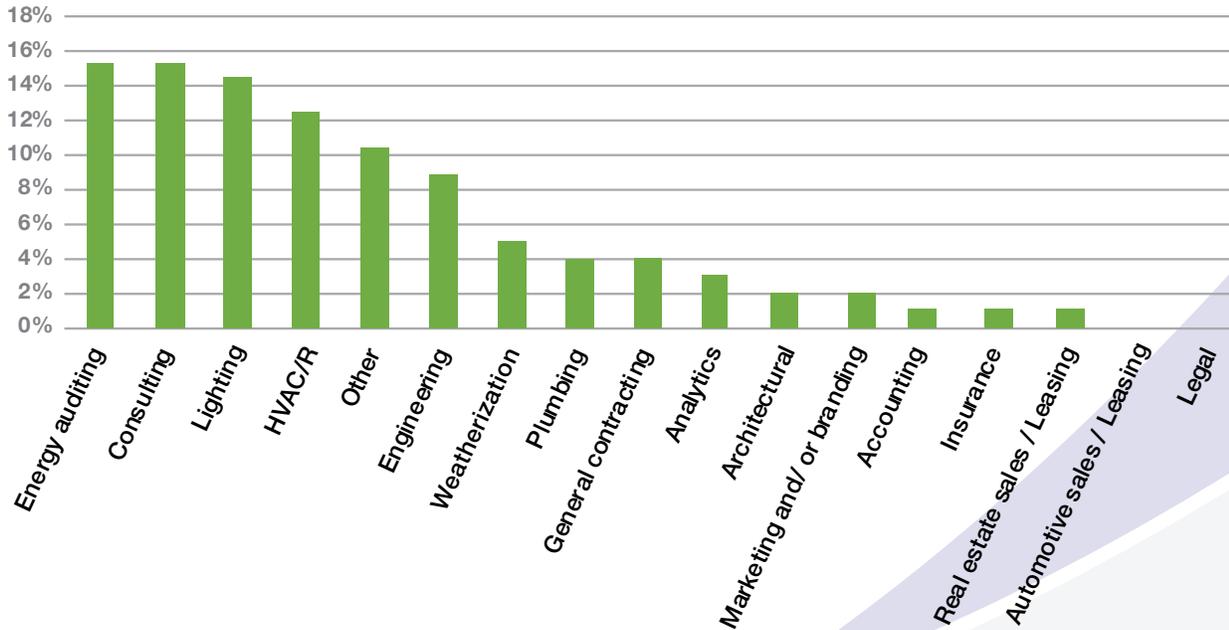
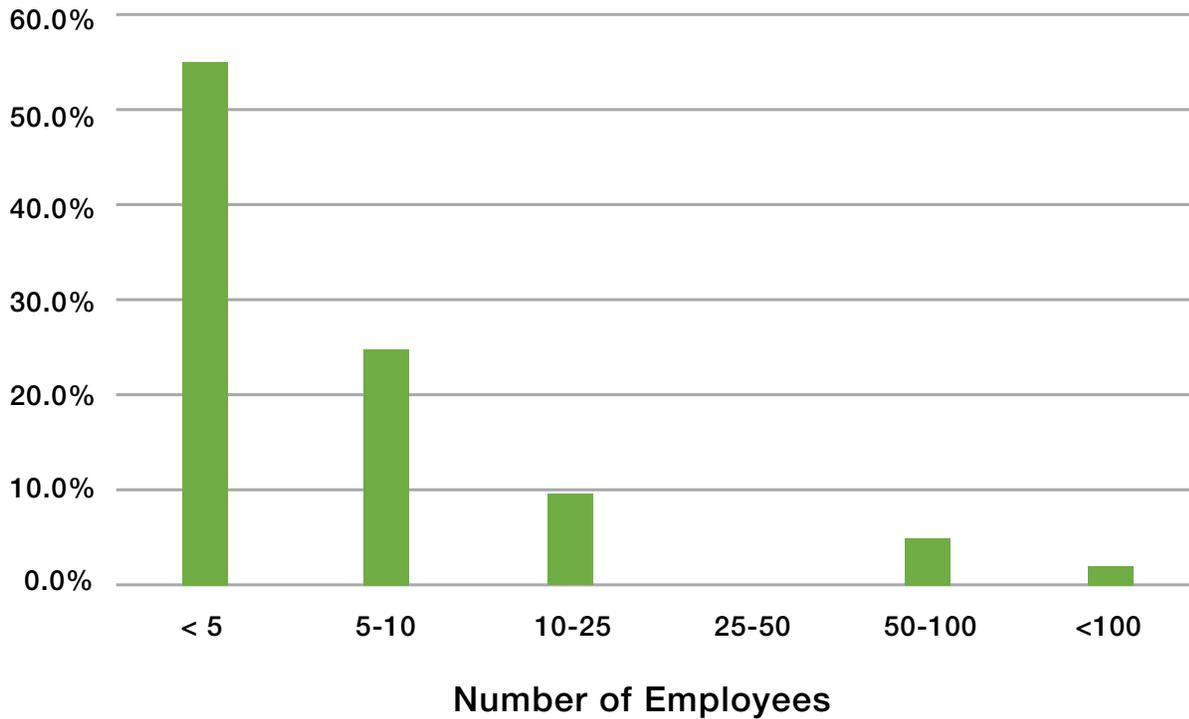


Figure 3: Number of individuals employed by diverse businesses.



Verifying DBE Status

Databases and public listings of diverse businesses were used to identify survey participants. Among the most widely accepted third-party DBE certification is the MBE certification, specifically for businesses owned by people who identify as ethnic minorities, particularly Black, Native American, Hispanic and Latinx⁶, and Asian. Other third-party entities certify DBEs as Woman (WBE), Veteran (VBE), Lesbian, Gay, Bisexual, Transgender (LGBTBE), and Disabled (DOBE).

While each business contacted had at least one piece of online information that suggested it was owned by a person who identified as diverse, 11% of those same businesses answered “no” when asked if they were diverse. As a result, they were ineligible to complete the survey.

Overall, 89% of the businesses contacted self-identified as diverse owned. Responses indicated these businesses are owned by an individual who identifies as a racial or ethnic minority (63%), woman (43%), veteran (27%), Lesbian, Gay, Bisexual, Transgender, or Queer (LGBTQ+) (12%), and/or individual with a disability (10%) (Figure 4). As many DBEs surveyed identify in multiple categories, the sum of these numbers is greater than 100%.

The breakdown of DBEs surveyed belonging to multiple categories is as follows. Thirty nine percent (39%) of surveyed businesses self-identified as more than one diverse category. Responses indicated that 29% identified with two categories, 6% identified with three categories, and 4% identified with all five categories (Figure 4a).

Of the 39% of DBEs reporting multiple categories, 37% identified as racial or ethnic minority and woman, 16% identified as racial or ethnic minority and veteran, 11% identified as individual with a disability and veteran, 11% identified as LGBTQ+ and racial or ethnic minority, 10% identified as all categories, 5% identified as individual with a disability and racial or ethnic minority and woman, 5% identified as racial or ethnic minority and veteran and woman, and 5% identified as LGBTQ+ and racial or ethnic minority and woman.

⁶ The term Latinx is a non-binary or gender-neutral alternative to Latina or Latino, used to refer to individuals of Latin American origin.

Certified DBEs

A majority of businesses that completed the survey (76%) indicated holding a third-party DBE certification that proves the business is 51% owned, operated, and controlled by a diverse individual (Figure 5). More than half of these respondents (56%) reported that a DBE certification helped increase revenues and led to energy efficiency projects with electric or gas utilities. (See Appendix B for additional figures.)

Figure 4: DBE Groups

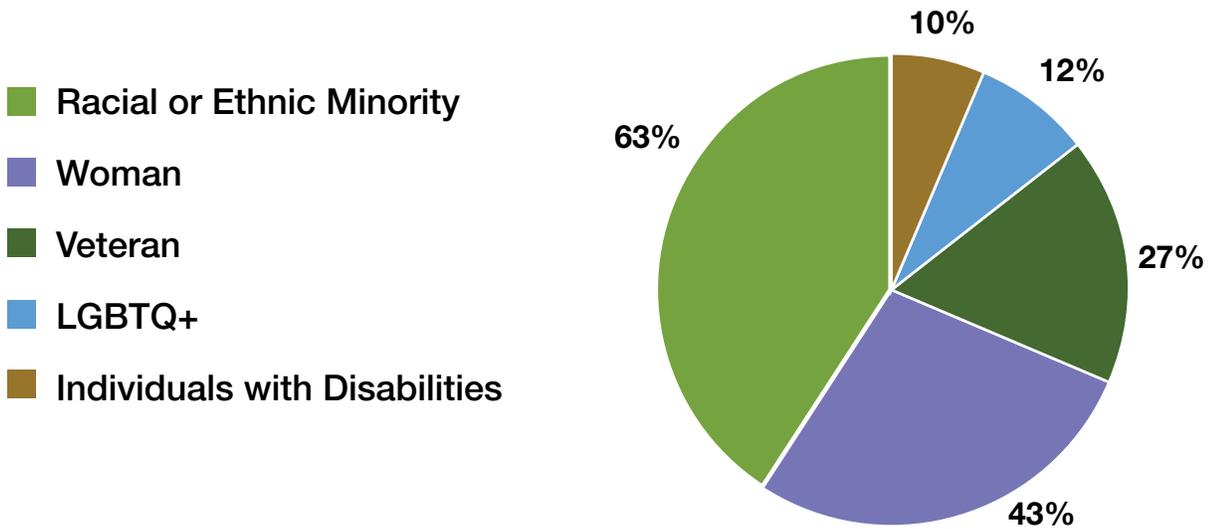


Figure 4a: Multiple DBE Groups

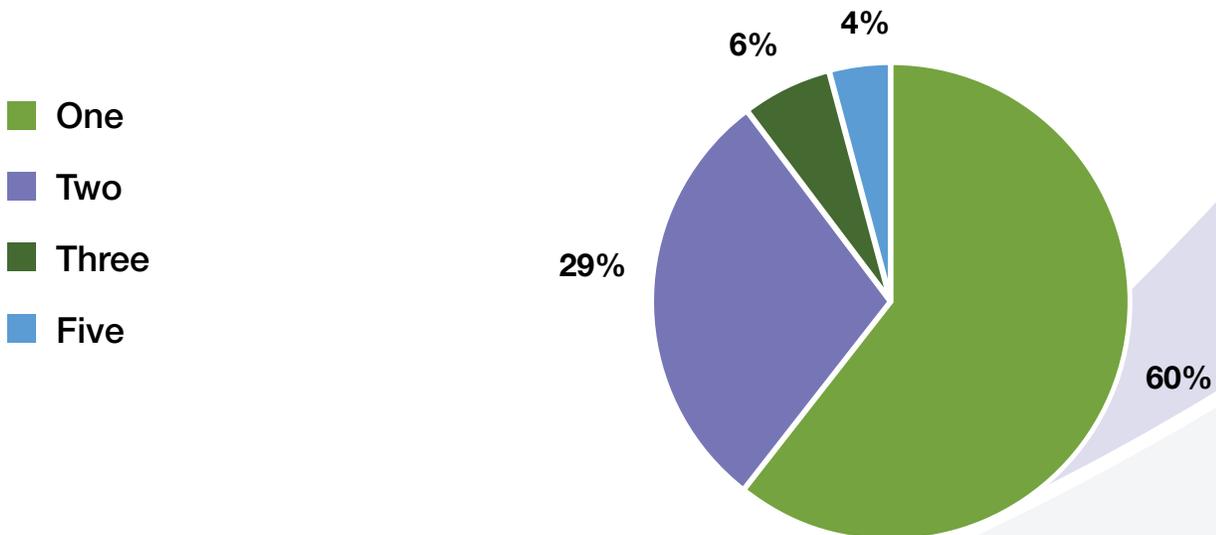
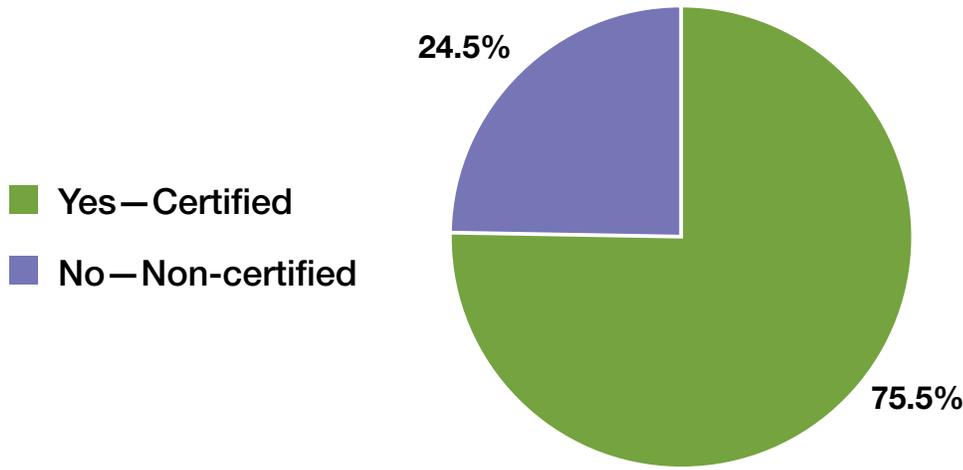


Figure 5: Businesses with DBE Certifications



Familiarity with and Participation in Energy Efficiency Programs

Survey respondents were asked whether they were familiar with energy efficiency programs offered by electric or gas utilities in their states.

Over three-quarters of respondents (77%) indicated that they were somewhat-to-very familiar with such programs. More than half of the respondents (58%) said their business had provided goods or services for one or more energy efficiency programs with an electric or gas utility within the past five years. Energy auditing (18%), HVAC (17%), and lighting (15%) were the top three products and/or services provided over the last five years (Figure 6). Most respondents (63%) said they generated less than \$250,000 in revenue from their most recent interaction with an energy efficiency program with an electric or gas utility. (Figure 7). (See Appendix B for additional figures.)



Figure 6: Goods/services provided in energy efficiency program over the last five years.

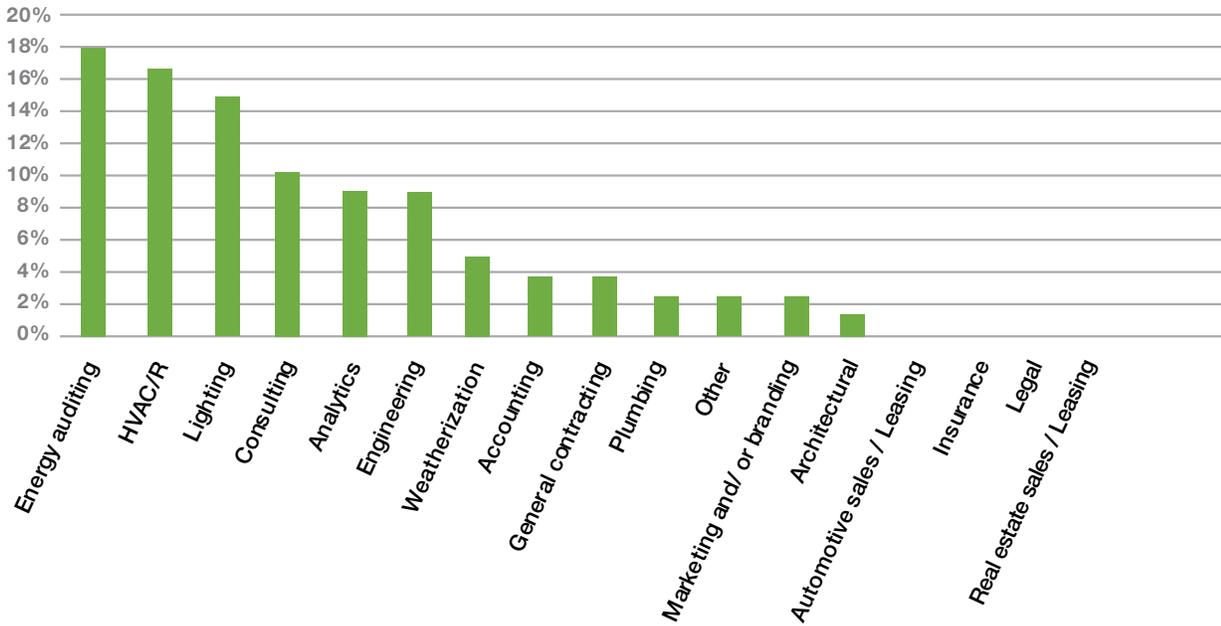
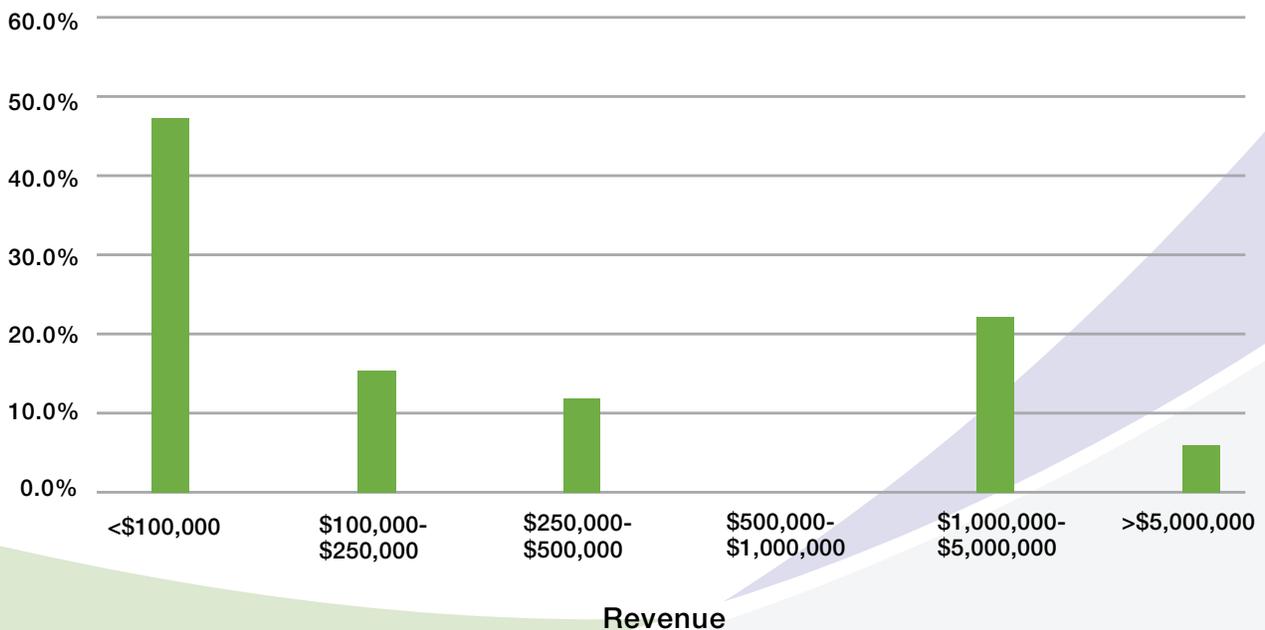


Figure 7: Revenue from single most recent energy efficiency program transaction



Barriers to Participation

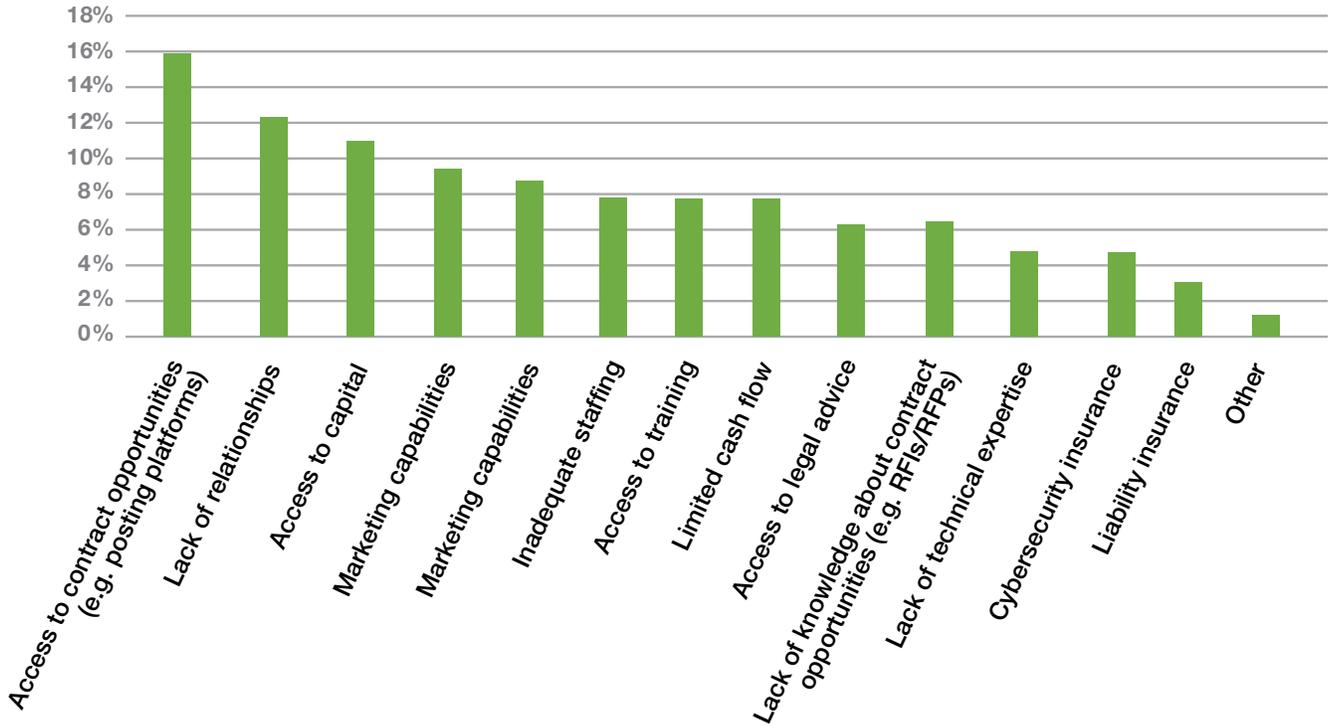
To assess barriers faced by DBEs seeking business with utilities, the Research Team asked respondents about their experiences working with an electric and/or gas utility.

A majority of the businesses (75%) had attempted to participate in energy efficiency programs with an electric and/or gas utility within the past five years. As previously stated, 58% of respondents provided goods or services in the last five years. Within this group which provided goods or services in the last five years, 42% of respondents experienced barriers and challenges that negatively impacted their ability to participate in energy efficiency programs with their local utility, and 58% of respondents indicated not having experienced any barriers or challenges.

The most common barriers were a lack of access to contract opportunities (e.g., Request for Proposal (RFP) and Request for Information (RFI) procurement platforms) (16%), a lack of relationships with utility decision-makers (13%), and limited access to capital (11%). There were two access related issues – lack of access to the procurement platform and a lack of knowledge about the contract. Combined, these access issues would be the biggest impediment to participation by far. Similarly, there were two insurance related barriers raised – cybersecurity insurance and liability insurance. Additional barriers are depicted in Figure 8. (See Appendix B for additional figures.)



Figure 8: Barriers to DBEs ability to participate in utility energy efficiency programs



When asked to describe a challenge experienced when attempting to participate in utility-run energy efficiency programs, some participants reported not knowing how or when RFPs and RFIs were issued. Others discussed the challenges that resulted from inconsistent market incentives and programs.

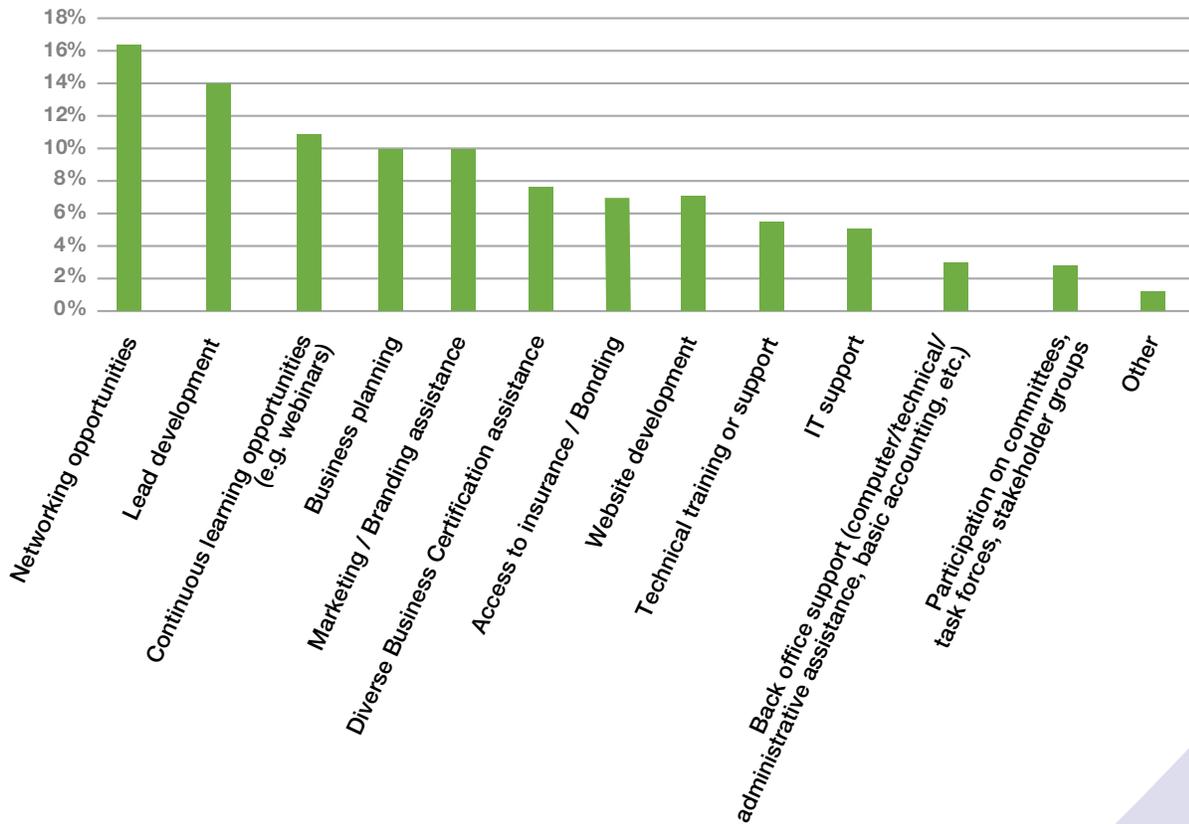
Respondents were also given the opportunity to comment on support received when attempting to participate. Participants indicated that support was provided in the form of seminars and meetings during which program updates were shared, and in general customer service actions. (See Appendix C for full list of short answer responses.)

