

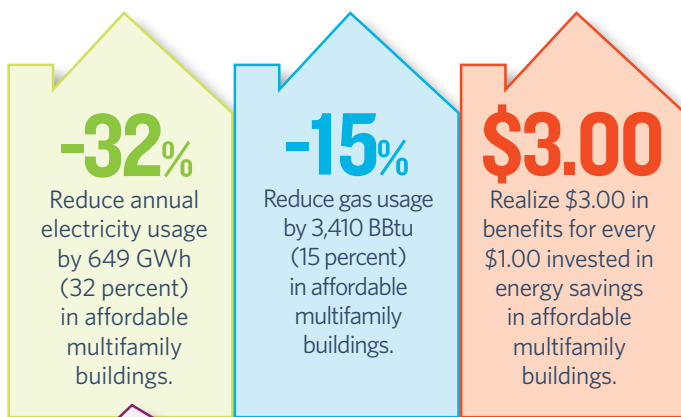


# New Studies Identify Significant Energy Savings Potential

in Michigan's Affordable Multifamily Housing and Highlight Best Practices for Achieving Savings

A new study, "Potential for Energy Savings in Affordable Multifamily Housing," documents the potential energy savings and non-energy benefits from the implementation of energy efficiency measures in Michigan's affordable multifamily housing. The study identifies the maximum achievable potential savings and benefits that can be captured over the 20-year period 2015–2034 through the deployment of affordable multifamily energy efficiency programs.

**THE STUDY DETERMINED THAT BY 2035, MICHIGAN COULD COST-EFFECTIVELY:**



**-\$**

Realize multiple non-energy benefits, including reduced bill arrearages, reduced customer calls and collection activities, reduced safety-related emergency calls, improvements in residents' health, increased resident comfort, and increased housing property values.

A companion report, "Program Design Guide: Energy Efficiency Programs in Multifamily Affordable Housing," highlights best practices in implementing efficiency programs that can be used to effectively reach Michigan's affordable multifamily housing. The recommended best practices, based on research on efficiency programs for multifamily affordable housing (MFAH) nationwide, include the following:

- 1 Structure** incentives for whole-building savings.
- 2 Improve** building owners' access to energy usage information.
- 3 Help** building owners finance efficiency projects by tailoring incentives to fit with conventional purchase and refinancing loans, partnering with lenders active in the local market, and exploring on-bill payment arrangements.
- 4 Assure** coordination and count savings across electricity, gas, and water programs.
- 5 Develop** programs specifically targeted to MFAH.

**9%** | PERCENTAGE OF MICHIGAN HOUSING STOCK THAT IS AFFORDABLE MULTIFAMILY

**414,000** | UNITS OF AFFORDABLE MULTIFAMILY HOUSING IN MICHIGAN

## Benefits of Increased Energy Efficiency in Multifamily Buildings

Making affordable multifamily housing more energy efficient is a cost-effective way to reduce energy consumption, preserve housing affordability, reduce pollution, and create healthier and more comfortable living environments. Currently, more than 414,000 Michigan households live in affordable multifamily buildings and these units represent 9 percent of the state's housing stock.

### MICHIGAN FAMILIES



Reduces the burden of energy bills for low-income Michigan residents.



Creates healthier, more comfortable living environments that can reduce instances of illnesses like asthma, which can be a major cause of missed work and school.



Reduces the high energy demand that drives up energy prices, thereby helping to contain energy costs for all Michigan residents.

### MICHIGAN COMMUNITIES



Reduces operating and maintenance costs for owners of affordable multifamily properties, freeing up capital for preserving Michigan's affordable housing stock.



Improves local economies by creating clean energy jobs and enables residents to redirect spending to other non-energy necessities.

### MICHIGAN UTILITIES



Helps utilities reduce energy demand and meet their clean energy goals.



Reduces bill-payment issues and related costs to utilities by lowering the energy bills of low-income customers.



Enables utilities to provide better, more reliable services by reducing stress on the grid, especially in energy-constrained areas.

### ABOUT THE ENERGY EFFICIENCY FOR ALL PROJECT

The mission of the Energy Efficiency for All (EEFA) project is to bring together the energy and housing sectors to tap the benefits of energy efficiency for millions of Americans living on limited incomes. We work with a range of partners in 12 states to promote effective utility energy efficiency programs for affordable building owners and healthy and affordable housing for residents. We blend expertise in affordable housing, energy efficiency, building ownership, and utility engagement. We work to support local groups by providing tools and resources that can help them increase energy efficiency opportunities for underserved tenants in their states.

