



Energy Management

Annual Report – Fiscal Year 2018

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1. EXECUTIVE SUMMARY

In fiscal year 2018, energy management teams continued to expand energy conservation efforts in Michigan Medicine (MM) facilities and as a result, MM continues to show improvements in energy efficiency.

Energy Performance

In fiscal year 2018, the total utility cost for all Michigan Medicine (MM) facilities was \$23.8 Million. Overall, actual facilities site energy usage per square foot was 0.8% less efficient than 2017, however electric and water savings coupled with high utility rates resulted in \$600,434 in of total avoided utility cost. Weather normalized site energy usage per square foot was 1.0% more efficient than 2017. For further details, see section 2, “Energy Performance” of this report.

Energy Conservation

Fiscal year 2018 continued energy conservation efforts by various teams, and continue to show improvements to the overall MM building portfolio. During this year, energy conservation measures were completed which are anticipated to save \$110,000 annually. For further details, see section 3, “Energy Conservation” of this report.

Environmental Impact

In addition to the demand reduction and cost benefits of energy conservation, improvements also provide a significant environmental benefit by reducing the greenhouse gas emissions associated with the generation of building utilities. Existing facilities improved total utility driven greenhouse gas emission efficiency by 1.4% compared to the previous fiscal year, yielding over 2,300 Tons of avoided greenhouse gas emissions. For further details, see section 4, “Environmental Impact” of this report.

Building Summary & Energy Star

Based on analyses of building utilities and efficiencies, the following buildings are identified as the most efficient MM facilities, categorized by building type:

- Hospital Building: C&W Hospital – 187.8 kBTU/ft²
- Medical Office Building: Briarwood Bldg 4 – 61.4 kBTU/ft²
- General Office Building: Burlington Office Center – 34.9 kBTU/ft²

In total, on a scale of 0 to 100 (100 being the most efficient) the MM building portfolio has earned a score of 51 in the U.S. EPA Energy Star rating system. For further details and a complete listing of UMHC building performance, see section 5, “Building Summary & Energy Star” of this report.

2. ENERGY PERFORMANCE

In fiscal year 2018, the total utility cost for all Michigan Medicine (MM) facilities was \$23.8 Million. Overall, facilities site energy usage per square foot was 0.8% less efficient than 2017, however electric and water savings coupled with high utility rates resulted in \$600,434 in of total avoided utility cost. This is detailed in Figure 2.1 below.

Figure 2.1: Breakdown of Avoided Utility Cost vs. FY2017

Utility	FY2017 Efficiency	FY2018 Efficiency	FY2018 Average Utility Rate	Avoided Utility Cost
Electric	28.3 KWH/ft ²	27.4 KWH/ft ²	\$0.079/KWH	\$489,619
Steam	0.0586 MLB/ft ²	0.0607 MLB/ft ²	\$14.89/MLB	-\$204,251
Natural Gas	0.0207 MCF/ft ²	0.0228 MCF/ft ²	\$4.58/MCF	-\$64,204
Water/Sewer	0.0530 CCF/ft ²	0.0469 CCF/ft ²	\$9.59/CCF	\$379,270
Total:				\$600,434

Since the MM portfolio of building area and outside weather conditions are continually changing, it is important to normalize utility figures for comparison and evaluation of performance from year to year. Figure 2.2 illustrates the recent history of actual total MM building energy efficiency (measured in BTU/ft²), and weather normalized efficiency (BTU/ft², calculated by Energy Star Portfolio Manager). Energy efficiency normalizes electric, steam, and natural gas utility into a common energy unit, BTU. Since water & sewer are not an energy utility, this data is not included in this chart. Actual FY18 BTU/ft² efficiency was 0.8% less efficient than FY17, however when weather normalized to account for colder outside conditions, normalized performance was 1.0% more efficient than FY17. Actual MM facility efficiency has improved 22% since fiscal year 2005.

