

SURVEY OF CAMPUS SUSTAINABILITY PLANNING

**Imagining a More Sustainable Future: A Survey of Sustainability Planning at  
MTSU and Peer Institutions**

by

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A thesis presented to the Honors College of Middle Tennessee State  
University in partial fulfillment of the requirements for graduation from  
the University Honors College

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## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

I dedicate this work to the willing student volunteers, past and present, of Students for Environmental Action of MTSU. Turn someday into today.

# SURVEY OF CAMPUS SUSTAINABILITY PLANNING

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# SURVEY OF CAMPUS SUSTAINABILITY PLANNING

## ABSTRACT

Unlike many universities in its region, Middle Tennessee State University (MTSU) has enacted no comprehensive sustainability plan. This study aims to document and compare the campus sustainability planning and programming of the universities and colleges MTSU considers, and were recommended to the author, as its peers; establish programming models that are "best-fit" for adaptation to the unique needs and attributes of MTSU; and submit the recommendations of campus employees whose work relates to sustainable campus operations for university officials' consideration. The results suggest that a staffed Office of Sustainability founded with the mission of improving student accessibility to engagement opportunities, academic resources, and exposure to careers in environmental sustainability would be of great benefit for MTSU's campus community.

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## LIST OF ABBREVIATIONS

Association for the Advancement of Sustainability in Higher Education (AASHE)

Austin Peay State University (APSU)

Bowdoin College (BC)

East Tennessee State University (ETSU)

Florida Atlantic University (FAU)

Florida International University (FIU)

Furman University (FU)

George Mason University (GMU)

Georgia Southern University (GSoU)

Georgia State University (GStU)

Higher Education Institutions (HEIs)

Middle Tennessee State University (MTSU)

Old Dominion University (ODU)

Southern Illinois University at Carbondale (SIU Carbondale)

Tennessee State University (TSU)

Tennessee Technical University (TTU)

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The University of Texas at Arlington (UT Arlington)

University of Central Florida (UCF)

University of Memphis (U of M)

University of New Orleans (UNO)

University of North Carolina – Greensboro (UNC Greensboro)

University of North Texas (UNT)

University of Southern Mississippi (USM)

University of Tennessee at Chattanooga (UT Chattanooga)

University of Tennessee at Knoxville (UT Knoxville)

University of Tennessee at Martin (UT Martin)

University Social Responsibility (USR)

Virginia Commonwealth University (VCU)

Western Kentucky University (WKU)

# SURVEY OF CAMPUS SUSTAINABILITY PLANNING

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

Universities are centers of learning and leadership that traditionally adopt a social responsibility to make advantageous contributions for society. Researchers Ramos-Monge, Elva L., et al. claim higher education institutions (HEIs) have important roles in addressing the needs of their stakeholders. For example, universities traditionally research solutions to societal problems, develop new technologies and methodologies, propose or demonstrate better approaches based on research for other public and private organizations, and educate prospective young leaders in those new techniques. Ramos-Monge et al. terms as institution's University Social Responsibility (USR) as

[T]he capacity of higher education institutions to disseminate and implement a set of principles, general and specific values aimed at enhancing the educational and social challenges of the society through four key processes: management, teaching, research, and extension.

HEIs must appease influenceable stakeholders such as students, families, university staff and faculty, suppliers of goods and services, the educational sector, other institutions, the nation, governances, taxpayers, employees, and local communities by designing a strategy to meet the social requirements expected from their business (Ramos-Monge et al., 2017, p. 299).

Environmental sustainability addresses the needs of the world's poor by prioritizing the protection of the natural environment and its processes, optimizing economic growth and efficiency, justifying social equity, and creating a hospitable world for a healthy, diverse populace. It champions the cyclical usage of materials, recognizing and subsisting within the regenerative capacities of the planet, and subdues the depletion of Earth's finite resources. As an alternative to the over-usage of non-renewable

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resources and the mass-production of toxic pollutants and insulative byproducts forcing the world's natural systems to evolve to our detriment, sustainability encourages efforts to conserve energy and transition to safer, renewable energy sources. While climate change spurs the global community to reexamine how its actions are negatively affecting Earth, sustainability provides communities with the solutions and methods needed to regain balance. It inspires enjoyment in life-based interests such as health, creativity, communication, coordination, appreciation, learning, and spiritual development (M. Lobegeier, personal communication, February 2021). Ultimately, prioritizing sustainability is paramount for our society's future to flourish.

Though sustainability has the potential to benefit all members of society, not all institutions of higher learning have taken methodological approaches toward obtaining sustainable operations, which has caused student engagement to be variable. Scoones remarks, "Although there has been a growing consensus on the end points of sustainability, ... there has been less discussion of how to get there and of the social, cultural, institutional, and political challenges that arise," (Scoones, 2016, p. 299). Literature by Emmanuel and Adams suggest there is a consensus among students in Alabama and Hawaii alike regarding the responsibility of those in leadership roles in higher education administration to oversee the creation of sustainable campuses. However, the findings suggested that students in Alabama were less committed to engage with sustainable campus programming (Emanuel & Adams, 2011). Holmén reflects:

[S]tudents – due to their relatively neutral and unthreatening positions in society – possess the potential to bring people together on complex “in-between” sustainability challenges, challenges that are generally “in everyone’s interest”,

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but “no one’s responsibility”. These challenges present contradictions, and they create tension that without proper facilitation leads to polarization and conflict rather than mutual understanding, trust and social collaboration (Holmén et al., 2021, p. 4).

Students and other stakeholders of HEIs that do not prioritize sustainability are understandably disillusioned by institutional non-effort to address stakeholder concerns.

Middle Tennessee State University (MTSU) is a public university located in Murfreesboro, Tennessee, and its higher administration has not produced a sustainability plan. Of the institution’s approximate 20,000 enrolled students, 90% live off-campus. The campus is constructed on 500 acres of suburban land in a humid subtropical climate (U.S. World News and Reports, 2020). Housed under MTSU’s Facility Services, the Center for Energy Efficiency (CEE) functions to appeal to the institution’s effort to reduce costs associated with undue energy usage. Within the CEE’s virtual office, facilities employees have sought to increase energy efficiency through its participation in clean energy initiative projects which allow the university to be run in-part by renewable energy (J. Whitefield, personal communications, October 2021). In the coming years, the university will be challenged to adjust to an alternative waste management system due to the remaining life of the Middle Point Landfill diminishing quickly with little hope for expansion (Brodén, 2021). Though the privately-owned landfill is scheduled to close in the near-term, MTSU continues to send its waste to the Republic Services-owned facility, delaying its potential transition to sustainable waste disposal methods.

Middle Tennessee State University’s TrueBlue community value of Honesty and Integrity states, “All members of the community will strive to achieve and maintain the

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highest standards of academic achievement in the classroom and personal and social responsibility on- and off-campus,” (Middle Tennessee State University). To align with its self-established mission statement, Middle Tennessee State University must implement a sustainability plan and act upon its social responsibility to address the needs of its stakeholders needs and expectations. Due to the institution’s failure to set long-term sustainability goals through backcasting and its casual effort to integrate programming that curtails obvious unsustainable procedures (e.g. emphatically supporting academic fields of study that contribute substantial greenhouse gas emissions and meanwhile allowing the research of alternative fuels to remain inactive), the social development of its campus has remained inactive in comparison to similar HEIs. MTSU cannot continue to defer responsibility when it has the resources available to make appropriate changes.



## METHODOLOGY

### **Campus Sustainability Survey**

#### ***Sampling Method***

To settle upon which institutions to assess, I referred to the MTSU Finance and Personnel Committee's groupings of in-state peer universities and its list of out-of-state "MTSU Peers" (see Appendix A). Five additional recommended out-of-state universities were suggested to me by helpful faculty and staff members. Including MTSU, I assessed nine in-state institutions, 12 out-of-state and university-appointed "MTSU Peers" and five out-of-state institutions that were recommended to the researcher. Altogether, I assessed 26 comparable institutions.

#### ***Procedure***

**Similarity Quotient.** Within my research, I aimed to understand how the sustainability programming of institutions with similar characteristics to MTSU compared to that of my own university. To determine which institution's programming model would translate best at MTSU, I first developed five characteristics that I believed were important attributes for a similar institution to possess concerning institution size, location, funding source, and student enrollment. Similar institutions needed to be public institutions located in an urban or suburban city within the Southeastern region of the United States and possessing approximately 20,000 enrolled students (see Appendix B). The waste management systems of sampled institutions were not given consideration;

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information disclosing where institutions dispose of waste was often omitted from public websites.

Using public data collected from U.S. News and Reports 2020 Best Colleges rankings, I ordered the institutions within their sample grouping with those institutions possessing the greatest number of the criteria at the top and the least at the bottom. The designation of “Similar” was given to those institutions possessing greater than or equal to 4 of the 5 attributes. Therefore, the institutions most similar in characteristic to MTSU were listed first for duration of the assessment to help visualize the varying extent to which sustainability programming was prevalent. The specific similarity profiles of each institution can be seen in Table 1.