This project was made possible with funding from The JPB Foundation.

For more information visit: <http://www.energyefficiencyforall.org>.

To hear more about how energy efficiency has already made a positive impact on affordable multifamily housing owners and residents in Michigan communities, please contact: Briana Parker, Elevate Energy, (708) 593-5603, [Briana.Parker@elevateenergy.org](mailto:Briana.Parker@elevateenergy.org).



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Smarter energy use for all

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October 2019 addendum providing additional details from original analysis

Michigan Incremental Annual Maximum Achievable Electric Potential Installed Costs by State by Utility (Base Case—No NEBs) (\$)										
Utility	Inc Installed Cost Year 1	Inc Installed Cost Year 2	Inc Installed Cost Year 3	Inc Installed Cost Year 4	Inc Installed Cost Year 5	Inc Installed Cost Year 6	Inc Installed Cost Year 7	Inc Installed Cost Year 8	Inc Installed Cost Year 9	Inc Installed Cost Year 10
Consumers	3,033,751	3,166,328	3,288,568	3,483,024	3,642,320	3,265,018	3,517,125	3,703,190	3,875,115	3,988,039
DTE	4,090,931	4,381,419	5,717,644	6,044,610	6,347,485	5,645,434	6,123,231	6,477,083	6,804,530	7,021,236
IMP	172,334	179,867	186,812	197,860	206,911	185,513	199,837	210,408	220,177	226,593
UPPCO	49,639	51,806	53,804	56,984	59,589	53,378	57,500	60,542	63,353	65,199
SEMCO	-	-	-	-	-	-	-	-	-	-
Utility	Inc Installed Cost Year 11	Inc Installed Cost Year 12	Inc Installed Cost Year 13	Inc Installed Cost Year 14	Inc Installed Cost Year 15	Inc Installed Cost Year 16	Inc Installed Cost Year 17	Inc Installed Cost Year 18	Inc Installed Cost Year 19	Inc Installed Cost Year 20
Consumers	3,959,094	3,885,490	3,771,145	3,660,164	3,552,449	3,447,904	3,346,435	3,247,951	3,152,366	3,059,594
DTE	6,980,661	7,210,251	6,998,034	6,792,063	6,592,153	6,398,127	6,209,810	6,027,036	5,849,641	5,677,466
IMP	224,948	220,765	214,268	207,963	201,843	195,903	190,137	184,542	179,111	173,840
UPPCO	64,727	63,524	61,654	59,840	58,079	56,370	54,711	53,101	51,538	50,021
SEMCO	-	-	-	-	-	-	-	-	-	-

Michigan Incremental Annual Maximum Achievable Electric Potential Non-Incentive Costs by State by Utility (Base Case—No NEBs) (\$)										
Utility	Inc Non-Incentive Cost Year 1	Inc Non-Incentive Cost Year 2	Inc Non-Incentive Cost Year 3	Inc Non-Incentive Cost Year 4	Inc Non-Incentive Cost Year 5	Inc Non-Incentive Cost Year 6	Inc Non-Incentive Cost Year 7	Inc Non-Incentive Cost Year 8	Inc Non-Incentive Cost Year 9	Inc Non-Incentive Cost Year 10
Consumers	615,851	642,765	667,579	707,054	739,391	662,799	713,976	751,748	786,648	809,572
DTE	830,459	889,428	1,160,682	1,227,056	1,288,539	1,146,023	1,243,016	1,314,848	1,381,320	1,425,311
IMP	34,984	36,513	37,923	40,166	42,003	37,659	40,567	42,713	44,696	45,998
UPPCO	10,077	10,517	10,922	11,568	12,096	10,836	11,673	12,290	12,861	13,235
SEMCO	-	-	-	-	-	-	-	-	-	-
Utility	Inc Non-Incentive Cost Year 11	Inc Non-Incentive Cost Year 12	Inc Non-Incentive Cost Year 13	Inc Non-Incentive Cost Year 14	Inc Non-Incentive Cost Year 15	Inc Non-Incentive Cost Year 16	Inc Non-Incentive Cost Year 17	Inc Non-Incentive Cost Year 18	Inc Non-Incentive Cost Year 19	Inc Non-Incentive Cost Year 20