Improving DBE Ability to Participate

Understanding ways to improve contractor and utility partnerships is necessary to increase diverse business participation in energy efficiency programs.

Survey responses indicated that networking opportunities (16.4%), lead development (14.8%), and continuous learning opportunities (e.g., webinars) (10.7%) were the top three services most useful to improving a business' ability to provide products and services to electric and gas utilities.

Figure 9: Services that improve diverse business' ability to participate in energy efficiency programs



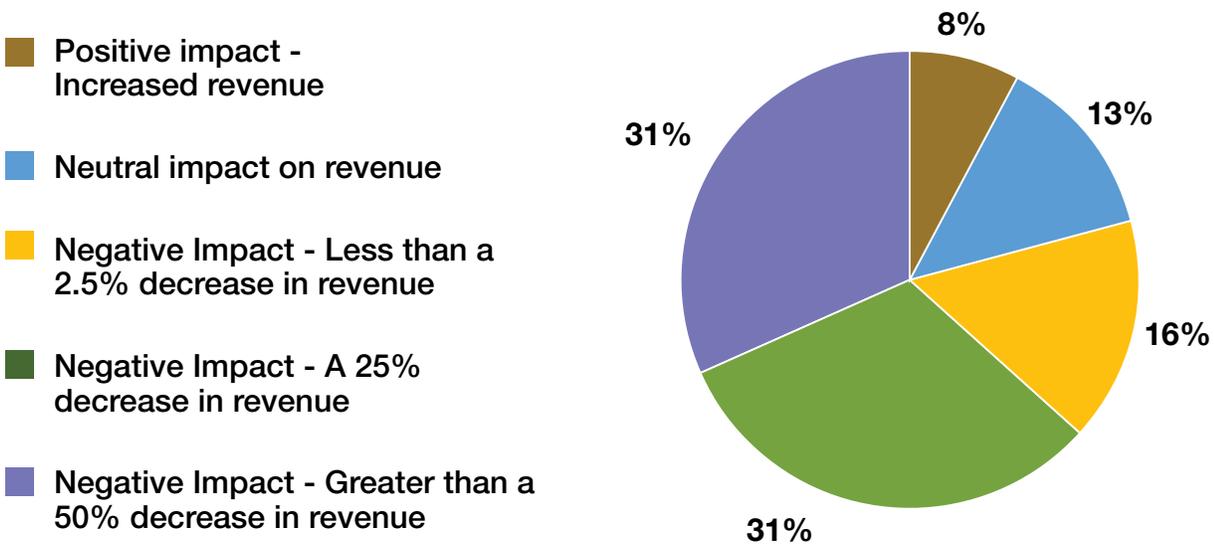
COVID-19 Pandemic Impacts

Research efforts began in January 2020, prior to the widespread outbreak of COVID-19 in the United States. As the COVID-19 pandemic began to devastate the economy, the Research Team incorporated questions specific to its impact on diverse energy efficiency businesses.⁷

Most respondents (79%) indicated that their revenue was negatively impacted by the COVID-19 pandemic (Figure 10).

Specifically, 16% of respondents indicated experiencing less than a 25% decrease in revenue, 31% indicated a 25% to 50% decrease in revenue, and 32% indicated a greater than 50% decrease in revenue. Only 13% of respondents indicated that COVID-19 had no negative impact on their revenues; 8% actually indicated increased revenues. These numbers are consistent with the Brookings Institute December 2020 report that indicated 75% of small business owners reported being negatively impacted by COVID-19.⁸ This same Brookings Institute research posited that long-term, structural racial disparities in business ownership coupled with the impacts of the COVID-19 pandemic would only make for an increasingly fraught path to recovery for DBEs.

Figure 10: Impact of COVID-19 pandemic on revenue generation



Respondents were also asked how the COVID-19 pandemic impacted their businesses beyond revenue generation. Some indicated the pandemic caused project delays, prohibited meeting with customers or visiting work sites, limited the number of employees available, and halted training. Responses also indicated the COVID-19 pandemic created family obligations that impeded normal work processes.

DBE Survey Conclusions

The survey results demonstrate that regardless of number of employees, size, business sectors, and or annual revenues, DBEs face unique challenges to participating in utility-managed energy efficiency programs. As such, there is a clear need for utilities to develop more innovative mechanisms to increase the participation of DBEs.

⁷ The survey was conducted from May 21, 2020 to June 19, 2020, before the November 2020 resurgence of COVID-19.

⁸ Pepinsky, T., Hill, P., Zhang, B., & Jochim, A. (2020, December 16). Economic recovery in American cities: Building Black businesses and wealth. Retrieved January 26, 2021, from <https://www.brookings.edu/events/economic-recovery-in-american-cities-building-black-businesses-and-wealth-2/>

Key Challenges Identified by Walker-Miller

Over the past several years, Walker-Miller has worked with utilities to explore ways to increase procurement opportunities for diverse businesses. Many procurement barriers are systemic – built into the corporate procurement culture and not unique to the energy efficiency industry. Based on Walker-Miller’s experience, the following are some key challenges facing DBEs.

DBE Spend is Not a Contract Requirement

Energy Efficiency Implementation Contractors (IC’s) are, by and large, technical companies that regularly navigate complex contractual requirements, balancing the need to meet energy savings, service levels, measure mixes, and customer satisfaction goals within strictly prescribed budgets and fixed time frames. In this highly competitive industry, IC’s push to meet every contractual detail and goal, constantly innovating technologies, systems, and processes to acquire new contracts, and position themselves to defend their incumbent positions indefinitely through as many RFP cycles as possible. Amidst these priorities, diverse spend can be forgotten entirely. Often the single biggest barrier to increased diverse vendor participation is utilities not having a stated goal for diverse vendor participation written into the contract.

To ensure diverse spend, clear language with diversity goals should be included in RFPs and other procurement documents, as well as in contracts. While many utilities include language that “encourages” diverse spend, utility energy efficiency programs increasingly include diverse spending percentages as a requirement or make diverse spending a significant scoring metric in their RFP evaluation criteria.

Many DBEs Lack Adequate Capital and Access to Credit

More than 90% of businesses in the United States are small businesses. Ethnically diverse businesses are typically smaller, undercapitalized entities and are less likely to secure financing from traditional banks. Any business must have enough money to procure supplies, equipment, and labor necessary to execute projects while also managing expenses as they wait to be paid by customers. Additionally, small businesses’ credit scores can prohibit them from accessing traditional lending sources. On average, minority small business owners hold a credit score around 707, some 15 points lower than the average small business owner across the United States. With near perfect credit being a requirement to access the most advantageous bank loans, minority small business owners are by and large at a competitive disadvantage.⁹ This lack of access to beneficial financial terms is compounded by complicated or non-existent processes for providing plausible explanations for poor or limited credit history.

Along with DBEs lack of access to beneficial credit terms, small and medium businesses with Black and Latinx ownership are especially vulnerable as they are frequently undercapitalized, with very little cash on hand. Approximately 94% of majority Black businesses and 89% of majority Latinx businesses only have, on average, a 14-day cash buffer, compared to 35% of majority white businesses.¹⁰ Moreover, “data recorded in 2016 found that white business owners start their businesses with an average of \$106,720 in working capital compared to African-American-owned businesses, which are started with an average of just \$35,205.” Set against the backdrop of wealth levels for Latinx and Black Americans being reportedly 11 to 16 times lower¹¹ than for whites, these numbers carry added significance considering the most common reason minority-owned firms are rejected for small business loans is a lower net worth and/or lack of assets.¹²

⁹ Jared Weitz, “Why Minorities Have So Much Trouble Accessing Small Business Loans,” Forbes, January 22, 2018, accessed December 3, 2020, <https://www.forbes.com/sites/forbesfinancecouncil/2018/01/22/why-minorities-have-so-much-trouble-accessing-small-business-loans/?sh=1cda315555c4>.

¹⁰ Carlos Grandet, Chris Wheat, and Diana Farrell. “Place Matters: Small Business Financial Health in Urban Communities,” JPMorgan Chase & Co, September 2019, Accessed November 30, 2020, <https://www.jpmorganchase.com/institute/research/small-business/place-matters-small-business-financial-health-in-urban-communities>.

¹¹ Kate Nocera. US Small Business Is Changing: 11 Things You Need to Know. 28 Nov. 2018, www.vox.com/ad/18116197/small-business-11-things-you-need-to-know.

¹² Jared Weitz, “Why Minorities Have So Much Trouble Accessing Small Business Loans,” Forbes, January 22, 2018, accessed December 3, 2020, <https://www.forbes.com/sites/forbesfinancecouncil/2018/01/22/why-minorities-have-so-much-trouble-accessing-small-business-loan>.

Well before the tragic COVID-19 crisis, limited access to credit had a detrimental impact on the underlying health of minority-owned small businesses. Based on data from the 2018 Small Business Credit Survey, the Brookings Institution found that large banks approve around 60 percent of loans sought by white small-business owners, 50 percent of those sought by Hispanic or Latinx small-business owners, and just 29 percent of those sought by Black small-business owners¹³.

Additional grim metrics are found in a 2020 report by McKinsey & Company, “COVID-19’s Effect on Minority-owned Small Businesses in the United States.” This report found that Black small-business owners were significantly more likely to be asked to provide more information about their personal financials – including personal financial statements and personal W-2 forms – when applying for small-business loans than White small-business owners were, even when controlling for credit score and business characteristics¹⁴. Alongside the typical challenges diverse businesses experience, it will take up to five years for businesses across all sectors to recover from the COVID-19 pandemic, and even more for small businesses.¹⁵

While managing both relatively less capital reserves combined with less advantageous lines of credit, utility-set payment terms can be a non-starter for many DBEs. As a standard, some utilities pay vendors anywhere from 30 to 90 days after project completion and invoicing. DBEs unaccustomed to this type of delay in payment are often unable to bridge the period between project invoice submission and receipt of funds from the utility.

Expensive and Time-Consuming DBE Certification Processes

There is a great deal of value to being a certified DBE. However, there are many challenges involved in obtaining a DBE certification. Depending on the certifying body, the process can take as long as six months with hundreds of hours of effort. Additional barriers include certification application processing fees, lack of resources to complete the rigorous application process, and stringent requirements for providing proof the diverse business owner maintains 51% management and financial control of the business. To this last point, some required documents may not be readily available to diverse business owners, such as certified birth certificates, historical documents detailing original financing structures, and personal financial statements and tax records from all owners, even those with minimal ownership interest. Some certifications also include site visits and interviews verifying ownership and control. Applications are often delayed substantially or abandoned entirely as both certifying bodies and diverse businesses sometime lack the resources to continue the certification process within prescribed times. Frustrated by the initial effort, many diverse businesses simply do not reapply.

¹³ Sifan Liu and Joseph Parilla, “Businesses owned by women and minorities have grown. Will COVID-19 undo that?,” Brookings Institution, April 14, 2020, [brookings.edu](https://www.brookings.edu).

¹⁴ André Dua, Deepa Mahajan, Lucienne Oyer, and Sree Ramaswamy, “US small-business recovery after the COVID-19 crisis,” McKinsey and Company, July 2020, accessed November 30, 2020, <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/us-small-business-recovery-after-the-covid-19-crisis>.

¹⁵ André Dua, Deepa Mahajan, Lucienne Oyer, and Sree Ramaswamy, “US small-business recovery after the COVID-19 crisis,” McKinsey and Company, July 2020, accessed November 30, 2020, <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/us-small-business-recovery-after-the-covid-19-crisis>.

The Digital Divide

In the United States, diverse businesses are generally small and locally owned with limited budgets. In March of 2020, when the pandemic shut down the United States, the need to close the digital divide gained new urgency. Immediately, millions of businesses were disconnected from the economy. The lucky ones turned to online operations to survive. Nearly a year later, many businesses are still struggling to figure out how to function successfully in the new digital reality, with old computers, inadequate software, and unreliable internet access.

Even when basic access to internet service is not an issue, small and diverse businesses are less likely to have Customer Relationship Management (CRM) or Enterprise Resource Planning (ERP) systems, that larger organizations use to integrate and manage day-to-day business activities such as customer management, accounting, procurement, project management, risk management and compliance, and supply chain operations.

As such, small and diverse businesses are more likely to have limited to no access to innovative platforms and solutions in turn limiting their visibility to utilities and their ability to engage with sophisticated utilities.

Limited Investment in Formal Business Process, Systems, and Development

Traditionally undercapitalized, many small and diverse businesses cannot afford to make material investments in training or systems related to leadership, basic business development and management, or other business functions. Critical growth investment in foundational business elements such as skills building, contract negotiation, marketing, lead generation, project management, financial forecasting, customer service, and other areas of business management and operation are often foregone as all attention is firmly attached to day-to-day operations out of necessity. Even with a paucity of financial and time resources, refining foundational business principles is necessary for DBEs to grow.

Visibility and Access to Opportunities

Procurement focused databases are traditionally exclusively reserved for and designed to meet the needs of certified DBEs. As many diverse businesses are not certified DBEs, they must rely on internal marketing and outreach budgets and miss out on wide-reaching exposure from listings in industry and/or public-facing databases enjoyed by certified DBEs and majority-owned entities. These internal marketing and outreach budgets often do not have room to support the process for DBE certification. This leaves non-certified diverse business owners with an onerous choice: continue on as a non-certified DBE or divert resources from the marketing and outreach that actively supports their business to pursue DBE certification.

As addressed by challenges to follow, the potential benefits of attaining DBE certification are hard to balance against the reality of a monthly, or weekly, bottom line. Many of the opportunities in energy efficiency are advertised through closed electronic platforms. Unlike majority suppliers with long standing relationships, many small and diverse businesses are unfamiliar with platforms such as Power Advocate and Ariba that facilitate energy efficiency RFP and RFI responses. As a result, new and diverse suppliers have limited knowledge of and formal access to procurement opportunities as in many cases prospective bidders must be specifically invited to participate in the bid. Legacy contractors have relationships with utilities, industry associations, and regulatory entities that afford access to general information and best practices, often with the opportunity to influence program plans and pending changes. Many diverse businesses learn of RFPs and RFIs at the last minute, if at all, and simply lack the capacity to evaluate and respond to opportunities during the short window between the release of an RFP or RFI and the proposal submission date. Additionally, even if diverse businesses have been specifically invited to enroll in a utility's chosen supplier portal there can be a steep learning curve associated with both registering all required information in the portal and with the functions of the portal itself. In particular, the processes for navigating the platform, accessing information, and submitting proposals can be very daunting to newcomers. As a result, few diverse suppliers are successful in the formal bidding process.

Extraneous Contract Requirements

Many utility contract requirements are passed down from the prime contractor to all subcontractors, even when they are not applicable to a DBE's segment of the contract. These can include requirements impossible for small businesses to meet, such as a certain number of years in business, or bonding and insurance levels. Moreover, many small and diverse suppliers do not have the experience to understand and address all contract requirements without interpretation or assistance. Extraneous contract requirements can stall the process or render the businesses ineligible to participate.

One example of this is a branded clothing supplier required to have a \$5 million liability insurance policy even though they were seeking a contract for a few thousand dollars. To increase DBE participation, a prime contractor has to be willing to waive these types of requirements.



Best Practices: Increasing Diverse Business Participation

A **Best Practice** is defined as “a procedure shown by research and experience to produce optimal results and is established or proposed as a standard suitable for widespread adoption.” Organizations rely on or adopt best practices prior to implementing new initiatives or programs designed to ensure a desired outcome. Utilities are no different.

Understanding utility best practices of the target region is important to identifying applicable methods of increasing recruitment, engagement, and development of diverse businesses as contractors, vendors, and suppliers. Equally important is assessing best practices from beyond the target region to encourage innovative thinking. The following section includes best practices, preferred approaches, and successful programs that have increased diverse business participation in energy efficiency programs.

The Research Team conducted a series of one-on-one interviews with various Midwest utility energy efficiency and trade association representatives and initiated a review of public documents to identify the best practices most applicable and relevant to utility-managed energy efficiency programs (see Appendix D for interview scripts). These best practices fall within five main categories: Building Inclusive Cultures; Attracting and Recruiting; Increasing Development Opportunities; Program Design; and Barrier Identification and Removal.

“Supplier Diversity is a business strategy that ensures a diverse supplier base in the procurement of goods and services for any business or organization. It emphasizes the creation of a diverse supply chain that works to secure the inclusion of diverse groups in the procurement plans for government, not-for-profit, and private industry.”¹⁷



¹⁶ Merriam-Webster, “Best practice,” accessed October 28, 2020, <https://www.merriam-webster.com/dictionary/best%20practice>.

¹⁷ CVM, “What is supplier diversity and why is it important?” CVM Supplier Diversity Blog, last modified December 18, 2019, accessed October 20, 2020, <https://blog.cvm-solutions.com/what-is-supplier-diversity>.

Building an Inclusive Culture for Diverse Businesses

The Research Team identified formal Supplier Diversity Programs in each of the participating Midwest states. Duke Energy Corporation (Duke Energy), serving six states across the Midwest and South, believes in “ingraining an inclusive culture for diverse businesses by way of policy, practice and competitive prices of commodities and services.”¹⁸ Building an inclusive culture entails cultivating project teams with intention, by considering the teams’ desired outcomes and how each members’ experiences and talents shape the business’ success. The same consideration must be given to building supply chains. The top themes for building an inclusive culture for diverse business are included below.

1. Building Supply Chains with Diversity and Inclusion Values, to Reflect the Communities Served

A strong supplier diversity program builds a supply chain that aligns with a utility’s inclusive core values to reflect the communities it serves. The various utilities surveyed in all participating Midwest states share this ideology for building and maintaining diverse supply chains. Joe Dominguez, CEO of Commonwealth Edison Company (ComEd), in Illinois, shares that, “At ComEd, diversity and inclusion are core values for our employees and those we work with, including our supplier community. Creating opportunities for diverse suppliers to grow and excel is one of the most important roles we play as we continue building a supply chain that reflects all the communities we serve.”¹⁹ Supply chains built in alignment with company diversity and inclusion values benefit the community by impacting business growth, job creation, and an overall improved quality of life.

As stated in their 2019 Supplier Diversity Report²⁰, Ameren Illinois believes that diverse business utilization plays a significant role in contributing to the economic growth, job creation, and social well-being in its communities, the State of Illinois and the Midwest region. Further, Ameren Illinois recognizes the importance of inclusiveness as it relates to all aspects of procuring products and services and providing electric and gas service to its business and residential customers. In 2017, Ameren Illinois’ Market Development Initiative (MDI) was approved by the Illinois Commerce Commission (ICC) as part of its Energy Efficiency Plan Filing for the 2018-2021 Plan Year. MDI is an initiative designed to develop partnerships with community-based organizations to 1) increase the number of diverse and local businesses supplying products and services in support of its energy efficiency programs, 2) increase the number of diverse and (low to moderate) income-qualified participants receiving services from its energy efficiency programs who have not traditionally benefited from them, and 3) increase energy efficiency workforce development opportunities for diverse individuals.

¹⁸ Duke Energy, “2019 Sustainability Report: Ready for What’s Next,” April 2020, accessed June 17, 2020, <https://sustainabilityreport.duke-energy.com/downloads/2019-Duke-Energy-Sustainability-Report-Complete.pdf>.

¹⁹ Commonwealth Edison Company, “ComEd Diverse Supplier Investment Reaches All-Time High,” April 18, 2019, accessed October 23, 2020, https://www.comed.com/News/Pages/NewsReleases/2019_04_18.aspx.

²⁰ Ameren Illinois Company, “Annual Report on Business Diversity for the Illinois Commerce Commission” April 2020, accessed February 8, 2021, <https://ilsag.s3.amazonaws.com/2019-Ameren-IL-Supplier-Diversity-Report-to-ICC.pdf>.

2. Leveraging Existing Supplier Diversity Programs

Supplier diversity programs allow utilities to identify ways to include diverse suppliers. Most utilities understand and embrace supplier diversity programs because suppliers are an important component of their success, and thus commit to their continued development.²¹ Supplier diversity, and development programs in Ohio, Illinois, Indiana, Missouri, and Michigan aim to identify, develop, and promote the inclusion of qualified diverse suppliers to “add value and stability across the organization.”²²

At DTE Energy (DTE), a Detroit, MI-based utility, the diversity procurement team “developed a national reputation for success by going out into the community to meet diverse business owners where they are and provided resources and education to help them succeed.”²³ People’s Gas Company (People’s Gas) and North Shore Gas Company (North Shore Gas), in Chicago, understand the need “to partner with all-diverse suppliers in order to identify new business opportunities and expand their capabilities.”²⁴ In Wisconsin, Alliant Energy Corporation (Alliant Energy) in Wisconsin is paving the way with its internal diverse supplier program “aimed at increasing the utilization of minority-owned, women-owned, and service-disabled veteran-owned, LGBTQ+-owned and designated small businesses.”²⁵

Supplier diversity programs enable utilities to play an active role in strengthening and widening the playing field for qualified, diverse suppliers, bringing those that have been traditionally underutilized into the fold of opportunity.²⁶

3. Developing Mentoring Relationships to Strengthen Supply Chain Diversity

Increasing the participation and success of diverse suppliers requires an investment in mentorship, exemplified by several utilities. People’s Gas and North Shore Gas believe in the importance of continuously developing mentoring relationships and have done so since the inception of their formalized supplier diversity program.

Similarly, Duke Energy ensures “diverse suppliers know which doors to knock on and how to establish sustainable relationships within the company... [and] shows other utilities how to do the same.”²⁷ Duke Energy hosts business summits that bring together diverse suppliers and utilities and demonstrate the path to successful partnership. Duke Energy also held smaller forums in specific locations to open new doors for diverse-owned businesses by highlighting their products and/or services to potential customers within the local network of utilities. These forums resulted in a “better educated, diverse business community that has an understanding of the energy industry.”²⁸ Duke Energy has received recognition for its supplier diversity initiatives and encourages other utilities to adopt similar strategies to build sustainable diverse businesses in the energy industry nationwide. Through various methods, strong mentorship helps facilitate a greater understanding of goods and services procurement policies, processes, and practices for diverse-owned suppliers, enabling these businesses to be more successful in networking and securing new opportunities.

²¹ Nicor Gas, “Supplier Diversity Report 2018,” 2019, accessed June 19, 2020, <https://www.icc.illinois.gov/filings/mwvs/default.aspx>.

²² Vectren Corporation, “Supplier Diversity,” Supplier Diversity, accessed October 23, 2020, <https://www.vectren.com/corporate/supplier-diversity>.

²³ Lisa Bolla, “DTE CPO receives national award for supplier diversity commitment,” Empowering Michigan, DTE Energy, May 24, 2019, accessed October 13, 2019, <https://empoweringmichigan.com/dte-cpo-receives-national-award-for-supplier-diversity-commitment/>.

²⁴ People’s Gas and North Shore Gas, “Supplier Diversity 2019 Annual Report,” 2019, accessed October 17, 2019, <https://www.peoplesgasdelivery.com/company/pdf/supplier-diversity-report.pdf>.

²⁵ Alliant Energy, “Supplier Diversity,” accessed December 1, 2020, <https://www.alliantenergy.com/PartneringwithAlliantEnergy/Suppliers/SupplierDiversity>.

²⁶ NiSource, “Renewing our Commitment: 2019 Global Reporting Initiative Table, Supplement to NiSource’s 2019 Integrated Annual Report,” 2019, accessed June 14, 2020, <https://www.nisource.com/docs/librariesprovider2/sustainability-archives/2019/2019-gri-table.pdf?sfvrsn=8>.

²⁷ Duke Energy, “Connected: 2014 Sustainability Report,” 2014, <https://sustainabilityreport.duke-energy.com/2014/pdfs/2014-duke-sustainability-report-complete.pdf>.

²⁸ Ibid.

Attracting and Recruiting Diverse Businesses

The most effective strategies for successfully attracting and recruiting diverse businesses vary by utility and service territory and require a combination of approaches. Identifying the most effective strategies for a given locale can help facilitate the best outcomes in building a diverse supply chain. Research indicates the following are best practices for attracting and recruiting diverse businesses in the Midwest region.

1. Outreach Methods

Effective outreach strategies are necessary to recruiting diverse businesses. Utilities in Michigan, Illinois, Missouri, Indiana, Wisconsin, and Ohio leverage outreach methods to recruit diverse businesses to participate in energy efficiency projects. Utilities connect with diverse suppliers through different forums designed to recruit, inform, educate, and eventually, procure from diverse businesses. ComEd's outreach includes using third-party companies to recruit new diverse businesses by hosting seminars and workshops during which ComEd expresses their needs within and beyond the utility energy efficiency program. ComEd's goal is to provide qualified diverse suppliers an opportunity to compete in the bidding process.²⁹ Similarly, Northern Indiana Public Service Company and Columbia Gas of Ohio pursue diverse supplier connection opportunities by hosting and participating in industry and diversity events across their service territories.³⁰ Lastly, a DTE representative attributed its portfolio success to the number of diverse business engagement programs and initiatives the utility employs to “embrace [community outreach] and make it happen daily basis.”³¹

2. Partnering with Diversity Experts

A key strategy for reaching diverse suppliers that reflect the communities within the utilities' service territories is for utilities to partner with local Diversity, Equity, and Inclusion (DEI) focused advocacy groups and organizations that specialize in recruiting. Utilities in Michigan, Ohio, Missouri, Indiana, Illinois, and Wisconsin collaborate with diversity-related advocacy groups to recruit diverse vendors. For example, Alliant Energy, in Wisconsin, pursues diverse recruitment goals by “forming a partnership with an expert in supplier diversity development.” Alliant partnered with the North Central Minority Supplier Development Council (NCMSDC) to establish the diversity program that is today embedded within its culture. Specifically, NCMSDC taught Alliant how to track diverse suppliers, what to require for certification, how to conduct outreach, and what resources were available to find diverse suppliers.³² NCMSDC and other advocacy groups well-versed in DEI can support utilities in understanding the granular details necessary to building diverse supplier programs reflective of the utilities' target customer base.

