



**Central Michigan University**  
**Mount Pleasant, Michigan**  
**Purchasing - Facility Management Office for Sustainable Purchasing Program**

## **SCHOOL**

Central Michigan University (CMU) is a four-year, public university, with a main campus in Mount Pleasant, Michigan, offering students a choice of more than 200 academic programs at the bachelor's, master's, specialist's, and doctoral levels. CMU's Mount Pleasant, Michigan, campus enrolled 20,246 students for year 2008-2009. Founded in 1892, CMU today offers many reputable programs, including health, communications, humanities, and teacher education programs. In the field of health care, CMU's audiology, physician assistant, and speech-language pathology programs rank among the top 60 in the nation and top five in Michigan. CMU's nationally ranked clinical psychology programs are recognized widely throughout Michigan in many fields, including research being conducted in the Driving Evaluation, Education, and Research (DEER) Center.

## **ABSTRACT**

As one of the essential parts of the Green Cleaning program, the Central Michigan University Facilities Management Office started to implement a sustainable purchasing program in accordance with LEED-EB (Leadership in Energy and Environmental Design – Existing Buildings) standards since year 2007. The primary purpose for the sustainable purchasing program is to procure products and services with a reduced or minimal (ideally zero) environmental impact as compared to other similar products/services that serve the same purpose. By conducting this program, the Facilities Management Office established a sustainable purchasing policy and successfully eliminated 31 types of non-green custodial products from inventory with a total inventory value of 16,000 dollars and replaced them by Green Seal and EPA certified environmental friendly products.

## **GOALS AND OUTCOMES**

### **Goals**

The aim of this project is to create a safe and healthy indoor environment and reduce the risk of exposure to harmful cleaning chemicals and VOCs (volatile organic compounds) to custodians and building occupants. The goals of this project include:

- To eliminate all conventional non-green custodial products and replace them by Green Seal and EPA certified environmental friendly products.
- To ensure 90 percent expenditure of custodial products for all general fund buildings and resident halls is spent on Green Seal and EPA certified environmental friendly products.
- To reduce cleaning chemical use and improve water efficiency by popularizing microfiber mops and cleaning cloths instead of conventional cotton mop and cloths.
- To reduce cleaning chemical use by installing a dilution system for each custodial closet.
- To educate public about green cleaning and sustainability concept by doing outreach activities (green cleaning booklet).
- To give all custodians minimum 24 hours green cleaning related training each year.

## Accomplishments and Outcomes

When Central Michigan University Facilities Management Office started this project in July 2008, the total stock value for non-green custodial products was \$16,590.69. According to the latest updated data in May 2009, the current stock value for non-green custodial products was \$595.67.

- For all general fund buildings, on average, 71.34 percent expenditure of custodial products was spent on Green Seal and EPA certified environmental friendly products.