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**Table 1**

*Similarity Quotient*

	Is it a public or private institution?	Is it located in the Southeastern US? (State)	Is student enrollment around 20k students? (+/- 5k)	Is it Urban/City or Rural? (Acreage)	Is it considered a commuter campus? (<20% on-campus)	Does it meet 3/5 criteria?	Is it "Similar" to MTSU?
<b>Public In-State Institutions</b>							
<b>Middle Tennessee State University</b>	<b>Public</b>	<b>TN</b>	<b>19188</b>	<b>City (550)</b>	<b>Yes (10%)</b>	<b>5/5</b>	<b>By default</b>
University of Memphis	Public	TN	17383	Urban (1600)	Yes (16%)	5/5	Yes
University of Tennessee at Knoxville	Public	TN	24254	Urban (910)	27%	4/5	Yes
Austin Peay State University	Public	TN	9,087	Urban (196)	Yes (11%)	4/5	Yes
East Tennessee State University	Public	TN	10705	City (366)	-	3/5	No
Tennessee State University	Public	TN	6000	Urban (520)	-	3/5	No
University of Tennessee at Chattanooga	Public	TN	10341	City (422)	29%	3/5	No
University of Tennessee at Martin	Public	TN	6397	Rural (930)	30%	2/5	No
Tennessee Technical University	Public	TN	8778	Rural (267)	25%	2/5	No
<b>"MTSU Peers" Out-of-State Institutions</b>							
Old Dominion University	Public	VA	Yes	Urban (251)	Yes (16%)	5/5	Yes
University of North Carolina – Greensboro	Public	NC	15995	Urban (266)	25%	4/5	Yes
Florida Atlantic University	Public	FL	25562	City (850)	Yes (13%)	4/5	Yes
George Mason University	Public	VA	27,105	Suburban (817)	Yes (10%)	4/5	Yes
Georgia State University	Public	GA	28,772	Urban (110)	Yes (15%)	4/5	Yes

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University of New Orleans	Public	LO	8,375	Urban (195)	Yes (8%)	4/5	Yes
University of Central Florida Florida International University	Public	FL	61456	Suburban (1415)	Yes (15%)	4/5	Yes
Georgia Southern University	Public	GA	23469	Rural (900)	23%	3/5	No
University of Southern Mississippi	Public	MS	11451	Suburban (1090)	23%	3/5	No
University of North Texas	Public	TX	32,694	City (950)	Yes (15%)	3/5	No
The University of Texas at Arlington	Public	TX	35064	Urban (420)	Yes (7%)	3/5	No
<b>Researcher- Recommended Universities</b>							
Virginia Commonwealth University	Public	VA	21943	Urban (168)	Yes (20%)	5/5	Yes
Western Kentucky University	Public	KY	15286	City (200)	No (33%)	4/5	Yes
Furman University	Private	SC	2345	Suburban (800)	No (97%)	2/5	No
Bowdoin College	Private	ME	1777	Suburban (207)	No (90%)	1/5	No
Southern Illinois University at Carbondale	Public	IL	8299	Rural (1136)	No (35%)	1/5	No

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I used qualitative content analysis, an unobtrusive research method that analyzes written and visual artifacts, to determine the extent to which the institution made a commitment toward achieving sustainable operations, included sustainability in its efforts to inspire community engagement, and listed academic and professional resources for students interested in environmental sustainability (Jansen, 2021). To complete this task, I navigated to each institution's main website and input the keyword "sustainability" into its search engine. Because HEI websites are subject to be updated at any moment, I aimed to collect all sustainability assessment data within the timespan of one week; the consistency of this data may prove unreliable as institutions update their websites over time.

**Administrative Commitment.** Seven criteria were used to determine the extent to which the higher administration had set specific goals for the institution to aspire to reach regarding campus sustainability. Among the criteria for demonstrating institutional commitment are the following: having an office or department dedicated to sustainability; hiring at least one full-time or part-time sustainability coordinator; including a sustainability fee in yearly tuition; featuring multiple sustainability committees of students, faculty, and staff; and listing the highest official's approval. Although literature suggests that the establishment of a mission statement is ultimately the responsibility of the HEI decision makers (Ramos-Monge et al., 2017), this study categorizes the possession of a mission statement as a criterion under operational reporting. The administrative commitment of each institution can be seen in Table 2.

I additionally noted whether the institution listed any awards obtained from nationally recognized organizations that work with universities to assist in transitioning

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to sustainable operations. Though membership and association in organizations often requires the annual payment of fees, I included membership in The Association for the Advancement of Sustainability in Higher Education (AASHE) as a criterion. However, I did not include the procurement of awards from organizations as a criterion in this assessment, recognizing some institutions may choose to refrain from purchasing these extra services and instead develop their own methods of tracking, comparison, and trans-institutional communication.

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**Table 2**

*Administrative Commitment*

	Is there an Office or Department of Sustainability?	Is there a sustainability coordinator?	Is a sustainability fee implemented?	Sustainability Committee/ Task Force of students, faculty, and staff	Faculty Senate Sustainability Council	President's approval (year)	Membership in National Sustainability Associations (AASHE)	Ratio Implemented
<b>Public In-State Institutions</b>								
MTSU	No	No	Yes (\$8)	Yes	Yes	No	No	3/7
U of M	No	No	Yes	No	No	No	No	1/7
UT Knoxville	Yes	Yes	Yes	Yes	Yes	Yes	Yes	7/7
APSU	Office	Yes	Yes (\$10)	Yes	Yes	No	Yes	6/7
ETSU	Department	Director	Yes (\$7)	Yes	No	No	No	4/7
TSU	Office	2 Directors	No (Donations)	No	No	No	No	2/7
UT Chattanooga	Yes	Students lobbying for one	Yes (\$10)	Yes	No	No	Yes	5/7
UT Martin	Yes	Coordinator	Yes (\$5)	Yes	No	No	Yes	5/7
TTU	Yes	Sustainability Manager	Yes (\$10)	Yes	Not listed	No	Yes	5/7
<b>Categorical Ratio</b>	<b>7/9</b>	<b>7/9</b>	<b>8/9</b>	<b>7/9</b>	<b>3/9</b>	<b>1/9</b>	<b>5/9</b>	

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**"MTSU Peers" Out-of-State Institutions**

ODU	Under Facilities	No	No	No	No	No	Yes	1/7
UNC Greensboro	Yes	Yes	Yes	Yes	No	Yes	Yes	6/7
FAU	Yes	No	No	No	No	Yes	No	2/7
GMU	Yes	Multiple	Yes	Yes	No	Yes	Yes	6/7
GStU	Yes	Not listed	Yes (\$5)	Yes	Yes	No	Yes	5/7
UNO	No	No	No	No	No	No	No	0/7
UCF	Sustainability Initiatives - Under Facilities	No	Yes	Yes	Yes	Yes	Yes	6/7
FIU	Yes	No	No	No	Yes	Yes	Yes	4/7
GSoU	Sustain Southern - previously an office	Yes	Yes (\$10)	fee committee	No	No	Yes	5/7
USM	Yes	2	No	No	No	Yes (2008)	Yes	4/7
UNT	No, under student affairs	No	Yes	Yes	No	Yes	Yes	4/7
UT Arlington	Yes	No	No	Yes	Yes	No	No	3/7
<b>Categorical Ratio</b>	<b>9/12</b>	<b>4/12</b>	<b>6/12</b>	<b>7/12</b>	<b>4/12</b>	<b>7/12</b>	<b>9/12</b>	

**Researcher-Recommended Universities**

VCU	Yes	Yes	No	Yes	No	Yes (2008)	Yes	5/7
WKU	Yes	Yes	No	No	No	No	Yes	3/7
FU	Yes	Yes	No	No	No	Yes	Yes	4/7
BC	Yes	Yes	No	Yes	No	No	Yes	4/7
SIU Carbondale	Yes	No	Yes (\$10)	Council	No	No	Yes	4/7
<b>Categorical Ratio</b>	<b>5/5</b>	<b>4/5</b>	<b>1/5</b>	<b>3/5</b>	<b>0/5</b>	<b>2/5</b>	<b>5/5</b>	

**OVERALL**

<b>All Institutions' Categorical Ranking</b>	<b>21/26</b>	<b>15/26</b>	<b>15/26</b>	<b>17/26</b>	<b>7/26</b>	<b>10/26</b>	<b>19/26</b>	
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**Operational Reporting.** This study deems the measurable assessment and public disclosure of an institution's progress toward its sustainability goals over time as operational reporting, and this data may be viewed within Table 3. The public reporting of mission statements, climate plans, emission reduction strategies, energy and water savings, clean energy purchases, and project completion aids in assessing whether the institution is progressing toward its goal in a timely manner and whether adjustments should be made to its method of action. To keep the public informed, this reporting should be listed comprehensively upon a sustainability website, whether housed in an institution's Facilities Management sector or within its sustainability office.