²⁹ Sophia Markowska and Leah Scull, “Winning Contracts and Developing Skills,” Midwest Energy Efficiency Alliance, September 2018, accessed October 7, 2020, <https://www.mwalliance.org/sites/default/files/meea-research/supplier-diversity-sept2018.pdf?current=/taxonomy/term/11>.

³⁰ NiSource, “Renewing our Commitment.”

³¹ Interview with John R. Boladian, Director of Energy Efficiency at DTE Energy, conducted September 15, 2020.

³² Markowska, “Winning Contracts and Developing Skills.”

Increasing Development Opportunities for Diverse Businesses

Increasing opportunities for training and development is an important strategy for improving overall diverse supplier engagement. The potential positive impact of this strategy is realized when it opens doors for resource-sharing and other opportunities. Partnerships and mentorships can be leveraged to offer development opportunities to DBEs.

The top themes for fostering strong development opportunities in the Midwest are included below. The Research Team also identified several innovations for developing diverse businesses; included are those most applicable to Ameren Illinois.

1. Leveraging Partnerships

Most Midwest utilities believe that partnering with private organizations, public organizations, and advocacy groups to offer coaching and development opportunities to diverse suppliers benefits both the utility and the supplier.

Vectren Corporation (Vectren) which serves Ohio and Indiana circulates links and information from public, private, and advocacy organizations to their diverse business partners as a way of providing assistance and information.³³

ComEd uses a unique method to secure partnerships. A ComEd company representative serves as a Board Member for the Chicago Minority Supplier Development Council (CMSDC), a partnership that helps “to promote diversity-certified supplier inclusion best practices.”³⁴

Dominion Energy Company in Ohio (Dominion Energy Ohio) develops its diverse businesses by sponsoring scholarships for small diverse business owners to attend an executive management program.³⁵

ComEd aims to develop diverse suppliers in high-impact, FEJA-related spend categories. ComEd’s senior leadership is especially committed to providing development opportunities for new, certified DBEs in historically underrepresented communities, and prioritizes enhancing the development initiatives they offer.³⁶ In 2017, ComEd “spent \$30 million on area business associations to develop career training programs related to solar and energy efficiency. ComEd aims to establish a pool of trained installers, fund job training programs through community-based and diverse organizations and identify partnership opportunities that maximize societal benefits of workforce development.”³⁷

Peoples Gas and North Shore Gas partnered with Chicago United to create and implement the “Five Forward” program, in which five local MBEs are selected to participate for five years. As MBEs grow and enhance their position to compete for corporate contracts outside of Five Forward, the corporate community benefits from a more competitive pool of diverse businesses. This impactful partnership leverages participants’ existing skills and expertise and offers recommendations and guidance to position the suppliers for long-term success. “The companies continue to adhere to the Chicago United Five Forward Initiative process to strengthen their internal sourcing and enhance the relationships with MBE partners that have potential to build scale and become regionally and nationally competitive.”^{38, 39}

³⁵ Dominion Energy, “Building a Cleaner Future for our Customers and the World,” 2019 Sustainability and Corporate Responsibility Report, 2020, accessed November 25, 2020, https://sustainability.dominionenergy.com/assets/pdf/Dominion-Energy_SCR-Full-Report-FY2019.pdf.

³⁶ Markowska, “Winning Contracts and Developing Skills.”

³⁷ Ibid.

³⁸ People’s Gas and North Shore Gas, “Supplier Diversity 2019 Annual Report.”

³⁹ For more information on the Chicago United Five Forward 20/20 Initiative, see <https://www.chicago-united.org/page/FFvidresources>.

In 2020, Ameren Illinois partnered with the Minority Business Development Center in Peoria, IL to design the Minority Contractor Development Program to increase the participation of minority, women, and disadvantaged businesses owners on construction projects. The Minority Contractor Development Program focuses on developing DBEs in areas such as capital acquisition, bidding/estimating, bonding, and back-office support.

2. Internal Mentoring Programs

Utilities in all six states surveyed have internal mentoring programs that support the development of diverse businesses. This practice has significantly increased and maintained the number of diverse businesses with improved skills. Utilities design formal training programs to help diverse businesses become well-versed in supply chain management and utilize mentoring as a key tactic. Utilities facilitate participation by offering scholarships.

DTE offers “a mentorship program led by the supply chain to identify potential diverse businesses. Energy efficiency program teams that are aware of the unique needs that diverse businesses have may bring in resources to help coach. There are monthly and quarterly meetings to identify deficiency gaps and help close them.”⁴⁰

In 2017, Ameren Missouri launched a Diverse Business Mentoring Program which included a cohort of emerging Ameren Missouri diverse businesses. Cohort members participate in a year-long curriculum with a variety of featured topics, including project management, bidding and estimating, and safety and quality management. Then, the cohort members routinely meet with Ameren Missouri mentors and key prime suppliers.⁴¹ This program builds groups of capable diverse businesses ready to fulfill project opportunities.

In some cases, internal mentoring efforts foster an environment in which utilities and businesses effortlessly connect over procurement opportunities. Oftentimes, mentoring programs ensure DBEs are better involved in bidding and sourcing opportunities, support DBEs who have inquired about opportunities listed on the supplier diversity website, and encourage active participation at networking and advocacy events. This is the case at People’s Gas and North Shore Gas, where the supplier diversity teams work to identify short- and medium-term areas for growth and opportunity. Based on these areas of development, the utilities regularly seek the procurement of goods and services for buyers, end users, and corporations, and regularly interviews diverse businesses for these opportunities.⁴²

⁴⁰ Interview with John R. Boladian, Director of Energy Efficiency at DTE Energy, conducted September 15, 2020.

⁴¹ Ameren Missouri, “Powering the Quality of Life: A Guide for the Community,” February 2020, <https://www.ameren.com/-/media/missouri-site/files/community/community-guide-2020>.

Innovation: “How to Do Biz” Workshop

Workforce development efforts have shifted alongside changes in the utility industry. These efforts now attempt to establish a communications infrastructure to connect utilities and diverse businesses, and work to fulfill requirements that would support the industry’s future growth. ComEd “...held a workforce development event in August 2017 to bring together administering job training programs with energy efficiency program implementers. Bringing these groups together ensures implementers can share the skills that they are looking for with their employees and contractors, while workforce training programs can identify potential companies for job placement.”⁴³

Innovation: Reverse Minority Supplier Vendor Fair

People’s Gas and North Shore Gas hosted Reverse Minority Supplier Vendor Fairs that swapped the typical roles of exhibitors and attendees. Instead of corporate and contractor representatives hosting exhibits, suppliers were exhibitors “empowered to sell and promote their businesses and own the networking opportunities” with the corporate and contractor representatives as the attendees. The event was very well received and renewed, strengthened, and created relationships while providing diverse suppliers direct access to decision-makers.⁴⁴

Innovation: Secure Financing Partnership – Community Banking Program

Exelon Corporation, the parent company of ComEd headquartered in Chicago, created a Community Banking Program to secure credit agreements with community and minority-owned banks located in its subsidiary companies’ service territories. In 2013, Exelon arranged \$123 million in credit lines with 31 community and minority owned banks in Illinois, Pennsylvania, Maryland, and New Jersey.⁴⁵

⁴² People’s Gas and North Shore Gas, “Supplier Diversity 2019 Annual Report.”

⁴³ Markowska, “Winning Contracts and Developing Skills.”

⁴⁴ People’s Gas and North Shore Gas, “Supplier Diversity 2019 Annual Report.”

⁴⁵ National Utilities Diversity Council, “Supplier Diversity Toolkit,” accessed October 22, 2020, <https://nudc.com/clientuploads/pdfs/bestpractices.pdf>.

Designing Programs with Diverse Businesses in Mind

Programs that are successful in increasing diversity in supply chains are those that place the needs of diverse businesses at the center of program design. In the last several years, utilities began to track diverse spend goals as a best practice to introduce a higher level of accountability for their diversity commitments. Utilities now track Tier 1, or prime contractor diverse spend, and Tier 2, subcontractor, diverse spend goals within energy efficiency programs. Tracking the growth over time of these numbers is an accurate measure of success, as well as an indicator of a contractor's commitment to diverse spend. Diverse spend within utility energy efficiency programs has increased in large part from focused efforts that identify local diverse businesses in targeted spend categories. The primary trends and methods for designing programs to best meet the needs of diverse businesses are included below.

1. Implementing Diverse Spend Goals

Utilities throughout Illinois, Michigan, Missouri, Indiana, and Ohio have established goals and resources to increase diverse spend in energy efficiency programs. According to our research, Wisconsin utilities do not currently appear to implement diverse spend goals. However, as this report was going to press in early 2021, the Wisconsin PSC announced in a press release that they will require privately held utilities with at least 15,000 customers to provide information about supplier diversity and procurement goals and actual spending for women-owned, minority-owned, veteran-owned, disability-owned, and LGBT+ businesses in the previous calendar year, and the utilities' plan for implementing and realizing their goals for the following year.

To increase diverse spend in support of the 2018 Exelon Diverse Business Empowerment Strategic Initiative Plan, ComEd created the Enterprise All-In Supplier Development Program as part of ComEd's Supplier Development Portfolio. The program is a strategic outreach and diverse business development process that selects "high potential" local/diverse business in targeted spend categories with traditionally little diverse business inclusion. The program specifically focuses on energy efficiency to increase the pipeline of diverse businesses in areas of growth.⁴⁶ "Illinois has attempted to rectify the historical lack of supplier diversity in utilities through the submission of annual reports on supplier diversity goals and the creation of annual policy sessions. The Illinois Commerce Commission (ICC) does this by closely analyzing utilities' procurement figures and their spending plans in annual reporting. This reporting and the ICC analysis creates a deeper understanding of how diverse spend can grow and encourages the processes that fuel this growth. Due in part to the ICC's and Illinois Utilities Business Diversity Council (IUBDC) efforts, utility spending with diverse businesses increased by more than \$1.4 billion from 2012-2016."⁴⁷

DTE implements its energy efficiency program with specific diverse contractor spend goals. The Energy Efficiency team works in partnership with their internal supply chain team. The energy efficiency contract spend goal is typically based on a percentage of the contract amount.⁴⁸

Other utilities have internal spend goals that must be met through their ICs. Many of these goals require a specific percentage of spend be allocated towards diverse businesses for a particular project; however, in many cases it is acceptable not to meet the goal as long as there is proof of a "good faith effort" shown and documented. This "good faith effort" exception creates leniency around diverse spend. Utilities must make diverse spending a priority, by providing training and education on the importance and impact of spending with diverse businesses and enforcing goals, making them non-negotiable. Goals should also be coupled with the establishment of initiatives and implementation of pilot programs to support locating and vetting diverse business and ensure successful recruitment.

⁴⁷ National Utilities Diversity Council, "Supplier Diversity Toolkit."

⁴⁸ Interview with John R. Boladian, Director of Energy Efficiency at DTE Energy, conducted September 15, 2020.

2. Tracking and Reporting Diverse Spend

Utilities throughout the Midwest have implemented policies, metrics, and methods to track and report diverse spending. Policies emphasize the importance of recognizing the value of supplier diversity programs, and the need for prime contractors to understand and embrace them. Utility contracts require prime contractors to report supplier diversity metrics from the RFP stage through the contract end date. Diverse spend related to energy efficiency programs is tracked for analysis of historical trends and reporting to government utility commissions. To remain transparent, information on spend with diverse businesses is published through RFPs, annual utility reports, regulatory reports, websites, and applications designed to track diverse spending. Ameren Illinois, Indiana Michigan Power Company, Duke Energy in Ohio, and Dominion Energy Ohio all utilize PowerAdvocate as a web-based tool to monitor certified DBE spend tracking.

Nicor Gas, in Illinois, feels that an important component of its supplier diversity program is second-tier supplier diverse, or subcontracting, and they evaluate supplier diversity and spend in their RFP decision matrix. They also ask that primary contractors participate in the program and report on supplier diversity efforts.⁴⁹

“DTE reports and tracks its diverse spending related to energy efficiency programs in an annual report that publishes its diversity spending. Internal metrics on a monthly scorecard and supply chain tracking are used to evaluate the amount of diverse spend. Energy efficiency diverse spend is reported to the Michigan Public Service Commission in an annual report included in the regulatory filing and diverse spend information is also published on DTE’s website.”⁵⁰

Both diversifying and tracking spend, even down to Tier 3 suppliers, is an essential strategy towards increasing efforts in both areas. First, tracking spend encourages contractors to consider every opportunity for DBE participation within a contract. Tracking spend to the Tier 3 level provides opportunities for DBEs to gain experience with smaller contracts and develop relationships with Tier 2 contractors that afford an opportunity for growth into larger, more substantial contracts.

In 2018, as part of its MDI program, Ameren Illinois partnered with Walker-Miller to identify, vet, and recommend candidates for contract opportunities across its energy efficiency portfolio and track the growth of Tier 3 DBE spend. Between 2018 and 2020, Ameren Illinois’ Tier 3 diverse energy efficiency spend increased by an eye-popping 895%.

⁴⁹ Nicor Gas, “Supplier Diversity Report 2018.”

⁵⁰ Interview with John R. Boladian, Director of Energy Efficiency at DTE Energy, conducted September 15, 2020.

Identifying and Removing Barriers

Too often, diverse businesses experience barriers to participation in energy efficiency programs and projects. The Research Team found innovative strategies from outside the Midwest that utility companies employ to increase, develop, and sustain supplier diversity programs. The Research Team finds these innovations to be feasible and effective for use in the Midwest.

Key Strategy: Supply Chain Integration

While Midwest utilities are well-versed in the design and application of supply chain diversity principles, the Research Team did not find information to indicate diverse businesses have the expertise required to successfully navigate utility energy efficiency supply chains. This knowledge gap creates barriers to obtaining supply contracts and procurement opportunities. These barriers often discourage diverse businesses from seeking and securing contracts, impacting their ability to be competitive with other non-diverse businesses in the energy efficiency field. Worse still, even when qualified to participate, diverse businesses often fail to find on ramps that allow them to provide goods or services for energy efficiency programs.

Utilities and diverse businesses greatly benefit from the dedicated supply chain teams who focus specifically on identifying opportunities and removing barriers for energy efficiency businesses.

These teams can apply Lean Six Sigma (LSS) methodologies, such as root cause analysis, to identify barriers and improve processes. Listening to the voices of DBEs help ensure diverse end-user perspectives are included. Vectren found success in this approach to improving diverse supply chain utilization. Vectren “utilizes a supply chain team to maximize strategic sourcing practices for small, women, minority, veteran, and service-disabled veteran business enterprises” to carry out the goals intentionally and successfully they have related to diverse supplier spend and utilization.⁵¹

⁵¹ Vectren Corporation, “Vectren 2016 Report.”

Innovative Initiatives

Southern California Gas Company, Central and Southern CA

Innovation: Supplier Showcase

Southern California Gas Company (SoCalGas) implemented programs through close partnerships with utility supply and procurement departments. These programs educate diverse businesses on elements of the procurement cycle while building business relationships with clients. Employing supply management, supplier diversity, and procurement agents within the same department increases the flow of information and program effectiveness by removing the departments from a stovepipe management configuration.

The removal of this up-down management control encourages seamless cross organizational communication. To further these efforts, SoCalGas organizes a regular supplier showcase in which the company presents suppliers early in the contracting process. Because supplier diversity, supply management, and procurement agents are in the same department, the communication facilitated by the supplier showcase is highly successful. The supplier diversity professionals work in tandem with procurement leaders to ensure sufficient timing is allotted for showcase coordination.

The team then conducts outreach together to elevate opportunities with the internal client. Afterwards, the supplier diversity team compiles a list of potential suppliers to recruit into the company's supply chain. "In the Supplier Showcases, [five to six] suppliers are invited, and an entire day is set aside to meet with internal clients for 30-35 minutes per supplier. Through this process, the suppliers can build relationships with the internal client, moving beyond a business card. These meetings take place early in the procurement process so there are more opportunities for interactions. Prior to instituting the Supplier Showcases, SoCalGas found that introducing diverse businesses too late in the procurement process was a barrier to participation. Diverse businesses are encouraged to attend outreach events, so the supplier diversity team is aware of them."⁵²

⁵² National Utilities Diversity Council, "Supplier Diversity Toolkit."

Innovative Initiatives

Smaller Contractor Opportunity Realization Effort (SCORE)

“The SCORE program aims to expand the pool of smaller diverse businesses in the supplier base. SCORE combines boot camps and class sessions with on-the-job mentoring. Boot camps provide a one-day dive into subjects such as ‘Submitting a Winning Request for Proposal’ and ‘Talent Management’ to help small diverse businesses develop relationships within SoCalGas and resulted in \$20million in contracts in 2013.”⁵³

Innovation: Supplier Payment Programs⁵⁴

SoCalGas recognizes that many of its diverse businesses experience cash flow and financial health concerns that create a sensitivity for on-time payments. To address this need, SoCalGas built and implemented numerous programs and practices to ensure contractors and suppliers receive prompt payments and resolve payment disputes in a timely manner. The following includes several of SoCalGas’ supplier payment programs, considerations, and best practice:

- **Supplier Quick Pay Program (SQPP):** For diverse firms with \$5 million or less in annual revenue and no more than 25 employees, SoCalGas offers electronic payments with modified payment terms to Net 15 with zero discounts. There are 62 enrollees in the program.
- **Accounts Payable:** Diverse businesses can contact an Accounts Payable representative directly, via email, for answers to questions on pending invoices.
- **Supplier Relationship Model:** Participants can work through the program independently to resolve issues such as payments, performance, and contracts.
- **Supplier Diversity Team:** When notified, advisors can resolve contract issues dealing with pay, performance, complaints and more.
- **Late Payment Resolution Team:** In 2018, a team with representatives from Procurement, Supplier Diversity and Accounts Payable was formed to determine the root cause of late payments, mitigate discrepancies, and address disputes.
- **Vendor Management System:** The system provides timely payments to suppliers. It also assists with compliance, time tracking, budgeting, and detailed descriptions of work performed.
- **Bank of America Visa Card:** This card offers prompt payment for smaller vendor purchases.
- **Invoice Processing Education:** Representatives from SoCalGas’ Accounts Payable department administer invoice processing education workshops to current and potential vendors to minimize late payments.
- **Southern California Edison Company, Central, Coastal and Southern CA.**

⁵³ Ibid.

⁵⁴ Southern California Gas Company, “2018 Annual Report, 2019 Annual Plan,” 2018, accessed November 18, 2020, https://www.socalgas.com/1443742292537/2018_SCG_DBE-Report_2018.pdf.

Innovative Initiatives

Innovation: Diverse Supplier Mentoring Program

Southern California Edison Company (SCE) conducts an 18-month Program for seven to ten diverse businesses that includes a supplier leadership component, a bid process segment (including how to review a score sheet to perceive weaknesses in a bid), and a section on how to use power teams with operational unit mentors. Vendors selected for this program offer products and/or services related to SCE's future procurement needs.⁵⁵

National Grid USA Service Company, Inc., Northeast Region

Innovation: Master Series Program

The National Utilities Diversity Council (NUDC) builds capacity by partnering with educational institutions to create academic enrichment programs. This value-add strategy drives economic growth by engaging diverse suppliers and local universities. National Grid USA Service Company, Inc. (National Grid) developed the Master Series Program, an academic enrichment program at no cost to the diverse business. This program focuses on procurement, covering the basics such as responding to RFPs, leveraging social media, and other marketing strategies for business growth, sustainability, safety compliance, and managing/developing employees.⁵⁶

Innovation: Jurisdictional Supplier Diversity Summit

National Grid hosts the Jurisdictional Supplier Diversity Summit (Summit) to connect utilities, prime contractors, procurement teams, and business development agencies with targeted diverse businesses across the Northeast. Diverse businesses are invited to participate in educational opportunities to potentially give them a competitive edge for contract awards. Prior to the Summit, "each corporation reviews their capital investment plan as well as upcoming sourcing events to ensure the right suppliers are invited to the Summit that provide products and services for real opportunities that are visible in the near future. The focus of the event is to drive supply chain diversification from all angles (Tier 1 and Tier 2) as well as educate suppliers on sustainable initiatives to give their company a competitive edge."⁵⁷

⁵⁵ National Utilities Diversity Council, "Supplier Diversity Toolkit."

⁵⁶ Ibid.

⁵⁷ National Utilities Diversity Council, "Supplier Diversity Toolkit."

DIVERSE RESIDENTIAL CUSTOMERS AS ENERGY EFFICIENCY PROGRAM PARTICIPANTS

Background and Approach

Energy utilities know not all customers have identical needs or desires. These differences can present a challenge when trying to activate a diverse customer base to participate in utility-based programs, such as energy audits or weatherization updates. To successfully engage a diverse customer base, utilities must understand their customer base in great detail, identify customer groups and their unique barriers to program participation, and implement measures for removing those barriers.

According to the U.S. Census Bureau, Ameren Illinois' electric and gas service territory includes over 1.1 million families across 1,042 zip codes. The diverse customer groups that reside in these zip codes include customers of different races and ethnicities, veterans, older customers, individuals with disabilities, limited-English speaking households, LGBTQ+ communities, low-income households, and other demographics.

To better understand the unique needs of diverse customers, the Research Team (1) conducted a review of existing literature and industry best practices on diverse customer engagement; (2) refined qualitative research methods; and (3) conducted two customer focus groups.



Understanding the Diverse Residential Customer Base

Customer Segmentation Profiles

An essential part of recognizing and reaching a company's unique customer base is segmenting the company's target customers into appropriate categories to facilitate equity in service and engagement. Esource, a leading research, consulting, and data science firm in the utility industry, conducted a study in which several Midwest states were organized into subpopulations with unique characteristics.⁵⁸ The subpopulations included American Classics, Urban Modern Mix, Park Bench Seniors and Back Country Folks. The Urban Modern Mix group consisted of adults and single parents (55 years of age and younger) who live in urban areas with a medium income of \$35,000, in a mixture of rented and owned homes, and mostly did not have children.⁵⁹ In addition to the examples provided by Esource, the Research Team explored additional factors in customer segmentation, including technology use, highest level of college education attained, primary methods of communications, etc.

Segmentation that captures variances in geography, lifestyle, life stage, and socioeconomic demographics will facilitate a better specialized approach to implementing energy efficiency programs in energy sectors. Customer segmentation by customer characteristics has been integral to Ameren Illinois' understanding of diverse customer needs and outreach preferences.

Ameren Illinois Diverse Residential Customer Distribution

The Research Team conducted an extensive review of the target diverse customers within Ameren Illinois' service territory, segmenting customers to facilitate an effective assessment of customer engagement in energy efficiency programs. The Research Team considered the following demographic indicators: geographic location, race or ethnicity identification, age, disability status, homeownership status, English-speaking capability, socioeconomic status, and veteran status.

A key demographic Ameren Illinois serves includes income constrained households, many of whom face difficult decisions in managing expenses. Energy efficiency programs provide an opportunity for low-income households to reduce their utility bills by offering free or low-cost energy conservation measures. Program participation can be limited for these target constituents by a number of barriers, including the lack of awareness of existing programs and distrust of program providers. A scarcity of trust often contributes to customer apprehension to share financial information necessary for program registration.

The Research Team used U.S. Census Data to explore the distribution of diverse populations across Ameren Illinois' service territory to identify zip codes with relatively high proportions of target demographics. Some zip codes have high proportions of multiple demographic categories. The Research Team identified these zip codes as most likely to include diverse demographics of interest for Ameren Illinois' energy efficiency programming (Figure 11). (See Appendix E for maps illustrating the geographic distribution of target diverse populations, and Appendix F for a list of the top 25 zip codes with the highest proportion of each target demographic.)

⁵⁸ The states included in Esource research were Illinois, Michigan, Ohio, Wisconsin, and Indiana.

⁵⁹ Esource website, <https://www.esource.com>.

Figure 11: Target communities for diverse customer engagement

County	City	Zip Code	Non-white	Black/African American	American Indian/Alaska Native	Asian	Native Hawaiian/Pacific Islander	Other Race	Hispanic/Latino	Individuals with Disabilities	65 years or older	Renter-occupied Households	Limited English Speaking Households	Poverty	Veterans
Alexander	Cairo	62914	●	●	●		●								
Bond	Pierron	62273									●			●	
Bureau	Depue	61322						●	●				●		
Calhoun	Hamburg	62045								●					●
Calhoun	Michael	62065												●	●
Calhoun	Mozier	62070												●	●
Cass	Beardstown	62618					●	●	●				●		
Cass	Bluff Springs	62622								●		●		●	
Champaign	Urbana	61801				●						●	●		
Champaign	Champaign	61820				●						●	●		
Champaign	Savoy	61874				●							●		
Christian	Rosamond	62083				●									●
Clinton	New Memphis	62266								●				●	
Douglas	Arcola	61910							●				●		
Douglas	Arthur	61911									●		●		
Douglas	Murdock	61941								●		●			
Franklin	Orient	62874								●	●				
Iroquois	Claytonville	60926						●						●	
Iroquois	Onarga	60955						●	●				●		
Iroquois	Thawville	60968			●			●	●						
Jackson	Carbondale	62901										●	●		
Jackson	Ava	62907			●	●									
Jersey	Dow	62022			●										●
Kane	Montgomery	60538						●	●						
Kankakee	Pembroke Twp.	60958	●	●											
La Salle	La Salle	61301						●	●						
La Salle	Leonore	61332						●						●	
Lee	Compton	61318						●	●						
Macon	Decatur	62523	●	●						●		●			
Madison	Madison	62060	●	●											
Madison	Venice	62090	●	●								●			
Mclean	Bloomington	61704				●							●		
Mclean	Cropsey	61731												●	●
Mercer	Preemption	61276						●	●						●

Figure 11: Target communities for diverse customer engagement (cont.)

