



# 2018 SUSTAINABILITY MASTER PLAN

OCTOBER 2018





"Texas A&M strives to be a fearless leader in sustainability and to increasingly embed our commitment to respect, protect, and preserve the financial, environmental, and people resources that support our community not only for today, but for future generations of Aggies."

Michael K. Young  
President, Texas A&M University

Excerpt from 2016 Sustainability Highlights Report



This document is intended to be viewed digitally. If you must print, please print double-sided and print only the portion of the document you need to reference. The Executive Summary and Plan at a Glance provide overviews of the entire 2018 Sustainability Master Plan.



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# Letters from Leadership



Michael K. Young  
Texas A&M University President

Texas A&M University has over 140 years of history in teaching, research, and leadership in sustainability. Sustainability is embedded in the fabric of our institution through the faculty and staff who train our student scholars to the researchers who define new ways to solve global challenges of improving resource efficiencies, protecting our natural environment, and improving the quality of life outcomes.

To continue the bold step forward in fulfilling our land-, sea-, and space-grant missions of improving the lives of the state, nation, and world, this newly updated Sustainability Master Plan has taken the nine themes of 2017 Campus Master Plan (<https://campusplan.tamu.edu/>) and established 16 evergreen goals and 47 targets. The evergreen goals are aspirational in nature while the targets serve to guide the institution toward achieving those goals. As you read this plan, you will learn more about the course this plan outlines for our campus over the next 15+ years.

I would like to thank members of the President's Sustainability Advisory Council who provided guidance and oversight throughout the planning process as well as the four working groups who helped shape this vision for the future. I also wish to thank the numerous campus constituents who participated in the development of this plan through open houses and meetings to provide us with much needed input.

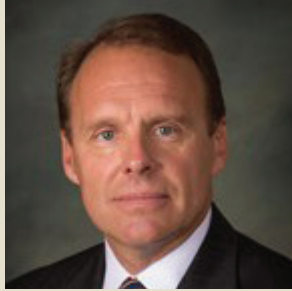
Finally, I would like to thank members of the Office of Sustainability who organized and guided each step of the planning process. Without their leadership, this project would not have been possible.

The 2018 Sustainability Master Plan strengthens the institution's commitment to sustainability and provides a clear vision for our future.

Respectfully,

A handwritten signature in black ink that reads "Michael K. Young". The signature is fluid and cursive, with a large, stylized "Y" at the end.

Michael K. Young  
President



Jerry R. Strawser  
Executive Vice President for Finance and Operations  
and Chief Financial Officer, Texas A&M University  
Chair, President's Sustainability Advisory Council

As Chair of Texas A&M University's Sustainability Advisory Council, I am pleased to share the recent update of our campus' Sustainability Master Plan.

This update identifies important objectives and goals with respect to our sustainability efforts in nine key academic and operational areas. It has been informed through efforts of our entire campus community, including faculty, staff, and students. This plan, as well as the efforts of our Office of Sustainability, will place Texas A&M as an international leader in campus sustainability efforts.

As with any university-wide effort, our success in achieving the goals of this plan will depend on all of our efforts. I encourage you to review this plan and consider how your own activities can enhance our efforts to respect, protect, and preserve our financial, environmental, and people resources.

Respectfully,

A handwritten signature in black ink, consisting of stylized initials 'JS' followed by a horizontal line.

Jerry R. Strawser  
Executive Vice President for Finance and Operations  
and Chief Financial Officer



# Executive Summary

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Stemming back to the institution's first Sustainability Master Plan (SMP) in 2010, the university has evolved with the growing discipline of sustainability; however, campus has remained committed to its definition:

**Texas A&M University defines sustainability as the efficient, deliberate, and responsible preservation of environmental, social, and economic resources to protect our earth for future generations of Texas Aggies, the Texas A&M University community, and beyond.**

The university embarked on a journey to update its 2010 SMP following the creation of the President's Sustainability Advisory Council (SAC). The SAC defined a number of core goals the update would need to achieve in order to renew Texas A&M University's commitment to sustainability. Under the SAC's guidance, the 2018 Sustainability Master Plan (SMP) aims to:

- Advance Texas A&M University's sustainability achievements ahead of peer institutions.
- Include evergreen goals with short-, medium-, and long-term steps.
- Balance effort and impact.
- Identify accountable parties.
- Identify metrics Texas A&M University will use to evaluate progress.