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**Table 3**

*Operational Reporting*

University Name	Does it have a comprehensive sustainability website?	Mission Statement	Mission Statement inclusive of climate change rhetoric ("lowering GHG emissions")	Climate Action Plan	Greenhouse Gas Inventory Reporting	Publish reports on energy and/or water savings on website yearly?	Publishes % green power purchased and created yearly	Lists infrastructure improvements	Portfolio of sustainability projects / initiatives	Outlines all ongoing sustainability projects/initiatives	Includes history of sustainability on campus	Map of sustainable projects / features on campus	Ratio Implemented
<b>Public In-State Institutions</b>													
MTSU	Yes	Yes	No	No	No	Yes	Not yearly	Yes	Yes	No	Yes	No	6/12
U of M	Yes	No	No	No	No	No	No	No	Yes	Yes	No	No	3/12
UT Knoxville	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	10/12
APSU	Yes	Yes	No	No	No	Yes	No	No	Yes	Yes	Yes	No	6/12
ETSU	Yes	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	5/12
TSU	Yes	Yes	No	No	No	No	No	No	Yes	Yes	No	No	4/12
UT Chattanooga	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	10/12
UT Martin	Yes	Yes	No	No	No	No	No	No	No	No	No	No	2/12
TTU	Yes	No	No	No	Yes	No	No	No	Yes	Yes	No	No	4/12
<b>Categorical Ratio</b>	<b>9/9</b>	<b>6/9</b>	<b>1/9</b>	<b>2/9</b>	<b>3/9</b>	<b>4/9</b>	<b>2/9</b>	<b>3/9</b>	<b>8/9</b>	<b>6/9</b>	<b>5/9</b>	<b>0/9</b>	
<b>"MTSU Peers" Out-of-State Institutions</b>													
ODU	Yes	No	No	No	No	No	No	No	No	No	No	No	1/12
UNC Greensboro	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	10/12
FAU	Yes	Yes	No	No	No	No	No	No	No	No	No	No	2/12
GMU	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	10/12
GStU	Yes	No	No	No	No	No	No	Yes	Yes	No	No	No	3/12
UNO	No	No	No	No	No	No	No	No	No	No	No	No	0/12
UCF	Yes	Yes	No	Yes	No	No	No	No	Yes	Yes	Yes	No	6/12
FIU	Yes	Yes	No	Yes	No	No	No	No	No	No	No	No	3/12
GSoU	Yes	No	No	No	No	No	No	Yes	No	No	Yes	No	3/12
USM	Yes	Yes	Yes	No	No	Yes	No	Yes	No	No	No	No	5/12
UNT	Yes	No	No	No	No	No	No	Yes	Yes	Yes	No	No	4/12
UT Arlington	Yes	No	No	No	No	No	No	No	No	No	No	No	1/12

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**Categorical Ratio**    11/12    6/12    2/12    4/12    2/12    3/12    1/12    6/12    5/12    4/12    3/12    1/12

**Recommended Universities**

VCU	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	10/12
WKU	Yes	Yes	No	No	No	No	No	Yes	No	Yes	No	No	4/12
FU	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	9/12
BC	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	11/12
SIU Carbondale	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Yes	No	5/12
<b>Categorical Ratio</b>	<b>5/5</b>	<b>1/5</b>	<b>1/5</b>	<b>3/5</b>	<b>3/5</b>	<b>2/5</b>	<b>2/5</b>	<b>4/5</b>	<b>4/5</b>	<b>5/5</b>	<b>3/5</b>	<b>2/5</b>	

**OVERALL**

**All Institutions'**  
**Categorical Ratio**    25/26    13/26    4/26    9/26    8/26    9/26    5/26    13/26    17/26    15/26    11/26    3/26

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**Operational Programming.** The survey aimed to observe whether an institution's sustainability website included a comprehensive listing of consistent, year-round, budgeted employee-run programming. Often this programming strategically encourages community engagement in sustainability (e.g., recycling, dining, recreation). The operational reporting efforts of all surveyed institutions may be found in Table 4.

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**Table 4**

*Operational Programming*

	Recycling Program	Electric Vehicle Charging Stations	Campus Composting	Farmer's Market	Reusable To-Go Boxes Program	Bike Sharing Program	University Office Sustainability Improvement Initiative	Solar garden	Ratio Implemented
<b>Public In-State Institutions</b>									
MTSU	Yes	Yes	No	Not traditional	Failed	Yes	Not listed	Yes	4/8
U of M	Yes	Research	Yes	No	No	Yes	No	No	3/8
UT Knoxville	Yes	No	No	No	Yes	No	Yes	No	3/8
APSU	Yes	Yes	Yes	No	No	Yes	No	No	4/8
ETSU	Yes	No	No	Yes	No	No	Yes	No	3/8
TSU	Yes	No	No	No	No	No	No	No	1/8
UT Chattanooga	Yes	Yes	No	No	No	Yes	Yes	No	4/8
UT Martin	Yes	Yes	No	No	No	Yes	No	Yes	4/8
TTU	Yes	No	No	No	No	Yes	No	Yes	3/8
<b>Categorical Ratio</b>	<b>9/9</b>	<b>4/9</b>	<b>2/9</b>	<b>1/9</b>	<b>1/9</b>	<b>6/9</b>	<b>3/9</b>	<b>3/9</b>	

SURVEY OF CAMPUS SUSTAINABILITY PLANNING

**"MTSU Peers" Out-of-State Institutions**

ODU	Yes	No	No	No	No	Yes	No	No	2/8
UNC Greensboro	No	Yes	No	Yes	Yes	Yes	No	No	4/8
FAU	Yes	No	No	No	No	No	Yes	No	2/8
GMU	Yes	Yes	Yes	No	Yes	Yes	Yes	No	6/8
GStU	Yes	No	No	No	No	Yes	Yes	No	3/8
UNO	No	No	No	No	No	No	No	No	0/8
UCF	Yes	Yes	No	Yes	Yes	Yes	No	Yes	6/8
FIU	No	No	No	No	No	Yes	No	Yes	2/8
GSoU	Yes	Yes	Yes	Yes	No	Yes	No	No	5/8
USM	Yes	No	No	No	No	No	No	No	1/8
UNT	Yes	No	Yes	No	No	Yes	No	No	3/8
UT Arlington	Yes	Yes	Yes	No	No	Yes	Yes	No	5/8
<b>Categorical Ratio</b>	<b>9/12</b>	<b>5/12</b>	<b>4/12</b>	<b>3/12</b>	<b>3/12</b>	<b>9/12</b>	<b>4/12</b>	<b>2/12</b>	

**Researcher-Recommended Universities**

VCU	Yes	Yes	No	No	Yes	Yes	Yes	No	5/8
WKU	Yes	Yes	Yes	Yes	Yes	Yes	No	No	6/8
FU	Yes	No	Yes	Yes	No	Yes	Yes	Yes	6/8
BC	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	7/8
SIU Carbondale	Yes	No	Yes	No	No	Yes	on-hold	Yes	4/8
<b>Categorical Ratio</b>	<b>5/5</b>	<b>3/5</b>	<b>4/5</b>	<b>2/5</b>	<b>3/5</b>	<b>5/5</b>	<b>3/5</b>	<b>3/5</b>	

**OVERALL**

<b>All Institutions</b>									
<b>Categorical Ratio</b>	<b>23/26</b>	<b>12/26</b>	<b>10/26</b>	<b>6/26</b>	<b>7/26</b>	<b>20/26</b>	<b>10/26</b>	<b>13/26</b>	

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

**Community Engagement.** Table 5 lists all institutions' acknowledgement of existing student sustainability groups and clubs, public records of volunteerism, and advertised events that could potentially inspire interest within the campus community.