Figure 2.2: Total MM Actual & Weather Normalized Energy Efficiency

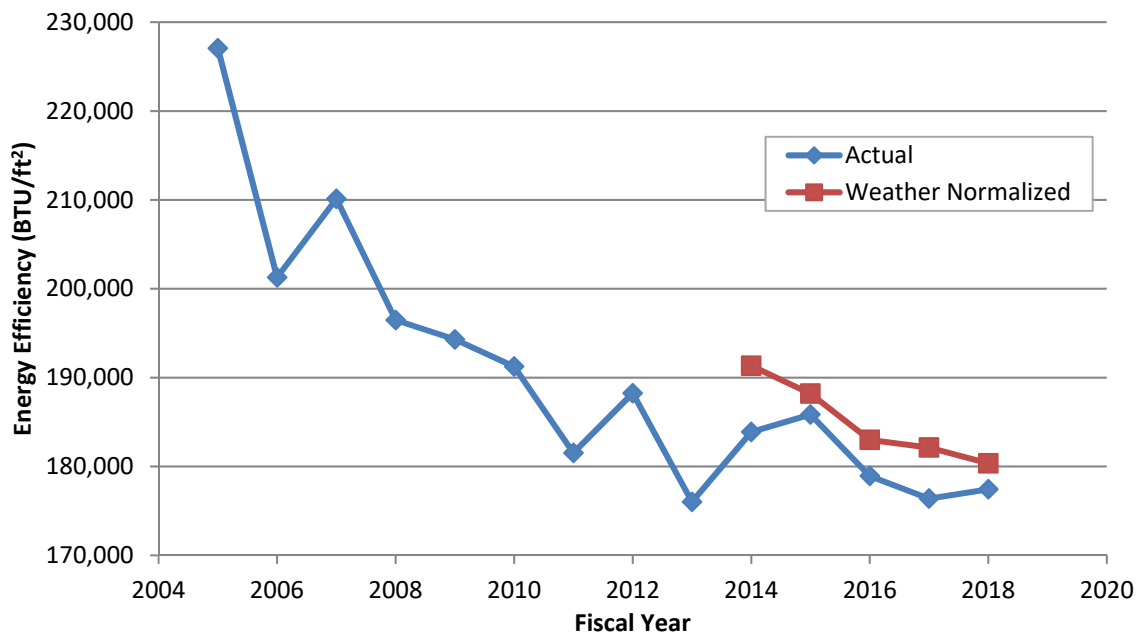


Figure 2.3 illustrates the recent history of total actual MM building energy efficiency (measured in BTU/ft²) and utility cost efficiency (measured in \$/ft²).

Figure 2.3: Total MM Historical Energy & Cost Efficiency

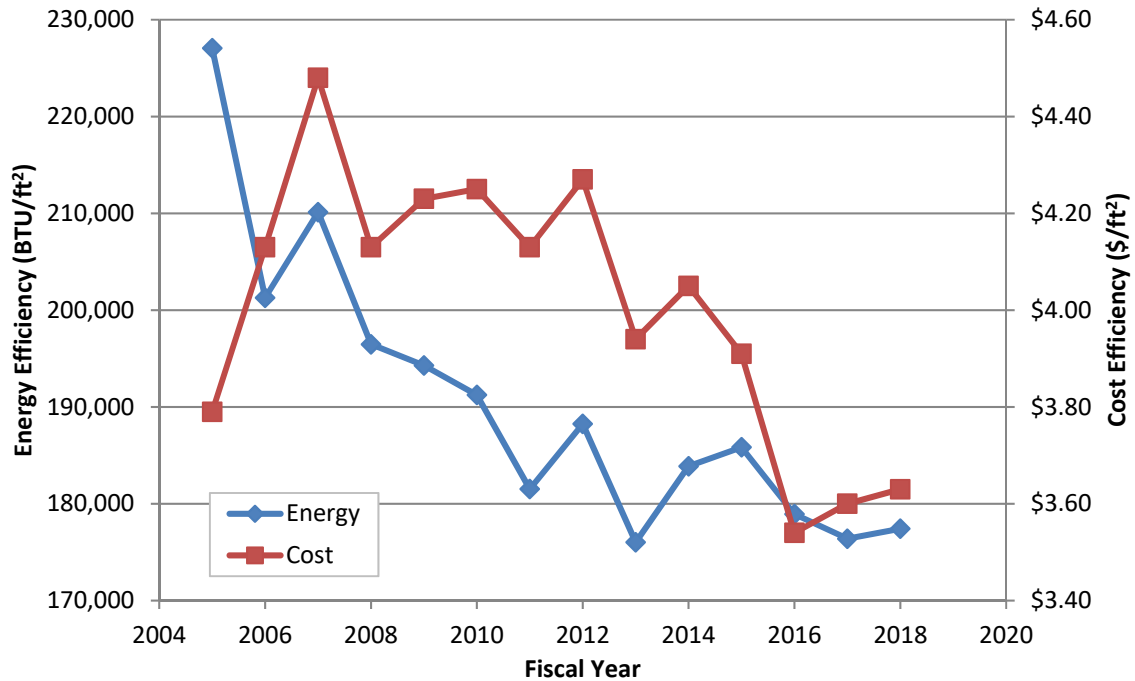


Figure 2.4 below shows the total actual MM energy and utility cost in recent history without normalizing against building area.