An outside consultant, Ayers Saint Gross, was hired to run the project's engagement process and develop the content of the 2018 SMP. Ayers Saint Gross used Texas A&M University's 2016 submission for the Sustainability Tracking, Assessment, and Rating System (STARS), a program of the Association for the Advancement of Sustainability in Higher Education (AASHE), to benchmark the institution against its peers and to frame discussions with campus constituents about future sustainability goals. Among the goals discussed was the emerging topic of social sustainability. Within sustainability, which

encompasses the intersection of environmental, social, and economic issues, social sustainability specifically focuses on the human component. Topics within social sustainability at Texas A&M University include equity, diversity, and inclusion; health and wellness; voice and influence; and external engagement. Metrics for such topics are being developed within higher education and beyond, and actively engaging in these discussions keeps Texas A&M University on the leading edge of what sustainability looks like today.

The themes addressed by the 2018 SMP build directly from work developed in the 2017 Campus Master Plan and align with other institutional planning efforts, including Vision 2020, the 2010 Diversity Plan, and the 2017 Utilities & Energy Services Master Plan. Collectively, these documents speak with one cohesive voice to advance Texas A&M University in its endeavors.

Developing the 2018 SMP was a collaborative effort that included leadership from the President's Sustainability Advisory Council and the Office of Sustainability, contributions from four working groups that drew participants from a wide array of campus stakeholders, open houses to capture broader campus engagement, and numerous meetings with student, faculty, and staff organizations. The process ultimately resulted in evergreen goals, objectives that are likely to be aligned with Texas A&M University's sustainability objectives in perpetuity, created measurable targets with defined timelines, and identified stakeholders who will be responsible for both leading and supporting the efforts defined in this document.

The Plan at a Glance, found in Chapter 11, is provided as a summary guide for the comprehensive details included in the upcoming pages.

## The 2018 Sustainability Master Plan Topic Areas & Evergreen Goals



### Energy Use and Greenhouse Gas Emissions

- Achieve a 50% reduction in greenhouse gas emissions per weighted campus user by 2030; achieve net-zero emissions by 2050.



### Stormwater Management

- Minimize erosion and contaminants in stormwater runoff.



### Campus Mobility

- Minimize the number of total vehicle miles traveled by campus users.
- Operate a campus fleet that minimizes demand for fossil fuels.



### Built Environment and Site Design

- Deliver the lowest life-cycle cost construction to build, operate, maintain and decommission through facility performance criteria.
- Deliver biodiverse, connective landscapes that integrate campus lands into the larger eco-region through site design criteria.



### Waste Management

- Achieve zero waste to landfill by 2050.

## The 2018 Sustainability Master Plan Identifies:

**16**      **47**      **162**

Evergreen Goals

Targets

Actions



### Social Sustainability

- Aggies demonstrate and promote a working and learning environment that welcomes, supports, and nurtures everyone's success.
- Aggies maintain their health and wellness by taking care of the body, engaging the mind, and nurturing the spirit to improve their quality of life.
- Foster a climate that encourages all Aggies to participate in the campus environment, policy planning, and decision-making to develop a university that is inclusive of its diverse constituents.
- Aggies engage across local and state communities, and across national and cultural borders, to advance academic exchange, collaboration, and dialogue.



### Education, Outreach, and Engagement

- Expand the Aggie community's knowledge of sustainability to be inclusive of social, economic, and environmental factors while normalizing socially just and resource efficient behaviors.



### Administrative Support

- Develop and implement policies and practices that institutionalize sustainability efforts.
- Align sustainability staffing and funding to the depth and breadth of work being done.



### Instruction, Research, and Innovation

- Produce sustainability-literate graduates from all fields of study who are competitive additions to the workforce and society.
- Advance local, national, and global communities toward a more socially just, resource efficient future through discoveries at Texas A&M.

## Sustainability Timeline

### Office of Sustainability Founded

The Office of Sustainability provides vision and leadership for campus sustainability, implements programs and planning to encourage sustainable practices, coordinates an annual institutional sustainability assessment, and collaborates with other institutions of higher education through regional and national engagement.

### Focused Energy Efficiency

In 2011, Texas A&M's \$75 million upgrade to the Combined Heat and Power Plant replaced older, less efficient equipment with a modern, highly-efficient system that uses natural gas fuel. The system captures exhaust heat that was previously wasted to produce steam that generates more power and heat for campus.