SURVEY OF CAMPUS SUSTAINABILITY PLANNING

**Table 5**

*Community Engagement*

	Calendar of upcoming volunteer events	Annually Occurring Events and Programs	Social media pages	Weekly Emails/ News Feed/ Blog	Recognizes student sustainability club activities	Lists student organizations	Student spotlight & recognition	Sustainable graphic design/ photography/ art contest	Living and Learning Community	Green Pledge for students	Arboretum	Ratio Implemented
<b>Public In-State Institutions</b>												
MTSU	No	No	No	No	No	No	No	Yes	FAES	No	Yes	2/11
U of M	No	Yes	No	No	No	No	No	No	No	No	Yes	2/11
UT Knoxville	Yes	Yes	Facebook, Instagram, Twitter	Yes	Yes	Yes	Yes	No	No	No	Yes	8/11
APSU	No	No	No	No	No	No	No	Yes	Yes	No	Yes	3/11
ETSU	No	Yes	Facebook, Twitter, LinkedIn	Green Monday	Bucs Go Green	Yes	Yes	No	No	No	Yes	7/11
TSU	No	No	No	No	No	No	No	No	No	No	No	0/11
UT Chattanooga	Yes	Yes	Facebook, Instagram	News Feed	Yes	Yes	No	Yes	Outdoor Adventure	No	Yes Level II	9/11
UT Martin	No	No	Facebook, Instagram, Twitter	No	No	Yes	grant funding	No	Agriculture	No	Yes	5/11
TTU	No	No	No	Yes, and Quarterly Newsletters	No	No	No	No	Environmental Village	Yes	Yes	4/11
<b>Categorical Ratio</b>	<b>2/9</b>	<b>4/9</b>	<b>4/9</b>	<b>4/9</b>	<b>3/9</b>	<b>4/9</b>	<b>3/9</b>	<b>3/9</b>	<b>4/9</b>	<b>1/9</b>	<b>8/9</b>	



SURVEY OF CAMPUS SUSTAINABILITY PLANNING

**"MTSU Peers" Out-of-State Institutions**

ODU	No	No	No	No	No	No	No	No	No	No	No	0/11
UNC Greensboro	Yes	Yes	Facebook, Twitter, Youtube	Mailing List	Yes	Yes	No	Sustainability Shorts	No	No	Tree Campus	8/11
FAU	Yes	Yes	No	No	Yes	Yes	No	No	No	Yes	No	5/11
GMU	Yes	Yes	Instagram, Twitter, Facebook, YouTube	Sustainable Scoop The Green Scene Newsletter	Yes	Yes	Yes	No	Yes	Yes	Not on website but yes	10/11
GStU	No	Yes - Earth Week Festival	No	No	Yes	Yes	Awards	No	No	No	No	5/11
UNO	No	No	No	No	No	No	No	No	No	No	No	0/11
UCF	Yes Request information	Yes	Facebook, YouTube, Pinterest	Newsletter - one for students, one for faculty and News posts	Yes	Yes	No	No	No	No	Yes	7/11
FIU	No	No GreenFest and No Impact Week	No	No	No	No	No	No	No	No	No	0/11
GSoU	No	No	No	Yearly Newsletter Eco-Eagle Monthly Newsletters	No	Yes	No	No	No	No	No	3/11
USM	Yes	Yes	Facebook, Twitter, Instagram	No	No	No	No	No	No	Yes	No	5/11

SURVEY OF CAMPUS SUSTAINABILITY PLANNING

UNT	No	No	Facebook, Instagram, Twitter	No	No	No	Environmen- tal Volunteeris- m Graduation Cord, Mean Green Gowns for Grads,	No	No	No	No	2/11
UT Arlington	No	No	No	No	Yes	Yes	No	No	No	No	No	2/11
<b>Categorical Ratio</b>	<b>5/12</b>	<b>7/12</b>	<b>5/12</b>	<b>6/12</b>	<b>6/12</b>	<b>6/12</b>	<b>3/12</b>	<b>1/12</b>	<b>1/12</b>	<b>3/12</b>	<b>3/12</b>	
<b>Researcher- Recommended Universities</b>												
VCU	No	Yes	Instagram, Facebook, Twitter	Yes	No	No	No	No	Ecovillage Sustainability LLC - brochure	No	No	4/11
WKU	No	No	Facebook, Instagram, Twitter	No	No	Yes	No	No	Yes*	No	Yes	4/11
FU	No	No	Yes	No	Yes	Yes	No	No	Yes*	No	Yes	5/11
BC	No	Yes	Instagram Facebook, Instagram, Twitter	No	Yes	Yes	No	No	No	Yes	No	5/11
SIU Carbondale	Yes	Yes	Instagram, Facebook, Twitter	No	Yes	Yes	Ambassado- rs	No	No	No	Yes	7/11
<b>Categorical Ratio</b>	<b>1/5</b>	<b>3/5</b>	<b>5/5</b>	<b>1/5</b>	<b>3/5</b>	<b>4/5</b>	<b>1/5</b>	<b>0/5</b>	<b>3/5</b>	<b>1/5</b>	<b>3/5</b>	
<b>OVERALL</b>												
<b>All Institutions' Categorical Ratio</b>	<b>8/26</b>	<b>14/26</b>	<b>14/26</b>	<b>11/26</b>	<b>12/26</b>	<b>14/26</b>	<b>7/26</b>	<b>4/26</b>	<b>8/26</b>	<b>5/26</b>	<b>14/26</b>	

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

**Academic Engagement.** HEIs help to demonstrate society's need for biologists, geoscientists, and environmental scientists, and environmental engineers by channeling students toward those areas of study, whether through exposure to curricula that engage students around environmental concepts, offering modules that expose students to contemporary discourse surrounding environmental issues within required coursework, or offering academic certificates and degree programs with strong relations to environmental sustainability. I noted whether these academic engagement opportunities were mentioned explicitly on the institution's sustainability website, and this data can be accessed in Table 6.

SURVEY OF CAMPUS SUSTAINABILITY PLANNING

**Table 6**

*Academic Engagement*

	Outlines academic vision	Link to Earth Sciences/Biology Department or Major programming	Links to job/internships outside of university	Virtually interactive educational services and resources	Featured faculty research relating to sustainability/funding	Classroom Lectures	Recommended Books and Media	Learning Garden (Date Constructed)	Pollinator habitat creation	Paid Student Internship/Fellowship	Ratio Implemented
<b>Public In-State Institutions</b>											
MTSU	Yes	No	No	No	Not listed	No	No	Yes	No	Unpaid interns	2/10
U of M	Yes	No	Yes	Yes	Not listed	No	No	Yes	Yes	No	5/10
UT Knoxville	No	Yes	No	Yes	Yes	No	No	Yes	Yes	Not paid	5/10
APSU	Yes	Yes	No	Yes	Not listed	No	No	No	Not listed	No	3/10
									"What's the Buzz" campaign through		
ETSU	No	No	No	Yes	Project Drawdown	No	No	Yes (2010)	SGA	Yes	5/10
TSU	No	No	No	No	Not listed	No	No	No	No	No	0/10
UT Chattanooga	No	No	No	Yes	Not listed	No Mobile Energy Classroom	No	Yes	Yes	No	3/10
UT Martin	No	Yes	No	No	Not listed		Yes	No	No Bee Campus USA	No	3/10
TTU	No	No	Yes	Yes	Not listed	No	No	Yes		No	4/10
<b>Categorical Ratio</b>	<b>3/9</b>	<b>3/9</b>	<b>2/9</b>	<b>6/9</b>	<b>2/9</b>	<b>1/9</b>	<b>1/9</b>	<b>6/9</b>	<b>5/9</b>	<b>1/9</b>	
<b>"MTSU Peers" Out-of-State Institutions</b>											
ODU	No	No	No	No	No	No	No	No	No	No	0/10
UNC Greensboro	Yes	Yes	No	No	Yes	No	No	Garden Club	Yes	No	5/10
FAU	Yes	Yes	No	Yes	Yes	No	No	No	No	No	4/10

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GMU	Yes	Green Leaf Courses	Yes	No	Yes	Yes	No	Three	Yes	Yes	<b>8/10</b>
GStU	No	Yes	No	No	No	No	No	No	No	Fellowship & Internship	<b>2/10</b>
UNO	No	No	No	No	No	No	No	No	No	No	<b>0/10</b>
UCF	Yes	Course Catalog	GEE0	No	Yes and faculty clusters	No	Yes	Yes	No	Unsure	<b>6/10</b>
FIU	No	No	No	No	No	No	No	No	No	No	<b>0/10</b>
GSoU	No	No	Yes	No	No	No	Environmental Community Cinema	Yes		Graduate Assistants & Fellows	<b>5/10</b>
USM	No	No	No	Yes	No	No	No	No	No	No	<b>1/10</b>
UNT	No	No	No	No	No	No	No	Yes	Yes	No	<b>2/10</b>
UT Arlington	No	No	No	No	No	No	No	Yes	No	No	<b>1/10</b>
<b>Categorical Ratio</b>	<b>4/12</b>	<b>5/12</b>	<b>3/12</b>	<b>2/12</b>	<b>4/12</b>	<b>1/12</b>	<b>2/12</b>	<b>6/12</b>	<b>4/12</b>	<b>3/12</b>	
<b>Researcher-Recommended Universities</b>											
VCU	Yes	No	No	Yes	Yes and Research Centers	Yes	Outdoor Classrooms	Yes	Yes	Intern	<b>8/10</b>
WKU	No	Yes	No	No	No	No	No	Yes	No	No Fellowship, Faculty Fellows	<b>4/10</b>
FU	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Summer & Student Office	<b>8/10</b>
BC	No	Yes	No	Yes	No	No	Yes	Yes	No	Employees Fellowship & Energy Research	<b>5/10</b>
SIU Carbondale	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No		<b>8/10</b>
<b>Categorical Ratio</b>	<b>3/5</b>	<b>4/5</b>	<b>2/5</b>	<b>4/5</b>	<b>3/5</b>	<b>2/5</b>	<b>4/5</b>	<b>5/5</b>	<b>2/5</b>	<b>4/5</b>	

# SURVEY OF CAMPUS SUSTAINABILITY PLANNING

## OVERALL

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All  
Institutions'  
Categorical  
Ratio

10/26

12/26

7/26

12/26

9/26

4/26

7/26

17/26

11/26

8/26

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

**Summary.** Using each institution's ratio of met criteria for the five categorical groups (Administrative Commitment, Operational Reporting, Operational Programming, Academic Engagement, and Community Engagement), I produced a summary page, in which I could easily compare the sustainability programming each institution showcased on its public website. I then ranked each institution based on number of criteria met. This ranking may be viewed in Table 7.