Consumers	803,696	788,755	765,542	743,013	721,147	699,924	679,326	659,334	639,930	621,098
DTE	1,417,074	1,463,681	1,420,601	1,378,789	1,338,207	1,298,820	1,260,591	1,223,488	1,187,477	1,152,526
IMP	45,664	44,815	43,496	42,216	40,974	39,768	38,598	37,462	36,359	35,289
UPPCO	13,140	12,895	12,516	12,148	11,790	11,443	11,106	10,779	10,462	10,154
SEMCO	-	-	-	-	-	-	-	-	-	-

<b>Michigan Incremental Annual Maximum Achievable Electric Potential Installed Costs by State by Utility (High NEBs) (\$)</b>										
<b>Utility</b>	<b>Inc Installed Cost Year 1</b>	<b>Inc Installed Cost Year 2</b>	<b>Inc Installed Cost Year 3</b>	<b>Inc Installed Cost Year 4</b>	<b>Inc Installed Cost Year 5</b>	<b>Inc Installed Cost Year 6</b>	<b>Inc Installed Cost Year 7</b>	<b>Inc Installed Cost Year 8</b>	<b>Inc Installed Cost Year 9</b>	<b>Inc Installed Cost Year 10</b>
Consumers	3,639,466	4,151,392	4,630,292	5,348,909	6,021,533	6,330,539	7,613,851	8,573,530	9,470,215	10,077,768
DTE	6,397,070	6,942,677	7,450,927	8,028,474	8,565,684	8,047,148	8,700,700	16,041,410	17,713,660	18,847,102
IMP	206,742	235,824	263,030	303,854	342,065	359,654	432,556	487,074	538,013	572,527
UPPCO	59,549	67,923	75,757	87,513	98,516	103,534	124,529	140,228	154,897	164,836
SEMCO	-	-	-	-	-	-	-	-	-	-

<b>Utility</b>	<b>Inc Installed Cost Year 11</b>	<b>Inc Installed Cost Year 12</b>	<b>Inc Installed Cost Year 13</b>	<b>Inc Installed Cost Year 14</b>	<b>Inc Installed Cost Year 15</b>	<b>Inc Installed Cost Year 16</b>	<b>Inc Installed Cost Year 17</b>	<b>Inc Installed Cost Year 18</b>	<b>Inc Installed Cost Year 19</b>	<b>Inc Installed Cost Year 20</b>
Consumers	10,226,527	10,142,126	9,844,391	9,555,396	9,274,885	9,002,607	8,738,323	8,481,796	8,232,800	7,991,113
DTE	19,122,259	18,963,078	18,406,494	17,866,245	17,341,852	16,832,849	16,338,785	15,859,222	15,393,734	14,947,745
IMP	580,976	576,181	559,266	542,848	526,912	511,444	496,430	481,856	467,711	453,980
UPPCO	167,271	165,892	161,022	156,295	151,706	147,253	142,930	138,734	134,661	130,708
SEMCO	-	-	-	-	-	-	-	-	-	-

<b>Michigan Incremental Annual Maximum Achievable Electric Potential Non-Incentive Costs by State by Utility (High NEBs) (\$)</b>										
<b>Utility</b>	<b>Inc Non-Incentive Cost Year 1</b>	<b>Inc Non-Incentive Cost Year 2</b>	<b>Inc Non-Incentive Cost Year 3</b>	<b>Inc Non-Incentive Cost Year 4</b>	<b>Inc Non-Incentive Cost Year 5</b>	<b>Inc Non-Incentive Cost Year 6</b>	<b>Inc Non-Incentive Cost Year 7</b>	<b>Inc Non-Incentive Cost Year 8</b>	<b>Inc Non-Incentive Cost Year 9</b>	<b>Inc Non-Incentive Cost Year 10</b>
Consumers	738,812	842,732	939,949	1,085,829	1,222,371	1,285,099	1,545,612	1,740,427	1,922,454	2,045,787
DTE	1,298,605	1,409,363	1,512,538	1,629,780	1,738,834	1,633,571	1,766,242	3,256,406	3,595,873	3,825,962