County	City	Zip Code	Non-white	Black/African American	American Indian/Alaska Native	Asian	Native Hawaiian/Pacific Islander	Other Race	Hispanic/Latino	Individuals with Disabilities	65 years or older	Renter-occupied Households	Limited English Speaking Households	Poverty	Veterans
Mercer	Preemption	61276						●	●						●
Peoria	Dunlap	61525				●								●	
Peoria	Edwards	61528				●								●	
Peoria	Rome	61562							●	●				●	
Peoria	Peoria	61602				●				●		●			
Peoria	Peoria	61603	●	●											
Peoria	Peoria	61605	●	●								●			
Peoria	Peoria	61625				●						●			
Piatt	La Place	61936												●	●
Pulaski	Mound City	62963	●	●						●					
Pulaski	Mounds	62964	●	●											●
Pulaski	Pulaski	62976	●	●											
Rock Island	Barstow	61236					●	●	●						
Rock Island	Carbon Cliff	61239										●	●		
Rock Island	East Moline	61244											●		
Saint Clair	Lovejoy	62059	●	●								●			
Saint Clair	East Saint Louis	62201	●	●				●	●		●	●	●		
Saint Clair	East Saint Louis	62203	●	●											
Saint Clair	East Saint Louis	62204	●	●								●			
Saint Clair	East Saint Louis	62205	●	●											
Saint Clair	East Saint Louis	62206	●	●								●			
Saint Clair	East Saint Louis	62207										●			
Saint Clair	Scott Air Force Base	62225										●			●
Saline	Muddy	62965							●						●
Sangamon	Springfield	62701				●	●			●		●			
Union	Alto Pass	62905				●		●	●				●		
Vermilion	Armstrong	61812					●	●						●	
Wabash	Keensburg	62852			●										●
Warren	Little York	61453			●	●									
Warren	Monmouth	61462						●					●		
Will	Plainfield	60586						●	●						
Williamson	Colp	62921	●	●							●				

Focus Groups

In August 2020, the Research Team hosted two 90-minute focus groups to understand diverse customers' general energy knowledge, prior energy efficiency actions, energy efficiency interests and motivations, and awareness of utility energy efficiency programs. The focus groups engaged participants who live in and around the Springfield and Taylorville communities and are served by Ameren Illinois. These communities were selected to gather diverse perspectives across age, race or ethnicity, and owner/renter status, as well as for their recognition as Ameren Illinois Voltage Optimization and Market Development Initiative targeted communities.

The focus groups were held virtually due to the COVID-19 pandemic and were facilitated by an independent moderator while the Research Team observed. (A script of the focus groups can be found in Appendix G.)

Local Demographics

Figure 12: Demographics of Springfield and Taylorville, IL

City	Population	Nonwhite population	Population 65 or older	Veteran population	Population with disability under 65	Language other than English spoken at home	Persons in poverty	Owner-occupied housing
Springfield	116,459	27%	17%	8%	11%	6%	20%	62%
Taylorville	10,964	4%	21%	11%	10%	2%	17%	65%

The participants who reside in the Ameren Illinois electric and/or gas service territory offer a window into how individuals of various demographics contextualize issues. However, qualitative research presents certain limitations. While insights gleaned from the focus groups can be applied to a broader scale, some views expressed may vary from the overall sentiment of these demographics.

Figure 13: Focus Groups at a Glance

City	Date	Time	# of participants	Demographics
Springfield, IL (gas customers only)	8.17.2020	6:00pm (CST)	7	<ul style="list-style-type: none"> 6 Women 1 Man 7 Black/African American 1 Young adult 2 Middle-aged 4 Seniors 3 Homeowners 4 Renters 3 Retired 4 Employed
Taylorville, IL (electric and gas customers)	8.26.2020	12:30pm (CST)	5	<ul style="list-style-type: none"> 4 Women 1 Man 4 White 1 Other Race/Ethnicity 2 Middle-aged 3 Seniors 2 Homeowners 3 Renters 3 Retired 2 Employed

General Energy Knowledge

Focus group participants expressed a wide range of general knowledge about efficient energy use in their homes. Across the focus groups, participants agreed that appliances, such as air-conditioners, furnaces, refrigerators, and stoves, consumed the most energy. Some participants mentioned operating air purifiers for substantial periods of the day. One participant spoke to the energy needs of powering a medical device for 24-hours a day.

The COVID-19 pandemic necessitated social-distancing practices and “Stay at Home” orders restricting non-essential movement outside the home to limit spread.⁶⁰ These practices led to a common perception that energy usage during the day did not vary by time of day. Most participants felt they used a lot more energy than when they were physically at work/school, and during all parts of the day. When asked about the time-of-day participants felt they consumed the most energy, responses coalesced around traditional peak use times, such as early morning (6-8 a.m.), mid-day, and evening (5-11p.m.).

Most focus group participants associated increased energy consumption with outdoor temperatures and the need for thermal comfort. The majority of focus group participants had a thermostat set between 70- and 73-degrees Fahrenheit. Senior participants who were home all day believed they used a considerable amount of energy during the heat of the day in the summer, due to the need for air conditioning. Others expressed the concern that their furnaces consume large amounts of energy during the winter.

Focus group participants were then asked to complete a word-association activity. They shared a word or phrase in response to hearing “energy efficiency.” Most participants mentioned saving money; the next most common set of responses focused on energy efficient measures such as storm windows, light bulbs, and smart thermostats.



⁶⁰ State of Illinois, “Stay at Home FAQ,” State of Illinois’ COVID-19 Response, accessed November 25, 2020, <https://coronavirus.illinois.gov/s/stay-at-home-faqs#:~:text=The%20Stay%20at%20Home%20order,essential%20businesses%20and%20operations>

Prior Energy Efficiency Actions

Many participants undertook Do-It-Yourself (DIY) energy efficiency actions prior to participating in a focus group. Reported DIY solutions ranged from low-tech actions, such as installing plastic or heavy drapes over drafty windows, to more advanced and costly actions, such as replacing incandescent bulbs with LEDs. Some participants installed door sweeps and took other measures to seal open spaces in doorways.

Other focus group participants talked about turning off or unplugging unused lights, televisions, and appliances around the house. Most participants said they knew these practices were energy efficient. However, some participants said that due to “Stay at Home” orders their families were currently home and continuously using electrical devices and there were fewer opportunities to unplug devices. Another focus group participant spoke to minimizing excess water use when washing dishes or brushing teeth, drawing a connection between water- and energy-savings.

Few focus group participants went beyond DIY actions unless they had participated in government-funded energy efficiency programs, such as the U. S. Department of Energy Weatherization Assistance Program. Participants were asked to share the barriers to installing deeper energy efficiency measures. Responses centered on unaffordable upfront costs and limited incomes. Participants said many measures were “out of the question on a fixed income.” Participants who had recently replaced or planned to replace major appliances with more energy efficient ones did so because of the age of the appliance or because the appliance was no longer operational.

Another challenge to deeper energy efficiency actions was the split-incentive. This dilemma occurs because building owners and property managers have little incentive to pay for energy efficient retrofits when renters are paying the costs of wasted energy, not the building owner or property manager. Some members of the focus group who were renters had building owners or property managers who would pay for some energy efficiency items they requested, but not substantial improvements, like new appliances. Focus group participants universally acknowledged the long-term positive returns of investing in energy efficiency. However, for most focus group participants, upfront costs were a barrier in the absence of financial assistance.

Access to digestible and credible information was another barrier to energy efficiency participation. Focus group participants discussed the difficulty of finding the right energy efficiency products because information in product advertising was found, at times, to be confusing and misleading. Some participants mentioned purchasing newer energy efficient products, like LED light bulbs. However, participants were under the impression that LED light bulbs do not last as long as incandescent light bulbs despite LEDs having a lifespan many times that of incandescent bulbs.⁶¹

Another challenge to energy efficiency participation is getting older residents to install new technology. One focus group participant gave her parents a smart thermostat as a gift but was still waiting for them to install it, even after sharing the thermostat’s potential benefits. Participants in both focus groups acknowledged older populations’ aversion to newer technologies or their inability to install and use newer technology.

⁶¹ Green America, “CFLs vs. LEDs: The Better Bulbs,” accessed November 24, 2020, <https://greenamerica.org/green-living/cfls-vs-leds-better-bulbs>.

Energy Efficiency Motivations and Interests

The major motivation and interest in energy efficiency centered primarily on monetary savings. Other factors included helping the environment, increasing home values, and increasing thermal comfort.

A lack of confidence and trust in the utilities or government organizations administering energy efficiency programs is a key barrier to participation. To implement more energy efficiency actions, participants expressed a need for more government grants and assistance, as well as promotion of energy efficiency practices and programs by reputable people and organizations. Focus group participants said they place trust in familiar entities, such as well-known contractors, Community Action Agencies (CAAs), and other community-based organizations (CBOs).

Numerous focus group participants elevated the need for improved partnerships and collaborations between trusted agencies and programs. A potential collaboration brainstormed during the session included utilities partnering with the Veterans Administration on home improvements and upfront energy efficiency upgrade costs.

One male respondent highlighted the technical and adaptive barriers to program participation and noted gender-based social stigma against expressing the need for assistance. Others spoke to difficulties completing program paperwork.

Focus group participants recommended providing more information specific to energy efficiency would be an effective way to better engage more customers. Younger focus group participants suggested sending equipment with benefits, tools, and instructions to make the installation process easier. In this regard, access to easy-to-understand information about energy ratings, such as ENERGY STAR, would help customers feel more comfortable and knowledgeable when shopping for new technologies or appliances. For example, participants shared their confusion around lightbulb wattage, lumens, and energy savings, as well as “weatherization” interventions. Some focus group participants expressed favoring higher wattage, such as 60W to 100W incandescent bulbs, for their increased brightness, which reduced their interest in low-wattage LED bulbs.



Utility Energy Efficiency Program Knowledge

Most focus group participants reported being unaware of energy efficiency programs implemented by their local utility. Some participants in Springfield mentioned seeing and being impressed by Ameren Illinois' commercials. Participants in Taylorville knew only of the energy efficiency program offered by the local CAA staff and credited the CAA administrator as their primary source of energy efficiency knowledge. The few focus group participants who were aware of utility energy efficiency efforts remembered receiving a box with a surge protector and lightbulbs. Lightbulbs were consistently the primary energy efficiency effort associated with local utilities.

The most commonly referenced and well-known utility program was Budget Billing. Focus group participants suggested sharing energy efficiency information during the payment plan enrollment process as an additional option for saving money. In Springfield, participants mentioned seeing Ameren Illinois commercials and having positive sentiments about the company; this was in stark contrast to the local electricity provider.

Focus group participants acknowledged that there is an abundance of energy efficiency information available on the web and from other sources. Participants made it clear their limited energy efficiency actions was not for a lack of interest or need, but rather the difficulty of sifting through such an overwhelming amount of information, much of which they found confusing. For instance, focus group participants were confused by potential rebates for energy efficiency purchases.

Best Practices: Engaging Diverse Residential Customers

The Utility Energy Efficiency Scorecard, produced by the American Council for an Energy-Efficient Economy (ACEEE), includes a ranked list of utilities based on their low-income energy efficiency programs.⁶² Those ranked highest offered more than one program and included measures beyond simple direct install, such as addressing the larger building envelope. For 2018, Ameren Illinois was one of nine utilities that tied for the highest ranking. Differences between Ameren Illinois and the other utilities include the annual amount of energy and monetary savings, as well as annual spending on energy efficiency programs. Ameren Illinois generated more than 31,000 MWh and spent more than \$15 million compared to other companies. Please delete "compared to other companies."

⁶² Grace Relf, Emma Cooper, Rachel Gold, and Corri Waters, "The 2020 Utility Energy Efficiency Scorecard," Research Report, American Council for an Energy-Efficient Economy, February 20, 2020, <https://www.aceee.org/research-report/u2004>.

Engaging Low-income Households

According to the ACEEE report, low-income households spend three times more of their income on energy costs than non-low-income households. Home weatherization upgrades can reduce the energy burden of low-income households by about 25%, yet too few low-income households conduct or have access to such upgrades. Energy burden is the ratio between a family's annual household income and annual energy bills. In fact, only 17% of households that completed energy efficiency improvements in the last two years were low-income, according to federal data. This percentage is out of line with the statistics showing about 30% of the U.S. population is comprised of low-income individuals.

Utility ratepayer-funded energy efficiency programs for low-income customers have similar elements and design. Households that meet a set income threshold, most commonly up to the 200% Federal Poverty Level (FPL), qualify for a free home energy assessment as well as the installation of conservation measures, such as LED light bulbs, pipe insulation wrap, and weather stripping. Some of these programs are offered in partnership with local CAAs or state energy assistance programs (e.g., the Low-Income Home Energy Assistance Program (LIHEAP)). This style of program delivery is becoming the industry standard. Few utilities take additional measures to reduce energy burdens for the low-income customer segment. Ameren Illinois has expanded its program eligibility to include households between 200 and 350% FPL.



Engaging Veteran Customers

The veteran customer segment includes, by definition, anyone who served in the active military, naval or air service. Some energy efficiency programs specifically target the needs of veterans. Through the Department of Veteran Affairs, veterans can access Energy Efficiency Mortgages, which offer reduced-rate loans for purchasing or refinancing an energy efficient home, such as one that is ENERGY STAR certified. Low-rate loans can also be leveraged for energy efficiency upgrades to an existing home, such as upgrading water heaters, ceiling, attic and floor insulation, heat pumps and solar heating and cooling systems.⁶³

Engaging LGBTQ+ Customers

According to the Williams Institute of UCLA, there were 326,000 LGBTQ+ workers (ages 16 and older) in Illinois in 2020.⁶⁴ The New York State Low-Income Forum on Energy released a report on the intersection between the LGBTQ+ community and utilities and offered suggestions to fortify these relationships.

Suggestions involved adjusting customer service and documentation processes to create a level of identification flexibility, such as the option to use a preferred name instead of a legal name. Potential legislation involving several institutions would allow customers to use their preferred name on documents (e.g., MasterCard allows cardmembers to use preferred names). Additionally, utility companies might consider making questions regarding sexual orientation and gender identity optional during the intake process, an important shift in collecting key demographic information. Finally, utilities must ensure that recommendations made to local resources offer culturally competent, non-heteronormative, and gender-sensitive options, including safe spaces.

Engaging Limited English-Speaking Customers

Households without a consistently available resident fluent in English present a unique challenge to participating in utility-based energy efficiency programs. If educational materials are only distributed in English, limited-English speaking households' access to programs is reduced or blocked entirely. It is important for utilities to gather key information about the languages spoken by the communities they serve and to translate educational materials and conduct outreach accordingly.

⁶³ Veterans Association, "Chapter 7: Loans Requiring Special Underwriting, Guaranty and Other Considerations," VA Pamphlet 26-7 Revised, <https://www.benefits.va.gov/WARMS/docs/admin26/handbook/Chapter1endersHanbookChapter7.pdf>.

⁶⁴ Kerith J. Conron, Shoshana K. Goldberg, "LGBT People in the US Not Protected by State Non-Discrimination Statutes," UCLA Williams Institute, April 2020, <https://williamsinstitute.law.ucla.edu/wp-content/uploads/Kerds/LGBT-ND-Protections-Update-Apr-2020.pdf>.

Engaging Older Customers

The Research Team defined senior populations as individuals 65 years of age or older. Older populations experience a disproportionate energy burden 36% higher than that of the average median household, which energy efficiency programming would help offset.

Most senior citizens consume more traditional forms of media than younger people. Seniors are more likely to view network television and news, as well as have paid cable services. Senior citizen media consumption may vary across geographical areas in that there are distinct regional differences in available media, especially with local television, newspaper, and other media outlets. Seniors are more likely to frequently check mail than younger customer demographics. Word-of-mouth communications are also an effective channel for reaching senior citizens. Outreach strategies for older customers should account for seniors' general apprehension to strangers. On-the-ground efforts should include door knockers or mailing large information packets that are crafted to meet the needs of older demographics and demonstrate the effectiveness of energy efficiency measures. Seniors appreciate the opportunity to share good news and pass benefits to friends and relatives, making referral incentives attractive.

To encourage community participation in energy efficiency, the City of Chicago implemented a neighborhood outreach program in partnership with nonprofit community organizations.⁶⁵ Coined the "Chicago Neighborhood Energy Challenge," the partnership developed a competition to engage occupants in seven residential communities to reduce energy consumption through training and community workshops. The program used specific messaging tailored to senior citizens and families with children. The winners were awarded a monetary prize and were recognized at a ceremony for their energy efficiency achievements. A key outcome of the competition was that all seven participating residential properties reduced their water consumption, and six of seven reduced their electricity consumption.



⁶⁵ Mayor's Press Office, "Mayor Emanuel Announces Results of Energy Efficiency Pilot Competition," Office of the Mayor, July 17, 2014, accessed December 3, 2020, https://www.chicago.gov/city/en/depts/mayor/press_room/press_releases/2014/jul/mayor-emanuel-announces-results-of-energy-efficiency-pilot-compe.html.

Engaging Customers with Disabilities

Ameren Illinois serves individuals with a wide range of disabilities, including hearing, vision, cognitive, ambulatory, self-care, or independent living difficulties. In 2015, the U.S. The Department of Housing and Urban Development (HUD) authored a report investigating HUD programs focused on the needs of individuals with disabilities. Individuals with disabilities under the age of 65 who live in rented homes are more likely to have very low incomes, spend more than 50% of their income on rent, live in overcrowded situations, and have worst-case housing needs.⁶⁶ Additionally, the population of individuals with disabilities is expected to increase as the baby boomer generation ages. Therefore, it is imperative that utilities develop strategies tailored to the needs of customers with disabilities.

In 2019, Ameren Illinois partnered with Google and several community-based organizations to implement an accessibility pilot. This pilot was designed to help Ameren Illinois learn how to better serve customers with disabilities with the ultimate goal of improving their quality of life. Community-based organizations identified families throughout the Ameren Illinois service territory to participate and helped educate participants on the Google smart home devices. Ameren Illinois Program Allies installed energy efficiency measures and upgrades and Ameren Illinois Portfolio Managers were trained to perform post installation support. This accessibility pilot provided a custom set of measures to 11 families, including one Google Nest Smart Thermostat, one Google Home Mini, up to four Smart Plugs, Connected Lighting for up to ten fixtures, Decorative Lighting (up to six), and two Motion-Sensing Night Lights. This partnership helped meet Ameren Illinois' Market Development Initiative's goal of increasing the number of diverse participants receiving services from Ameren Illinois' energy efficiency programs who have not traditionally benefitted from them. Google's aim in participating centered on identifying barriers to and pathways to reduce tech inequity among economically disadvantaged populations. Each family was offered an opportunity to provide feedback on their experience participating in the pilot, as well as their experience with the upgrades post-installation. In this post-experience feedback, 91% of participants were satisfied with the equipment installed, training provided, and their participation in the Pilot. All 91% of the pilot participants reported feel their homes are more accessible, feel more independent, and feel safer navigating their homes in their post-participation remarks.



⁶⁶ Casey J. Dawkins, Ph.D., and Mark Miller, "A Picture of Disability and Designated Housing," U.S. Department of Housing and Urban Development Office of Policy Development and Research, March 6, 2015, https://www.huduser.gov/portal/sites/default/files/pdf/mdrt_disability_designated_housing.pdf.

Engaging Customers Who Identify as Racial or Ethnic Minorities

The racial and ethnic demographics of this report are historically statistical racial or ethnic minorities, including Black people, also commonly referred to as African Americans; Native American and Native Alaskan; Native Hawaiian and other Pacific Islanders, also referred to as Indigenous; Hispanic, also referred to as Latinx; and Asian.

According to ACEEE data – compared to white, non-Hispanic households – and Black households spend 43% more of their income on energy costs, Latinx households spend 20% more, and Native American households spend 45% more. Additional research shows that, after accounting for income, household size, and other factors such as location, Black households pay \$273 more yearly on energy costs than white households when renting a home and \$408 more yearly if they own homes. Energy efficient retrofits could help lessen these cost disparities.⁶⁷

U.S. Energy Information Administration's 2015 Residential Energy Consumption Survey shows that Black respondents reported living in more drafty homes (+13%), owning less Energy Star® Appliances (-7%), and using fewer energy efficiency rebates (-3%).⁶⁸ Furthermore, research conducted in other Midwest states (Missouri and Michigan) demonstrates geographic disparities in the distribution of energy efficient housing. These discrepancies suggest targeting neighborhoods with cumulative vulnerabilities, such as older homes, lower income families, and higher racial segregation of Black and Latinx households, for energy efficiency programs to create the highest impact.^{69, 70}

Our findings suggest that utilities should more intentionally explore and address the correlations between race and ethnicity, energy vulnerabilities such as energy burdens, arrearages, shut offs or disconnections, and program participation. Demographic data for such analysis can be collected from the U.S. Census, utilities, or purchased from customer intelligence companies.

⁶⁷ Maximilian Auffhammer, "Consuming Energy while Black," Energy Institute Blog, Energy Institute at Haas, June 22, 2020, <https://energyathaas.wordpress.com/2020/06/22/consuming-energy-while-black/>.

⁶⁸ U.S. Energy Information Administration, "Housing characteristics tables," 2015 RECS Survey Data, <https://www.eia.gov/consumption/residential/data/2015/>.

⁶⁹ Tony Gerard Reames, "Targeting energy justice: Exploring spatial, racial/ethnic and socioeconomic disparities in urban residential heating energy efficiency," Energy Policy 97 (2016): 549-558, doi:10.1016/j.enpol.2016.07.048.

⁷⁰ Dominic J. Bednar, Tony Gerard Reames, and Gregory A Keoleian, "The intersection of energy and justice: Modeling the spatial, racial/ethnic and socioeconomic patterns of urban residential heating consumption and efficiency in Detroit, Michigan," Energy and Buildings 143 (2017): 25-34, doi: 10.1016/j.enbuild.2017.03.028.

RECOMMENDATIONS TO INCREASE PARTICIPATION

The Research Team conducted extensive research and analysis of utility-supplier relationships to understand the barriers and challenges that diverse businesses experience in the energy efficiency industry. Through the dissemination of a survey and a review of industry best practices, the Research Team identified several methods through which utilities can better engage diverse businesses in delivering energy efficiency programs. These methods focus on removing barriers and ranged from modifying utilities' behaviors and policies to implementing new programs and practices. Ameren Illinois may consider adopting the following recommendations to grow business development, strengthen relationships with diverse suppliers, and increase overall program participation. Recommendations fall under the following categories:

Incorporate diverse spending goals into energy efficiency contracts

- Incorporate Diverse Spending Goals into Energy Efficiency Contracts;
- Expedite Invoice Payments;
- Increase Access to Capital;
- Provide Customized Training, Mentoring, and Business Development for DBEs;
- Make this list Increase Visibility and Access to RFPs and other Opportunities;
- Adjust Contract Eligibility and Requirements to fit Scope of Work; and
- Increase Portfolio-Wide DBE Participation

Recommendation: Create a contract requirement for prime IC's and partners to procure products and services from DBEs

Desired Outcome: Substantial and measurable increases in contracts with DBEs

Strategy: Write Explicit DBE spend goals into energy efficiency program RFP's, RFI's and contracts. Integrate consequences, such as additional incentives for meeting goals and holdbacks, or disincentives for not meeting these goals.

Expedite Invoice Payments

Recommendation: Diverse Supplier Quick Pay Program⁷¹

Desired Outcome: Fast payments under favorable terms with swift dispute resolution

Strategy: To remove the barrier of slow payments and facilitate cash flow, pay invoices for eligible businesses upon receipt of invoice, instead of the standard terms, which can be from net 30 to net 90 days. Establish eligibility criteria, such as diverse business status verification, annual revenue, location, number of employees. Add a tracking mechanism to help ensure Ameren Illinois' DBE partners have a positive payment experience.

⁷¹ The Diverse Supplier Quick Pay Program is modeled after the SoCalGas Supplier Quick Pay Program.

Increase Access to Capital

Recommendation: Create Innovative Banking and Financial Partnerships

Desired Outcome: Substantial and measurable increases in contracts with DBEs

Strategy: Forge innovative financing partnerships with local and national organizations to support low-cost financing solutions and actively promote and provide support for existing market solutions.

The federal response to the COVID-19 crisis coupled with the business community's recent commitments to help address historical racial disparities in business lending have led to an unprecedented amount of affordable capital available to small and diverse businesses. These vehicles include the Federal Paycheck Protection Program (PPP) and Economic Injury Disaster Loans (EIDL), as well as targeted initiatives through traditional banks, community development financial institutions (CDFIs), grants and loans through foundations, and local business servicing organizations.

Despite these efforts, many small and mid-sized businesses who have been hit hard by the COVID-19 crisis do not qualify for existing programs. Utilities can help position DBEs to receive much needed capital.

Ameren Illinois could look to emulate their On-Bill Financing Program, currently available for individual residential customers to fund energy efficiency retrofits, for DBEs and other organizations located in its service territory. As with the current On-Bill Financing Program, Ameren Illinois could establish agreements between a lending institution and DBEs meeting program criteria to facilitate low-interest loans. This type of partnership would help secure necessary financing for new service providers to participate in energy efficiency programs.

Provide customized training, mentoring and business development for DBEs

Recommendation: Identify and mentor select DBEs with high potential for growth

Desired Outcome: Significant and rapid revenue growth for certified and non-certified DBEs

Strategy: Make a full two-year commitment to provide up to 100 hours per year of customized training, coaching, and hands-on mentoring to help select DBEs develop relationships, acquire skills, and receive resources to drive significant and rapid revenue growth.

Ameren Corporation, the parent company of Ameren Illinois, periodically conducts matchmaking events to develop relationships with diverse businesses. Select DBEs with capable leaders, a viable business model, in-demand energy efficiency products or service, and the capacity to scale will receive hands on, coaching, mentoring, and access to opportunities. This process will include a review of potential barriers and mitigation strategies put in place to ensure access at the time when opportunities to participate in company offerings become available. These DBEs will ultimately have access to every portfolio procurement opportunity for which they are qualified. Despite these efforts, many small and mid-sized businesses who have been hit hard by the COVID-19 crisis do not qualify for existing programs. Utilities can help position DBEs to receive much needed capital.