SURVEY OF CAMPUS SUSTAINABILITY PLANNING

**Table 7**

*Summary*

	<b>Administrative Commitment Implemented Ratio</b>	<b>Operational Reporting Implemented Ratio</b>	<b>Operational Programming Implemented Ratio</b>	<b>Academic Engagement Implemented Ratio</b>	<b>Community Engagement Implemented Ratio</b>	<b>Total Implemented Ratio</b>	<b>Group Ranking</b>	<b>Overall Ranking</b>	<b>Is it "Similar" to MTSU?</b>
<b>In-State Institutions</b>									
MTSU	3/7	6/12	4/8	2/10	2/11	17/48	7	17	By default
U of M	1/7	3/12	3/8	5/10	2/11	14/48	8	21	Yes
UT Knoxville	7/7	10/12	3/8	5/10	8/11	33/48	1	2 (tie)	Yes
APSU	6/7	6/12	4/8	3/10	3/11	22/48	4	11	Yes
ETSU	4/7	5/12	3/8	5/10	7/11	24/48	3	10	No
TSU	2/7	4/12	1/8	0/10	0/11	7/48	9	24	No
UT Chattanooga	5/7	10/12	4/8	3/10	9/11	31/48	2	7 (tie)	No
UT Martin	5/7	2/12	4/8	3/10	5/11	19/48	6	15	No
TTU	5/7	4/12	3/8	4/10	4/11	20/48	5	14	No
<b>Group Average</b>	<b>4.22/7</b>	<b>5.5/12</b>	<b>3.22/8</b>	<b>3.33/10</b>	<b>4.44/11</b>	<b>20.78/48</b>			
<b>"MTSU Peers" Out-of-State Institutions</b>									
ODU	1/7	1/12	2/8	0/10	0/11	4/48	11	25	Yes
UNC Greensboro	6/7	10/12	4/8	5/10	8/11	33/48	2	2 (tie)	Yes
FAU	2/7	2/12	2/8	4/10	5/11	15/48	8	19 (tie)	Yes
GMU	6/7	10/12	6/8	8/10	10/11	40/48	1	1	Yes
GStU	5/7	3/12	3/8	2/10	5/11	18/48	5	16	Yes
UNO	0/7	0/12	0/8	0/10	0/11	0/48	12	26	Yes



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UCF	6/7	6/12	6/8	6/10	7/11	31/48	3	7 (tie)	Yes
FIU	4/7	3/12	2/8	0/10	0/11	9/48	10	23	Yes
GSoU	5/7	3/12	5/8	5/10	3/11	21/48	4	12 (tie)	No
USM	4/7	5/12	1/8	1/10	5/11	16/48	6	18	No
UNT	4/7	4/12	3/8	2/10	2/11	15/48	7	19 (tie)	No
UT Arlington	3/7	1/12	5/8	1/10	2/11	12/48	9	22	No
<b>Group Average</b>	<b>3.83/7</b>	<b>4/12</b>	<b>3.25/8</b>	<b>2.83/10</b>	<b>3.92/11</b>	<b>17.83/48</b>			
<b>Researcher-Recommended Universities</b>									
VCU	5/7	10/12	5/8	8/10	4/11	32/48	1	4 (tie)	Yes
WKU	3/7	4/12	6/8	4/10	4/11	21/48	5	12 (tie)	Yes
FU	4/7	9/12	6/8	8/10	5/11	32/48	2	4 (tie)	No
BC	4/7	11/12	7/8	5/10	5/11	32/48	3	4 (tie)	No
SIU Carbondale	4/7	5/12	4/8	8/10	7/11	28/48	4	9	No
<b>Group Average</b>	<b>4/7</b>	<b>7.8/12</b>	<b>5.6/8</b>	<b>6.6/10</b>	<b>5/11</b>	<b>31/48</b>			

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

### **Interviews**

I interviewed members of MTSU faculty and staff and an appointed sustainability coordinator from a similar institution to gain insight regarding the effectiveness of campus sustainability programming as of Fall 2021. I submit interviewee opinions here for recommendation to the university.

### ***Sampling Method***

Referring to the criterion listed under Operational Programming, I sought the opinion of university employees whose daily work contributes to the sustainability of their institutions such as engineers who manage the energy usage of the institution, managers of the university's recycling and dining programs, and professors and researchers who facilitate academic inclusion of environmental issues.

### ***Procedure***

First, I drafted interview questions for each potential interviewee, emailed each party a summary of my research aims and guided interview questions (Appendix C), and scheduled interviews throughout the months of September 2021 and October 2021. Due to concern regarding the spread of COVID-19, each scheduled interview was held remotely via Zoom and recorded for transcription.

## RESULTS

### Survey Data

#### *Study group comparison*

The average criteria met of all Researcher-Recommended Institutions (31 out of 48) outweighed the average criteria met of In-State Institutions (20.78 out of 48) and Out-of-State “MTSU Peers” (17.83 out of 48). This difference may occur because two of the five Researcher-Recommended Institutions were private institutions, and they likely have more funding to support their sustainability programming. By category, In-State Institutions averaged higher Administrative Commitment scores, yet Researcher-Recommended Institutions averaged higher scores in Operational Reporting, Operational Programming, Academic Engagement, and Community Engagement. The institutions recommended to the researcher had a higher likelihood of performing well in comparison to all other institutions because, as a group, all were certain to have demonstrated efforts that produced respect and admiration from those who endorsed them to this study’s author.

#### **Programs of Interest.**

*Top Performers.* The surveyed institutions with the most criteria met are as follows: George Mason University (40 out of 48), University of Tennessee at Knoxville (33 out of 48), UNC Greensboro (33 out of 48), Virginia Commonwealth University (32 out of 48), Furman University (32 out of 48), and Bowdoin College (32 out of 48). UT Knoxville met all criteria in the category of Administrative Commitments. Bowdoin College produced the highest scores of all institutions in Operational Reporting and Operational

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

Programming. GMU and VCU scored highest out of all institutions in the Academic Engagement category, and GMU alone scored highest in the Community Engagement category.

**MTSU Match-up.** Middle Tennessee State University met 17 out of 48 criteria and ranked 7<sup>th</sup> out of the nine public institutions in Tennessee, topping only Tennessee State University (7 out of 48), a historically underfunded HBCU in Nashville (Chang et al., 2021), and the University of Memphis (14 out of 48). MTSU's met-criteria was below average amongst In-State Institutions, its "MTSU Peers" and Researcher-Recommended Institutions. Among its "MTSU Peers" MTSU would have ranked in the middle of its class at 7<sup>th</sup> out of 13. MTSU ranked 17<sup>th</sup> out of all 26 institutions surveyed. MTSU performed slightly better than the overall average of all institutions in the categories of Operational Reporting, reached the average in Operational Programming, and scored below average all other categories.

**Similar Institutions.** Of the 9 In-State Institutions, the following three institutions were found to be "similar" to MTSU: The University of Memphis, University of Tennessee at Knoxville, and Austin Peay State University. Of these Similar Institutions, APSU (22 out of 48) and UT Knoxville (33 out of 48) produced scores higher than that of MTSU.

Of the 12 out-of-state "MTSU Peers", the following 8 were designated as Similar to MTSU: ODU, UNC Greensboro, FAU, GMU, GSU, UNO, UCF, and FIU. However, only the following 4 had total scores higher than MTSU: Georgia State University (18 out of 48), University of Central Florida (31 out of 48), University of North Carolina Greensboro (33 out of 48), and George Mason University (40 out of 48).

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

Of the 5 Recommended Institutions, the following 2 were Similar to MTSU: Virginia Commonwealth University and Western Kentucky University. Both VCU (32 out of 48) and WKU (21 out of 48) produced total scores higher than that of MTSU.

