Midwest Multifamily Market Characterization

Building Attributes & Occupant Demographics

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MEEA
MIDWEST ENERGY EFFICIENCY ALLIANCE

Executive Summary

Energy efficiency programs that serve residential customers are a large portion of the portfolios of Midwest utilities, but many of these programs are not designed to reach multifamily customers. As utilities seek to achieve efficiency goals, tapping the as-of-yet underserved multifamily building market can provide a substantial source of savings. Additionally, the residents of those multifamily buildings can benefit strongly from the subsequent bill savings that efficiency measures can provide.

Currently, multifamily-specific energy efficiency programs receive less than 6% of energy efficiency investment and achieve less than 4% of energy savings; however, multifamily buildings comprise almost 15% of the building stock. Forty-two percent of energy use in the Midwest comes from buildings, and over half of that is from residential buildings. An understanding of how multifamily buildings relate to the rest of the housing market – the features and characteristics of multifamily buildings and the demographics of occupants – provides insight into the opportunities for increasing the energy efficiency of multifamily buildings through better program design and delivery.

Multifamily buildings in the Midwest:

- **Are the second largest segment of housing in the region** – 14.8% of housing units.
- **Come in all sizes** – small (5-9 unit) buildings are 31% of the multifamily housing; mid-size (10-19 units), 25%; large (20+ units), 25%.
- **Were mostly constructed in the 1970s** – thus not meeting modern energy code standards – and new construction is lagging.
- **Have very few efficiency measures installed** – lighting is the only measure type with high penetration rates.
- **Are almost never audited** – only 1% of multifamily housing has had a professional energy audit.

Multifamily residents in the Midwest:

- **Are mostly renters** – 77% of multifamily units are renter-occupied.
- **Have low household income** – 43% are below the federal poverty guideline and 72% are below 200% of the guideline.
- **Pay high rents compared to their income** – 48% pay more than the recommended 30% of income toward rent, and 25% pay more than half of their income.
- **Have a high energy burden** - paying 5% of household income for energy bills, more than three times the level of higher-income customers.

Some Midwest utilities are designing multifamily-specific energy efficiency programs that can overcome some of the barriers to reaching multifamily customers; however, there is still a substantial gap between the potential and achieved savings from the multifamily market. Understanding the characteristics of the multifamily building sector and the demographics of multifamily customers can help advocates support the growth of these efforts, program administrators to design programs to meet these needs cost-effectively and policymakers to ensure that all customers have access to the benefits of energy efficiency.

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Introduction

From homes to offices and institutional facilities, operating the built environment requires significant amounts of energy. In the Midwest, buildings are responsible for 42% of total energy use.[i] Of that, 54% is used in residential buildings.[ii] It follows, then, that buildings also represent a large opportunity for energy savings. While energy efficiency programs to serve the residential, commercial and industrial sectors have existed for decades in some states, multifamily buildings have proven to be a difficult type of building to reach. Since multifamily buildings represent an underserved market, they remain a substantial source of potential energy savings,[iii] and the residents of multifamily buildings are customers that would benefit strongly from bill savings.[iv]

Energy efficiency programs that focus specifically on multifamily customers and building owners account for 1-6% of annual energy efficiency spending and 0.3-4% of savings, while comprising about 15% of the housing stock in the Midwest.[v] An understanding of how multifamily buildings relate to the rest of the housing market – the features and characteristics of multifamily buildings and the demographics of occupants – provides insight into the opportunities for increasing the energy efficiency of multifamily buildings through better program design and delivery.[vi]

This paper provides a regional and state-by-state analysis of key housing and demographic metrics in the Midwest. The states included in this report are Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin. We examine the attributes of multifamily buildings – size of structures, percentages of multifamily units in the housing market, vintage and location of structures, and penetration of energy efficiency measures – and the demographics of multifamily residents – rental rates, income levels and the amount of budget going toward energy bills. Information about the Midwest's multifamily buildings and customers can aid policymakers, program administrators and others in understanding the multifamily market, making the case for multifamily energy efficiency in the region and delivering the benefits of energy efficiency to multifamily building owners and tenants.

Multifamily Building Attributes

Number of Units in Structure

Across the Midwest, multifamily housing – units in buildings with five or more housing units – provides almost 4.7 million homes. Taken as a whole, multifamily housing is the second largest component of the entire housing market after detached single-family. The number of units of each housing type in the Midwest is shown in Table 1.