Increase Visibility and Access to RFP's and Other Opportunities

Recommendation: Provide access to RFP's and Other Procurement Opportunities

Desired Outcome: Connect diverse suppliers to procurement opportunities early in the contracting process and facilitate introductions to Ameren Illinois decision-makers, mentors, and coaches

Strategy: Create a team to manage effective and timely communications to DBEs to ensure successful outreach and proper, accurate information flow. Plan regularly scheduled events during which DBEs can present their products and services to internal clients selected by Ameren Illinois while allotting adequate time for DBEs to meet with the internal clients in attendance.⁷²

Adjust Contract Eligibility and Requirements to Fit Scope of Work

Recommendation: Remove unnecessarily restrictive contract eligibility requirements

Desired Outcome: Reasonable contract eligibility and performance requirements

Strategy: Procurement and sourcing teams should review and adjust eligibility requirements in accordance with the specific requirements of a given scope of work across different categories of projects (e.g., construction, marketing, legal, information technology, consultant, etc.). For example, construction contracts rightly require a higher level of liability insurance and other safety requirements than non-construction contracts. Ensuring the level of liability insurance and safety requirements necessary for construction projects are not applied to non-construction contracts, such as branded clothing, will increase the number of opportunities for diverse businesses to secure bids.

⁷² The Supplier Showcase was modeled after the Supplier Showcase implemented by SoCalGas.

Increase Portfolio-Wide DBE Participation

Recommendation: Train All Implementation Contractors to Embrace Diversity, Equity, and Inclusion as an Imperative

Desired Outcome: Drive sustainable DBE revenue growth by helping all ICs achieve necessary cultural competence, recruit, and hire diverse teams, and establish meaningful relationships with DBEs and diverse communities

Strategy: Retain a subject matter expert to help all companies participating in an energy efficiency program portfolio understand the business case for equity and the necessity to meet inclusive hiring and procurement goals. This subject matter expert would operationalize portfolio-wide strategies to help diverse businesses scale up their work with Ameren Illinois. The consultant will also identify local businesses that can provide goods or services to Ameren Illinois' energy efficiency portfolio and severely underrepresented communities. The aim of these strategies being to create positive community-wide impacts by driving job creation, community stabilization, and economic development.

Recommendation: Diverse Business Advocacy Group Partnership Initiative

Desired Outcome: To facilitate greater market participation by underrepresented businesses

Strategy: Form sustainable partnerships with public and private advocacy groups focused on diverse populations within Ameren Illinois' territory and leverage their resources on behalf of local diverse businesses. These groups have communication platforms and access to resources and spaces that would help unify diverse businesses, create a sense of community, and foster an environment of shared growth.

Through considerate outreach to advocacy groups, shared values and priorities can be established and beneficial pathways for partnership discovered. Planning for collaborations of this type should be careful to keep in mind the severe resource constraints many advocacy groups who serve diverse populations operate under. Potential advocacy groups to involve in these efforts include, but are not limited to, the Illinois Black Chamber of Commerce, Springfield Urban League, Illinois NAACP, Minority Business Development Center, Hispanic Chamber of Commerce, LGBT Chamber of Commerce, National Minority Supplier Development Council, and Illinois Small Business Development Center.

Partnerships between corporations and local advocacy groups can help address critical issues, such as digital inequity for businesses. One such program is the Verizon wireless multi-year commitment to bring financial assistance, technology, and training to one million small businesses by 2030 to help them succeed in the digital economy.

Recommendation: Diverse Program Ally Incubator

Desired Outcome: Substantially increase the number of DBE Program Allies who generate increasing revenues as well as understand and serve the needs of diverse communities

Strategy: Develop a Diverse Program Ally Incubator

Across utility programs, there is a dearth of diverse contractors who participate substantially as service providers – also known as Program Allies. As diverse contractors are more likely to operate in and serve diverse communities their exclusion from directly participating in utility programs can hurt the level of trust the community holds for these programs. In striving to meet people where they are, increased diverse contractor participation should be prized. The guiding principle of meeting people where they are and issue of community trust are further addressed in the next section.

A Diverse Program Ally Incubator will identify, address, and remove barriers faced by DBEs to help them build successful businesses in energy efficiency and become service providers to utility programs. The incubator program will:

- Educate DBEs on the details of the energy efficiency portfolio(s);
- Help DBEs Identify and complete energy efficiency projects;
- Provide needed back-office support, such as HR, marketing and accounting;
- Assist DBEs in identifying and applying for DBE certifications; and
- Aid DBEs in applying for business or project financing.



Recommendations to Increase Diverse Residential Customers as Program Participants

Based on the diverse customer Focus Groups as well as anecdotal information, the Research Team determined that the biggest barrier to accomplishing deep retrofits is the cost. Unfortunately, over a period of time, unaddressed infrastructure problems become more expensive to remediate, as the problems become cumulative. For this reason, time is of the essence in energy efficiency programs.

Trust has emerged as a major issue in inspiring diverse customers to participate in energy efficiency programs, this is true for basic programs such as the installation of direct install measures, and even more important for more substantial programs that decrease the upfront costs of deep retrofits, such as On-Bill Financing. Ameren Illinois and its partners continue to refine the On-Bill Financing program to increase participation, recently decreasing both the credit score requirement and interest rates. As utilities continue to lean into the important issue of affordability, it is the necessary to collect and analyze more data to better understand why some interventions are not effective and make timely adjustments.

The Research Team has identified several interventions to address barriers and engage diverse residential customers. “Meeting people where they are,” an engagement concept that involves understanding a person’s values, styles, needs, and emotions. This concept recognizes the value of meaningful and sustainable relationships in familiar settings to develop trust and is essential to successful customer engagement. Recommendations identified fall into four categories:

- Build trust, cultivate abiding relationships, and coordinate engagement efforts;
- Fill gaps in energy efficiency knowledge by educating customers;
- Investigate the connection between energy efficiency and health disparities; and
- Target customers by geography.



Build Trust, Cultivate Abiding Relationships, and Coordinate Engagement Efforts

Building Trust is an essential element of every recommendation in this report, for without it success in low response communities will continue to be difficult and expensive.

Abiding relationships are that which are dependable and endure over time. Historically, utilities have had complicated relationships with many low engagement communities, particular Black communities, communities of color, and income constrained communities. For many, the very presence of a utility truck causes the fear of a shutoff. These complicated relationships have fed decades of mistrust that cannot be undone with an ad for free lightbulbs.

Utility energy efficiency programs must dig deep to create engagement and support mechanisms that demonstrate deep commitments to the success of diverse communities through consistently affirmative behaviors that respect all people and their cultures. Just as they learned not to trust utilities, these communities can learn to trust. Two indisputably effective tactics are 1) to hire workforces that reflect the diversity of the communities served and 2) cultivate long term relationships with trusted community partners.

Recommendation: Increase the Number of Diverse Employees in Energy Efficiency

Desired Outcome: Equitable Outreach and Service to Diverse Communities and the Growth of DBEs

Strategy: In the energy industry, growth of energy efficiency jobs continue to outpace the growth of all other jobs. Unfortunately, according to the 2020 U.S. Energy and Employment Report (USEER)⁷³ the energy industry on the whole needs to improve equitable inclusion of diverse groups, including Black people and women. Black people make up only about 8% of the energy efficiency industry, while they represent about 12% of employed Americans, and 14% of the United States population. Hispanic workers represent 15% of the energy efficiency sector workforce and 18% of the national workforce. American Indian or Alaska Native and Asians represent the same percentage of the energy efficiency industry as in other workforce sectors, 1% and 6% respectively.

Women are woefully underrepresented, making up about 25% of the industry, 47% of the workforce and slightly over 50% of the U.S. population. Data was not captured for returning citizens, people identifying as LGBTQ+, or people living with disabilities.

Also included in the USEER, 91% of employers reported that it was somewhat difficult or very difficult to hire new employees. Lack of experience, training, or technical skills were again cited as the top reasons for hiring difficulty. The need for technical training and certifications was also frequently cited, underscoring the need for expanded investments in workforce training and closer coordination between employers and the workforce training system.

Among the most valuable industry credentials for residential energy efficiency practitioners are Building Performance Institute (BPI) Certifications. In Illinois, there are not enough certified BPI professionals to meet the growing energy industry demand. Offering BPI training for diverse individuals as well as contractors would provide an effective on ramp into the rapidly growing energy industry while helping ease the difficulty employers have in recruiting and hiring an energy efficiency workforce.

⁷³ 2020 U.S. Energy and Employment Report (USEER), www.usenergyjobs.org/.

Recommendation: Engage Trusted Community Partners

Desired Outcome: Increase adoption of energy efficiency practices by diverse customers

Strategy: To further engage diverse customers, Ameren Illinois should continue to drive the goal of “Energy Efficiency for All” by strengthening relationships with existing partners while also forming new partnerships with organizations representing diverse customer groups such as LGBTQ+, Veterans, and individuals with disabilities. Ameren Illinois should increase efforts to help implementation contractors hire employees from diverse groups and empower them to develop programming to reach back into communities like their own, creating specialized ambassador programs.

Exemplifying this approach, PosiGen, with locations in Louisiana, Maryland, New York, and Virginia, engages trusted partners in three ways. First, the company hires from within the communities they serve. Second, the company receives referrals from local establishments. For example, PosiGen donates to local churches for converted referrals generated by their congregations; in fact, about two-thirds of the company’s customers come from referrals. Third, the referral system serves as a grassroots marketing effort conducted through local partners.

Another example of intentional practice driving hiring from diverse communities is ComEd’s Energy Force Ambassador Program, which trains adults with developmental disabilities to serve as ambassadors for ComEd’s Energy Efficiency Program. Net Impact’s Energy Ambassador Program in collaboration with PG&E is another example of community driven practice as they conducting small business energy assessments combined with an outreach and job skills training program. Each instance of the Energy Ambassador Program takes place over 12-weeks, during which ambassadors are trained and paid to conduct quick energy assessments for PG&E small business customers in the San Francisco Bay Area. Once trained, Ambassadors educate business owners on resources, incentives, and offerings available for managing energy usage and lowering energy costs. Ameren Illinois should incorporate best practices from these ambassador programs to develop a program to better target diverse residential customers.



Recommendation: Deploy Strategies that Foster Cross-Sector Outreach

Desired Outcome: Build abiding relationships across sectors (e.g., utility, non-profit, government, private contractors) for the holistic support of diverse customers – Increase energy efficiency opportunities and decrease utility bills for income qualified customers while improving customer experiences

Strategy: Collaborate with Community Partners to develop universal client intake and home assessment tools for energy efficiency and other assistance programs.

This type of collaboration could benefit from the launch of a pilot project to coordinate with traditional and nontraditional community partners to develop a streamlined home repair and energy efficiency effort that specifically targets households in diverse communities.

Combined outreach efforts across sectors and coordinate utility energy efficiency program offerings with existing government programs, such as water conservation, minor home repair, and food security programs hold the potential to bolster all program delivery as well as enhance relationships between the community and the utility. This approach will increase diverse customer participation in energy efficiency programs and facilitate a holistic approach to mitigating barriers. In addition, this action, or a similar pilot, will connect utility efforts to local advocacy, governmental climate, and environmental efforts for wider reach and greater impact.

One example of this type of action is the ongoing Detroit Efficient Housing Work Group (DEHWG) pilot program that fosters collaboration between home repair and weatherization program providers. The DEHWG includes government, utility, nonprofit, energy services, community action agency, and university partners including organizations such as the City of Detroit, Wayne Metropolitan Community Action Agency, DTE Energy, EcoWorks, Clearcorps, the Detroit Land Bank Authority, Detroit Water and Sewerage Department, Walker-Miller Energy Services, and the Urban Energy Justice Lab. The goal of the DEHWG is to test process improvements that reduce program deferrals, increase the number of homes receiving repair and weatherization funds, and increase the number of services received by each home. The DEHWG created two, integrated home repair assessment tools:

- 1) **Universal Client Intake Tool:** A client-facing web form that captures household information needed to assess eligibility across all weatherization and housing stability programs offered by Partners; and
- 2) **Home Assessment Tool:** A home condition assessment tool used to capture information about the physical condition of a client's house and assess eligibility across all weatherization and housing stability programs offered by Partners.

Following the development of the universal intake and home assessment tools, the DEHWG partners hosted a triage meeting to develop a coordinated, strategic plan for the households selected to participate in merged program efforts based on the services they need and are eligible to receive.

Recommendation: Coordinate Plans with Multiple Service Offerings

Desired Outcome: Decrease energy bills and the financial energy burdens for payment troubled customers. Address potential root causes of late utility bill payments and accounts in arrears

Strategy: Pilot an initiative that coordinates a combination of payment plans, energy efficiency services, and self-sufficiency services for low-income customers who struggle paying utility bills.

Ameren Illinois' Home Energy Income Qualified (HEIQ) Program staff could work with the Ameren Illinois' bill payment assistance staff to enroll customers whose accounts are frequently in arrears in options such as a Shut Off Protection Plan and a Self-Sufficiency Plan. These two plans could be operated by Ameren Illinois in partnership with CAAs or social service agencies. The Research Team suggests targeting at least 500 customers annually. DTE Energy is currently piloting a similar program.⁷⁷



⁷⁷ DTE Energy's Low Income Self-Sufficiency Plan (LSP)

<https://newlook.dteenergy.com/wps/wcm/connect/dte-web/home/billing-and-payments/common/energy-assistance/low-income-self-sufficiency-plan>

Recommendation: Develop an Alliance of Property Managers who Support Energy Efficiency

Desired Outcome: Increase participation of rental property owner and managers to drive energy efficiency upgrades and improve landlord-tenant relationships

Strategy: Build a coalition of property owners and managers to promote energy savings opportunities to property owners and managers.

The relationships between property managers and tenants complicates the equitable execution of energy efficiency programs. A split-incentive barrier occurs when property managers – who are traditionally the energy efficiency improvement decision-makers – decide against making energy efficiency investments as they do not recognize direct benefit from these types of expenditures. With 86% of heating, cooling and electricity costs typically paid by tenants, lowering utility bills is often not a priority for property managers.

However, if property managers learn about the benefits of energy efficiency upgrades from their peers, they are more likely to understand and embrace the complete benefits of these investments. Many energy efficiency upgrades help address safety issues, increase property values, and improve health and comfort – all of which contribute to tenant satisfaction and retention. In short, energy efficiency investments can help stabilize occupancy rates and provide fiscal stability for landlords.

Ameren Illinois can leverage the experience and influence of property owners and managers who have successfully implemented energy efficiency upgrades. Education materials could include social media marketing videos of property managers and tenants talking about the benefits of energy efficiency. Sharing energy efficiency upgrade costs and returns on investments between tenants and landlords can help overcome the split-incentive barrier and encourage participation. Tenants with long-standing relationships with their landlords are more likely to receive energy efficiency improvements to the property. The Research Team also recommends partnering with community groups to help train renters to form compelling business cases with which to lobby their landlords for energy efficiency investments.



Fill gaps in energy efficiency knowledge through customer education

Delivering energy efficiency educational services in the spaces where diverse customers live, work, and play represents the best opportunity to meet customers where they are, physically and emotionally. Leveraging trusted, community partners is a key component of this strategy. The Ameren Illinois Energy Efficiency Program's Market Development Initiative (MDI) is comprised of partnerships with trusted CBOs and integrates energy efficiency in organic locations. As these programs mature, Ameren Illinois' reputation as a trusted local partner increases in kind. Helped in large part by improved trust and reputation, Ameren Illinois has improved its ability to increase the adoption of energy efficient behaviors and strategies in targeted communities.

Recommendation: Increase Reach and Impact of Energy Efficiency Education

Desired Outcome: Close knowledge gaps for diverse customers

Strategy: Increase creative opportunities for energy education in familiar locations.

Ameren Illinois has a wealth of information on its website and social media platforms (i.e., YouTube, Facebook, Twitter). However, focus group participants appeared unaware of these videos as they recommended greater promotion of new and existing videos to diverse customers to improve education efforts. Great opportunities still exist for Ameren Illinois to increase visibility of energy efficiency programs for diverse customers.

Ameren Illinois, along with all utilities, should leverage both in-person educational programming when it can be conducted safely and continue to expand virtual platforms as alternatives in the meantime.

For families with internet access, the Research Team recommends using innovative methods to drive more viewership of media on the Ameren Illinois website. In addition, viewers should be invited directly to participate in energy efficiency programs through embedded links and prompts during and after video-play. Tying energy efficiency activity inspired by the videos to concrete next steps would help improve the effectiveness of these resources.

The Research Team did not have access to viewing statistics on Ameren Illinois' YouTube Channel but, if available, demographic information should be examined and used to both refine and better target messaging for diverse audiences. Given the prevalence of online meetings and increased virtual engagements across all households, live online education programming presents another opportunity to address existing knowledge gaps and increase Ameren Illinois' online impressions.

Recommendation: Improve Equitable Access to Online Services**Desired Outcome: Increased access to and participation from diverse populations in energy efficiency programs****Strategy:** Explore partnerships and connections to initiatives focused on digital equity

Much like the digital divide for businesses, the spring 2020 COVID-19 shutdown and the move to virtual education in the United States exposed the inequity of the residential digital divide, which exists in both urban and rural communities. This digital divide leaves many low-income students at risk of being left behind educationally as their families struggle to acquire much needed public assistance, such as access to food, COVID-19 testing and vaccinations, and other critical services without the benefit of electronic access. As cities and school districts nationwide work to resolve this issue, there are potential partnership opportunities to increase equitable access between utilities and internet service providers.

In Michigan, Comcast, a large national internet service provider, has established Lift Zones designed to help students who are unable to connect to distance learning at home. In many areas served by Comcast, the company provides WiFi hotspots in community safe spaces to help students get online, participate in distance learning, and do their homework. These sites are also available to serve adults and can connect them to critical services, such as education, job searches, healthcare information and public assistance.

Energy Efficiency programs reach millions of families annually in person and through printed collateral. By forming partnerships with local internet service providers, Ameren Illinois and other utilities can deliver information to help create pathways for low-income customers to obtain access to internet service support.

Recommendation: Improve Access for Customers with Disabilities**Desired Outcome: Equitable access for customers with disabilities****Strategy:** Assess and adapt programs to best reach customers with disabilities.

People living with disabilities often have additional barriers to receiving equitable energy efficiency services, including race and ethnicity, high unemployment, poverty, and the digital divide. As a result, they have some of the lowest participation rates of any residential customers.

Ameren Illinois should continue to expand its partnerships with private companies like Google as well as schools, nonprofits, and organizations that serve people living with disabilities.

Investigate the Connection between Energy Efficiency and Health Disparities

Many of the circumstances contributing to higher residential energy costs also drive poor health outcomes for income qualified families. For instance, old leaky pipes are expensive to replace, and contribute to excessive moisture, the waste of hot and cold water, and higher energy and water bills. Inadequate ventilation systems and air and water ingress contribute not only to high energy bills, but also to mold. Mold, lead, and asbestos are health and safety hazards frequently found in the homes of low-income and diverse clients. These conditions can lead to poor indoor air quality, and exacerbate the effects of asthma, particularly in children. Over time, these exposures can lead to respiratory disease, cardiovascular disease, or even cancer. Additionally, a customer's inability to pay to have these issues remediated can also prevent their full participation in available energy efficiency programs.

According to the United States Department of Housing and Urban Development (HUD), Office of Policy Development and Research, maintaining good indoor air quality is critical for the health and comfort of a home's occupants. Most air quality problems in homes originate from indoor sources of gases or particles that cause health problems at high concentrations. Inadequate ventilation, elevated temperatures, and high humidity levels can also increase the concentration of indoor air pollutants.⁷⁸

The CDC's recommendations for addressing ventilation levels in response to the COVID-19 pandemic further crystalize the overlap between energy efficiency and health.

Consistent with the Building Performance Institute (BPI) policy, BPI Certified building professionals shall "Do no harm to occupants, workers, or houses" as they assess health and safety hazards and anticipate the possible interacting effects of recommended retrofit measures. As a result, these contractors are often forced to defer or "walk away" from residential weatherization opportunities due to environmental issues, such as asbestos, mold and lead, or structural issues, such as poor roof conditions or knob and tube wiring.⁷⁹

For example, as of 2008, the National Electrical Code specifically requires that knob and tube wiring not be covered by insulation, particularly within walls, ceilings, and attics. As a result, knob and tube wiring, found in many older homes, prompts an automatic deferral for insulation measures.

Wayne Metro Community Action Agency manages Michigan's Weatherization Assistance Program. Wayne county, which includes Detroit, has a 75% deferral rate, as compared to a 25% average deferral rate for the rest of the state. Recently, Wayne County has received access to additional health and safety funding, which allows a homeowner to initiate smaller scale remediation projects, particularly regarding asbestos. This enables the weatherization projects to proceed after environmental and health and safety issues have been addressed.

⁷⁸ "PATH: Indoor Air Quality: HUD USER." PATH | Indoor Air Quality | HUD USER, HUD, www.huduser.gov/portal/consumer/indoor_air.html#indoor_air2.

⁷⁹ "ANSI-BPI-1100-T-2014 Home Energy Auditing Standard." BPI.org, Building Performance , 22 Dec. 2014, www.bpi.org/sites/default/files/ANSI-BPI-1100-T-2014%20Home%20Energy%20Auditing%20Standard.pdf.

Recommendation: Collaborate with Health-Focused Programs**Desired Outcome: Increase participation in energy efficiency and health programs to jointly mitigate related barriers for low-income households****Strategies:** Energy efficiency and health program collaborations should leverage partnerships with Community Based Organizations (CBOs), and public entities.

The Vermont Energy Investment Corporation (VEIC) defined program elements and methodology to support an Energy-Plus-Health approach.⁸⁰ The major elements of this approach include energy efficiency cost-sharing, reimbursements for low-income energy efficiency strategies, and energy bill assistance in partnership with Community Action Agencies (CAAs). One of the case studies examined by VEIC is the Connecticut Home Energy Solutions - Income Eligible Program which collaborated with hospitals, local health departments, and the Connecticut Department of Public Health to resolve health and safety problems, such as lead abatement. The Research Team recommends Ameren Illinois and CBOs collectively advocate to the Illinois Commerce Commission to adjust cost-effectiveness rules governing program delivery to allow health and safety components to be added to programs for low-income households.

The Research Team further recommends partnering with healthcare organizations to identify health conditions associated with poor housing quality (e.g., asthma patients, hypothermia, hyperthermia, etc.) to better target and extend the reach of program marketing. With shared learning and best practices between healthcare organizations and energy efficiency programs, healthcare professionals could add energy-related intake questions to patient screenings. These energy related questions could be based on the U.S. Department of Health and Human Services Home Energy Insecurity Scale⁸¹ which rates interviewees from “thriving” to “in crisis.” With scoring on the Home Energy Insecurity scale as a reference point, healthcare professionals can then make appropriate referrals to local utility programs and social service organizations. Healthcare organizations can also make energy efficiency materials available to patients.



⁸⁰ Vermont Energy Investment Corporation, “Energy-Plus-Health Playbook: Section 6: Energy-Plus-Health Program Case Studies,” <https://www.veic.org/Media/Default/documents/resources/manuals/energy-plus-health-playbook-section6.pdf>.

⁸¹ Roger Colton, “Measuring the Outcomes of Low-Income Energy Assistance Programs Through a Home Energy Insecurity Scale,” U.S. Department of Health and Human Services, July 2003, https://www.acf.hhs.gov/sites/default/files/ocs/measuring_outcome_0.pdf.

Target Customers by Geography

By recognizing the broader social context (social relations and social practices) within which households utilize energy and make decisions, community-based energy projects can be instrumental in supporting equity and justice.

Community-based, spatially targeted energy efficiency efforts leverage both the assets and challenges of place to effectively deliver programs that meet the target population's distinct needs. This approach is especially critical in underserved and disadvantaged communities lacking access to and information about energy efficiency programs. In these communities, social barriers must be addressed carefully to mitigate the existing disparity in awareness and access. Social barriers can include competing social and economic priorities set against a backdrop of pervasive distrust and fear. These factors impacting participation and program success in urban locales hold true for rural communities as well.

Recommendation: Conduct a Data Mapping and Correlation Pilot

Desired Outcome: To resolve gaps in program participation in communities with overlapping diverse demographics and economic challenges

Strategy: The Research Team recommends conducting a data mapping and correlation pilot that results in a systematic, strategic, and geographic approach to energy efficiency implementation targeting socio-economically and demographically diverse, payment-troubled communities.

First, the Research Team recommends leveraging demographic analyses – such as that conducted for this report by the Research Team or work by the Illinois Power Agency⁸² – to establish target communities for residential energy efficiency services with participation baselines and goals. These steps require follow up to track progress towards those increased participation goals.

Second, the Research Team recommends conducting additional analysis to identify areas with high arrearages, shut offs, LIHEAP utilization, and other data demonstrating energy vulnerability. This analysis would help identify communities of concentrated disadvantage and further facilitate delivery of market specific solutions to low-income households.

Real-time tracking and periodic reporting of energy efficiency participation at the zip code +4 level will help visualize progress, increase transparency, and allow implementers to systematically troubleshoot areas with gaps in participation.

⁸² Illinois Solar for All Environmental Justice Communities <https://www.illinoisfa.com/environmental-justice-communities/>

Conclusion

This report was commissioned as part of Ameren Illinois Company's continuing commitment to include DBEs and diverse customers in utility-managed energy efficiency programs. Innovative interventions will ensure the utility industry adapts to increasing social, economic, and environmental demands.

The findings of this report highlight the need for greater investment in both energy efficient products and practices and improved engagement of historically marginalized communities. In their exhaustive review of barriers to participation in utility-managed energy efficiency programs, the Research Team found DBEs are often excluded from traditional procurement processes, and struggle to be competitive when they do receive opportunities to participate. The reasons for exclusion include the lack of access to key opportunities and networks, limited working capital, and the lack of small business investment in technical and professional development.