*Trends.* Among all tested HEIs in Tennessee, there were several criteria that were not met by most of these tested institutions. One out of the nine Tennessee HEIs listed their highest university official's approval, allowed students to access a traditional on-campus or mobile farmer's market, had dining programs that supported a reusable food storage program, alluded to employees teaching students about sustainability in the classroom setting, provided links to recommended books and media relating to sustainability, offered paid internship and fellowship positions, and had online green pledges for accountability. Only two of the nine Tennessee HEIs produced a climate action plan, published the percentage of renewable energy purchased and created annually, implemented a campus composting system, featured a calendar of upcoming events and volunteer opportunities, provided links to job and internship opportunities outside of the HEI, and featured related faculty research. One third featured of Tennessee HEIs had faculty senate councils that specifically meet on the behalf of campus sustainability, reported an inventory of greenhouse gas emissions, began an office space improvement initiative, featured solar garden projects, recognized related student club and group activities, featured creative opportunities for students interested in sustainability, shone a spotlight on student activity, outlined the institution's academic plan to incorporate environmental literacy into curriculum to any degree, and linked user traffic to the HEI's related academic programs. None of the tested Tennessee HEIs showcased maps depicting where sustainable projects and features on campus lie.

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### **Interview Data**

**Themes.** As was expected amongst interviewees, similar and unique viewpoints were expressed in response to the Guided Interview Questions listed in Appendix C.

*The Benefit of an Office of Sustainability.* When asked about how an Office of Sustainability would be of assistance to MTSU's campus community, most interviewees claimed that an office would unite what is currently a disjointed effort to achieve sustainable operations, inform students on issues related to sustainability, and involve all parties in leading sustainability transformations. Dr. Henrique Momm, the current chair of MTSU's Geoscience Department answered,

I think it would benefit a lot. I think that, if it could involve students, if it could involve faculty, if it [would] have resources to offer internships for students, if it had resources to offer stipends for faculty during the summer, help the faculty to secure external funding ... to expand sustainability projects, I think it would be a win-win for everybody – for the university, for the students, and for the faculty (H. Momm, personal communication, October 2021).

Momm's commentary suggests that MTSU faculty experience an unaddressed difficulty when attempting to begin research projects relating to sustainability, and in turn, opportunities for students to complete undergraduate research in campus sustainability are few.

Austin Peay State University's Sustainability Coordinator, Olivia Herron, had this to say:

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

I think young people are becoming more and more interested in environmental issues than, you know, older folks probably because we're going to be alive when we get the worst of climate change. So regardless of your major or what you intend to do with your life, people are starting to realize that climate change is going to impact them, so [we are] making sure that students have opportunities to educate themselves on those subjects (at least on a proficient level if [it's] not something that you want to go into professionally)...We want to make sure all students leave university with a proficiency in climate change (O. Herron, personal communication, October 2021).

It is within a HEI's scope and responsibility to educate students of the difficulties they will encounter and the problems they need to find collaborative solutions for soon. Otherwise, one's education is being shortchanged and ineffective, producing graduates who lack the contextual expertise needed in a changing world.

When asked to rate the current sustainability of MTSU's Recreational Center, Josh Stone, the Associate Director of Recreational Programming at MTSU, graded its efforts a seven out of ten, saying,

You know, yeah, and here's why: because we're only so good as to what our knowledge leads us to be, and to actually have somebody or an office that we can consult with and that would give us direction as to how we can do better and then [define] the costs [that] are involved ...we could go from that 7 to that 10 if that makes sense. Sometimes you just run out of direction because you have exceeded the capacity of the college.

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When university employees fear their needs may exceed the capacity of an institution to address those demands, the university is failing to anticipate stakeholder expectations and, therefore, not adequately valuing its USR. Undue complacency acts as a catalyst for tensions to arise and dismantle the positive relations needed for collaborative efforts to successfully occur. The continued undocumented progress of the university to address stakeholder's need for the institution to feature an office of sustainability has caused these stakeholders to devalue the university's success in what efforts it may have taken (Ramos-Monge et al., 2017).

*The Role of Students in Advancing Campus Sustainability.* Student access to paid internship and fellowship opportunities at MTSU has historically been self-initiated, and most opportunities still lie outside of the institution. Though the Center for Energy Efficiency (CEE) offers paid student worker positions, not every opportunity pays students for their work. Linda Hardymon, the manager of MTSU Recycles, spoke about a recent opportunity for a senior undergraduate student to study under the center as an intern. Regarding the position, Hardymon said, "It's not paid you know. You have to take a class and pay for the three-hour class to do it," (L. Hardymon, personal communication, October 2021). The current model of learning at MTSU requires students to complete an internship as a requirement of upper-level degree coursework, yet this model requires students to pay for their learning and labor.

Other institutions such as Austin Peay State University believe student interns should be compensated for the work they complete to make the institution more sustainable. Olivia Herron, the full-time sustainability coordinator of APSU, when discussing her student workers, said, "Students get a lot of professional experience that



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they can take into their big kid job. It's sort of like an internship but it's paid, and they do a lot of work coordinating volunteers... the focus of that program is trinity engagement and promoting volunteerism," (A. Herron, personal communication, October 2021).

Student stakeholders, in favorable positions to support systemic change, have the potential to influence campus operations when given opportunities of leverage (Holmén et al., 2021, p. 18). Dr. Angela Mertig, who witnessed and assisted a group of concerned students implement the university's green fee program, said,

I think it's awesome that the students took charge of that...I think the institution is very supportive too...Maybe it's good that the institution didn't spearhead the effort because maybe you want something that's more grassroots coming from the bulk of the people who are here at MTSU - the students. I think that's a really important factor, and I hope ... you feel like the institution supports the Students for Environmental Action (maybe not perfectly because there's probably some things that [the] university does that may not be the greatest in terms of environmental issues) ... I also teach a course on social movements, and I think anytime that you have people at the grassroots level taking that kind of action (and I'm considering students being the grassroots rather than somebody coming from the top down) I think there's a whole lot more meaning to it and ownership and support for it.

The previous and present-day Students for Environmental Action, MTSU's oldest and primary environmental student organization, has been responsible for the creation of numerous efforts to improve campus sustainability since the 1970s, yet most information regarding the student organization's history of volunteerism and pioneering efforts has

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been passed along through word-of-mouth with each successive leadership team; the university has not synthesized a comprehensive history of sustainability initiatives that is inclusive of those initiated by students of varying disciplines (A. Mertig, personal communication).

***Inter-departmental Collaboration.*** Based on the responses of interviewees, collaborative efforts between faculty and staff housed within different departments are seldom featured beyond the scope of MTSU Sustainable Campus Fund, which allocates funds to green project proposals submitted by students, faculty, and staff annually.

When asked whether the Department of Geosciences was working with other Colleges or Departments to increase the campus sustainability and decrease the university's environmental or ecological footprint, the chairperson of the Geosciences Department, Dr. Henrique Momm, responded that it was not an effort that was happening outside his mention of Dr. Jeremy Aber working with a student organization. Although the Department of Geosciences has not been working with the Center for Energy Efficiency, Momm confirmed that it is a connection he wishes to see in the future, and he believes those two departments could work together by involving students, saying, "We could offer students opportunities to internships or involve some type of class project or class assignment that would promote an exchange of information between the two departments," (H. Momm, personal communication, October 2021)

Creating the space for persistent dialogue can make a difference. Josh Stone remarked,

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It seems sometimes collaborative partnerships don't have enough existing dialogue and maybe that's part of what we can do better...But if we actually had an office of sustainability, it would facilitate these conversations proactively, and it would come up with these ideas and these practices that could be referenced by every department across campus for [the] cohesiveness that we need that we don't necessarily have (J. Stone, personal communication, October 2021).

The need for these conversations to feature multidisciplinary perspectives is just as important according to MTSU environmental sociology professor, Angela Mertig who remarked,

The social sciences are very important [in] helping to understand how we got to where we are and how we can deal with things because a lot of times the solution isn't just to solve the technical stuff - the solution is: you need to involve people. You have to get people concerned and engaged in the issue (A. Mertig, personal communication, October 2021).

Though sustainable development is generally associated with transitions in infrastructure with engineers spearheading those efforts, sustainable campus development must feature more perspectives than those concerned with the physical facility; the perspectives of those who seek to teach and engage with students must also be included.

***Role of Facilities Engineers vs. Sustainability Coordinators.*** Though engineers within the Center for Energy Efficiency work to lessen the required energy needed to maintain campus operations, the workers therein do not operate in the same way workers in an office of sustainability would. Joe Whitefield, the Assistant Vice President of

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Facilities Services, commented, “We’ve got a whole history of ... energy conservation to energy efficiency to sustainability sort of evolution. It’s been that [way] for a lot of organizations, and we’re no different here,” (J. Whitefield, personal communications, October 2021). Describing the shift in American concerns regarding energy consumption since the 1970s, Whitefield alluded to the slow pacing of HEIs to employ tactics to address sustainability in their campuses.