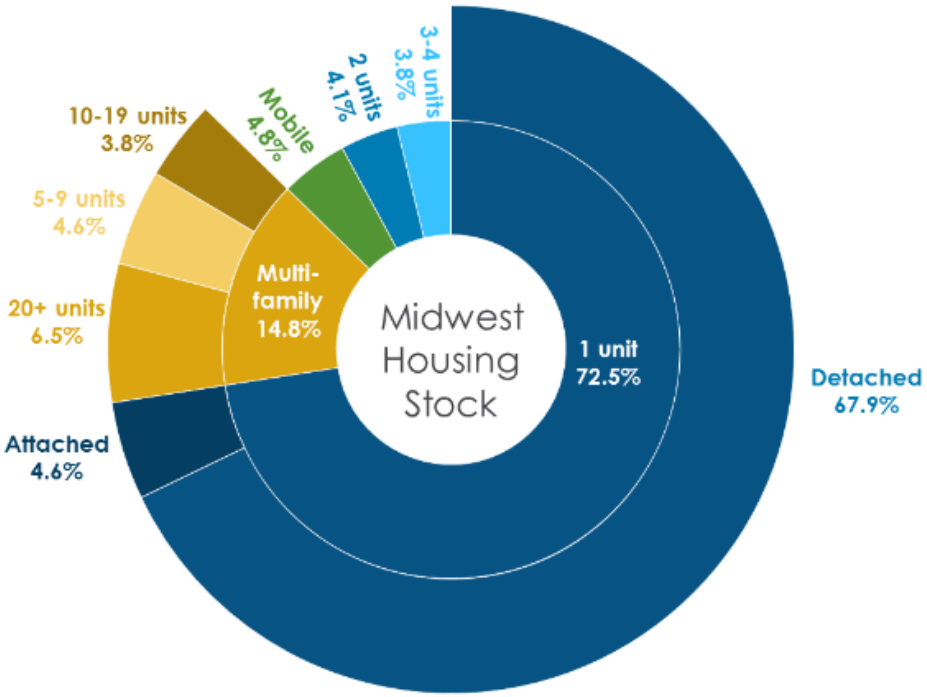
Table 1: Composition of Midwest housing market

Housing Type	Midwest # units
1-unit, attached	1,457,759
1-unit, detached	21,478,005
2 units	1,189,653
3 or 4 units	1,297,113
5 to 9 units*	**1,439,767**
10 to 19 units*	**1,191,208**
20 or more units*	**2,047,635**
Boat, RV, van, etc.	9,938
Mobile home	1,505,295
TOTAL HOUSING UNITS	*31,616,373*
***TOTAL MULTIFAMILY**	***4,678,610***

Source: US Census Bureau [vii]

Large multifamily buildings, those with 20 or more units, comprise the greatest share (43%) of the total multifamily housing stock in the Midwest. As a percentage of total housing, 20+ unit buildings make up 6.5% of the housing stock in the region. This is a slightly lower percentage when compared with the national housing market,[viii] of which buildings with 20+ units are 9% of the total housing stock. Figure 1 shows the housing percentage by number of units in the building. In total, multifamily housing makes up 14.8% of Midwest housing stock.

Figure 1: Composition of Midwest housing market, percent of units



Source: US Census Bureau [ix]

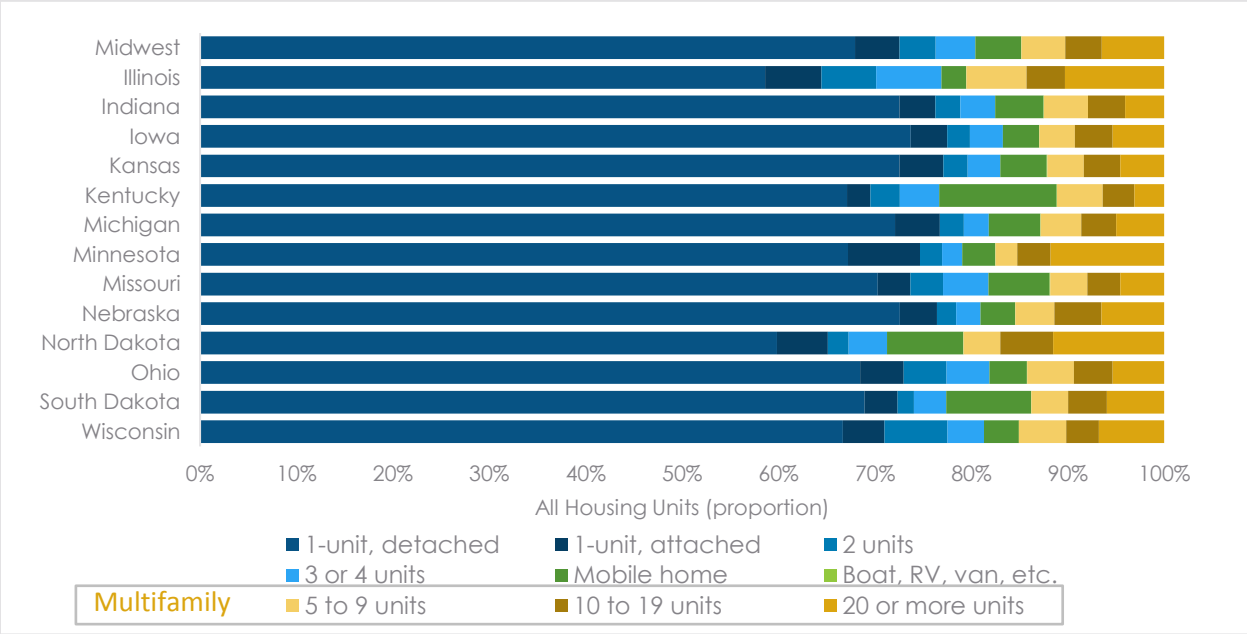
The composition of the housing market, of course, varies state to state. Unsurprisingly, the states with the highest populations – Illinois, Ohio, Michigan – have the most residential units and the

highest number of multifamily units. Higher population states and states with large cities also tend to have a higher proportion of multifamily housing, whereas rural, lower-population states tend to have a higher proportion of single-family housing. North Dakota, however, is an exception to this trend.