Like DBEs, diverse residential customers experience various constraints to participating in utility energy efficiency programs depending on social and economic factors, such as race and ethnicity. Most residential customers reported a high level of awareness of energy savings measures. However, high up-front costs of high-impact measures are prohibitive for many. A lack of trust in the utilities who deliver the programs to diverse communities is a compounding factor.

The Research Team is convinced improving DBE participation, recruiting a more diverse workforce, and engaging trusted partners in energy efficiency programs would help inform innovative solutions, drive increased participation of diverse families and produce a wide range of benefits for underserved communities. As these interdependencies are explored and better understood, the goal of "Energy Efficiency for All" will ultimately be achieved.



APPENDIX

Appendix A: Diverse Business Survey: Questionnaire

Appendix B: Diverse Business Survey: Additional Figures

Appendix C: Diverse Business Survey: Short Answer Responses

Appendix D: Diverse Businesses: Best Practices Interview Questions

Appendix E: Ameren Illinois Diverse Customer Distribution: Geographic Distribution of Target Demographics

Appendix F: Ameren Illinois Diverse Customer Distribution: Top 25 Zip Codes Including Target Demographics

Appendix G: Diverse Customer Engagement: Focus Group Script

Appendix A

Diverse Business Survey: Questionnaire

Introduction

Welcome to the 2020 Midwest Energy Efficiency Business Development Survey for Diverse Businesses!

The purpose of this survey is to better understand the barriers and challenges experienced by diverse businesses attempting to participate in utility organized energy efficiency programs.

Your participation in this survey is voluntary, and your answers will be held in strict confidentiality to be used only for the purposes of this research. The results will be reported in aggregate form only and cannot be identified individually.

The survey will take approximately 15 minutes to complete. At the end of the survey you can enter a sweepstakes to win a \$50 e-gift card! If you have any questions, please contact Erika Dominick

- Yes, I will take the survey**
- No thank you**
- No thank you, but I'd like to enter the sweepstakes**

Incentive

Would you like to enter the sweepstakes to win a \$50 e-gift card?

- Yes**
- No**

Please provide an email address for entering the sweepstakes.

Certifications

For purposes of this survey, a diverse business is one that is at least 51% owned, operated, and controlled by one or more of the following:

Woman

Racial/ethnic minority

- **Black/African American**
- **Asian-Pacific American**
- **Hispanic American**
- **Native American**

Veteran

Disabled

LGBTQ+

Based on the definition above, is your business diverse?

- Yes No

Which diverse category applies to your business? Please select all that apply.

- Disabled
 LGBTQ+
 Racial / Ethnic Minority
 Veteran
 Woman

Does your business have a diverse certification? (e.g. MBE, WBE, VBE, LGBTQ+, Disabled)

- Yes No

Program Experience & Business Development

The following questions will be used to gauge your business' experience with electric and/or gas utilities and their energy efficiency programs.

On a scale from 1 to 5, how familiar are you with energy efficiency programs offered by electric and/or gas utilities in your state? (1= not familiar, 5 = very familiar)

Has your company provided any goods or services for any energy efficiency programs with an electric and/or gas utility within the past 5 years?

- Yes No

Please list energy efficiency program(s) you participated in and the utility company(s) you worked with. Separate your responses, using a comma.

Do you feel diverse business certification has been beneficial in helping you increase revenues by completing projects in the energy efficiency industry with electric and/or gas utilities?

- Yes No NA

In your opinion, how has being a diverse business impacted your ability to participate in energy efficiency programs with electric and/or gas utilities?

- Somewhat Negatively Somewhat Positively

Which category best describes the revenue generated from your most recent participation in energy efficiency programs with an electric and/or gas utility?

- < \$100,000
 \$100,000 - \$250,000
 \$250,000 - \$500,000
 \$500,000 - \$1,000,000
 \$1,000,000 - \$5,000,000
 > \$5,000,000

Which products and/or services did you provide in your most recent energy efficiency project(s) with an electric and/or gas utility? Please select all that apply.

- | | |
|--|---|
| <input type="radio"/> Accounting | <input type="radio"/> HVAC |
| <input type="radio"/> Analytics | <input type="radio"/> Insurance Legal |
| <input type="radio"/> Architectural | <input type="radio"/> Lighting |
| <input type="radio"/> Automotive sales / Leasing | <input type="radio"/> Marketing and / or Branding |
| <input type="radio"/> Consulting | <input type="radio"/> Plumbing |
| <input type="radio"/> Energy auditing | <input type="radio"/> Real estate sales / Leasing |
| <input type="radio"/> Engineering | <input type="radio"/> Weatherization |
| <input type="radio"/> General contracting | <input type="radio"/> Other |

Have you attempted to participate in any energy efficiency programs with an electric and/or gas utility within the past 5 years?

- Yes No

Have you experienced barriers or challenges that have negatively impacted your ability to participate in any energy efficiency programs with electric and/or gas utilities?

- Yes No

Which of the following challenges have impacted your ability to complete energy efficiency projects for electric/gas utilities?

Please select all that apply.

- Access to capital
- Access to contract opportunities (e.g. posting platforms)
- Access to legal advice
- Access to training
- Cybersecurity insurance
- Inadequate staffing
- Lack of knowledge about contract opportunities (e.g. RFQs/RFPs)
- Lack of relationships
- Lack of technical expertise
- Liability insurance
- Limited cash flow Marketing capabilities
- Other

Please briefly describe a challenge you experienced when attempting to participate in any energy efficiency programs with electric and/or gas utilities.

Please briefly describe any support you received or positive experiences when attempting to participate in any energy efficiency program with electric and/or gas utilities.

Which, if any, of the below services would be useful to improve your ability to partner with electric and/or gas utilities? Please select all that apply.

- Back office support (computer/technical/administrative assistance, basic accounting, etc.)**
- Business planning**
- Continuous learning opportunities (e.g. webinars)**
- Diverse Business Certification assistance**
- Access to insurance / Bonding**
- IT support**
- Lead development**
- Marketing / Branding assistance**
- Networking opportunities**
- Participation on committees, task forces, stakeholder groups**
- Technical training or support**
- Website development**
- Other**

Demographics

Where is your business physically located? Please select all that apply.

- Illinois
- Indiana
- Michigan
- Missouri
- Ohio
- Wisconsin

Please provide the zip code for your primary business location.

Select the space from which you operate your business.

- Residential / Home Office
- Non-residential / Commercial Space

Please identify the electric and gas utility service provider of your primary business location.

Electric:

Gas:

Which products and/or services does your business offer? Please select all that apply.

- | | |
|---|---|
| <input type="radio"/> Accounting | <input type="radio"/> Insurance |
| <input type="radio"/> Analytics | <input type="radio"/> Legal |
| <input type="radio"/> Architectural | <input type="radio"/> Lighting |
| <input type="radio"/> Automotive sales / Leasing | <input type="radio"/> Marketing and branding |
| <input type="radio"/> Consulting | <input type="radio"/> Plumbing |
| <input type="radio"/> Energy auditing Engineering | <input type="radio"/> Real estate sales / Leasing |
| <input type="radio"/> General contracting | <input type="radio"/> Weatherization |
| <input type="radio"/> HVAC/R | <input type="radio"/> Other |

Which market segment(s) does your business serve? Please select all that apply.

- Residential Single Family Residential Multifamily Commercial Industrial

How many years has your current business been in operation?

- < 5
 5 - 10
 10 - 25
 25 - 50
 > 50

How many people does your business employ?

- < 5
 5 - 10
 10 - 25
 25 - 50
 50 - 100
 > 100

Which category best describes your business' revenue in 2019?

- < \$100,000
 \$100,000 - \$250,000
 \$250,000 - \$500,000
 \$500,000 - \$1,000,000
 \$1,000,000 - \$5,000,000
 > \$5,000,000

Coronavirus Impact

How has your business' revenue been impacted as a result of the COVID-19 crisis?

- Positive impact - Increased revenue**
- No impact - Neutral revenue**
- Negative impact - Less than a 25% decrease in revenue**
- Negative impact - A 25-50% decrease in revenue**
- Negative impact - Greater than a 50% decrease in revenue**

Has the COVID-19 crisis impacted your business in other ways, please explain.

Appendix B

Diverse Business Survey: Additional Figures

Key Demographics

Figure 1: Spaces from which diverse businesses operate

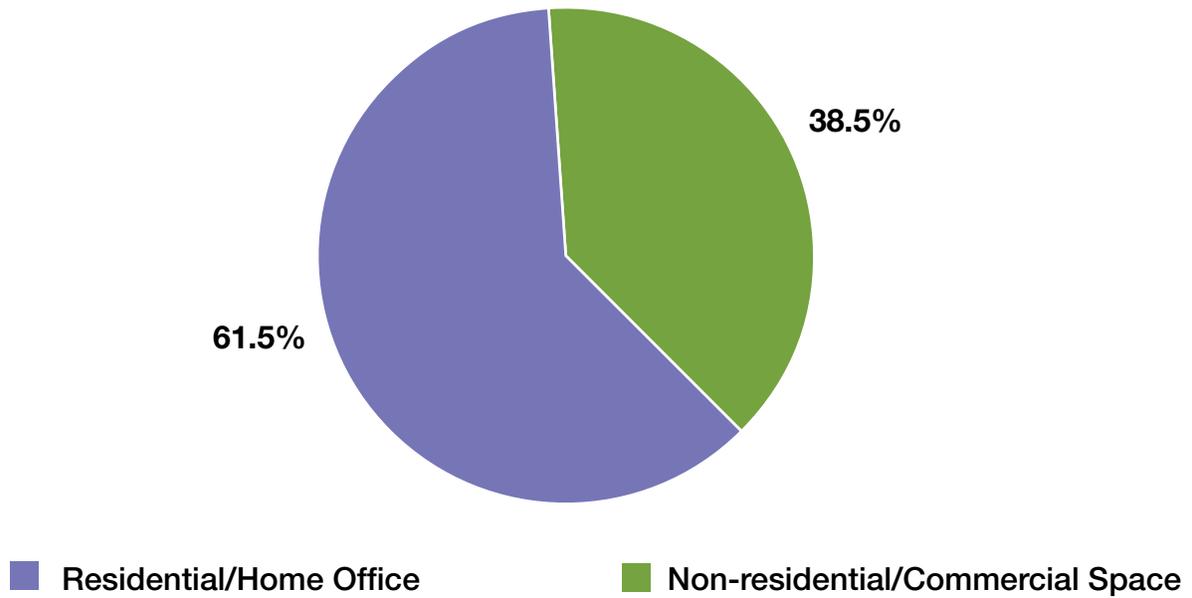


Figure 2: Market segments served by diverse businesses

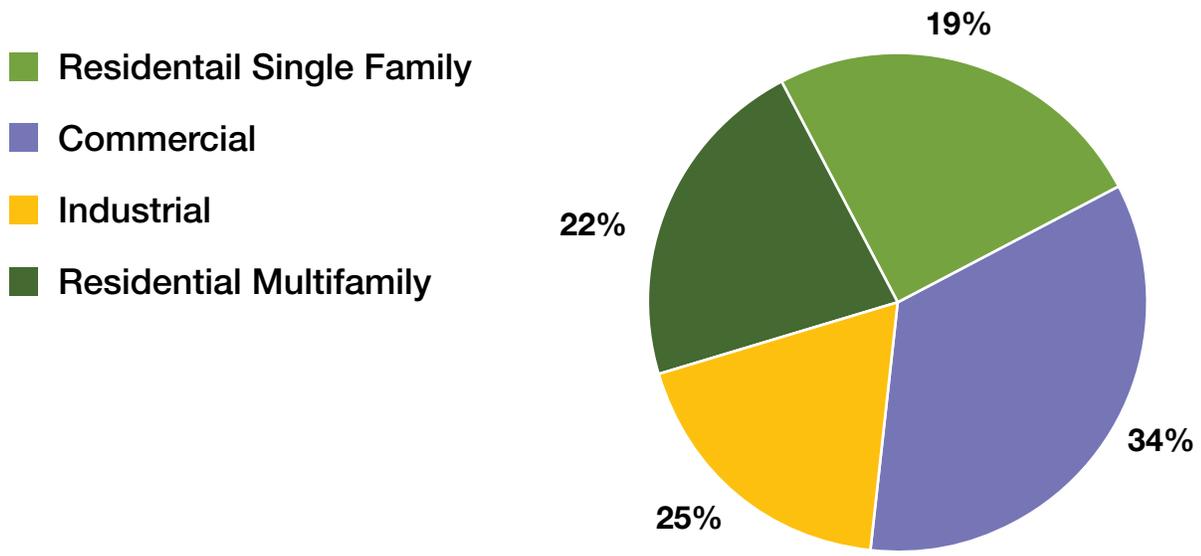


Figure 3: Age of diverse businesses

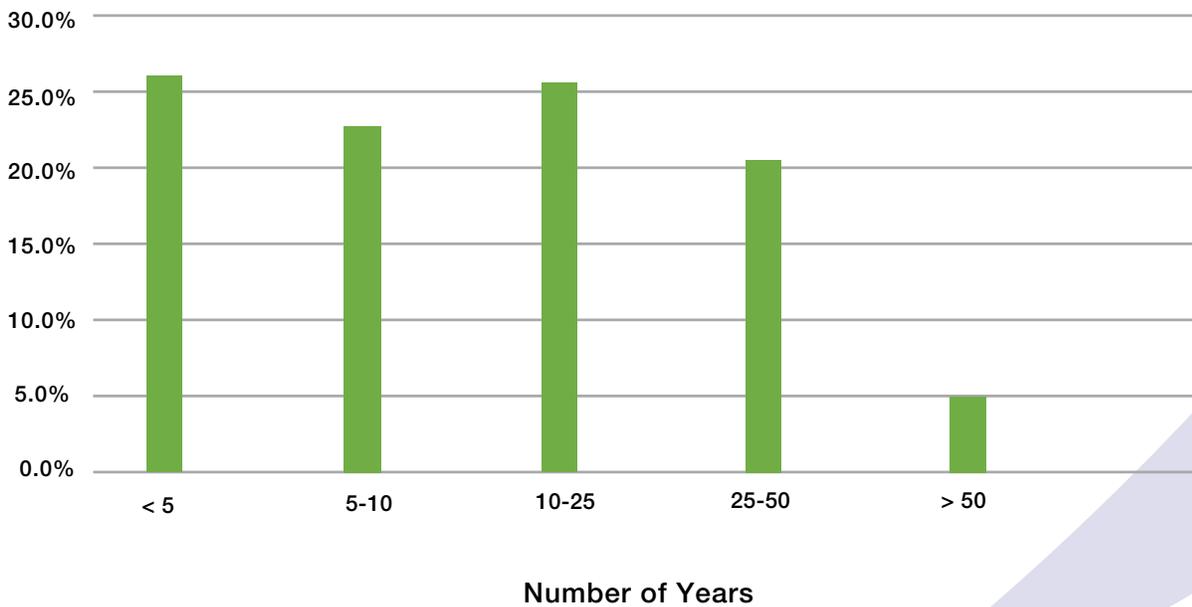
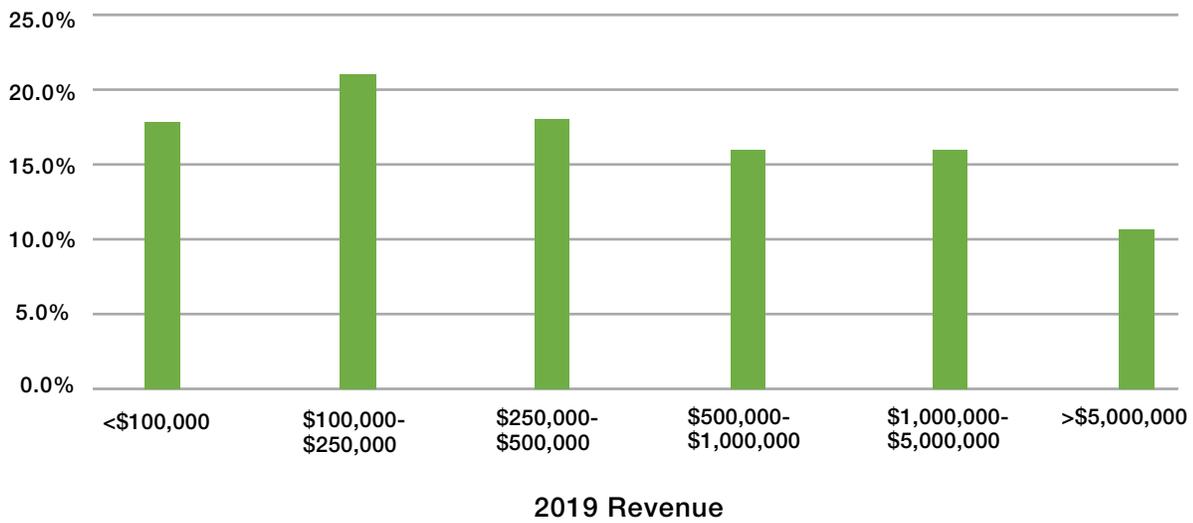


Figure 4: Approximate annual revenue of diverse businesses



Certifications

Figure 5: Businesses that self-identify as diverse-owned

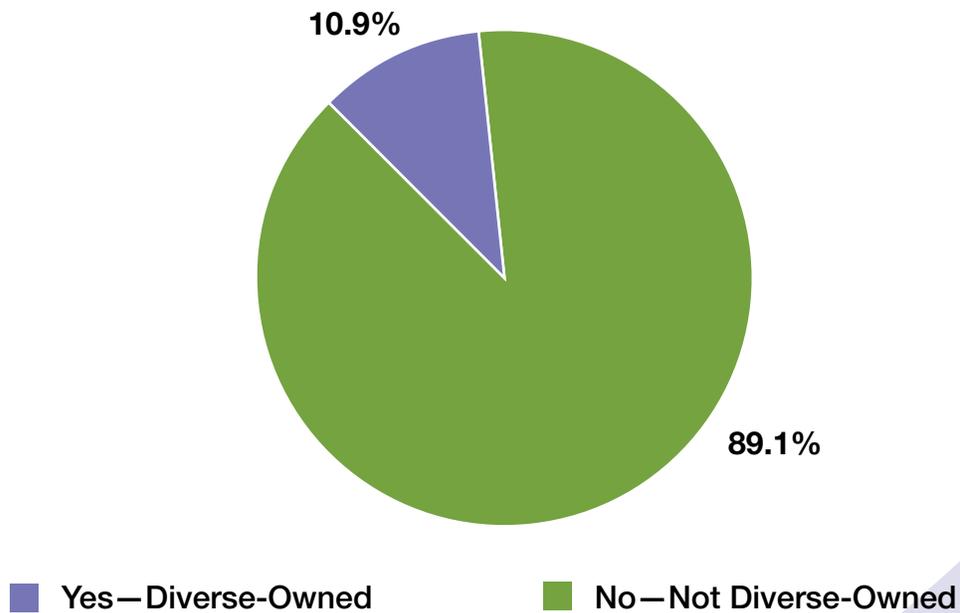
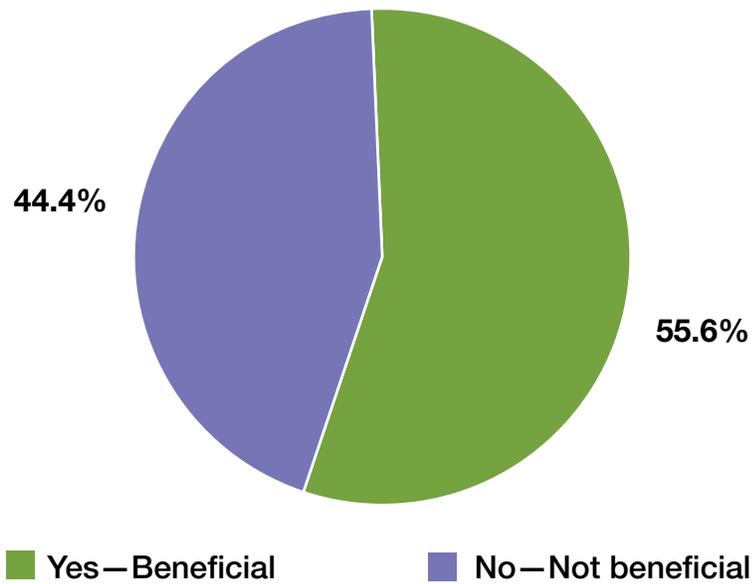


Figure 6: Businesses that believe a DBE certification is beneficial in increasing revenues



Familiarity with and Participation in Energy Efficiency Programs

Figure 7: Familiarity with energy efficiency programs offered by in-state utilities

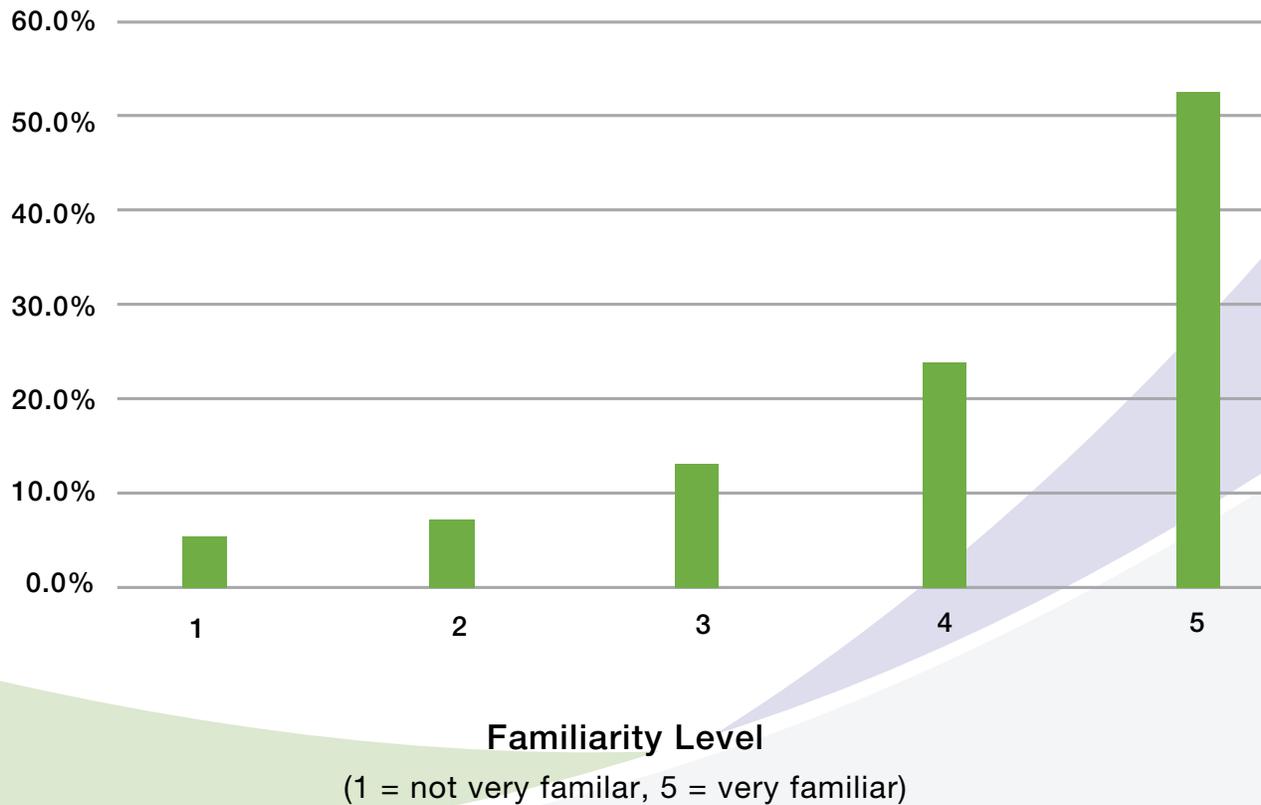
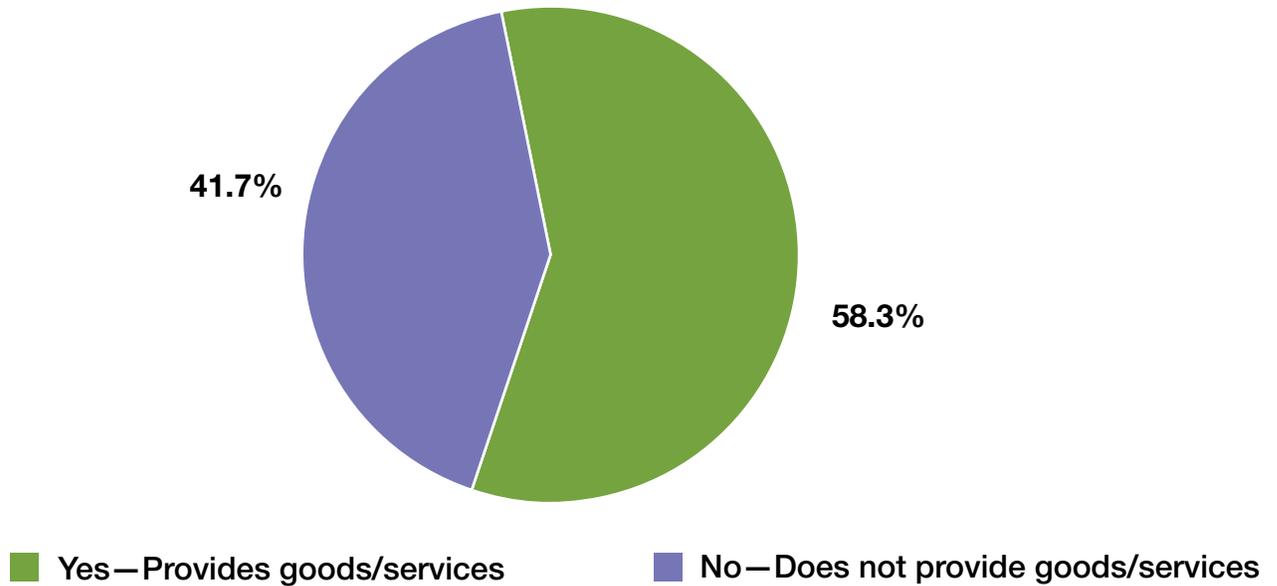