### Aggie Green Fund Celebrated \$1M Awarded Since Program Inception



The Aggie Green Fund is a grant-making organization that supports sustainability projects at Texas A&M. Offering funds to University students, staff, and faculty, the fund was launched in 2011 and by 2014 awarded \$1 million in grants. The program continues today.

### President's Sustainability Advisory Council Established

This body is charged with formulating strategy to foster and promote sustainability throughout the University community. Their work includes overseeing sustainability goals coordinated with the Office of Sustainability, monitoring the University's performance using the AASHE STARS reporting system, and facilitating the implementation of the Sustainability Master Plan.

2007

### Sustainability & Environmental Management Committee (SEMC) Established

This committee advises the Associate Vice President for the Office of Safety and Security and the Environmental Health & Safety Department. The SEMC drafts and reviews environmental policy and programs and recommends methods of improving compliance, pollution prevention, education, environmental stewardship, and sustainability.

2008

2009

2010

### 2010 Sustainability Master Plan

The 2010 Sustainability Master Plan provided a framework to guide the University's path toward becoming a sustainability leader. The intention was to achieve continual improvement in the environmental, social, and economic areas of Texas A&M University.

2011

2012

### AASHE STARS Silver first achieved



2013

2014

### Office of Sustainability hosted its first Sustainability Breakfast

2015

### AASHE STARS Gold first achieved



2016

2017

### Texas A&M University became the nation's largest Fair Trade Campus



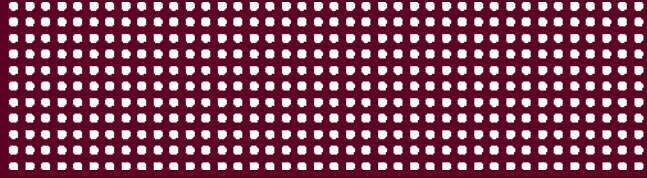
2018

### 2018 Sustainability Master Plan

The 2018 SMP renews Texas A&M's commitment to sustainability and charts the course forward for the next two decades of advancement.



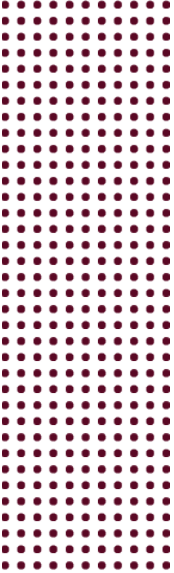
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## INTRODUCTION

Building on the successes of the last decade, the 2018 Sustainability Master Plan envisions what the next generation of sustainability work at Texas A&M will encompass. Aligning with other recent planning efforts such as the 2017 Campus Master Plan, 2018 Utilities and Energy Services Master Plan, and 2010 Diversity Plan, this work aims to advance Texas A&M as a sustainability leader among its peer institutions, balance efforts and impacts of sustainability initiatives, identify metrics to evaluate sustainability successes, and establish the parties who will play critical roles in ensuring future successes. The 2018 Sustainability Master Plan renews Texas A&M University's commitment to the environment, economic prosperity, and social equity.

Texas A&M has made many strides in sustainability, not all of which are cataloged in this document. While some programs and initiatives are particularly celebrated, all sustainability efforts to date have supported Texas A&M in creating a more sustainable future. This document aspirationally looks further ahead to envision an even more sustainable Texas A&M. As a member of the Aggie community, you will be a critical part of Texas A&M's sustainability efforts.



## Sustainability at Texas A&M

From its inception as a land-grant institution in 1876 to its additional sea-grant and space-grant designations, Texas A&M University has been a leader in research and education for how we interact with - and impact - our environment. This plan is an extension of that legacy and renews the Aggie community's commitment to meeting the needs of the present without compromising the ability of future generations to do the same.

**Texas A&M University defines sustainability as the efficient, deliberate, and responsible preservation of environmental, social, and economic resources to protect our earth for future generations of Texas Aggies, the Texas A&M University community, and beyond.**

That definition is inclusive of three "pillars" of sustainability: the environment, society, and the economy, but most audiences have difficulty connecting all three comprehensively.