Figure 2.4: Total MM Historical Energy Use & Utility Cost

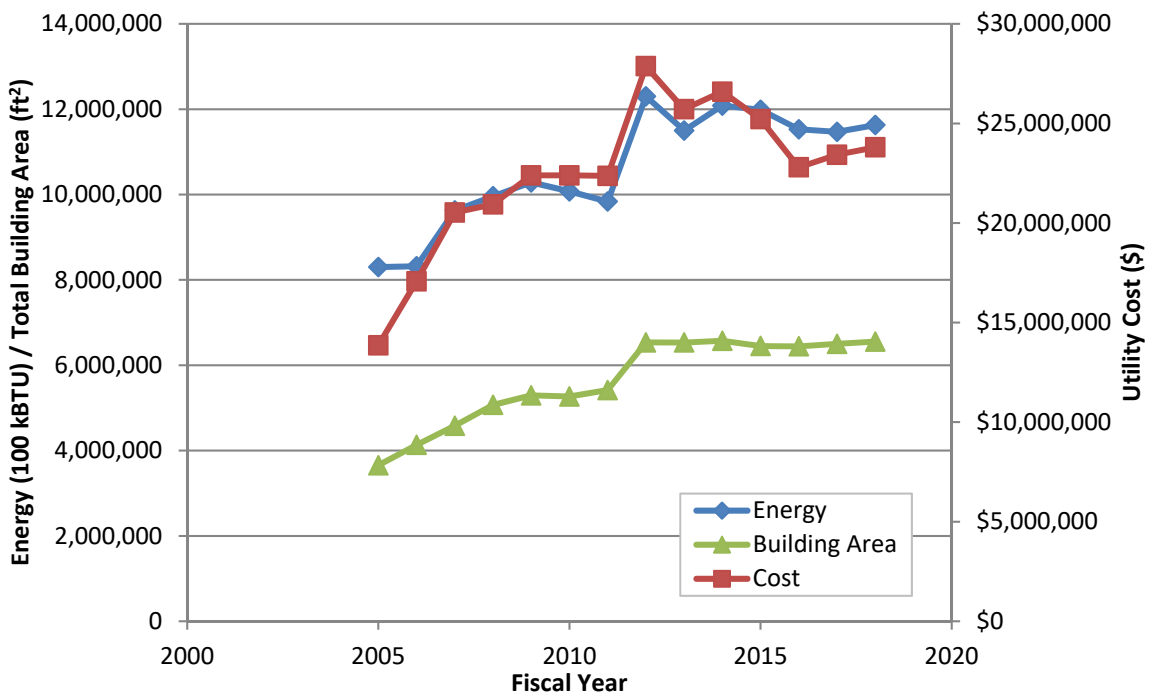


Figure 2.4 below shows the changes in the overall average utility rate across all MM facilities over time.

Figure 2.4: Total MM Historical Average Utility Rates

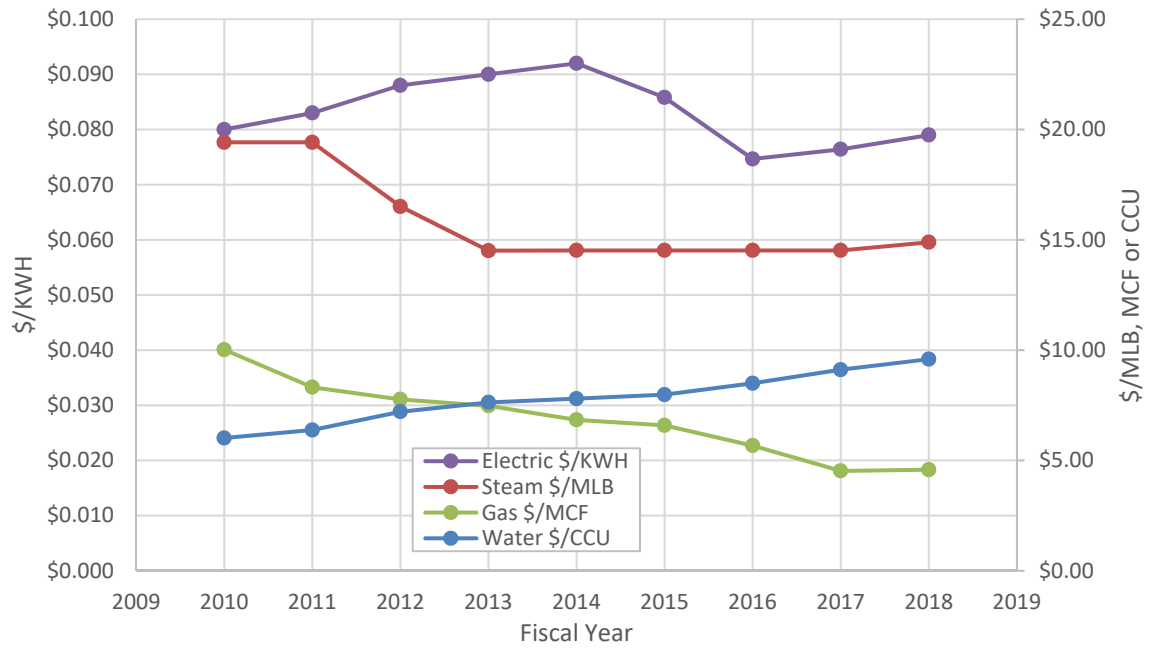
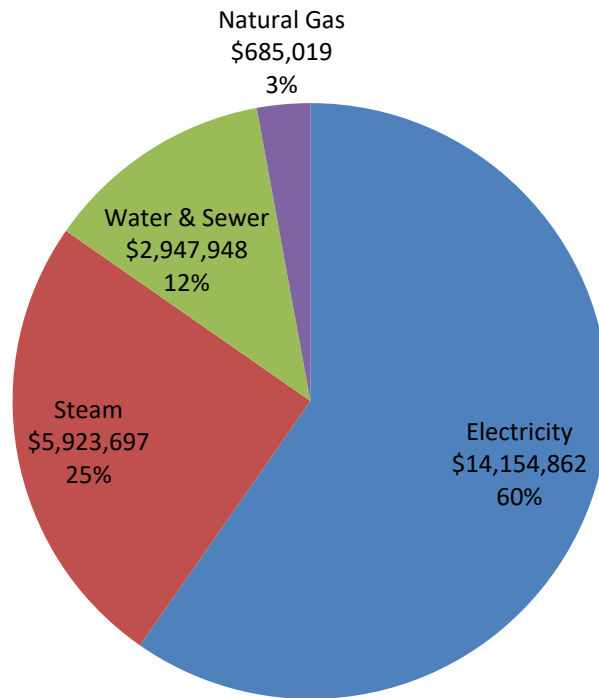


Figure 2.5 below illustrates the distribution and total costs of each of the four primary utilities included in MM facilities for fiscal year 2018.

Figure 2.5: Total FY2018 Utility Cost Distribution



3. ENERGY CONSERVATION

Energy Conservation is a combined effort of numerous groups and departments throughout Michigan Medicine (MM). These efforts primarily fall into the following categories:

- **New Construction**
Efficient design and construction practices for new capital construction.
- **Energy Conservation Measures (ECMs)**
Projects in existing facilities designed to improve energy performance.
- **Operations & Maintenance**
Maintain, manage, and optimize building operational efficiency.
- **GreenIT**
Manage power consumption from UMHS computers and IT equipment.