Michigan Incremental Annual Maximum Achievable Gas Potential Installed Costs by State by Utility (Base Case—No NEBs) (\$)										
Utility	Inc Installed Cost Year 1	Inc Installed Cost Year 2	Inc Installed Cost Year 3	Inc Installed Cost Year 4	Inc Installed Cost Year 5	Inc Installed Cost Year 6	Inc Installed Cost Year 7	Inc Installed Cost Year 8	Inc Installed Cost Year 9	Inc Installed Cost Year 10
Consumers	445,482	712,345	962,644	1,334,517	1,682,277	2,136,207	2,810,660	3,316,972	3,786,344	4,105,040
DTE	567,134	906,860	1,225,500	1,698,891	2,141,587	2,719,426	3,577,973	4,222,488	4,819,982	5,225,675
IMP	-	-	-	-	-	-	-	-	-	-
UPPCO	-	-	-	-	-	-	-	-	-	-
SEMCO	64,090	102,464	138,457	191,907	241,892	307,122	404,022	476,771	544,214	590,015
Utility	Inc Installed Cost Year 11	Inc Installed Cost Year 12	Inc Installed Cost Year 13	Inc Installed Cost Year 14	Inc Installed Cost Year 15	Inc Installed Cost Year 16	Inc Installed Cost Year 17	Inc Installed Cost Year 18	Inc Installed Cost Year 19	Inc Installed Cost Year 20
Consumers	4,190,725	4,158,331	4,018,503	3,883,292	3,752,549	3,626,127	3,503,886	3,385,690	3,271,407	3,160,909
DTE	5,334,737	5,293,495	5,115,498	4,943,379	4,776,947	4,616,016	4,460,407	4,309,947	4,164,467	4,023,806
IMP	-	-	-	-	-	-	-	-	-	-
UPPCO	-	-	-	-	-	-	-	-	-	-
SEMCO	602,309	597,646	577,553	558,123	539,336	521,169	503,603	486,619	470,196	454,317

Michigan Incremental Annual Maximum Achievable Gas Potential Non-Incentive Costs by State by Utility (Base Case—No NEBs) (\$)										
Utility	Inc Non-Incentive Cost Year 1	Inc Non-Incentive Cost Year 2	Inc Non-Incentive Cost Year 3	Inc Non-Incentive Cost Year 4	Inc Non-Incentive Cost Year 5	Inc Non-Incentive Cost Year 6	Inc Non-Incentive Cost Year 7	Inc Non-Incentive Cost Year 8	Inc Non-Incentive Cost Year 9	Inc Non-Incentive Cost Year 10
Consumers	90,433	144,606	195,417	270,907	341,502	433,650	570,564	673,345	768,628	833,323
DTE	115,128	184,093	248,776	344,875	434,742	552,044	726,329	857,165	978,456	1,060,812
IMP	-	-	-	-	-	-	-	-	-	-
UPPCO	-	-	-	-	-	-	-	-	-	-
SEMCO	13,010	20,800	28,107	38,957	49,104	62,346	82,016	96,785	110,475	119,773
Utility	Inc Non-Incentive Cost Year 11	Inc Non-Incentive Cost Year 12	Inc Non-Incentive Cost Year 13	Inc Non-Incentive Cost Year 14	Inc Non-Incentive Cost Year 15	Inc Non-Incentive Cost Year 16	Inc Non-Incentive Cost Year 17	Inc Non-Incentive Cost Year 18	Inc Non-Incentive Cost Year 19	Inc Non-Incentive Cost Year 20
Consumers	850,717	844,141	815,756	788,308	761,767	736,104	711,289	687,295	664,096	641,665





SEMCO	38,931	54,274	68,673	86,408	103,004	121,227	144,918	163,010	179,777	191,526
<b>Utility</b>	<b>Inc Non-Incentive Cost Year 11</b>	<b>Inc Non-Incentive Cost Year 12</b>	<b>Inc Non-Incentive Cost Year 13</b>	<b>Inc Non-Incentive Cost Year 14</b>	<b>Inc Non-Incentive Cost Year 15</b>	<b>Inc Non-Incentive Cost Year 16</b>	<b>Inc Non-Incentive Cost Year 17</b>	<b>Inc Non-Incentive Cost Year 18</b>	<b>Inc Non-Incentive Cost Year 19</b>	<b>Inc Non-Incentive Cost Year 20</b>
Consumers	1,340,685	1,322,390	1,280,076	1,239,104	1,199,433	1,161,022	1,123,831	1,087,821	1,052,956	1,019,199
DTE	1,660,269	1,636,721	1,584,215	1,533,378	1,484,159	1,436,507	1,390,371	1,345,704	1,302,460	1,260,593
IMP	-	-	-	-	-	-	-	-	-	-
UPPCO	-	-	-	-	-	-	-	-	-	-
SEMCO	192,688	190,057	183,976	178,089	172,388	166,868	161,523	156,348	151,338	146,487