When questioned about where CEE priorities lie, Hardymon commented, “We’re definitely on the facility side of the topic. Whatever initiatives we do on campus have to deal with facilities, but we also support the academic side,” (L. Hardymon, personal communications, October 2021) Whitefield chimed in, “The point is that campus needed to actually benefit from what we were doing, so the campus was the first thing [considered] . . . We didn't want to teach theoretical things,” (J. Whitefield, personal communications, October 2021). Both Whitefield and Hardymon have taught energy auditing classes as adjunct professors in the Engineering Technology department but have discontinued since the rerouting of the Environmental Science degree to the Department of Geosciences in 2019. As previously stated by Dr. Henrique Momm, there is no existing relationship between the Department of Geosciences and the CEE.

Whitefield commented,

I definitely think there's things there that we could talk about [with] the geosciences for sure. So, I would say we would be more than open to that, but we need to hear from them about how they envisioned what's happening with the curriculum around sustainability in particular from the geoscience perspective as opposed to, again, from the engineering technology [perspective], which is more

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an engineering approach, you know. I know we're certainly open to it, but we haven't been pursuing that specifically (J. Whitefield, personal communications, October 2021).

The opinions of CEE managers regarding MTSU's need to draft a sustainability plan were unexpected and opposite to the responses given by other interviewed employees. When asked if he believed MTSU needed to draft a sustainability plan, Whitefield responded,

We don't have a specific sustainability plan. I don't see anything wrong with that. I would say there's a number of things that are out there that don't get credit for the value they bring to the university already, so any plan would have to include or acknowledge what's already been done and continued to work for us today.

During our interview, Whitefield expressed some frustrations regarding the publicity of the Center for Energy Efficiency's achievements. I attribute his emotions as evidence that university employees in roles relating to campus sustainability may feel undervalued as their efforts receive little to no public acknowledgement; MTSU does not advertise the work of CEE employees as much as it advertises the work of employees within other departments.

Having previously worked among the facilities engineers at a larger institution, Olivia Herron understands the differences in duty and motivation for engineers versus sustainability directors. She reflected,

I helped restore and organize excel files on like campus energy data in 250 buildings for the last three years, and I could tell you how many MMBtus of

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power saved by converting to geothermal and LED lights, but that doesn't speak to students. So, on the financial side it's definitely extremely valuable and environmentally, it's extremely important that we make sure that you know we're managing our resources responsibly...But that's engineering.

Herron believes that her co-majors in Sustainability and Communications have prepared her well for her duties within Austin Peay State University's Office of Sustainability currently housed within the university's Student Affairs Division Office. She said,

While I do have the scientific background and understanding of numerous environmental issues, I will say in my current role I think my background is just as, if not, more valuable to the work that I'm doing with students. A personal passion for sustainability is something you have to have in this role. You're never going to get students excited about sustainability if you're not excited about sustainability.

Within her role, Herron completes a variety of tasks such as assisting professors with the tedious process of grant writing to secure federal funding, communicating with other campus sustainability offices to devise sustainability programming, providing direction for student sustainability workers, and getting her own hands dirty as she assists student volunteers with outdoor green projects. Herron and other directors of sustainability on campuses aim to promote interdisciplinary engagement among students, faculty, and staff, whereas facilities engineers aim to manage the institution's energy sources and output to lower the cost of operations.

### DISCUSSION

I chose my approach because I believed it would best demonstrate that the convenient online access to institutions' sustainability planning and programming varies for many reasons. Though many institutions met several of my surmised criteria, none met them all. For some, adequate institutional funding prevents programming from expanding. Among the several factors that may stifle effective sustainability programming are the following: lag of an institution's higher administration to devote itself in satiating its partners' requisites, indecision when setting a target goal, delay to reinforce institutional intent with new curriculum, failure to allocate resources for programming and leadership, and denial of accountability for actions that may work to the community's benefit or detriment. Amaral et al. (2021, p.1) found, "inadequate planning, the inappropriate design of systems, the lack of proper maintenance, the low return on investment, mismatch between the actions and the local climate, or the uncertainty of long-term commitment to a sustainable behavior" to be associated with less successful sustainability efforts. Additionally, institutionalized efforts to limit student programming out of precaution for the COVID-19 virus, in some cases, had severely impaired sustainability programming. Due to many situational factors, the ability to demonstrate sustainable campus operations may vary in difficulty.

In continuation of my research, I would like to append the valuable recommendations of students and sustainability coordinators at top-performing institutions. Holding an interview with an MTSU provost and the Director of Student

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Organizations and Service would have provided more precise reasoning for the lack of institutional commitment and community and academic engagement efforts.

### **Institution of Best Fit**

In my effort to determine which institution's overall plan of action would be the best fit for MTSU's campus community, I chose the institution with the highest Similarity Quotient and total score to be a "model university" for MTSU to contact regarding campus sustainability planning. Of the 3 institutions that possessed Similarity Quotients equal to 100% (University of Memphis, Old Dominion University, and Virginia Commonwealth University), VCU met 15 criteria more than MTSU.

Virginia Commonwealth University boasts a ratio almost 9 points higher than the average of all institutions surveyed, and its score ranked 1<sup>st</sup> among all Recommended Institutions and tied 4<sup>th</sup> amongst all surveyed institutions. In every overall category, VCU outperformed MTSU. Located in the urban city of Richmond, Virginia, VCU is a public university where only 20% of its student population of 21,943 resides on-campus (U.S. World News and Reports, 2020).



## CONCLUSIONS

The study's analysis of the implications of sustainability actions for MTSU based on its assessment of Middle Tennessee State University's associated status suggest there is need for improvement regarding MTSU's campus sustainability strategy and planning. Researchers found that,

USR actions are strategic [when] they meet five specific conditions: (1) they are coordinated with the institution's mission and objectives; (2) they produce a differentiating position for the university; (3) they anticipate the needs of the stakeholders; (4) they are not ... imposed by external norms and (5) when those actions are easily visible by stakeholders (Ramos-Monge et al., 2017, p. 200).

This finding leads me to conclude that MTSU's current sustainability strategy allows the institution to underperform in its responsibility to appease its stakeholders by (1) failing to produce a differentiating position for the university, (2) failing to anticipate the needs of its stakeholders, (3) and failing to make what efforts and actions it has completed easily visible to its stakeholders.

As the second largest public institution in Tennessee, the university social responsibility of MTSU should be fulfilled and considered among the best of all Tennessee institutions of higher education, yet the results show that we are not currently meeting that standard. According to Ramos-Monge et. al, "It is understandable for the university sector that responsibilities are also bigger regarding the size of the institution, since it has a greater impact on the environment, and it affects the daily work in a greater number of people,"(Ramos-Monge et al., 2017, p. 201). MTSU has an impact in the city of Murfreesboro, the Middle-Tennessee region, and internationally given the diverse

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population of students it serves who then assimilate worldwide. According to a report authored by the Business and Economic Research Center within MTSU's Jones College of Business, MTSU is responsible for the creation of 8,400 jobs in Tennessee which provide \$1.12 billion in revenues and over \$408 million in wages and salaries (Oppman, 2019). However, given little accountability for its environmental impact, MTSU has been allowed to continue its unsustainable practices. Though the university has a history of accomplishing great things before its time, it cannot rest in its laurels. Unsustainable campus practices have a cost, and the institution should not let those practices dim its successes.

## RECOMMENDATIONS

For Middle Tennessee State University to acquire institutional success, its strategic sustainability planning must declare the higher administration's commitment to address societal concerns, include the support of academic departments, and open-mindedly connect those it did not reach previously. Ramos-Monge et al. (2017, p. 203) suggest the following:

First, [institutions] have to state their public nature, assuming responsibilities toward society, as well as social, environmental and economic concerns. The formulation of university strategies must take into account these needs, including them in the mission, goals, objectives, lines of action and other components that form the strategic plan.

Scoones (2016) claims new forms of environmental governance “must take on new networked forms, rooted in collective action and challenging liberal forms of democracy, markets, and authoritarian regimes” and they must, “connect people and places globally across networks; building alliances for transformations requires linking diverse actors—state and non-state—through both formal and informal processes.” Additionally, Scoones says, “Transformations to sustainability and development cannot be ordered, managed, and controlled, but must emerge from unruly political alliances, diverse knowledges, and collective organization,” (Scoones, 2016, p. 310).

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One recently published and successful sustainability-oriented education model is the Challenge Lab curriculum model. The Challenge Lab (C-Lab) curriculum allows students to be active co-creators of solutions surrounding societal challenges within an exploratory in-between space. Holmén et al. (2021, p. 4) explains,

The C-Lab curriculum model shares important features with well-established pedagogical models, such as service learning, problem- and project-based learning, transdisciplinary case studies and experiential learning (Holmén et al., 2021, p. 17)...Via a preparatory course and master's thesis lab, C-Lab supports and creates space for students across educational backgrounds to build leadership capabilities in engaging with societal sustainability-transition challenges in multi-stakeholder settings.