New Construction

MM strives to incorporate energy efficient strategies and practices in all new capital construction projects. This first includes participation and compliance with the University's energy & water conservation standard ([SID-D](#)), including several standardized efficiency practices, compliance with the ASHRAE 90.1-2013 energy standard, and achieving energy improvements beyond baseline compliance for projects over \$10 Million in construction whenever possible. Every MM capital construction project is now reviewed for compliance with these energy and water requirements, and for opportunities to implement other energy conserving design innovations where feasible.

Whenever possible, MM also follows the University's sustainability in facility design and construction standard ([SID-K](#)). Among other sustainable practices, this standard includes specifications for maintaining air quality, tracking and management of construction and demolition materials waste, and guidelines for pursuing certification under the Leadership in Energy and Environmental Design (LEED) system managed by the United States Green Building Council (USGBC) where applicable. This LEED program and rating/certification system is designed to encourage sustainable design practices, covering numerous disciplines including site selection & protection during construction, energy & water efficiency, material selection & sourcing, indoor environmental quality, and more. This program offers building certification awards; base certification, silver, gold and platinum.

Energy Conservation Measures (ECMs)

In fiscal year 2018, one new energy conservation project was which is anticipated to provide approximately \$55,000/year in incremental energy savings. This project cost \$196,869 to implement, yielding a 3.6-year overall payback period. Additionally, several energy conservation measures were included in other major infrastructure upgrade projects. In total, it is estimated that projects completed in fiscal year 2018 will provide a total energy savings of approximately \$110,000/year. This is summarized in Figure 3.2 below.

Figure 3.2: ECM Projects Completed in FY2018

Building	Project Description	Project Cost	Estimated Savings	Payback (Years)
University Hospital Building	Install new occupancy sensors to automatically reduce ventilation to Operating Rooms during unoccupied periods.	\$196,869	\$55,000	3.6
University Hospital Building	AHU-AC3&11 upgrades including VFD motor retrofits and outside air controls (*Included as component of larger capital project)	*	\$20,000	N/A
East Mechanical Building	Cooling tower replacement including new fan VFDs. (*Included as component of larger capital project)	*	\$5,000	N/A
University Hospital South	AHU upgrades including VFD motor retrofits. (*Included as component of larger capital project)	*	\$30,000	N/A
Total Annual Savings:			\$110,000	

Operations & Maintenance

Michigan Medicine Operations & Maintenance teams are continuously working to maintain equipment at peak efficiency, to improve and optimize operations wherever possible, and to quickly respond and resolve operational issues at all 6.5 million ft² of MM buildings. This includes several key tasks for an extensive body of equipment and instruments. Examples of key equipment are listed below:

- Building automation systems
- Environmental controls & instruments
- Room temperature controls
- Air handling units
- Pumps
- Chillers
- Boilers
- Steam Traps

GreenIT

The GreenIT initiative began in 2009 with the goal of reducing desktop computer power consumption to over 15,000 workstations across the health system. This initiative seeks to set automatic on and off times and enable power saving standby modes for system computers when feasible. This initiative has resulted in more than a 40% reduction in health system computer power consumption.

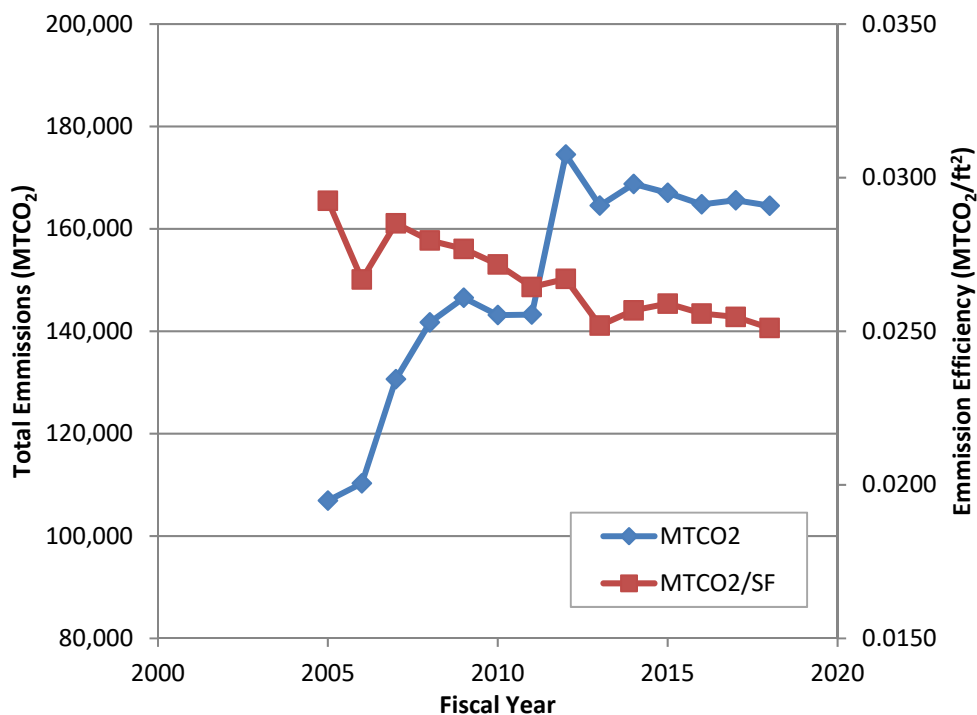
GreenIT teams are continuously working to further improve computer and IT system power management and to maintain energy performance amidst continuous changes to the Health System equipment and software, which now includes approximately 20,000 workstations. GreenIT teams are currently working to identify and update energy management of remaining departments and workstations unnecessarily operating computers and IT equipment continuously.