Social sustainability has largely been absent in mainstream sustainability debates as it is the most elusive of the three pillars. However, the conversation is evolving and higher education is investigating better ways to incorporate the topic. Social sustainability encompasses a broad range of ideas, attitudes, and initiatives and cannot be universally prescribed or measured in the same way as many standards for environmental and economic sustainability.

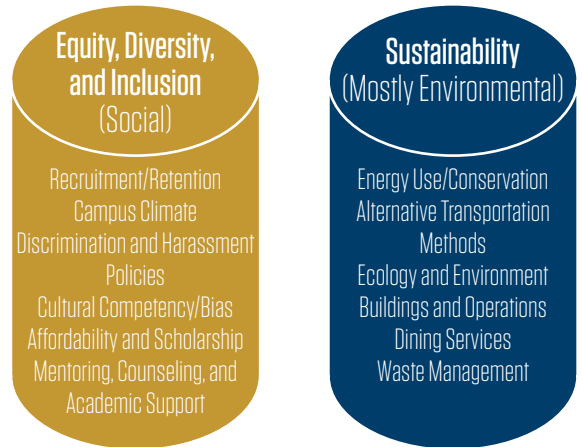
While some sustainability rating systems have begun to capture aspects of social sustainability, metrics and indicators are still in the early stages of development and have yet to cover the full breadth of social sustainability issues communities may face.

In higher education, the Association for the Advancement of Sustainability in Higher Education's Sustainability Tracking, Assessment and Rating System (see page 6) is the most prominent set of metrics for evaluating an institution's sustainability accomplishments. Social Sustainability

## The Triple Bottom Line



## A Siloed Approach



Sustainability in higher education typically isolates social initiatives from sustainability initiatives on campus and focuses exclusively on equity, diversity, and inclusion.

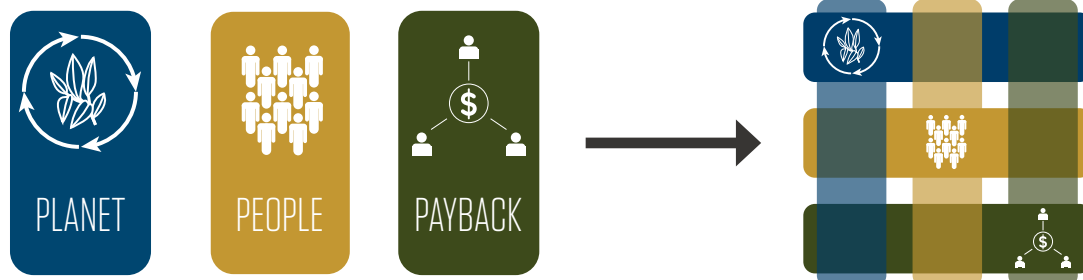
metrics are included in STARS and efforts are underway to improve and refine them. The system focuses on areas of interest that are unique to colleges and universities, but its representation of sustainability does not aggregate all of the metrics Aggies have identified as critical indicators of Texas A&M's sustainability. Some goals, targets, and actions within this 2018 Sustainability Master Plan (SMP) are aligned very closely to STARS credits, but others uniquely express Texas A&M's priorities and were developed through the plan's collaborative planning process.

Sustainability at Texas A&M focuses on the connections between people, the economy, and the environment and how those connections work together to achieve long-term prosperity and continued quality of life. The 2018 SMP identifies social sustainability as an equally weighted pillar

to the environmental and economic pillars of sustainability, which is unique within higher education.

Many institutions house an office dedicated to spearheading equity, diversity, and inclusion efforts while a separate office focuses on resource conservation, environmental awareness, and economic payback initiatives. Largely missing in higher education are the rich opportunities that can result from addressing sustainability in a quilted fashion where environmental, social, and economic issues are integrated into a collaborative fabric in lieu of acting in individual silos.

It is hoped that the quilted model of environmental, social, and economic sustainability issues within this 2018 SMP leads to a more integrated approach to sustainability within the University community.



This plan intends to break down silos in University sustainability efforts and create a more quilted approach to realize greater impact from sustainability efforts across the campus community.

"Our vision is to be recognized as a national campus leader in sustainability, to develop long-term programs around environmental, social, and financial stewardship for our earth that have measurable results, and for every member of the Aggie family to incorporate sustainable practices into their daily lives."