Figure 2 shows the total number of residential housing units in each Midwest state, by type of housing unit. Illinois and Minnesota each have more multifamily housing than the Midwest average, as does North Dakota. North Dakota's high proportion of multifamily comes from a combination of a low state population overall, coupled with an increased demand for worker housing during the Bakken oil field boom.[x] Kentucky and Missouri have the lowest proportion of multifamily housing to total housing stock in the region.

Detailed state-by-state housing data from Figure 2 is provided in the Appendix.

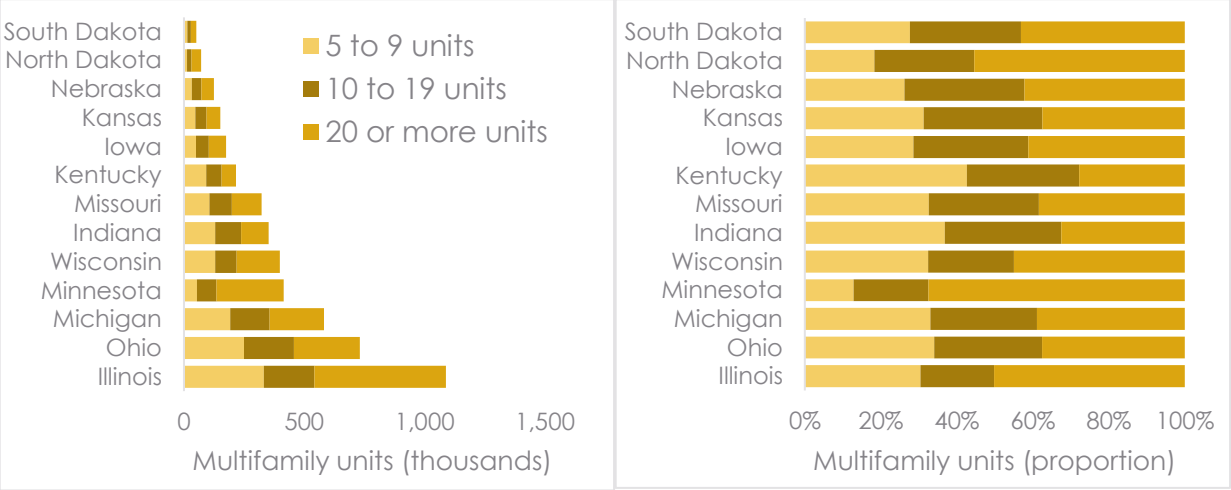
Figure 2: Residential units in Midwest states, all housing types



Source: US Census Bureau [xi]

The proportion of small (5-9 unit), mid-side (10-19 unit), and large (20 or more unit) multifamily buildings in Midwest states is shown in Figure 3. Among the Midwest states, Minnesota stands out as having a much higher proportion of large multifamily housing, 67% of multifamily units, compared with the average for the Midwest of 44% large multifamily. Minnesota also has the least small multifamily housing at only 13% of units. Kentucky represents the inverse – it has the greatest proportion of small multifamily (43% compared to the Midwest average of 31%) and the lowest proportion of large multifamily buildings (28%).

Figure 3: Residential units in Midwest states, multifamily only



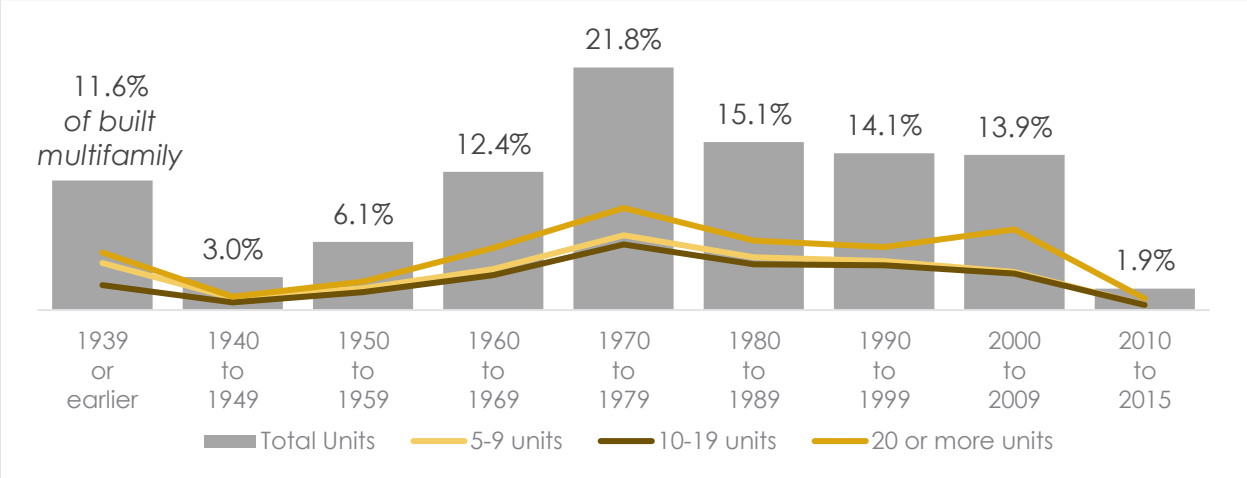
Source: US Census Bureau [xii]

Age and Location of Structures

Multifamily housing in the Midwest varies in age, as shown in Figure 4. Almost 12% of multifamily buildings, many of them in Illinois and Ohio, were built before 1939. There was a significant drop-off in multifamily housing construction during the 1940s, but the post-war period saw increasing construction of multifamily housing, peaking in the 1970s. The 1970s were the peak decade for multifamily housing construction in the Midwest for all sizes of multifamily buildings. Growth in the number of units of multifamily housing since 2000 is primarily in large multifamily buildings, while mid-size and small multifamily have tapered off.