4. ENVIRONMENTAL IMPACT

In addition to the benefits of reducing overall energy and utility resource demands, efficiency improvements provide further benefits by reducing the greenhouse gas emissions generated during the production of utilities. Figure 4.1 below shows the total historical Michigan Medicine (MM) greenhouse gas emission quantities and greenhouse gas emission efficiencies, normalized against total MM building area. Emissions are measured in metric tons of carbon dioxide (MTCO₂). Please note that these figures only include greenhouse gas emissions due to the generation of utilities consumed by facilities, and do not include emissions from other institution operations. In fiscal year 2018, MM decreased normalized utility driven emissions by 1.4%. This equates to over 2,300 MTCO₂ of avoided greenhouse gas emissions, which is roughly equivalent to removing 500 automobiles from the road.

In 2011, UM President Coleman announced new sustainability commitments for the University. These commitments include a 25% reduction in total greenhouse gas emissions by FY2025, compared to a FY2006 baseline. It is anticipated that this will be accomplished through improvements to a number of areas of University operations, including major upgrades to onsite utility generation plants, in addition to improvements to existing buildings, University vehicle upgrades, etc. Thus far, MM has increased its total building utility driven emissions by 49% compared to FY2006, however this is across a period of 59% growth in total MM building area in that time. When normalized against total building area, MM has improved its total emission per square foot efficiency by 6% since FY2006, and by 14% since FY2005. Therefore, MM has significantly expanded but has improved total emission efficiency during that time.

Figure 4.1: MM Utility Driven Greenhouse Gas Emission History



5. BUILDING SUMMARY & ENERGY STAR

During fiscal year 2012, a comprehensive profile was created for all Michigan Medicine (MM) facilities within the Energy Star Portfolio Manager benchmarking tool, provided by the U.S. Environmental Protection Agency (EPA) and the Department of Energy (DOE). This tool organizes facility energy data, normalizes data against building size, weather, geographic location, building use types, occupancy, number of licensed beds, etc., and generates a rating score that can be used for benchmarking. Scores range from 0 to 100. A score of 50 is the national average. A score of 75 qualifies a building for the Energy Star Certification award. In fiscal year 2018, MM facility scores in aggregate calculated to a total portfolio score of 51. This is improved from a baseline score of 25 in fiscal year 2012. Improvements reflect continued efforts in energy management practices. In FY18, new electric sub-metering has also been leveraged to more appropriately associate consumed electric utility to applicable facilities, which has also contributed to overall score improvements. Figure 5.1 below illustrates MM’s Energy Star rating progress towards national average and Energy Star Award levels.

Figure 5.1: MM Energy Star Portfolio Rating

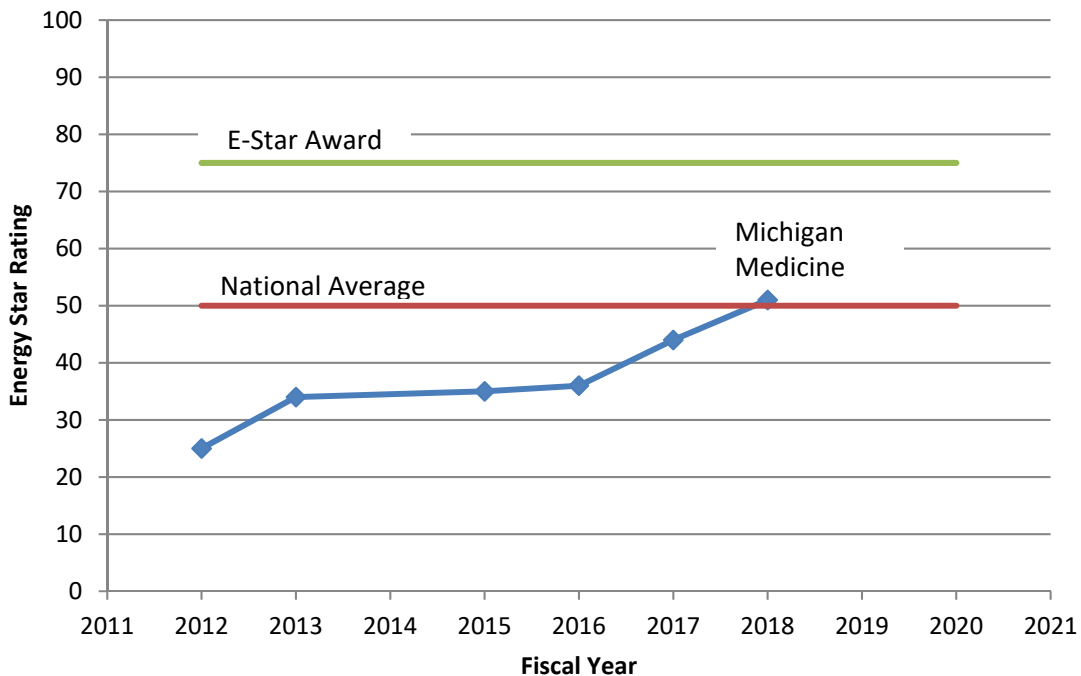


Figure 5.2 indicates the most efficient MM buildings in fiscal year 2018, sorted by the primary Energy Star building type. Due to combined metering and shared utilities between facilities, several buildings are not included in this list because the available utility data does not represent the total utility consumed by the building, and therefore does not provide an accurate measure of efficiency. It should be noted, that energy and efficiency data provided within this report and the table below are based on “site” energy use, which is used for billing. Energy Star ratings are based on “source” energy use which incorporates the efficiency of the utility plant supplying the facility.