Figure 1.1: Green Expenditure for General Fund Building

BUILDING	GREEN	% GREEN	NON GREEN	%NON GREEN	TOTAL	AVERAGE
ALUMNI HOUSE	\$ 900.70	77.27%	\$ 264.95	22.73%	\$ 1,165.65	71.34%
ANSPACH HALL	\$ 7,220.92	67.48%	\$ 3,480.17	32.52%	\$ 10,701.09	71.34%
BROOKS HALL	\$ 4,420.01	91.40%	\$ 415.99	8.60%	\$ 4,836.00	71.34%
CHARTER SCHOOLS	\$ 63.12	70.60%	\$ 26.29	29.40%	\$ 89.41	71.34%
COMBINED SERVICES BUILDING	\$ 5,964.92	70.68%	\$ 2,474.09	29.32%	\$ 8,439.01	71.34%
DOW SCIENCE COMPLEX	\$ 5,714.12	85.09%	\$ 1,001.37	14.91%	\$ 6,715.49	71.34%
FINCH FIELDHOUSE	\$ 3,075.75	60.41%	\$ 2,015.79	39.59%	\$ 5,091.54	71.34%
FOUST HALL	\$ 3,669.01	77.42%	\$ 1,070.01	22.58%	\$ 4,739.02	71.34%
GRAWN HALL	\$ 5,560.39	81.39%	\$ 1,271.47	18.61%	\$ 6,831.86	71.34%
GROUNDS SOUTH	\$ 787.03	70.33%	\$ 332.06	29.67%	\$ 1,119.09	71.34%
HEALTH PROFESSIONS BUILDING	\$ 7,919.28	87.65%	\$ 1,116.12	12.35%	\$ 9,035.40	71.34%
IET BUILDING	\$ 2,652.83	69.83%	\$ 1,146.27	30.17%	\$ 3,799.10	71.34%
INDOOR ATHLETIC COMPLEX	\$ 4,076.17	82.57%	\$ 860.68	17.43%	\$ 4,936.85	71.34%
MERRILL DINING	\$ -	0.00%	\$ 9.44	100.00%	\$ 9.44	71.34%
MOORE HALL	\$ 7,302.28	89.09%	\$ 894.60	10.91%	\$ 8,196.88	71.34%
MOTOR POOL	\$ 232.07	100.00%	\$ -	0.00%	\$ 232.07	71.34%
MUSIC BUILDING	\$ 4,657.11	75.51%	\$ 1,510.37	24.49%	\$ 6,167.48	71.34%
NORTH ART STUDIO	\$ 713.20	100.00%	\$ -	0.00%	\$ 713.20	71.34%
PARK LIBRARY	\$ 7,650.07	86.60%	\$ 1,183.22	13.40%	\$ 8,833.29	71.34%
PEARCE HALL	\$ 5,997.58	85.17%	\$ 1,044.62	14.83%	\$ 7,042.20	71.34%
POOR SCHOOL MUSEUM	\$ -	0.00%	\$ 11.40	100.00%	\$ 11.40	71.34%
POWERHOUSE	\$ 167.11	76.81%	\$ 50.45	23.19%	\$ 217.56	71.34%
POWERS HALL	\$ 2,734.49	73.42%	\$ 990.09	26.58%	\$ 3,724.58	71.34%
PROF ED	\$ 2,722.00	92.85%	\$ 209.73	7.15%	\$ 2,931.73	71.34%
PUBLIC BROADCASTING	\$ 409.97	72.77%	\$ 153.37	27.23%	\$ 563.34	71.34%
RONAN HALL	\$ 3,787.64	80.99%	\$ 889.08	19.01%	\$ 4,676.72	71.34%
ROSE/SAC	\$ 9,913.85	55.07%	\$ 8,088.25	44.93%	\$ 18,002.10	71.34%
ROWE HALL	\$ 2,160.96	84.58%	\$ 393.89	15.42%	\$ 2,554.85	71.34%
SATELLITE ENERGY FACILITY	\$ -	0.00%	\$ 23.71	100.00%	\$ 23.71	71.34%
SLOAN HALL	\$ 2,040.09	95.30%	\$ 100.71	4.70%	\$ 2,140.80	71.34%
SMITH HALL	\$ 1,426.06	94.58%	\$ 81.65	5.42%	\$ 1,507.71	71.34%
SPECIAL OLYMPICS BUILDING	\$ 642.82	72.70%	\$ 241.41	27.30%	\$ 884.23	71.34%
STADIUM	\$ 1,906.36	54.59%	\$ 1,585.74	45.41%	\$ 3,492.10	71.34%
THEUNISSEN STADIUM	\$ 90.60	29.70%	\$ 214.44	70.30%	\$ 305.04	71.34%
WARRINER HALL	\$ 4,720.90	72.21%	\$ 1,817.07	27.79%	\$ 6,537.97	71.34%
WEST HALL	\$ 878.53	77.24%	\$ 258.92	22.76%	\$ 1,137.45	71.34%

<b>WIGHTMAN HALL</b>	\$ 3,895.44	87.61%	\$ 550.71	12.39%	\$ 4,446.15	71.34%
<b>WOLDT DINING/TELECOM</b>	\$ 2,450.43	66.39%	\$ 1,240.30	33.61%	\$ 3,690.73	71.34%
<b>NO BUILDING</b>	\$ 17,795.16	66.81%	\$ 8,841.24	33.19%	\$ 26,636.40	71.34%

- For all resident halls, in average, 69.09 percent expenditure of their custodial products spends on Green Seal and EPA certified environmental friendly products.