Construction of new multifamily housing has declined in the Midwest since 2009. If the pattern in the first half of the current decade holds true, it is possible that the Midwest will see the lowest level of multifamily housing construction in the region since the 1950s. This is significant because the age of the building determines how much efficiency is 'built in' to the building from advances in construction materials and the implementation of more stringent building energy codes. Building energy codes only apply to new construction or major building rehabilitations. The multifamily buildings constructed today should be, in theory, the most efficient multifamily buildings in the region, but new construction energy efficiency programs will have a small impact compared with what could be achieved by focusing strong efforts on the existing buildings that make up the large majority of the market.

Figure 4: Multifamily buildings in the Midwest by year of construction



Source: US Census Bureau [xiii]

Location is another factor that is important to understanding multifamily housing. The overwhelming majority of multifamily housing is in urban areas, where population density is the highest. An urban location means that the housing falls within the US Census's definition of "micropolitan" statistical census areas with populations of 10,000-50,000 people, or "metropolitan" areas with greater than 50,000 people. Ninety-five percent of the multifamily housing in MEEA states is in urban areas, 69% in the cities of the East North Central census district states (IL, IN, MI, OH and WI) and 26% in the cities of the West North Central census district states (IA, KS, MN, MO, NE, ND and SD).[xiv]

Equipment and Energy Efficiency

Energy efficiency measures have not penetrated far into the existing multifamily housing space, as shown in Table 3. Only a small fraction of multifamily housing has had any energy auditing to identify possible savings. As with most of the residential market, there has been substantial adoption of energy-efficient lighting, with over 80% of multifamily housing having at least one energy-efficient lightbulb.[xv] Most multifamily housing does not have programmable thermostats, though almost all multifamily units that have programmable thermostats use them to control both heating and central air conditioning. The majority of multifamily housing has efficient double- or triple-pane windows and report at-least adequate insulation levels, though there is still substantial room for expansion. Most large appliances in multifamily housing are not ENERGY STAR rated, though the high proportion of respondents that were unsure indicates that there are awareness issues as well with multifamily residents or building owners.

Table 2: Energy efficiency measures in Midwest multifamily housing

Energy Efficiency Measure	Yes	No	Unsure
Energy Audit Performed	1.2%	98.8%	N/A
Energy Efficient Lightbulbs Installed (at least one)	81.6%	18.4%	
Programmable Thermostat *Prog. Thermostat Controls AC**	13.0% 98.8%	87.0% 1.16%	
Ceiling Fans Installed	45.5%	54.5%	
Double or Triple Pane Windows	61.5%	38.5%	
Adequate Insulation Level	75.4%	24.6%	
ENERGY STAR Refrigerator	26.7%	54.9%	18.5%
ENERGY STAR Clothes Washer*	35.6%	41.8%	22.7%
ENERGY STAR Wall/Window AC*	20.3%	59.5%	20.2%
ENERGY STAR Dishwasher*	27.4%	58.3%	14.3%
**For households with relevant equipment installed*			

Source: US Energy Information Administration[xvi]

Multifamily Occupant Demographics

Rental Rates in Midwest Multifamily Housing

Renters are the primary occupants of multifamily housing in the Midwest, as shown in Table 3.[xvii] Renters live in 77% of the multifamily units in the region, with a state-by-state range from 67-87%. The remainder of multifamily units are vacant (13%), owner-occupied (9%), or occupied without paying rent (1%). Of the 13 states, Illinois has the lowest rental percentage for multifamily housing and South Dakota has the highest. Illinois has substantially more owner-occupied multifamily units than any other state in the Midwest (20%), and South Dakota and Indiana have the lowest number of owner-occupied units (3%).