Figure 5.2: FY2018 MM Most Energy Efficient Buildings

Rank	ID	Building	Efficiency (kBTU/ft²)	Energy Star Rating	Total Utility Cost
<i>Hospitals</i>					
1.	5173	Children's & Women's Hospital	187.8	64	\$4,238,596
2.	5109	Cardiovascular Center	206.6	N/A	\$1,854,479
3.	0316	University Hospital Building	217.1	61	\$8,271,590
<i>Medical Office Buildings</i>					
1.	8042	Briarwood 4	61.4	56	\$26,408
2.	8149	Dexter Family Practice	73.1	38	\$17,492
3.	8155	Livonia Health Center	73.3	66	\$18,494
<i>General Office Buildings</i>					
1.	5011	Burlington Office Center	34.9	59	\$89,427
2.	8162	Traverwood 1	44.5	65	\$10,516
3.	5153	Traverwood 3	62.3	55	\$45,879

Figure 5.3 (attached) shows fiscal year 2018 information vs. fiscal year 2017 including energy and utility cost comparison data. Please note that data is not directly comparable since data for several buildings does not include total consumed utility due to combined meters and shared utilities.

Figure 5.3: FY2018 vs. FY2017 Michigan Medicine Building Utility Summary

ID	Name	E-Star Bldg Type	FY17				FY18				FY Comparison					
			SQFT	Cost	BTU/SF	kBTU	SQFT	Cost	BTU/SF	kBTU	SQFT	Cost	Cost %	BTU/SF	kBTU	kBTU %
301	Rogel Cancer Center	Laboratory	136,120	\$928,490	336,798	45,844,944	136,120	\$931,021	340,804	46,390,240	0	\$2,531	0%	4,006	545,297	1%
306	East Mechanical Bldg	N/A	8,006	\$335,730	1,787,779	14,312,959	8,006	\$227,358	1,180,311	9,449,570	0	-\$108,372	-32%	-607,468	-4,863,389	-34%
308	Med Inn	Medical Office	121,126	\$337,293	141,377	17,124,431	121,126	\$361,280	148,340	17,967,831	0	\$23,987	7%	6,963	843,400	5%
309	UH South Unit 1	Medical Office	67,494	\$110,848	89,139	6,016,348	67,494	\$109,802	94,621	6,386,350	0	-\$1,046	-1%	5,482	370,002	6%
312	UH South Unit 2	Medical Office	266,038	\$349,999	78,884	20,986,142	266,038	\$313,686	65,264	17,362,704	0	-\$36,313	-10%	-13,620	-3,623,438	-17%
314	UH South Unit 3	Medical Office	19,988	\$40,463	120,930	2,417,149	19,988	\$42,857	97,785	1,954,527	0	\$2,394	6%	-23,145	-462,622	-19%
316	University Hospital Building	Hospital	1,721,523	\$8,251,480	220,079	378,871,060	1,721,523	\$8,271,590	217,100	373,742,643	0	\$20,110	0%	-2,979	-5,128,417	-1%
317	Taubman Health Center	Medical Office	404,405	\$978,726	117,832	47,651,850	405,003	\$1,032,538	123,265	49,922,695	598	\$53,812	5%	5,433	2,270,845	5%
318	UH South Unit 4	Medical Office	158,938	\$210,864	84,145	13,373,838	158,938	\$229,094	87,855	13,963,498	0	\$18,230	9%	3,710	589,660	4%
319	U-M Medical Professional Building	Office	37,298	\$97,844	129,412	4,826,809	37,298	\$76,850	92,141	3,436,675	0	-\$20,994	-21%	-37,271	-1,390,134	-29%
320	Parking - M22 Simpson Circle	N/A	246,885	\$78,109	0	0	208,618	\$62,151	0	0	-38,267	-\$15,958	-20%	0	0	#DIV/0!
327	1018 Fuller Building	N/A	8,349	\$7,863	48,553	405,369	8,349	\$7,580	51,780	432,311	0	-\$283	-4%	3,227	26,942	7%
332	300 N Ingalls	Office	239,546	\$626,034	136,106	32,603,648	239,653	\$695,002	150,153	35,984,617	107	\$68,968	11%	14,047	3,380,969	10%
348	Chelsea Family Practice	Medical Office	25,136	\$55,093	99,197	2,493,416	25,136	\$64,524	121,640	3,057,543	0	\$9,431	17%	22,443	564,127	23%
350	EAA Health Center	Medical Office	97,158	\$1,028,404	448,953	43,619,376	97,158	\$921,625	366,875	35,644,841	0	-\$106,779	-10%	-82,078	-7,974,534	-18%
390	Child Care Center	N/A	14,850	\$31,703	100,487	1,492,232	14,850	\$38,654	140,024	2,079,356	0	\$6,951	22%	39,537	587,124	39%
399	NCAC	Office	133,741	\$287,023	150,040	20,066,500	129,114	\$288,802	160,568	20,731,577	-4,627	\$1,779	1%	10,528	665,077	3%
419	Laundry	Specialty	48,279	\$511,328	907,326	43,804,792	48,199	\$524,109	1,060,526	51,116,293	-80	\$12,781	2%	153,200	7,311,501	17%
829	RP Housing 1322 Wilmott	N/A	634	\$482	27,450	17,403	0	\$0	0	0	-634	-\$482	-100%	-27,450	-17,403	-100%
5011	Burlington Office Center	Office	60,667	\$75,080	40,619	2,464,233	78,771	\$89,427	34,940	2,752,259	18,104	\$14,347	19%	-5,679	288,026	12%
5019	Canton Health Center	Medical Office	51,552	\$100,827	83,774	4,318,717	51,552	\$108,060	86,322	4,450,072	0	\$7,233	7%	2,548	131,354	3%
5029	Brighton Heath Center	Medical Office	41,500	\$123,039	171,614	7,121,981	41,500	\$135,352	189,846	7,878,609	0	\$12,313	10%	18,232	756,628	11%
5038	EAA Surgery Center	Ambulatory Surgery Ctr	49,906	\$187,834	252,866	12,619,531	49,906	\$179,221	205,969	10,279,089	0	-\$8,613	-5%	-46,897	-2,340,442	-19%
5058	Michigan Visiting Nurses	N/A	2,140	\$770	13,279	28,417	2,140	\$1,167	23,240	49,734	0	\$397	52%	9,961	21,317	75%
5070	Eisenhower CP	Warehouse	37,606	\$61,837	80,312	3,020,213	37,606	\$60,648	85,201	3,204,069	0	-\$1,189	-2%	4,889	183,856	6%