<b>BUILDING</b>	<b>GREEN</b>	<b>%GREEN</b>	<b>NON GREEN</b>	<b>%NON GREEN</b>	<b>TOTAL</b>	<b>TARGET</b>	<b>AVERAGE</b>
<b>BARNES HALL</b>	\$ 3,319.87	50.22%	\$ 3,290.55	49.78%	\$ 6,610.42	90%	69.09%
<b>CALKINS HALL</b>	\$ 3,202.15	60.88%	\$ 2,058.04	39.12%	\$ 5,260.19	90%	69.09%
<b>LARZALERE HALL</b>	\$ 3,555.03	66.40%	\$ 1,799.09	33.60%	\$ 5,354.12	90%	69.09%
<b>ROBINSON HALL</b>	\$ 3,083.39	74.16%	\$ 1,074.37	25.84%	\$ 4,157.76	90%	69.09%
<b>TROUT HALL</b>	\$ 3,764.75	66.37%	\$ 1,907.61	33.63%	\$ 5,672.36	90%	69.09%
<b>BEDDOW HALL</b>	\$ 2,410.57	56.50%	\$ 1,855.95	43.50%	\$ 4,266.52	90%	69.09%
<b>MERRILL HALL</b>	\$ 2,510.93	52.43%	\$ 2,278.43	47.57%	\$ 4,789.36	90%	69.09%
<b>SWEENEY HALL</b>	\$ 4,337.75	76.51%	\$ 1,331.89	23.49%	\$ 5,669.64	90%	69.09%
<b>THORPE HALL</b>	\$ 3,827.70	79.47%	\$ 988.94	20.53%	\$ 4,816.64	90%	69.09%
<b>CAMPBELL HALL</b>	\$ 2,514.40	71.56%	\$ 999.14	28.44%	\$ 3,513.54	90%	69.09%
<b>CAREY HALL</b>	\$ 4,818.87	77.59%	\$ 1,391.76	22.41%	\$ 6,210.63	90%	69.09%
<b>COBB HALL</b>	\$ 2,418.71	75.17%	\$ 798.73	24.83%	\$ 3,217.44	90%	69.09%
<b>KESSELER HALL</b>	\$ 1,664.14	76.35%	\$ 515.36	23.65%	\$ 2,179.50	90%	69.09%
<b>KULHAVI HALL</b>	\$ 3,145.68	60.55%	\$ 2,049.90	39.45%	\$ 5,195.58	90%	69.09%
<b>TROUTMAN HALL</b>	\$ 893.57	75.09%	\$ 296.41	24.91%	\$ 1,189.98	90%	69.09%
<b>WHEELER HALL</b>	\$ 2,113.53	74.96%	\$ 705.91	25.04%	\$ 2,819.44	90%	69.09%
<b>CELANI HALL</b>	\$ 4,028.25	83.98%	\$ 768.58	16.02%	\$ 4,796.83	90%	69.09%
<b>EMMONS HALL</b>	\$ 3,565.57	82.87%	\$ 737.27	17.13%	\$ 4,302.84	90%	69.09%
<b>FABIANO HALL</b>	\$ 3,850.74	43.34%	\$ 5,034.54	56.66%	\$ 8,885.28	90%	69.09%
<b>HERRIG HALL</b>	\$ 4,437.96	69.99%	\$ 1,902.47	30.01%	\$ 6,340.43	90%	69.09%
<b>SAXE HALL</b>	\$	69.96%	\$ 1,688.00	30.04%	\$ 5,619.53	90%	69.09%

	3,931.53						
<b>WOLDT HALL</b>	\$	75.73%	\$	1,845.72	24.27%	\$ 7,605.53	90% 69.09%
	5,759.81						
		69.09%					

**Challenges and Responses**

One of the major challenges included the mind changing from the conventional cleaning concepts and procedures to green cleaning for custodians. We responded to this challenge with a strong training program. Other than regular safety training, we established a consistent green cleaning related training program for all custodians with a minimum 24 training hours/year.

**ENGAGEMENT AND SUPPORT**

**Leaders and Supporters**

The leaders and supporters for Central Michigan University’s Green Cleaning and Sustainable Purchasing Program are: CMU Facilities Management Office, Dining Service, and CMU Student Environmental Alliance.

**Funding and Resources**

The funding for this program was from the CMU Facilities Management Office’s annual budget.

**Education and Community Outreach**

In order to raise public awareness about the green cleaning program, we designed and printed our own green building logo for buildings which meet the LEED-EB standards. Also, we posted green restroom signs in all restrooms for major buildings.



**National Wildlife Federation’s Campus Ecology Program**

In our program, we use National Wildlife Federation’s Campus Ecology Program as one of our major information sources to learn how other Universities conduct their Green Cleaning and Sustainable Purchasing Program

## **CONTACT INFORMATION**

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### **Case study submitted by:**

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