Table 3: Tenure of multifamily housing in the Midwest

State	Vacant	%	Occupied without rent	%	Owned (free and clear)	Owned (mortgage/ loan)	%	Rented	%	Total Units
South Dakota	4,768	9%	530	1.0%	880	860	3%	45,103	87%	52,141
North Dakota	8,302	12%	604	0.9%	1,593	964	4%	59,007	84%	70,470
Nebraska	13,777	11%	721	0.6%	2,126	931	2%	107,518	86%	125,073
Kansas	21,519	14%	1,128	0.8%	2,108	1,137	2%	124,320	83%	150,212
Iowa	21,566	12%	1,202	0.7%	6,121	5,936	7%	139,171	80%	173,996
Kentucky	32,022	15%	2,934	1.4%	4,845	8,277	6%	166,198	78%	214,276
Missouri	61,799	19%	3,417	1.1%	8,098	11,010	6%	239,603	74%	323,927
Indiana	56,368	16%	3,340	0.9%	4,058	4,886	3%	282,948	80%	351,600
Wisconsin	41,781	11%	3,374	0.9%	10,965	16,283	7%	319,200	82%	391,603
Minnesota	32,402	8%	2,644	0.6%	17,051	21,874	9%	336,567	82%	410,538
Michigan	79,295	14%	5,372	0.9%	14,648	16,570	5%	465,006	80%	580,891
Ohio	108,045	15%	8,910	1.2%	15,236	20,767	5%	579,227	79%	732,185
Illinois	137,165	13%	10,614	1.0%	70,892	142,232	20%	724,685	67%	1,085,588
Midwest	***618,809***	***13%***	***44,790***	***1.0%***	***158,621***	***251,727***	***9%***	***3,588,553***	***77%***	***4,662,500***

Source: US Census Bureau[xviii]

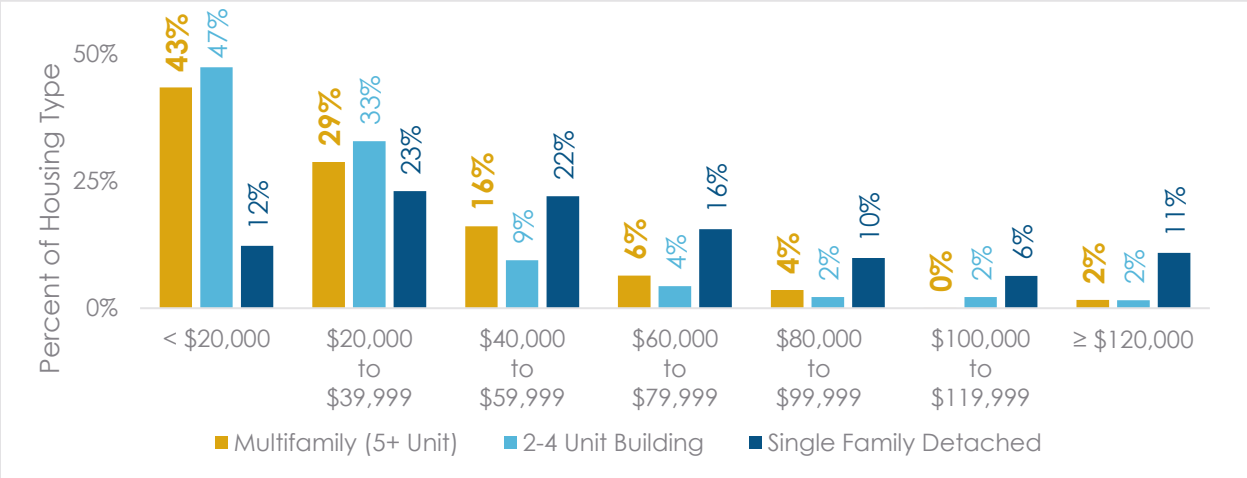
There are several reasons that the rate of rentals versus owner-occupied units is important for energy efficiency. First, there is the well-known split incentives barrier, where the building (or unit) owner pays for upgrades but the savings accrue to renters who pay their own utility bills. Second,

there can be problems with decision-making, where residents may desire upgrades but cannot grant permission to perform them. Additional problems arise with scheduling and gaining access to perform work in rental units, as well as difficulty in marketing programs to building/unit owners who are not the occupant of the billing address.[xix] The predominance of renters in multifamily housing is a strong contributor to the barriers to multifamily energy efficiency program penetration.

Household Income & Rental Costs

Residents of multifamily buildings tend to have a lower annual household income than residents of single-family housing, as shown in Figure 5. In the Midwest, 43% of multifamily housing residents have a household income of less than $20,000 per year, more than three times the rate among single-family housing residents. This is also substantially higher than the national average of 30% of multifamily residents making less than $20,000. The current national poverty guideline for a three-person household is $20,420.[xx]

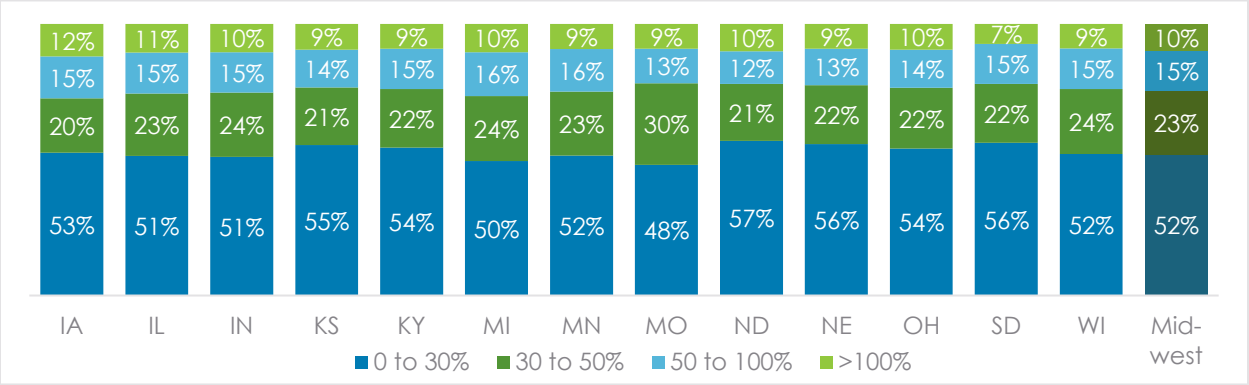
Figure 5: Household Income for selected Midwest housing types