5079	Eisenhower Commerce Center 2		963	\$2,199	55,686	53,626	3,401	\$6,223	45,401	154,409	2,438	\$4,024	183%	-10,285	100,783	188%
5098	Kellogg Eye Center - Milford	Medical Office	2,523	\$3,757	89,583	226,018	2,523	\$3,750	94,697	238,921	0	-\$7	0%	5,114	12,903	6%
5109	Cardiovascular Center	Hospital	429,289	\$1,735,305	196,762	84,467,762	429,289	\$1,854,479	206,595	88,688,961	0	\$119,174	7%	9,833	4,221,199	5%
5117	Upjohn Rachel Building	Medical Office	117,097	\$57,320	67,315	7,882,385	117,097	\$79,099	98,548	11,539,675	0	\$21,779	38%	31,233	3,657,291	46%
5143	Traverwood II	Office	27,836	\$123,311	268,088	7,462,498	27,836	\$123,829	269,995	7,515,581	0	\$518	0%	1,907	53,083	1%
5153	Traverwood III	Office	27,624	\$41,013	59,698	1,649,098	27,624	\$45,879	62,255	1,719,732	0	\$4,866	12%	2,557	70,635	4%
5165	Great Lakes Environmental Lab	N/A	18,306	\$2,067	23,119	423,216	18,306	\$2,415	26,743	489,557	0	\$348	17%	3,624	66,341	16%
5173	Children's & Women's Hospital	Hospital	1,137,924	\$4,223,085	183,286	208,565,538	1,126,305	\$4,238,596	187,806	211,526,837	-11,619	\$15,511	0%	4,520	2,961,299	1%
5223	NC Auxiliary Support Bldg	Data Center	54,428	\$667,131	499,833	27,204,911	54,428	\$663,094	485,463	26,422,780	0	-\$4,037	-1%	-14,370	-782,130	-3%
5239	Brighton Center for Specialty Care	Hospital	0	\$0	0	0	0	\$74,806	0	0	0	\$74,806	#DIV/0!	0	0	#DIV/0!
5241	Traverwood IV	Laboratory	9,640	\$81,010	621,672	5,992,918	9,640	\$85,489	638,285	6,153,067	0	\$4,479	6%	16,613	160,149	3%
5296	Howell Teen Clinic	N/A	0	\$312	0	0	0	\$0	0	0	0	-\$312	-100%	0	0	#DIV/0!
5332	Oxford Commerce Park		16,051	\$3,798	38,310	614,914	19,697	\$6,386	46,121	908,445	3,646	\$2,588	68%	7,811	293,532	48%
5340	River Place Offices	Office	7,124	\$15,561	85,315	607,784	7,124	\$17,992	92,406	658,300	0	\$2,431	16%	7,091	50,516	8%
5341	Northville Health Center	Medical Office	102,228	\$256,532	124,273	12,704,180	102,228	\$257,588	124,493	12,726,670	0	\$1,056	0%	220	22,490	0%
5353	719 Ellsworth Rd	N/A	7,127	\$2,170	55,462	395,278	7,127	\$3,298	76,116	542,479	0	\$1,128	52%	20,654	147,201	37%
5388	West Ann Arbor Health Center New	Medical Office	0	\$0	0	0	75,026	\$107,313	78,466	5,886,990	75,026	\$107,313	#DIV/0!	78,466	5,886,990	#DIV/0!
5393	Kellogg Eye Center - Grand Blanc	Medical Office	0	\$0	0	0	8,021	\$24,871	128,994	1,034,661	8,021	\$24,871	#DIV/0!	128,994	1,034,661	#DIV/0!
8016	Briarwood 5	Medical Office	9,378	\$33,160	229,267	2,150,066	9,378	\$38,338	254,302	2,384,844	0	\$5,178	16%	25,035	234,778	7%
8030	Briarwood Cntr	Medical Office	15,924	\$48,668	186,848	2,975,368	15,924	\$53,306	199,414	3,175,469	0	\$4,638	10%	12,566	200,101	11%
8036	Survival Flight Ann Arbor Airport	N/A	10,000	\$9,770	136,930	1,369,300	10,000	\$13,734	204,137	2,041,370	0	\$3,964	41%	67,207	672,070	49%
8039	RP Housing 1011 Cornwell Place	N/A	2,879	\$6,564	107,840	310,471	2,879	\$6,226	120,771	347,700	0	-\$338	-5%	12,931	37,228	2%
8042	Briarwood 4	Medical Office	14,063	\$24,370	60,131	845,622	14,063	\$26,408	61,436	863,974	0	\$2,038	8%	1,305	18,352	2%
8060	101 Simpson Rd	N/A	2,791	\$617	6,824	19,046	2,791	\$77	8,108	22,629	0	-\$540	-87%	1,284	3,584	19%
8065	Briarwood 3	Medical Office	10,611	\$16,151	54,385	577,079	10,611	\$26,792	84,285	894,348	0	\$10,641	66%	29,900	317,269	55%
8072	Eisenhower Corporate Park West	Medical Office	76,726	\$230,477	124,256	9,533,666	76,726	\$254,407	139,053	10,668,980	0	\$23,930	10%	14,797	1,135,315	12%
8076	Briarwood 1	Medical Office	17,699	\$61,159	226,601	4,010,611	17,699	\$74,117	268,282	4,748,323	0	\$12,958	21%	41,681	737,712	18%
8096	Livonia Specialty Care	Medical Office	46,607	\$150,929	193,499	9,018,408	46,637	\$142,980	182,713	8,521,186	30	-\$7,949	-5%	-10,786	-497,222	-6%
8100	Plymouth Park	Office	43,423	\$50,280	71,949	3,124,241	42,332	\$52,278	70,435	2,981,654	-1,091	\$1,998	4%	-1,514	-142,587	-5%
8110	West Ann Arbor Health Center	Medical Office	6,131	\$12,628	77,700	476,379	6,131	\$9,459	62,871	385,462	0	-\$3,169	-25%	-14,829	-90,917	-19%
8111	Howell Pediatrics	Medical Office	0	\$1,705	0	0	0	\$0	0	0	0	-\$1,705	-100%	0	0	#DIV/0!
8112	Occupational Medicine Bldg	Medical Office	9,020	\$21,007	142,734	1,287,461	9,020	\$25,192	148,085	1,335,727	0	\$4,185	20%	5,351	48,266	4%
8116	Ann Arbor Ice Cube	N/A	8,672	\$2,676	63,566	551,244	8,672	\$2,842	66,407	575,882	0	\$166	6%	2,841	24,637	4%
8121	Saline Health Center	Medical Office	8,924	\$17,051	104,456	932,165	8,924	\$18,886	108,280	966,291	0	\$1,835	11%	3,824	34,125	4%
8126	KMS Fusion Bldg	Office	125,908	\$220,098	72,556	9,135,381	125,908	\$226,138	77,651	9,776,882	0	\$6,040	3%	5,095	641,501	7%