Figure 8: Diverse business' provision of goods or services to local energy efficiency programs



Business Owner Reported Barriers to Participation

Figure 9: Percent of diverse businesses that attempted to participate in energy efficiency programs in the last five years

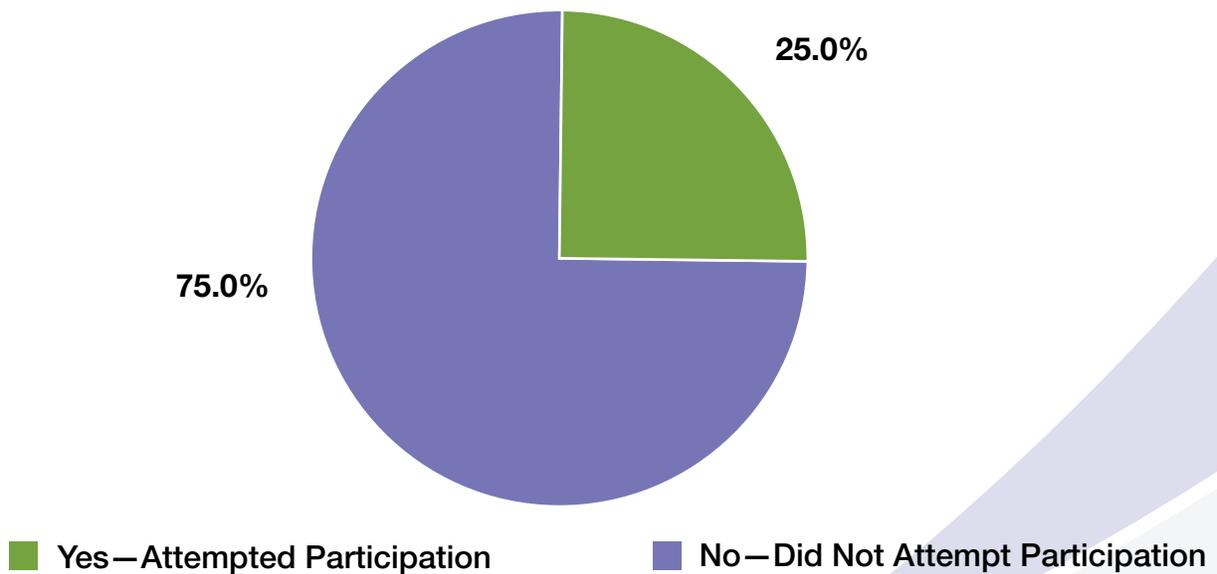
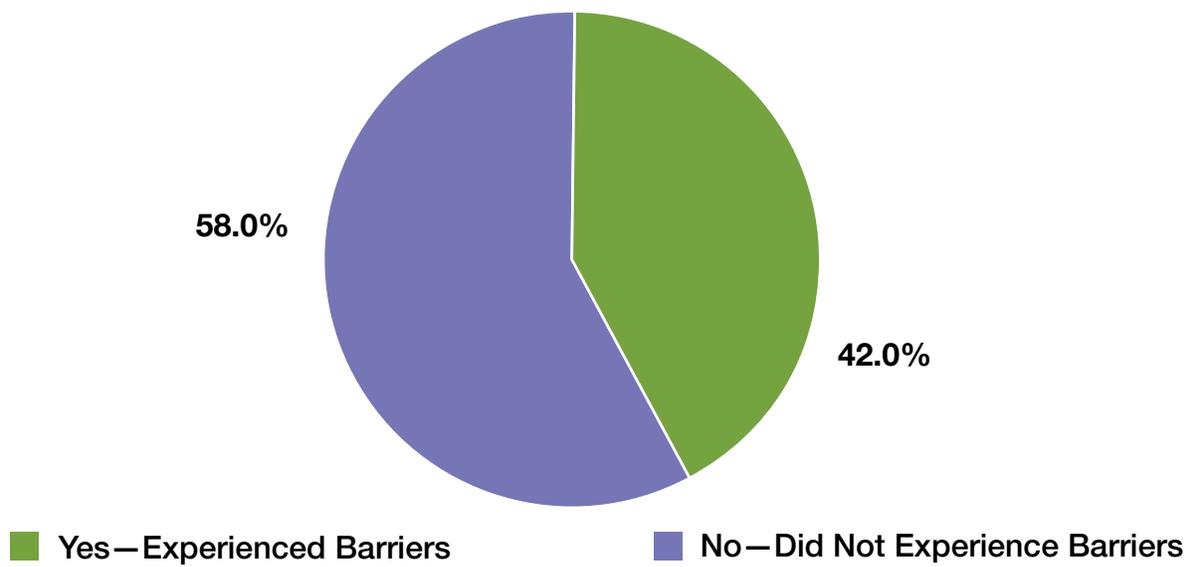


Figure 10: Percent of diverse businesses experiencing barriers that negatively impacted ability to participate in energy efficiency programs



Appendix C

Diverse Business Survey: Short Answer Responses

Q28 Please list energy efficiency program(s) you participated in and the utility company(s) you worked with. Separate your responses using a comma.

- HEIQ, HEP, Smart Savers , Small Business Direct Install for Ameren and New Homes for Nicor
- ComEd, NiCor
- Ameren BizSavers, Missouri and Illinois
- Ameren in Missouri and Illinois
- Ameren IL Incom qualified
- ComEd programs
- AC, Lighting
- Ameren, ComEd, Focus on Energy
- instant incentive,ameren
- DTE, BEC, IQ, L&A, ARP LGE/KU- WeCare IQ, Georgia Power, IQ, Entergy, IQ, Ameren IL ARI
- Ameren Illinois HEPIQ, Ameren HVAC program
- Rebate programs for clients
- Ameren ally
- POS at big box retail, POS at electrical distributors in C&I channel, and prescriptive rebates in the C&I channel al lin the category of lighting.
- ipl, duke, vectren, nipsco, psi (cinergy), noble remc, johnson co remc, impc
- Xcel Energy Minnesota Process Efficiency, ComEd Strategic Energy Management Program, ComEd Industrial Study Program
- Gas efficiency program with DTE
- Energy Auditor Dominion Gas via Cleveland Housing Partners, Energy Auditor/Inspector HWAP program Via Cleveland Housing Partners, Energy Auditor First Energy, Energy Auditor AEP, Energy Auditor Inspector Columbia Gas via Ground Level Solutions, All Independent Contractor my company Green Planet Conservation LLC
- Ameren
- Ameren Rebate Program
- Nipsco
- KCPL & IPL Commercial Rebate Programs for Energy Efficiency Improvements,
- Ameren
- DTE
- Duke Ohio
- ComEd FEJA Contractors Trainings, NABCEP Pv Installer, NABCEP PV Associate Trained (Certificate Pending)
- Did not participate
- On a personal level, energy efficiency audits with DTE and Consumers Energy. On a business level, none.
- Nicor Gas Income Qualified Program
- I purchase renewable energy credits, and my renewable energy provider sends me certificates for e.g. programable thermostats and LED bulbs, both of which I have purchased.

- Nicor Gas Income Qualified Program
- ipl, duke, vectren, nipsco, psi (cinergy), noble remc, johnson co remc, impc
- Xcel Energy Minnesota Process Efficiency, ComEd Strategic Energy Management Program, ComEd Industrial Study Program
- Gas efficiency program with DTE
- Energy Auditor Dominion Gas via Cleveland Housing Partners, Energy Auditor/Inspector HWAP program Via Cleveland Housing Partners, Energy Auditor First Energy, Energy Auditor AEP, Energy Auditor Inspector Columbia Gas via Ground Level Solutions, All Independent Contractor my company Green Planet Conservation LLC
- Ameren
- Ameren Rebate Program
- Nipsco
- KCPL & IPL Commercial Rebate Programs for Energy Efficiency Improvements,
- Ameren
- DTE
- Duke Ohio
- ComEd FEJA Contractors Trainings, NABCEP Pv Installer, NABCEP PV Associate Trained (Certificate Pending)
- Did not participate
- On a personal level, energy efficiency audits with DTE and Consumers Energy. On a business level, none.
- Nicor Gas Income Qualified Program
- I purchase renewable energy credits, and my renewable energy provider sends me certificates for e.g. programable thermostats and LED bulbs, both of which I have purchased.
- Nicor Gas Income Qualified Program

Q9 Please briefly describe a challenge you experienced when attempting to participate in any energy efficiency programs with electric and/or gas utilities.

- Cost to customer for High efficiency equipment
- Our organization has been advocating against the practices of our utility company as a monopoly working against creating a viable strategy for energy democracy and affordable energy
- Changing program. Different incentives. Consistency not always there.
- We are a small professional services company offering engineering and data analytics expertise. Even though we can do the work, our size is typically a barrier for being selected.
- Programs knowingly see that I have a diverse business, so they look the other way or give me limited business because I'm diverse
- One of the biggest challenges is knowing how and when to apply for RFQ and RFPs when bids are opened. Competitive wage, lack of capacity and demand for smaller business to carry heavy insurances.
- I did in the response above.

Q10. Please briefly describe any support you received or positive experiences when attempting to participate in any energy efficiency program with electric and/or gas utilities.

- Ameren incentives for led upgrades
- The income qualified programs tremendous as people were getting Almost free
- N/A
- No support in State but legal energy advocates like NRDC have joined our local efforts
- Generally support is good.
- We have made no effort to work with utilities EE programs within the last 5 years.
- Na
- n/a
- I was not even aware of this opportunity/program.
- The support given to us is an opportunity to deliver program services on a pilot program and see the results achieved. This helps build relationships and prove capabilities.
- Quarterly meetings and updates to new programs. DTE has been very helpful.
- None
- Diversity supplier officers are helpful in making connections and helping navigate the opportunities that are available.
- My local Rep from Ameren always answers my calls and my questions and even assisted in technical support.
- 2010-14.. The program became more Industrial.
- Ameren has great seminars to attend and there are other allies within the program that offer to help with questions or assist with projects.
- member of the DTE mentorship program
- Very good response, not much follow up with the programs to engage after to build a network relationship .
- I can only speak to the residential programs DTE & Consumers offer. I have no experience with energy efficiency programs for our business.
- I was for a time a Certified B Corp, which is what galvanized me to start purchasing renewable energy credits. It gave me points on my B Corp certification

Q11_12_TEXT. Which, if any, of the below services would be useful to improve your ability to partner with electric and/or gas utilities? Please select all that apply. - Other - Text

- Exterior lighting incentives, additional incentives during Covid affected period

Q15_1. Please identify the electric and gas utility service provider of your primary business location. - Electric:

- Ameren
- ComEd
- Ameren
- Ameren Illinois
- SEIEC
- ComEd
- Comed
- Ameren
- We Energies
- ameren
- DTE Energy
- DTE
- Ameren
- DTE
- Duke
- ameren
- first energy
- ipl
- Eergy
- Duke Energy
- DTE
- Illuminating Company First Energy, Cleveland Public Power
- Cleveland Illuminating Company
- Ameren
- Ameren
- Aep
- Tri City Co Op
- ComEd
- DP&L
- DTE, Consumers Energy
- Duk
- ComEd
- DP&L
- DTE
- IPL
- ComEd but we buy from a company whose name I cannot remember
- ComEd

Q15_2. Please identify the electric and gas utility service

provider of your primary business location. - Gas:

- NiCor
- Spire
- n/a
- Propane
- Nicor Gas
- Nicor
- Ameren
- We Energies
- ameren
- DTE Energy
- DTE
- Ameren
- Consumers
- Duke
- ameren
- dominio
- citizens gas
- N/A
- Duke Energy
- DTE
- Dominion Gas, Columbia Gas
- Dominion
- Spire
- Ameren
- Nipsco
- Ameren
- Peoples Gas
- Vectren
- DTE, Consumers Energy
- Duke
- Vectren
- DTE
- Citizens
- Peoples
- Peoples Gas

Q16_12_TEXT. Which products and/or services does your business offer? Please select all that apply. - Other - Text

- Electrical
- Kitting
- Signage/Service Repair of lighting
- PACE Administration
- Painting
- Radon Testing and Mitigation, mold testing, IAQ
- Landscaping
- Abatement, Asbestos, Lead & Mold, Disinfectant Cleaning for COVID
- Environmental and sustainability services
- Construction subcontractor – specialties

Q30. Has the COVID-19 crisis impacted your business in other ways, please explain.

- site access is often denied or limited impacting accurate bidding and performance of work, projects are haunted, slowed, postponed or cancelled due to fear of income, projects are being re evaluated as future use of spaces is at risk or at least in jeopardy of change, labor is slowed by numerous safety practices now employed but not previously bid,
- Employees need to stay home with kids some if not all week. Not able to enter some residents homes
- We are now shipping kits directly to customers' homes instead of to the agencies where they used to pick them up.
- Development has stop and /or been delayed
- most customers are working from home
- We have been unable to continue training for energy efficiency work
- Projects delayed several months
- The inability to have our sales force travel to visit our customers
- I will have to shut my business down. We can't work without insurance and we can't get insurance again without a loan/grant from government. I was denied SBA loan due to an error and my reconsideration is taking very long. We were having issues recently and right before COVID19 but when this pandemic happened, it destroyed my business.
- All employees work remotely and no travel to customer sites is possible at this time in-state and out-of-state.
- No business
- Made it difficult to enter homes and businesses to perform routine repairs
- Employees have had to work limited schedules due to family obligations.
- We increased with disinfectant cleaning but lost revenue on construction projects.
- Has haunted all project permits and delayed timelines.
- A majority of our work was on school lighting efficiency retrofits. These have come to a complete halt since COVID, and we currently see no projects in the future.
- Many of our projects have been delayed and/or canceled. In addition, our payment terms have changed to a longer amount of time to receive payment.
- I received PPP assistance. That was great.

Appendix D

Diverse Businesses: Best Practices Interview Questions

Intro for Calls with Trade Orgs and Utilities

Walker-Miller Energy Services (Walker-Miller) is a client-focused company, with energy efficiency as our core business. We operate with a commitment to excellence, diversity, inclusion, and equity. We utilize our extensive experience and knowledge of the energy industry to help our clients and partners with energy waste reduction program design and implementation.

The survey was developed to help us identify best practices of regulated and investor-owned utilities in Illinois, Indiana, Michigan, Missouri, Ohio, and Wisconsin (“Midwest Utilities”) and how, in support of their respective ratepayer-funded energy efficiency programs, they:

- Build an inclusive culture
- Attract and recruit diverse businesses
- Aid in the development of diverse businesses
- Address diverse businesses’ barriers/constraints

Responses to this survey will aid in helping Walker-Miller better understand the Midwest Utilities’ best practices with respect to engaging diverse businesses for their respective energy efficiency programs. Results of this survey may be used to inform the Midwest Utilities regarding current trends, practices, and programs, as well as areas of expansion, improvement or development.

Walker-Miller greatly appreciates your honest and transparent feedback to better understand the needs of diverse businesses.

Responses will only be used only for purposes of this research. The results will be reported in aggregate and your organization will not be identified unless your express permission is given.

Do you give permission for your organization to be identified in this research? Yes or No

Name of Organization: _____

Name of Individual: _____

Title of Individual: _____

Phone Number of Individual: _____

Email Address of Individual: _____

Date of Survey: _____

Script for {insert utility name}: _____

Date of Survey: _____

I. Preparation for the Call

A. Visit utility's website

1. Find utility's official statement on supplier diversity
2. Download any documents or reports related to supplier diversity in energy efficiency (EE), or in general
3. Download utility's latest annual Supplier Diversity Report, or any diversity report delivered to the state regulatory body (Commerce Commission or Public Service Commission)
4. Download utility's segment of the annual EE report to the state regulatory body (Commerce Commission or Public Service Commission)

B. Find a phone number for the EE Department

1. If unable to reach someone in the EE Department, ask for the person who manages the supplier diversity department or team, or someone who performs supplier diversity/diverse business engagement functions for Columbus Southern Power's EE program.

II. The Call

A. Introduce yourself: "Hi, my name is _____. I'm with Walker-Miller Energy Services, and we are conducting research to identify {insert utility company name} best practices for recruiting and engaging diverse businesses to participate in its EE program. We are seeking responses to a 15-question survey. Is there someone I can speak with?"

1. If yes, read "Intro to Calls with Trade Orgs & Utilities" once the appropriate person is on the phone, then proceed to Section III to begin survey.
2. If no, "May I have the name and contact information for the person responsible for supplier diversity for Columbus Southern Power's EE program?"
 - a. Reach out to the correct person.

III. The Questions

A. If you don't have a name, phone number and email address, begin with "May I have your name, and email (or whatever contact info you are missing)?"

B. Does {insert utility name} believe having a program or department dedicated to the recruitment and development of diverse businesses helps to engage diverse businesses? If yes, please explain. If no, skip to Question C.

Script for {insert utility name}

Date of Survey: _____

C. Does {insert utility name} track or report its diverse spend related to EE programs? If yes, answer Questions D and E. If no, skip to Question F.

D. How is the spend tracked?

E. To whom is the diverse EE spend reported?

- Utility Supplier Diversity Program _____
- Regulatory Body (Public Service or Commerce Commission) _____
- Other: _____

F. Does {insert utility name} have a diverse contractor spend goal specifically for EE programs? If yes, please explain and answer Question G. If no, skip to Question H.

G. Which of the following best describes the spend goal?

- A percentage of the EE contract dollars \$
- A fixed dollar amount for the EE department \$
- Other

H. Which of the following describes the most effective best practices that {insert utility name} utilizes to recruit diverse businesses to participate in its EE programs?

- Strong leadership from the top of the organization

Script for {insert utility name}

Date of Survey: _____

- Formal outreach events for diverse EE suppliers _____
- Mentorship/ Development of selected EE suppliers _____
- Other (please describe) _____

I. Which of the following most accurately describes best practices {insert utility name} has implemented to aide in EE diverse supplier development?

- Formal Mentorship/Development Programs _____
- Development Workshops _____
- Certification Trainings _____
- Diverse Certification Assistance _____
- Other (please describe) _____

J. Does {insert utility name} solicit feedback from its diverse suppliers regarding their experiences working with Columbus Southern Power? If yes, answer Question K. If no, skip to Question L.

K. Can you share what {insert utility name} has learned from the feedback? If yes, please explain. If not, skip to Question L.

L. Which of the following best describes what {insert utility name} has done (or plans to do) with the feedback?

- Implement(ed) or develop(ed) pilot program
- General program development
- Diverse supplier development offerings, etc.

Script for {insert utility name}

Date of Survey: _____

- Other (please describe) _____

M. What are the most successful diverse business engagement programs/initiatives {insert utility name} has currently?

IV. Closing

- “Thank you for your time. If you would like to contact me for any reason, again my name is _____, and my email address is...”
- Follow up with an email to thank them for their time (again) and provide your contact information.

V. Alternative to Phone Interview

If you are unable to contact anyone, please document your efforts to find the right person. Please search terms on {utility name} website and find as many answers as possible. Also, use an online search engine to search for the following terms:

- Annual {utility name} Supplier Diversity Report
- {Utility name} Energy Efficiency Diverse Supplier Report
- {Utility name} Diverse Supplier Report Card or Score Card
- {Utility name} Energy Efficiency Diversity and Inclusion

For questions at any time, please contact Erika Dominick (314-853-6669 or dominick@wmenergy.com) or Amber Anderson (618-567-1225 or anderson@wmenergy.com).

Script for the {insert name}

Trade Organization

Date of Survey: _____

Page 2 of 4

- 2. A percentage of the EE contract dollars \$
- 3. A fixed dollar amount for the EE department \$
- 4. Other

F. Has {insert name} identified any utility best practices effective in recruiting diverse businesses to participate in utility EE programs in Illinois/Indiana/Michigan/Missouri/Ohio/Wisconsin? If yes, which of the following best describes the best practices?

- Strong leadership from the top of the organization
- Formal outreach events for diverse EE suppliers
- Mentorship/Development of selected EE suppliers
- Other (please describe)

G. Has {insert name} identified any best practices for building an inclusive culture implemented by utilities in Illinois/Indiana/Michigan/Missouri/Ohio/Wisconsin? If yes, please explain.

H. Has {insert name} identified any best practices implemented by utilities in Illinois/Indiana/Michigan/Missouri/Ohio/Wisconsin that aid in the successful design of programs specifically dedicated towards diverse supplier development? If yes, which of the below best describes the best practices?

- Formal Mentorship/Development Programs _____
- Development Workshops _____
- Certification Trainings _____
- Diverse Certification Assistance _____

Script for the {insert name}

Trade Organization

Date of Survey: _____

Page 3 of 4

- Other _____

I. Based on its research, does {insert name} believe that having a program or department dedicated to the recruitment and development of diverse suppliers helps to engage diverse businesses in energy efficiency? If yes, please explain. If no, skip to Question J.

J. Has {insert name} reported any of its findings regarding diverse suppliers in energy efficiency to any utilities in Illinois/Indiana/Michigan/Missouri/Ohio/Wisconsin or their respective regulatory bodies? If yes, please explain. If no, answer Question K.

K. Is {insert name} aware of how (if at all) utilities in Illinois/Indiana/Michigan/Missouri/Ohio/Wisconsin have used the findings shared by {insert name}? If yes, which of the below best describes the use of {insert name}'s findings:

- Implemented, developed pilot program
- General program development
- Supplier development offerings
- Other _____

L. Does {insert name} solicit feedback from diverse suppliers regarding their experiences with the utilities in Illinois/Indiana/Michigan/Missouri/Ohio/Wisconsin? If yes, please explain.

Script for the {insert name}

Trade Organization

Date of Survey: _____

Page 4 of 4

M. Is there anything additional you'd like to share about the research {insert name} has conducted related to energy efficiency programs of the utilities in Illinois/Indiana/Michigan/Missouri/Ohio/Wisconsin and how they engage and/or develop diverse businesses?

IV. Closing

A. "Thank you for your time. If you would like to contact me for any reason, again my name is ..., and my email address is..."

B. Follow up with an email to thank them for their time (again) and provide your contact information.

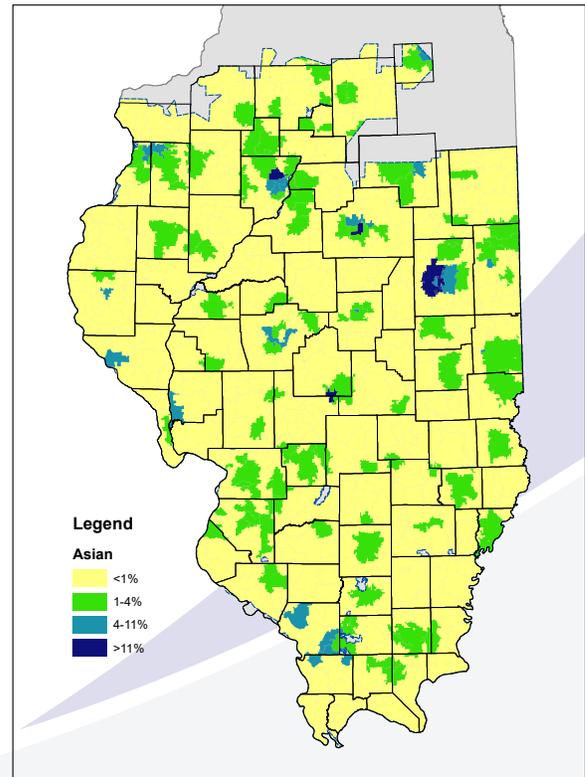
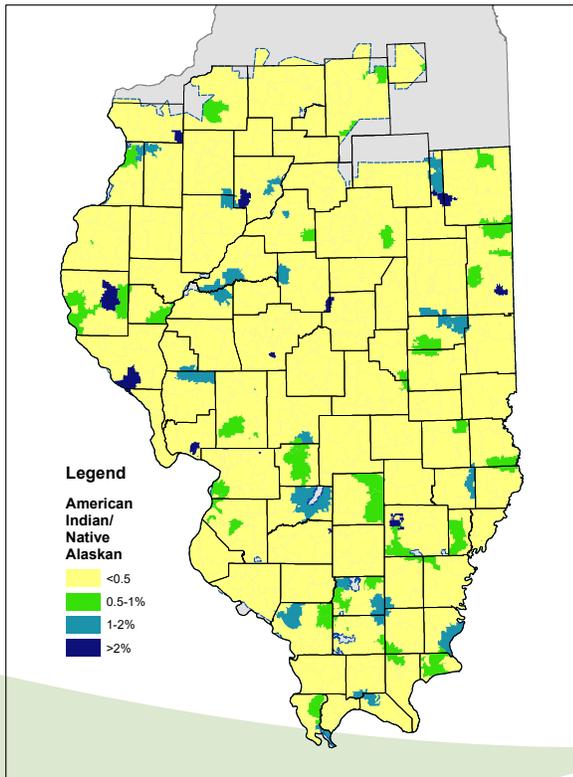
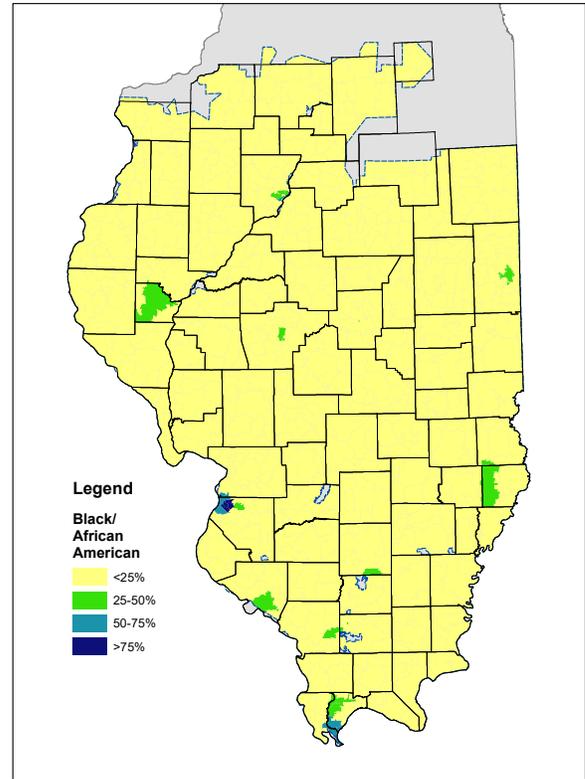
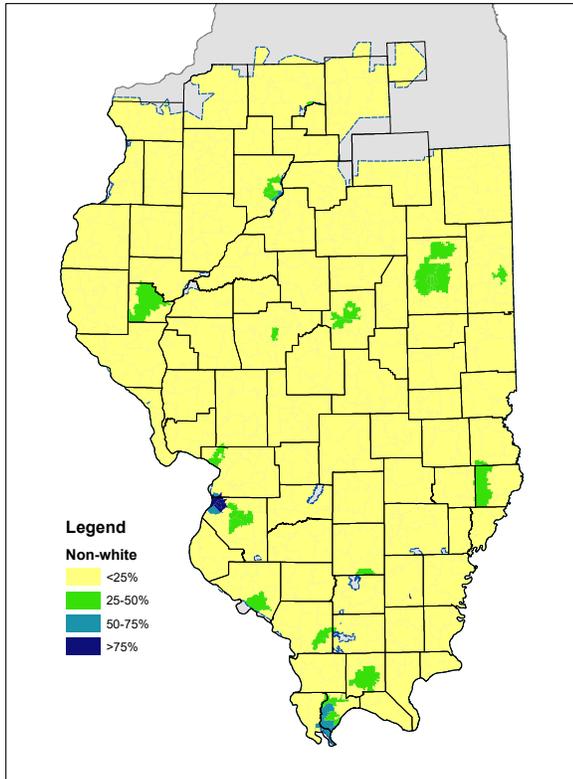
V. Alternative to Phone Interview