Source: US Energy Information Administration [xxi]

Multifamily housing in the Midwest has a high proportion of low-income customers. The limited income of these customers goes, in large proportion, to paying for that rental. Under federal guidelines, families that pay more than 30% of income for housing are considered "cost-burdened" and in need of affordable housing.[xxii] Midwest multifamily rental households are cost-burdened in almost half of households (Figure 6). A high proportion of the Midwest's multifamily renter households are extremely cost burdened – 15% pay 50-100% of their income for rent and 10% have rents that exceed their monthly income (Figure 6).

Figure 6: Rent as a percentage of household income for Midwest multifamily renters



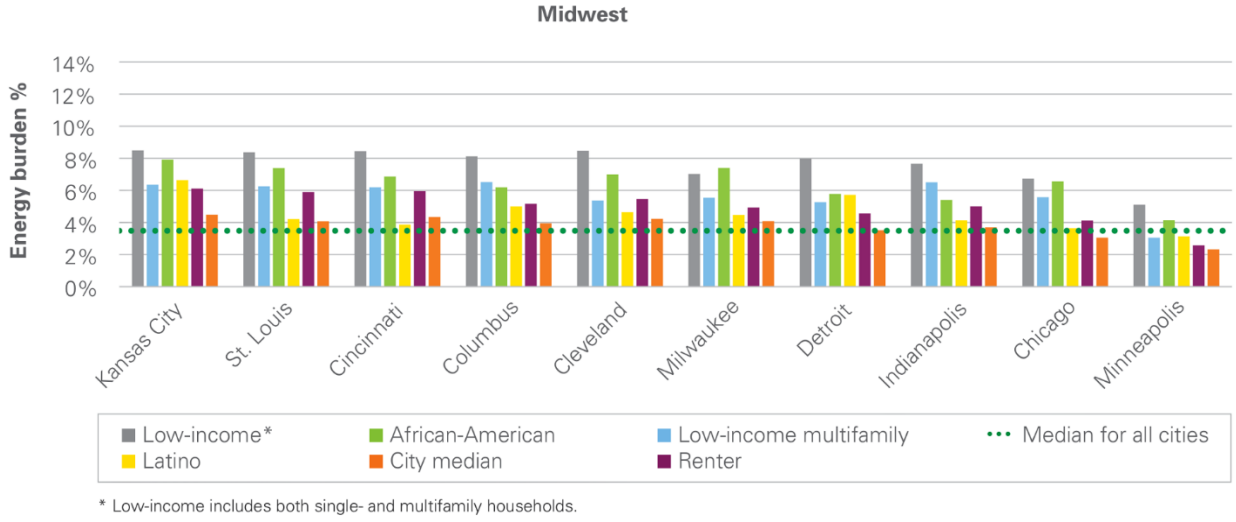
Source: US Census Bureau[xxiii]

Rental costs are not the only burden on lower income households. Lower income households, who, as we have noted overwhelmingly live in multifamily buildings, spend a disproportionate amount of their income on energy costs as compared with higher income and single-family households, increasing what is known as their "energy burden."[xxiv] The next section briefly discusses the energy burden in Midwestern cities.

Energy Burden

The energy burden is the percentage of annual household income that goes toward energy expenses. Nationwide, non-low-income multifamily households have a median energy burden of 1.5%, while low-income multifamily households have a median energy burden of 5.0%.[xxv] Figure 6 shows the median energy burden for various groupings of households in the Midwest's largest cities. Lower income households have a higher energy burden than the median of all households, as do people of color and renters in most of the Midwest's cities. The median energy burden for low-income multifamily is over 6% in five cities, a full percentage point higher than the national average. In general, Kansas City's households have the highest energy burden of Midwestern cities, while Minneapolis's have the lowest.

Figure 7: Energy burden for median household from selected groups in Midwest cities



* Low-income includes both single- and multifamily households.

Source: ACEEE, *reproduced with permission of the author*[xxvi]

Taken together, the rental cost burden and the energy burden show the large financial strain on multifamily customers in the Midwest. If energy efficiency can help bring down the energy burden portion of that strain, then some of the financial pressure can be taken off these customers and their families. It is possible that increasing the energy efficiency of multifamily building common areas and systems, and thus saving costs for building owners and operators, could also contribute to lowering rents or rent increases which could also benefit low-income multifamily customers.

Conclusion

Understanding the characteristics of the multifamily housing market and the demographics of multifamily customers is important when presenting the case to utilities and policymakers that increased investment in the multifamily energy efficiency sector is a need in the Midwest. At 14.8% of the housing stock in the region, multifamily buildings present significant opportunities for energy savings. Additionally, most multifamily buildings have been around for decades and were not built to modern energy code standards, signifying untapped savings potential. The data presented in this market characterization also indicates that, aside from lighting, there is a low prevalence of energy efficiency measures in Midwest multifamily housing units, and only 1% of these units have had a professional energy audit.