Figure 5.3: FY2018 vs. FY2017 Michigan Medicine Building Utility Summary

ID	Name	E-Star Bldg Type	FY17				FY18				FY Comparison					
			SQFT	Cost	BTU/SF	kBTU	SQFT	Cost	BTU/SF	kBTU	SQFT	Cost	Cost %	BTU/SF	kBTU	kBTU %
8130	Briarwood 10	Medical Office	17,435	\$52,607	160,142	2,792,076	17,435	\$54,796	171,966	2,998,227	0	\$2,189	4%	11,824	206,151	7%
8137	Michigan House	Office	74,710	\$135,268	62,544	4,672,662	74,710	\$154,458	66,149	4,941,992	0	\$19,190	14%	3,605	269,330	6%
8142	Briarwood 9	Medical Office	5,287	\$26,099	253,730	1,341,471	5,287	\$26,332	276,419	1,461,427	0	\$233	1%	22,689	119,957	9%
8149	Dexter Family Practice	Medical Office	10,065	\$16,998	62,589	629,958	10,065	\$17,492	73,149	736,245	0	\$494	3%	10,560	106,286	17%
8155	Livonia Health Center	Medical Office	11,130	\$18,804	72,698	809,129	11,130	\$18,494	73,251	815,284	0	-\$310	-2%	553	6,155	1%
8161	Kellogg Eye Center - Brighton	Medical Office	6,863	\$9,301	61,950	425,163	6,803	\$9,865	61,083	415,548	-60	\$564	6%	-867	-9,615	-2%
8162	Traverwood 1	Office	10,429	\$9,823	38,312	399,556	10,508	\$10,516	44,485	467,448	79	\$693	7%	6,173	67,893	17%
9599	UMH Sign 1525 Fuller St	N/A	0	\$264	0	0	0	\$201	0	0	0	-\$63	-24%	0	0	#DIV/0!
9601	Hospital Chilled Water Loop	N/A	0	\$212,198	0	0	0	\$162,999	0	0	0	-\$49,199	-23%	0	0	#DIV/0!
5173T	C&W Trailer	N/A	0	\$6,583	0	0	0	\$0	0	0	0	-\$6,583	-100%	0	0	#DIV/0!