<b>Michigan Incremental Annual Maximum Achievable Gas Potential by State by Utility (Base Case—No NEBs)</b>										
<b>Utility</b>	<b>Inc Ann Gas Year 1 (MMBtu)</b>	<b>Inc Ann Gas Year 2 (MMBtu)</b>	<b>Inc Ann Gas Year 3 (MMBtu)</b>	<b>Inc Ann Gas Year 4 (MMBtu)</b>	<b>Inc Ann Gas Year 5 (MMBtu)</b>	<b>Inc Ann Gas Year 6 (MMBtu)</b>	<b>Inc Ann Gas Year 7 (MMBtu)</b>	<b>Inc Ann Gas Year 8 (MMBtu)</b>	<b>Inc Ann Gas Year 9 (MMBtu)</b>	<b>Inc Ann Gas Year 10 (MMBtu)</b>
Consumers	8,396	13,494	18,586	25,460	32,320	40,949	53,123	63,460	73,745	82,184
DTE	8,825	14,183	19,534	26,759	33,968	43,037	55,831	66,695	77,504	86,373
IMP	-	-	-	-	-	-	-	-	-	-
UPPCO	-	-	-	-	-	-	-	-	-	-
SEMCO	1,209	1,943	2,675	3,664	4,651	5,892	7,643	9,130	10,609	11,823
<b>Utility</b>	<b>Inc Ann Gas Year 11 (MMBtu)</b>	<b>Inc Ann Gas Year 12 (MMBtu)</b>	<b>Inc Ann Gas Year 13 (MMBtu)</b>	<b>Inc Ann Gas Year 14 (MMBtu)</b>	<b>Inc Ann Gas Year 15 (MMBtu)</b>	<b>Inc Ann Gas Year 16 (MMBtu)</b>	<b>Inc Ann Gas Year 17 (MMBtu)</b>	<b>Inc Ann Gas Year 18 (MMBtu)</b>	<b>Inc Ann Gas Year 19 (MMBtu)</b>	<b>Inc Ann Gas Year 20 (MMBtu)</b>
Consumers	85,561	87,137	86,920	86,702	86,485	86,268	86,051	85,833	85,616	85,399
DTE	89,921	91,578	91,349	91,121	90,893	90,665	90,436	90,208	89,980	89,751
IMP	-	-	-	-	-	-	-	-	-	-
UPPCO	-	-	-	-	-	-	-	-	-	-
SEMCO	12,308	12,534	12,503	12,472	12,441	12,410	12,379	12,347	12,316	12,285

Michigan Incremental Annual Maximum Achievable Gas Potential by State by Utility (High NEBs)										
Utility	Inc Ann Gas Year 1 (MMBtu)	Inc Ann Gas Year 2 (MMBtu)	Inc Ann Gas Year 3 (MMBtu)	Inc Ann Gas Year 4 (MMBtu)	Inc Ann Gas Year 5 (MMBtu)	Inc Ann Gas Year 6 (MMBtu)	Inc Ann Gas Year 7 (MMBtu)	Inc Ann Gas Year 8 (MMBtu)	Inc Ann Gas Year 9 (MMBtu)	Inc Ann Gas Year 10 (MMBtu)
Consumers	16,469	24,045	31,616	41,027	50,423	60,919	74,881	86,909	98,884	108,917
DTE	17,258	25,170	33,077	43,118	52,992	63,613	78,082	90,558	102,980	113,401
IMP	-	-	-	-	-	-	-	-	-	-
UPPCO	-	-	-	-	-	-	-	-	-	-
SEMCO	2,370	3,459	4,548	5,902	7,253	8,762	10,770	12,500	14,222	15,665
Utility	Inc Ann Gas Year 11 (MMBtu)	Inc Ann Gas Year 12 (MMBtu)	Inc Ann Gas Year 13 (MMBtu)	Inc Ann Gas Year 14 (MMBtu)	Inc Ann Gas Year 15 (MMBtu)	Inc Ann Gas Year 16 (MMBtu)	Inc Ann Gas Year 17 (MMBtu)	Inc Ann Gas Year 18 (MMBtu)	Inc Ann Gas Year 19 (MMBtu)	Inc Ann Gas Year 20 (MMBtu)
Consumers	112,488	114,160	113,943	113,726	113,508	113,291	113,074	112,857	112,639	112,422
DTE	117,071	118,788	118,560	118,331	118,103	117,875	117,647	117,418	117,190	116,962
IMP	-	-	-	-	-	-	-	-	-	-
UPPCO	-	-	-	-	-	-	-	-	-	-
SEMCO	16,178	16,418	16,387	16,356	16,325	16,294	16,262	16,231	16,200	16,169