Achieving energy savings in multifamily buildings helps some of those most in need. Nearly half of all those living in multifamily buildings fall at or below the federal poverty guideline for a family of three, and 72% make less than 200% of the poverty guideline. The energy burden experienced by these families and individuals is significant. Low-income multifamily residents pay 5% of household income for energy bills, more than three times the level for higher-income customers. Lastly, to put the impact of energy efficiency in multifamily buildings into context, we can look at the affordability of multifamily rental buildings. As almost half of multifamily renters in the Midwest pay more than 30% of their monthly income for rent, and a quarter pay more than 50%, energy efficiency presents the opportunity to bring down the total cost of housing and keep tenants in their homes.

We have previously reported that there is a trend toward more specific multifamily energy efficiency programs in the Midwest.[xxvii] For that trend to continue and multifamily energy efficiency to expand to more utility portfolios, there has to be an awareness of the need for these programs among utilities, regulators, and both energy and housing advocates. Multifamily energy efficiency has the potential to bring savings to a segment of society that has been underserved by traditional programs and would benefit greatly from those savings.

Notes and References

[i] EIA [Energy Information Administration. 2017. *Annual Energy Outlook 2017*. Summary Reference Case Tables, Table A2: Energy Consumption by Sector and Source. Accessed at https://www.eia.gov/outlooks/aeo/

[ii] EIA. 2017.

[iii] Optimal Energy. 2015. *Potential for Energy Savings in Affordable Multifamily Housing*. Accessed at http://www.energyefficiencyforall.org/efficiency-potential

[iv] JCHSHU [Joint Center for Housing Studies of Harvard University]. 2013. *America's Rental Housing: Evolving Markets and Needs*. Accessed at http://www.jchs.harvard.edu/research/publications/americas-rental-housing-evolving-markets-and-needs.

[v] MEEA [Midwest Energy Efficiency Alliance]. 2017. *Well-Suited Energy Efficiency: Tailoring Programs for Multifamily Buildings.* Accessed at http://www.mwalliance.org/sites/default/files/media/MEEA_2017_Well-Suited-Multifamily-EE_Feb2017.pdf
[vi] REEOs [Regional Energy Efficiency Organizations, MEEA, NEEP, SEEA, SPEER and SWEEP]. 2016. *Multifamily Energy Efficiency Retrofits: Barriers and Opportunities for Deep Energy Savings.* Accessed at http://www.mwalliance.org/sites/default/files/media/REEO_MF_Report.pdf
[vii] Census [US Census Bureau]. 2016a. 2011-2015 *American Community Survey 5-Year Estimates. Table DP04: Selected Housing Characteristics.* Accessed at https://factfinder.census.gov/bkmk/table/1.0/en/ACS/15_5YR/DP04/
[viii] REEOs. 2016.
[ix] Census. 2016a.
[x] Healey, J. 2016. "Built Up by Oil Boom, North Dakota Now Has and Emptier Feeling". Feb. 7, 2016. *New York Times*. Accessed at https://www.nytimes.com/2016/02/08/us/built-up-by-oil-boom-north-dakota-now-has-an-emptier-feeling.html
[xi] Census. 2016a.
[xii] Census. 2016a.
[xiii] Census. 2016b. American Community Survey (ACS). *2011-2015 ACS 5-Year Public Use Microdata Sample Files.* Accessed at https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t
[xiv] EIA. 2013. 2009 *Residential Energy Consumption Survey (RECS) Public Use Microdata File*. Washington, DC: US Energy Information Administration. Accessed at https://www.eia.gov/consumption/residential/data/2009/index.php?view=microdata
[xv] The RECS codebook calls this variable "INSTCFL" but the variable description refers to it simply as "Energy-efficient bulbs installed by this household." There is no variable specific to LED lighting. It is unclear whether this variable refers only to CFL or to both CFL and LED bulbs. EIA may clarify this in the 2015 RECS microdata when it is released in 2018.
[xvi] EIA. 2013.
[xvii] The total number of units in Table 3 differs from totals in Table 1 and the Appendix because of differing data sources and estimation protocols.
[xviii] Census. 2016b.
[xix] Ross, L., Jarrett, M., and York, D. 2016. *Reaching More Residents: Opportunities for Increasing Participation in Multifamily Energy Efficiency Programs.* Report U1603. American Council for an Energy-Efficient Economy. Accessed at http://aceee.org/reaching-more-residents-opportunities-increasing
[xx] HHS [US Department of Health and Human Services]. 2017. *Poverty Guidelines.* (Web). Accessed at https://aspe.hhs.gov/poverty-guidelines.
[xxi] EIA. 2013.
[xxii] HUD [US Department of Housing and Urban Development]. *Affordable Housing.* (Web). Accessed at https://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/affordablehousing/
[xxiii] Census. 2016b.
[xxiv] Drehobl, A. and Ross, L. 2016. *Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities.* Report U1602. American Council for an Energy Efficient Economy (ACEEE). Accessed at http://aceee.org/research-report/u1602
[xxv] Drehobl and Ross. 2016.
[xxvi] Drehobl and Ross. 2016.
[xxvii] MEEA. 2017

Appendix: Data for Individual Midwest States

This appendix provides state-by-state data on housing markets. While MEEA takes a regional view when possible, state-specific information can be useful when addressing policy matters in a particular state. State-by-state data is not available for all of the regional data in the paper, due to the construction of the data sources used.