Teachers, during the process, act only as facilitators to the co-creative process. Students are placed in an open atmosphere that allows them to express, without fear of judgment, their values, hopes, and personal investment in the complex issue being discussed.

Researchers stated,

Three context-mechanism-outcome (CMO) configurations were identified, capturing what students placed value and emphasis on when developing capabilities for leading sustainability transformations: engaging with complex “in-between” sustainability challenges in society with stakeholders across sectors and perspectives; navigating purposeful and transformative change via backcasting; and “whole-person” learning from the inside-out as an identity-shaping process, guided by personal values (Holmén et al., 2021, p.1).

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Altogether, students were taught to and accept their responsibility in furthering campus sustainability by engaging with other students and experts to determine which transitions would be best implemented to address the institution's specific challenges.

MTSU may also benefit from efforts to communicate with its students, faculty members, and staff. Kim et al. (2018, p.1) found,

Exploratory factor analysis of 12 communication sources resulted in three clusters: news sources, blogs and social media sources, and local sources of information. All three clusters had positive impacts on the sustainability awareness of students, staff, and faculty members. Of the three clusters, local sources were the least effective strategy for enhancing sustainability awareness in all groups. Overall, for undergraduate students, blogs and social media sources were most effective, and for graduate or professional students and staff, news sources were most effective.

Students cannot interact with what is invisible to them. Integrating an Office of Sustainability into MTSU's pre-existing Center for Student Involvement and Leadership (CSIL), which already lists details concerning MTSU's student-initiated Sustainable Campus Fund tuition fee and committee, may encourage sustainability awareness among the MTSU community and stimulate student service learning and empowerment.

In the case of Middle Tennessee State University, in the author's opinion, the implementation of a strategic plan for sustainability combined with adjustments to curriculum to better educate students on matters of sustainability will allow the institution

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to achieve success in student, faculty, staff, departmental, and organizational participation in transitioning toward sustainable operations.

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## APPENDIX A

### MTSU Peer Institutions:

George Mason University

University of North Texas

Georgia State University

Old Dominion University

The University of Texas at Arlington

*University of New Orleans*

*University of Southern Mississippi*

*Georgia Southern University*

*University of North Carolina – Greensboro*

*Florida International University*

*University of Central Florida*

*Florida Atlantic University*

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### **Comparable In-State Universities:**

Austin Peay State University

East Tennessee State University

*Tennessee State University*

*Tennessee Technical University*

*University of Memphis*

*University of Tennessee at Chattanooga*

*University of Tennessee at Knoxville*

*University of Tennessee at Martin*

(Universities with 2018 tuition and fees less than MTSU notated in italics)

**APPENDIX B**

**Sustainability Assessment Criteria**

***Similarity Quotient***

Is it a public or private institution?

Is it located in the Southeastern United States? (AL, AR, FL, GA, LO, MS, NC, SC, TN, KY, WV, VA)

Is enrollment around 20,000 (+/- 5,000) students?

Is it located in an urban or rural environment?

Is it considered a commuter campus? (< 20% of students reside in on-campus housing)

***Commitments***

Is there an Office or Department of Sustainability?

Is there a part-time/full-time Sustainability Coordinator?

Is a Sustainability fee or "Green fee" assessed to student tuition?

Is there a Sustainability Committee or task force composed of students, faculty, and staff?

Does its Faculty Senate feature a sustainability council?

Does it have membership or affiliation with The Association for the Advancement of Sustainability in Higher Education (AASHE)?

Does its website feature what year the institution's president declared the university's commitment?

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### ***Operational Reporting***

Does it have a comprehensive sustainability website?

Does its website feature a Mission Statement?

Does its website feature a Mission Statement which contains rhetoric pertaining to climate change or emissions (“lowering greenhouse gas emissions”)?

Does its website feature a Climate Action Plan?

Does its website report an inventory of greenhouse gas emissions?

Does its website report the institution’s yearly energy and/or water savings?

Does its website report the institution’s annual percent renewable power purchased and created?

Does its website report infrastructure improvements and increased efficiency?

Does its website feature a portfolio of previous sustainability projects and initiatives?

Does its website feature a portfolio of ongoing sustainability projects and initiatives?

Does its website include a history of sustainability on its campus?

Does its website feature a map of sustainability projects and/or initiatives on-campus?

### ***Operational Programming***

The institution’s website suggests it has a campus-wide recycling program.



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The institution's website suggests it has an office sustainability improvement initiative.

The institution's website suggests its dining operations allow composting.

The institution's website suggests its dining operations allow the usage of reusable to-go boxes and/or mugs.

The institution's website suggests it features a farmer's market.

The institution's website suggests it features a bike-sharing program.

The institution's website suggests it invests in solar energy generation projects.

The institution's website suggests it has on-campus charging stations for electric vehicles.

### *Academic Programming*

The institution's sustainability website outlines its academic vision.

The institution's sustainability website provides links to sustainability-related Major programs and/or Earth Science department.

The institution's sustainability website provides links to jobs and/or internships outside of the institution.

The institution's sustainability website features sustainability-related faculty research.

The institution's sustainability website features workers lecturing within a classroom.

The institution's sustainability website provides links to recommended readings and media.

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

The institution has a learning garden.

The institution created additional habitat for pollinators.

The institution offers paid student internships and/or fellowships with sustainability as a focus.

### *Community Engagement*

The institution's sustainability website features a calendar of upcoming volunteer events.

The institution's sustainability website features annually occurring events and programs?

The institution's sustainability website features social media pages.

The institution's sustainability department or office sends out emails regularly, features a news feed, or runs a blog?

The institution's sustainability website recognizes associated student organizations.

The institution's sustainability website recognizes and showcases student success.

The institution's sustainability website provides opportunities for student artists.

The institution's sustainability website leads to an environmentally focused Living and Learning Community.

The institution's sustainability website features a Green Pledge for students to commit to.

The institution's sustainability website lists an on-campus arboretum.

**APPENDIX C**

**Guided Interview Questions**

***Interview with Olivia Herron***

Describe your current role and how your work relates to campus sustainability.

How does Middle Tennessee State University's approach to environmental education compare to that of Austin Peay State University?

How has APSU's approach to sustainability changed over the course of your employment?

What changes to curriculum might inspire students to have a more active role in the betterment of their communities? What are the benefits of instituting an Office of Sustainability on one's campus?

Why are the perspectives of environmental scientists and engineers' valuable for college campuses?

How might MTSU have better inter-departmental collaboration for sustainability initiatives?

***Interview with Linda Hardyman & Joe Whitefield:***

Describe your role and how your work promotes sustainability on MTSU's campus.

How does the Center for Energy Efficiency inspire environmental literacy on-campus?

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

Has the CEE considered drafting a sustainability plan that outlines the long-term goals of the university?

Do you think the MTSU community might gain from rebranding of the Center for Energy Efficiency as an Office of Sustainability equipped with a full-time sustainability director? If so, how?

How would you describe MTSU's dependence on fossil fuels?

Can you provide a timeline for the transition of MTSU's fleet of vehicles to hybrid/electric transportation options?

How does the Center for Energy Efficiency provide resources and opportunities for students interested in careers in energy and resource conservation?

Are there any educational training programs available for students and staff?

How can the CEE inspire better inter-departmental (both academic and non-academic) collaboration for sustainability initiatives?

### ***Interview with Dr. Henrique Momm:***

Describe your role and how your work relates to campus sustainability.

How does the Department of Geosciences promote experiential learning opportunities for students that expand their insights about sustainability and environmental resilience and stewardship?

Why are the perspectives of geoscientists valuable for college campuses today?

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

Is the Department of Geosciences working with other Colleges or Departments to minimize the university's environmental/ecological footprint?

How can MTSU have better inter-departmental (both academic and non-academic) collaboration for sustainability initiatives?

Has there been collaboration between the Department of Geosciences and the Center for Energy Efficiency?

### ***Interview with Dr. Angela Mertig:***

Describe your role and how your work relates to campus sustainability.

Describe your relationship with Students for Environmental Action.

What is the impact of teaching environmental sociology?

How are your students expected to engage with their community?

How important is it that CLA teachers tie in material related to other disciplines?

How can your department change its curriculum to inspire campus sustainability?

### ***Interview with Josh Stone:***

Describe your role and how your work relates to campus sustainability.

Describe the Recreation Center's partnership with the Center for Energy Efficiency. Is there room for improvement?

## SURVEY OF CAMPUS SUSTAINABILITY PLANNING

How has the Sustainable Campus Fund benefitted the MTSU Recreation Center?

Does the Bike Shop have plans for expansion?

Does MTOP partner with MTSU student organizations?

How committed is the Rec Center to improving its operations to be more energy efficient?