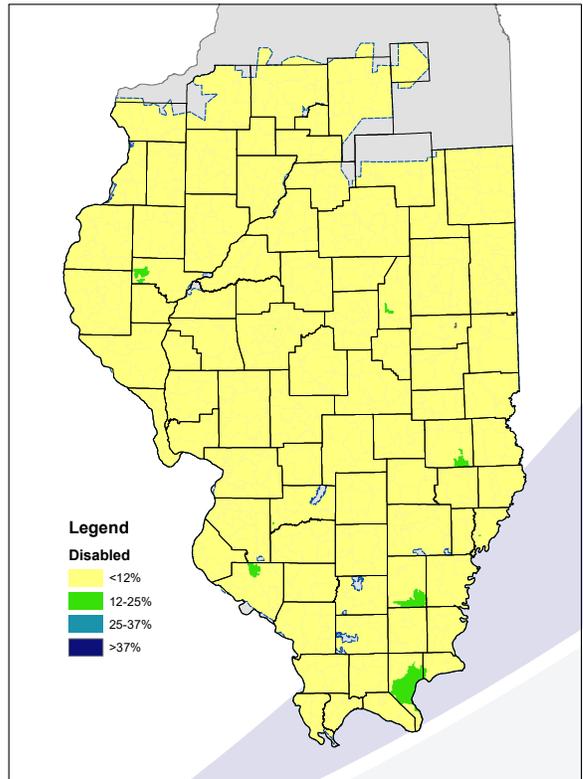
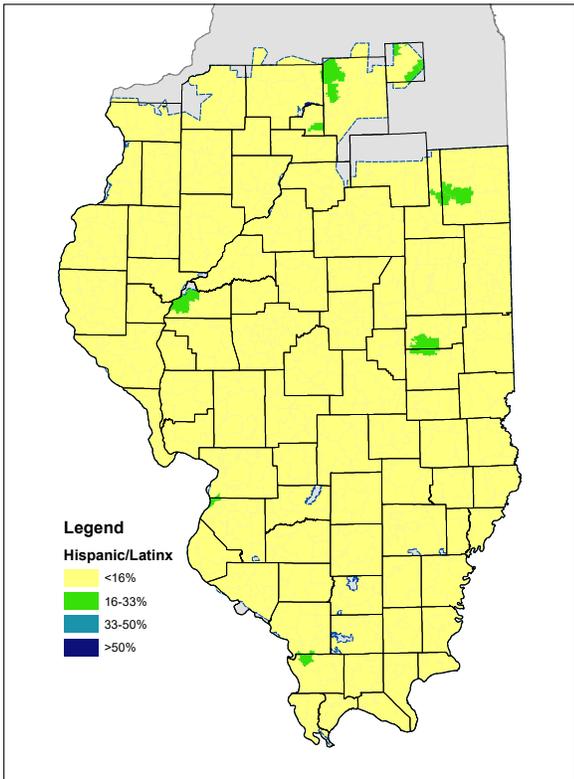
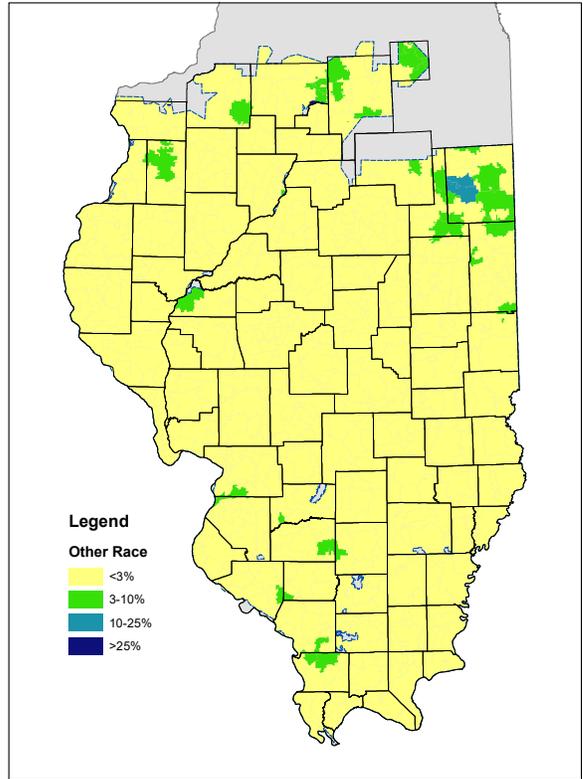
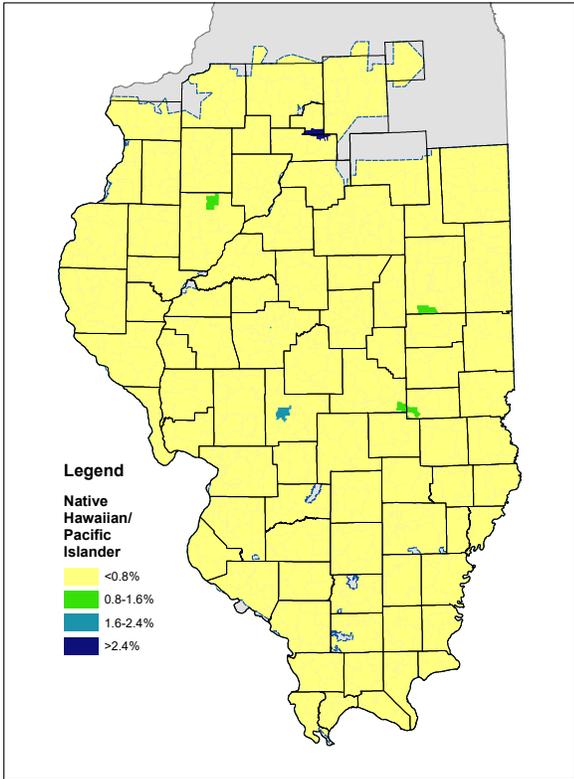
A. If you are unable to contact anyone, please document your efforts to find the right person. Please search terms on the Trade Organization's website and find as many answers as possible. Reports generated as a result of trade organizations' research typically can be found on their websites.

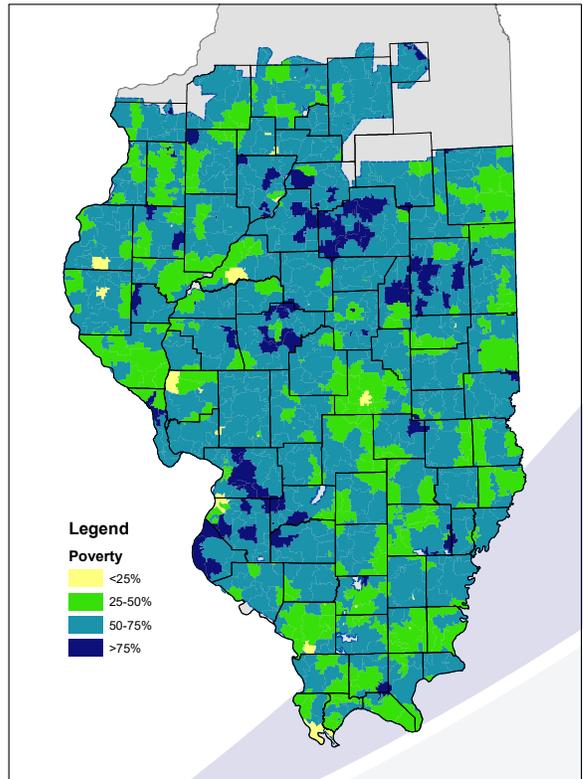
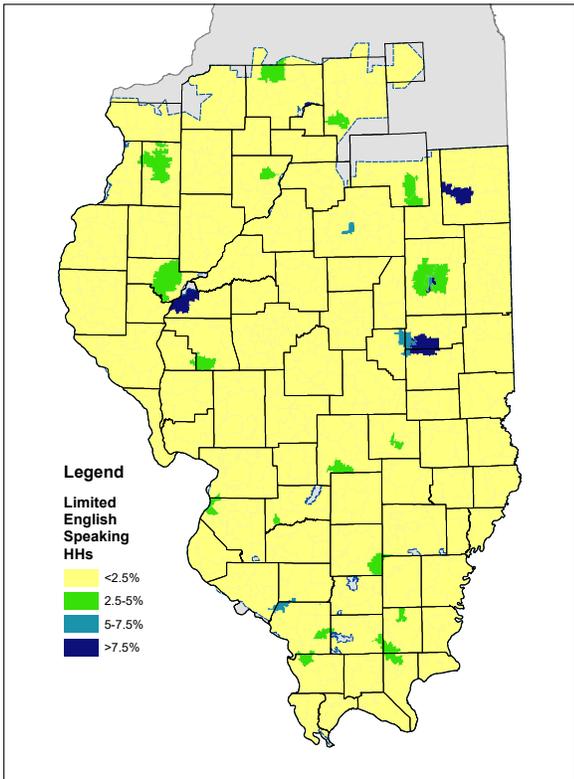
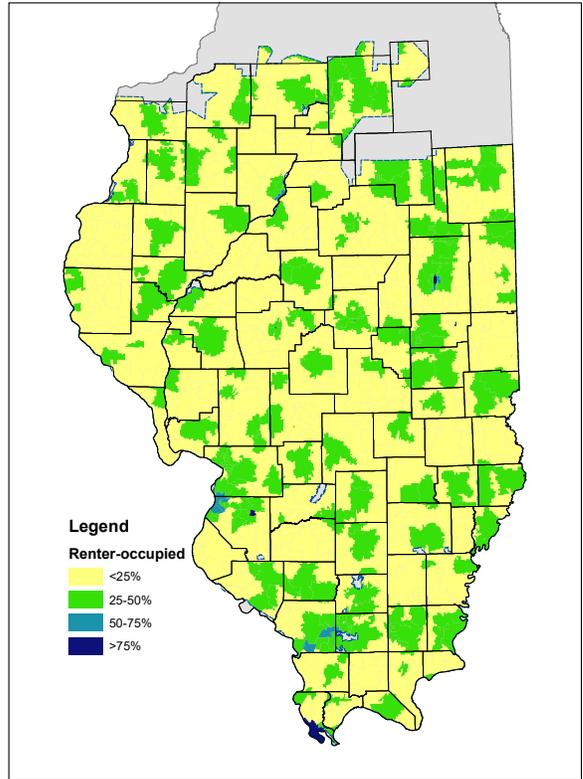
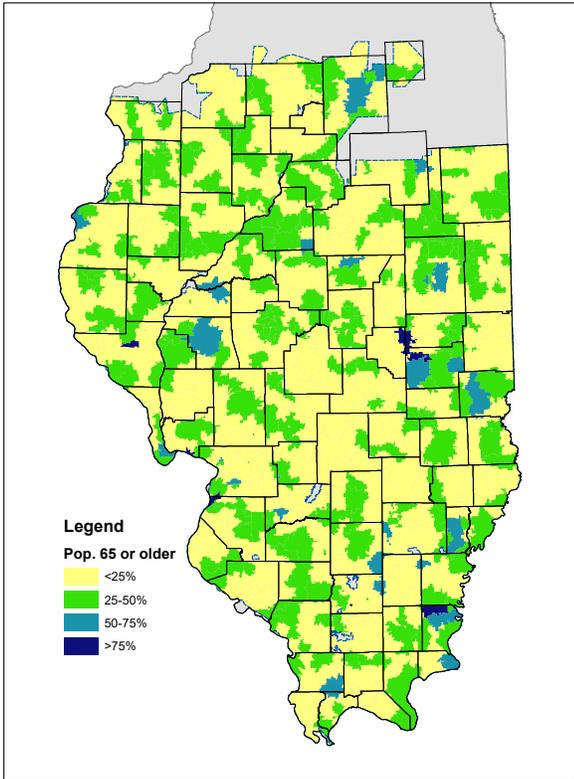
B. For questions at any time, please contact Erika Dominick (314-853-6669 or dominick@wmenergy.com) or Amber Anderson (618-567-1225 or anderson@wmenergy.com).

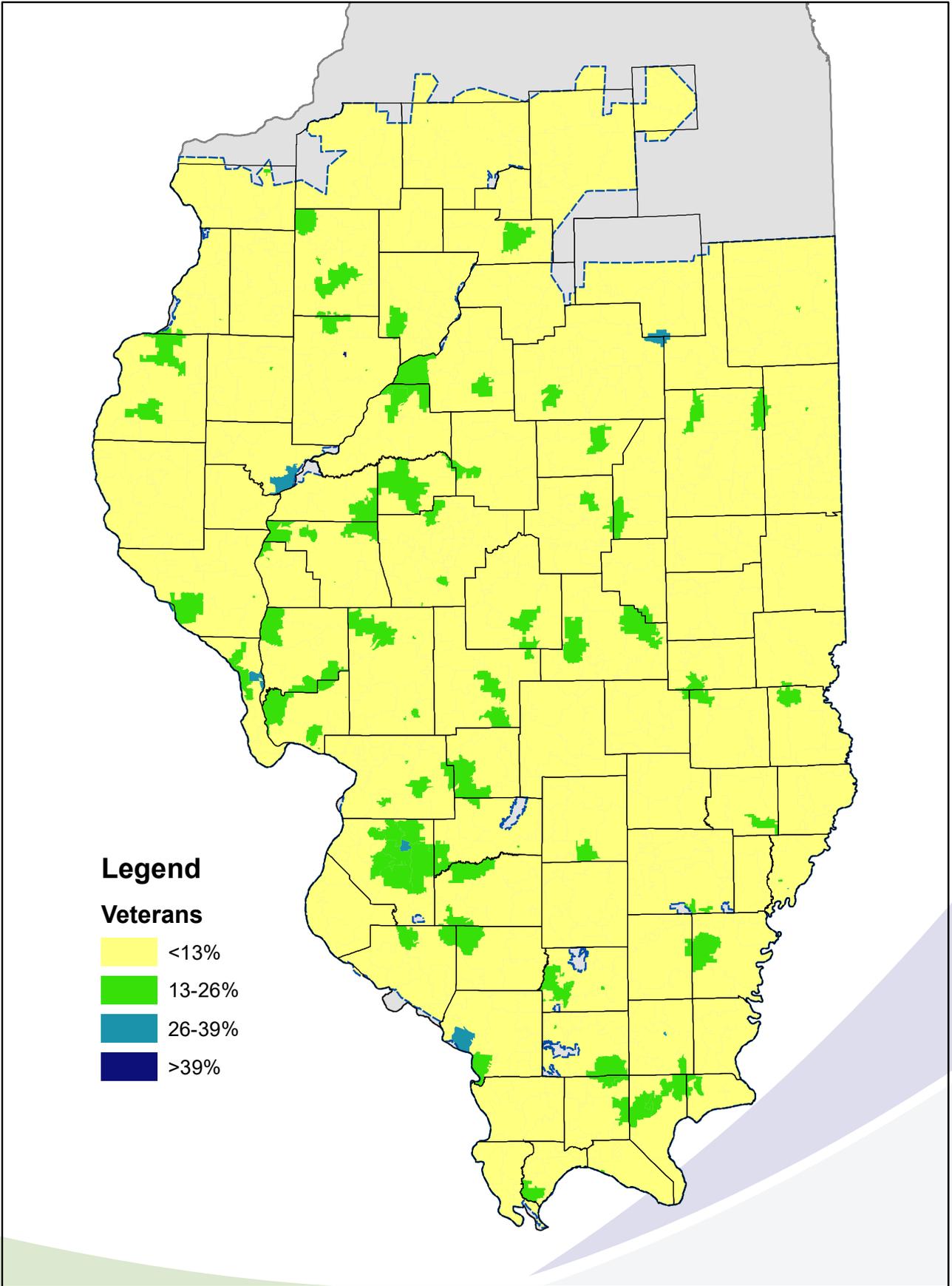
Appendix E

Ameren Illinois Diverse Customer Distribution: Geographic Distribution of Target Demographics









Appendix F

Ameren Illinois Diverse Customer Distribution: Top 25 Zip Codes Including Target Demographics

Rank	Non-white	Black/African American	American Indian/Alaska Native	Asian	Native Hawaiian/Pacific Islander	Other Race	Hispanic/Latino	Individuals with Disabilities	65 years or older	Renter-occupied Households	Limited English Speaking Households	Poverty	Veterans
1	62829	62059	62320	61801	61336	61276	61322	61941	62874	62962	61239	62622	61433
2	62059	62207	61883	61822	62701	61322	61276	61562	62871	61625	62618	62266	62961
3	62204	62205	61569	61874	62015	60955	60538	61602	62201	62523	61801	62519	62225
4	62205	62204	62536	61525	61863	61318	62618	62344	62028	62225	61874	61435	62965
5	62207	62090	62058	61820	62462	60938	60955	61855	61911	62701	61322	60557	62852
6	62090	62203	62850	61704	61432	62201	60545	62475	61931	61941	60955	61332	62950
7	62203	60958	62543	62083	62046	60538	62201	62266	62357	61602	61910	61562	61731
8	60958	62201	62848	61528	62914	62905	61342	62817	62013	61820	62916	62070	62065
9	62201	62914	60968	62535	61344	60968	61910	62217	62442	62201	61820	61468	62639
10	62914	62206	62022	61949	61236	61332	61236	62701	60551	61801	61244	60926	62045
11	62206	62964	61466	61615	61812	61236	61562	62811	62245	62090	61911	62065	61276
12	61605	62060	62366	62701	62427	62272	60968	62879	62806	62901	61704	61451	61772
13	61276	61605	62908	62903	62665	61603	60586	62938	62979	61605	62201	61812	62054
14	62964	62963	61453	62907	62675	61362	61318	62481	62018	61239	62473	61374	62083
15	62060	62921	62907	61625	62618	61462	61335	60512	61777	62059	62987	61731	62265
16	62976	62976	61956	61614	62803	61812	61301	62523	62851	62207	62215	62711	61471
17	62523	62523	62984	61453	62282	60586	60431	62992	62860	62204	61462	62273	62258
18	62070	61603	62852	62325	62365	61443	60447	62963	61912	61606	62901	61528	62625
19	61603	62703	62082	61802	61920	60926	62905	62622	62273	62622	62905	61936	62413
20	62921	62846	62672	62915	62946	62618	60544	62874	61350	62206	61775	62218	62070
21	62963	62992	62655	61602	61310	61325	61244	62336	60929	61874	61821	61274	61936
22	62703	62208	62914	62905	62568	62920	62965	62045	62921	62975	62681	62601	62022
23	61801	62466	62671	62356	62546	60922	60543	62419	62810	62060	61741	61525	62985
24	62701	61239	62890	62027	61801	61301	61362	62841	61346	61603	61822	62809	62964
25	62208	61832	60946	61821	61953	60942	60942	62830	62887	62933	61370	62897	62269

Appendix G

Diverse Customer Engagement: Focus Group Script

Diverse Customer Engagement for Energy Efficiency Focus Group Guideline

Springfield | Taylorville

(90 minutes)

I. Introduction (10 minutes)

Objective: To create a comfortable environment, gain trust and familiarize participants with the format.

Outcome: More participation, information and a deeper understanding of the issues.

Moderator: Thank you for taking the time to meet with us today. My name is _____. I am a researcher at the University of Michigan studying energy efficiency. We are here today to discuss household energy consumption. The feedback you provide today will be used by our client to improve their future programming to help households save energy.

Before we begin, let's go over a few "ground rules."

- Cell phones off
- We want to hear everyone's opinion
- Please speak one at a time
- We take your confidentiality seriously (responses made by participants should be kept confidential by all participants, AKA Vegas rules!)
- While the session is being recorded, it will only be viewed by our team, and will be after our final analysis
- Your name will never be used in our reporting
- There are no right or wrong answers. Every person's experiences and opinions are important. Speak up whether you agree or disagree. We want to hear a wide range of opinions.

Do you have any questions before we begin?

Now, let's go around for introductions. Please state your first name and (insert TBD icebreaker)

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Do you have any questions before we begin?

Now, let's go around for introductions. Please state your first name and (insert TBD icebreaker, perhaps a couple polls)

II. General Energy Knowledge (20 minutes)

Objective: Establish baseline understanding of energy use and efficiency.

Outcome: Understanding of terminology that resonates with participants.

1. How would you describe your home energy use? Household size, devices in your home that you think use the most energy, time of day that you think you use the electricity or natural gas in your home, etc.
2. What do you think of when you hear the term “energy efficiency”, what word or phrase comes to mind?

[GO AROUND & DISCUSS]

3. If (energy efficiency) responses are slow ask, what about energy waste reduction (Pause) or energy savings (Pause), or Energy conservation?

[GO AROUND & DISCUSS]

III. Prior Energy Efficiency Actions (20 minutes)

Objective: Explore what energy efficiency improvements households have made.

Outcome: Understanding of most prevalent improvements made, whether utility programs or not.

Moderator: For the rest of the focus group we will use the term energy efficiency.

Now, I'd like to find out the energy efficiency actions that you or someone you know have taken at home.

1. What are some DIY projects that you or someone you know have done recently that you feel helped decrease your energy use?
 - a. Example: Planting trees in your backyard, etc.
2. Have you taken any other steps (not DIY) to lower the energy usage of your home? [if necessary, PROBE examples: lighting, heating, cooling, water heating]
 - What kind of steps have you taken?
 - What were the results?
 - Do you plan to do more? Like what?
3. Have you run into any roadblocks or things that did not work out as planned in trying to be more energy efficient? What issues have you ran into during any improvement/application process? (sub prompt)
 - What were they? Why was that a problem?
 - Probe: Renters
4. What are some DIY projects that someone you know has done recently that you feel helped decrease your energy use?
5. What about your friends and family? What do you think would help them make faster progress toward using energy more efficiently?

IV. Energy Efficiency Interest and Motivations (20 minutes)

Objective: Explore influencers and resources for educating homeowners.

Outcome: Understanding of resources and messages to inform/educate homeowners on making smart decisions with regard to their homes.

1. Why do you feel you or people you know make energy efficiency improvements to their home? (PROBE: for emotional factors/motivations: increased comfort, lower utility bills, preserve natural resources, reduce fossil fuel use, climate change, legacy)
 - What about you personally – which reason is most important to you?

[GO AROUND & DISCUSS]

2. What would it take to get you to undertake any or additional energy efficiency improvements in your home? (PROBE: influencers: information about potential cost savings, financing options, a friend's or neighbor's testimonial) (We are trying to understand what would be most effective in motivating people to undertake energy improvements. We would like to know your opinion: for you, what could prompt you to undertake energy improvements?)
3. How many of you currently seek out information about home energy efficiency?
 - For those who said yes, where did you go for this information? (PROBE: Government websites, Internet searching, product manufacturers, real estate agents, utility, etc.)
 - For those who said no, why have you not sought out information about home energy efficiency?

V. Utility Energy Efficiency Program Knowledge (20 minutes)

Objective: Establish baseline understanding of utility programs.

Outcome: Understanding of which programs are most familiar and beneficial to households as well as potential program opportunities

Ok, we've been talking about your energy efficiency actions. Now I'd like to talk a bit about how you feel about the role your local utility is playing in these efforts.

1. What is your local utility doing about energy efficiency in your community that you may have heard about?
2. Give me the names of programs or organizations you've heard about that support energy efficiency.
3. What utility programs have you participated in?
 - How did you find out about them?
 - What were the benefits? What did you like about it?
 - What did you feel was less beneficial? Why?
 - If you haven't heard of nor participated in any programs, why do you think that is and what could help change it?

4. In general, how can your local utility provide more help to you and your community

- To increase energy efficiency in your homes?
- What do you think they could do differently? Why?
- What else?

Conclusion

This concludes our time together. I would like to thank each of you for your time and engagement in this focus group.

End --

walker•miller
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Energy Justice Lab & Walker-Miller Energy Services Diverse Vendor Survey

Overview:

- » Ameren Illinois partnered with the Energy Justice Lab and Walker-Miller Energy Services to identify best practices to addressing challenges and barriers diverse-owned energy efficiency businesses face when partnering with midwest utilities to provide products and/or services in support of the midwest utilities energy efficiency programs
- » Barriers and challenges by diverse vendors and suppliers include:
 - Contract Eligibility
 - Many of the requirements written into contracts are not necessary or applicable to every project and contractor
 - Access to Capital/Cash Flow
 - Access to funds are not readily available to procure supplies, equipment, and labor necessary to successfully complete projects while awaiting payment
 - Without this, most contractors rely solely on payments from the customers (i.e., the utility), which can take up to 60 days after project completion and submittal of final paperwork

Final survey findings will be presented to Ameren Illinois in 2021.