Table A1: Composition of Housing Markets by Midwest State

Number of Units	Illinois		Indiana		Iowa		Kansas		Kentucky		Michigan		Minnesota	
	# units	%	# units	%	# units	%	# units	%	# units	%	# units	%	# units	%
1-unit, attached	309,909	5.8%	104,952	3.7%	51,043	3.8%	56,638	4.6%	47,275	2.4%	211,330	4.7%	176,793	7.4%
1-unit, detached	3,109,289	58.6%	2,046,107	72.6%	998,273	73.7%	902,618	72.5%	1,304,748	67.1%	3,272,125	72.1%	1,595,621	67.2%
2 units	300,835	5.7%	73,254	2.6%	32,324	2.4%	31,408	2.5%	59,580	3.1%	113,297	2.5%	54,524	2.3%
3 or 4 units	358,179	6.8%	101,626	3.6%	45,990	3.4%	42,248	3.4%	79,314	4.1%	116,812	2.6%	49,827	2.1%
5 to 9 units*	**331,348**	**6.2%**	**129,640**	**4.6%**	**50,188**	**3.7%**	**47,228**	**3.8%**	**92,104**	**4.7%**	**192,278**	**4.2%**	**53,340**	**2.2%**
10 to 19 units*	**210,515**	**4.0%**	**108,038**	**3.8%**	**53,018**	**3.9%**	**47,124**	**3.8%**	**63,986**	**3.3%**	**163,002**	**3.6%**	**81,849**	**3.4%**
20 or more units*	**546,347**	**10.3%**	**114,611**	**4.1%**	**72,252**	**5.3%**	**56,538**	**4.5%**	**59,972**	**3.1%**	**226,576**	**5.0%**	**279,789**	**11.8%**
Boat, RV, van, etc.	1,311	0.02%	735	0.03%	318	0.02%	483	0.04%	1,028	0.05%	1,002	0.02%	840	0.04%
Mobile home	1359,42	2.6%	141,290	5.0%	50,858	3.8%	60,087	4.8%	236,488	12.2%	243,416	5.4%	81,301	3.4%
TOTAL UNITS	*5,303,675*	*100%*	*2,820,253*	*100%*	*1,354,264*	*100%*	*1,244,372*	*100%*	*1,944,495*	*100%*	*4,539,838*	*100%*	*2,373,884*	*100%*
***TOTAL MULTIFAMILY**	***1,088,210***	***20.5%***	***352,289***	***12.5%***	***175,458***	***13.0%***	***150,890***	***12.1%***	***216,062***	***11.1%***	***581,856***	***12.8%***	***414,978***	***17.5%***

Table A1: Composition of Housing Markets by Midwest State (cont.)

Number of Units	Missouri		Nebraska		North Dakota		Ohio		South Dakota		Wisconsin	
	# units	%	# units	%	# units	%	# units	%	# units	%	# units	%
1-unit, attached	91,786	3.4%	31,260	3.9%	18,026	5.3%	232,132	4.5%	12,675	3.4%	113,940	4.3%
1-unit, detached	1,919,184	70.3%	587,660	72.6%	204,096	59.8%	3,520,412	68.5%	256,666	68.9%	1,761,206	66.7%
2 units	93,112	3.4%	16,100	2.0%	7,370	2.2%	228,319	4.4%	6,296	1.7%	173,234	6.6%
3 or 4 units	127,965	4.7%	20,551	2.5%	13,564	4.0%	228,803	4.5%	12,510	3.4%	99,724	3.8%
5 to 9 units*	**105,471**	**3.9%**	**32,790**	**4.0%**	**12,966**	**3.8%**	**249,000**	**4.8%**	**14,178**	**3.8%**	**129,236**	**4.9%**
10 to 19 units*	**93,400**	**3.4%**	**39,375**	**4.9%**	**18,675**	**5.5%**	**207,600**	**4.0%**	**15,001**	**4.0%**	**89,625**	**3.4%**
20 or more units*	**124,079**	**4.5%**	**52,743**	**6.5%**	**39,292**	**11.5%**	**274,261**	**5.3%**	**22,114**	**5.9%**	**179,061**	**6.8%**
Boat, RV, van, etc.	1,735	0.06%	245	0.03%	146	0.04%	1,488	0.03%	134	0.04%	473	0.02%
Mobile home	173,130	6.3%	29,087	3.6%	26,927	7.9%	198,887	3.9%	32,754	8.8%	95,128	3.6%
TOTAL HOUSING UNITS	*2,729,862*	*100.0%*	*809,811*	*100.0%*	*341062*	*100.0%*	*5140902*	*100.0%*	*372,328*	*100.0%*	*2,641,627*	*100.0%*
***TOTAL MULTIFAMILY**	***322,950***	***11.8%***	***124,908***	***15.4%***	***70,933***	***20.8%***	***730,861***	***14.2%***	***51,293***	***13.8%***	***397,922***	***15.1%***

Source: US Census Bureau [xxviii]

Notes and References

[xxviii] Census. 2016a.