Texas A&M University  
Office of Sustainability  
Vision

## The Sustainability Literacy Assessment

The Office of Sustainability and the Office of Institutional Effectiveness & Evaluation have collaborated since the Fall 2016 semester on an annual Sustainability Literacy Assessment to measure the sustainability competency and culture of Aggie students, faculty, and staff. The survey tool was developed by staff in the Office of Sustainability and integrates best practices from similar assessments completed by peer institutions as well as content that is uniquely valuable to Texas A&M. The survey was distributed through email to randomly sample a representative portion of the student body, faculty, and staff. The pool of responses is understood to be statistically significant and representative of the Texas A&M student, faculty, and staff communities.

The survey instrument features 23 questions. To measure competency, respondents were asked to identify the core components of sustainability, what energy sources are considered renewable, the principal cause of ground level ozone, whether certain activities will increase an individual's carbon footprint, actions that support climate change preparedness, what greenhouse gases are, and what the definition of "sustainability" is. To measure the sustainability culture at Texas A&M, respondents were asked to rank the importance of various sustainability-related topics in a global context as well as at Texas A&M. Respondents were also asked to rank the importance of the three components of sustainability (environmental, social equity, and economic), among other questions.

**97%**

Students who think sustainability is at least somewhat important

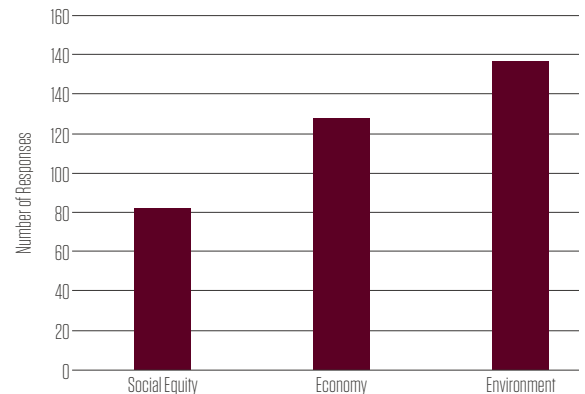
**90%**

Students, faculty, and staff who think it is important to incorporate sustainability into their daily lives

**52%**

Students, faculty, and staff who correctly defined "sustainability" in the literacy assessment

### Which of the following are the core components of sustainability?



Sustainability is about the relationships among the environment, social equity, and the economy, but Aggies are nearly twice as likely to think the environment is a core component of sustainability as they are social equity.

**86%**

Students who can identify carbon dioxide, methane, nitrous oxide, chlorofluorocarbons, and ozone as greenhouse gases

Aggies think the 5 most important sustainability-related topics for Texas A&M are:

Conserving energy



Conserving water



Reducing waste



Using renewable energy

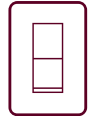


Recycling



Aggies are most likely to have adopted the following sustainable actions:

Turning off the lights in unused rooms



Using double-sided printing



Using reusable mugs & bottles



Recycling



Aggies think the 5 most important sustainability-related topics for our world are:

Access to clean water



Access to clean air



Public health



Food supply

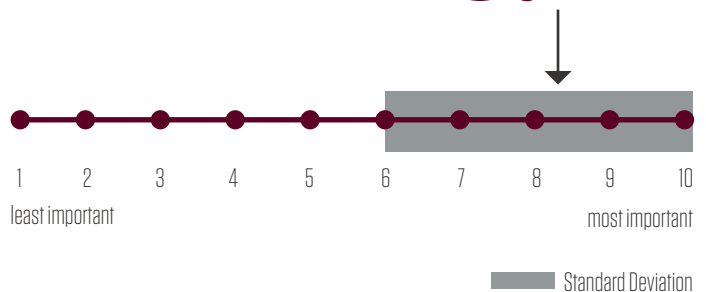


Access to quality education



**Q:** On average, how important do Aggies think it is to incorporate sustainability in Texas A&M's planning and initiatives?

**A:** **8.17**



## AASHE STARS

The Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking, Assessment, and Rating System (STARS) is a tool for evaluating sustainability efforts at colleges and universities. The system recognizes achievements in five categories:

- Academics
- Engagement
- Operations
- Planning and Administration
- Innovation and Leadership

Depending on how an institution performs on various AASHE-defined credits within those categories, a rating of Reporter, Bronze, Silver, Gold, or Platinum is awarded. In Texas A&M's most recent STARS submission (December 2017), the institution achieved a STARS Gold rating.

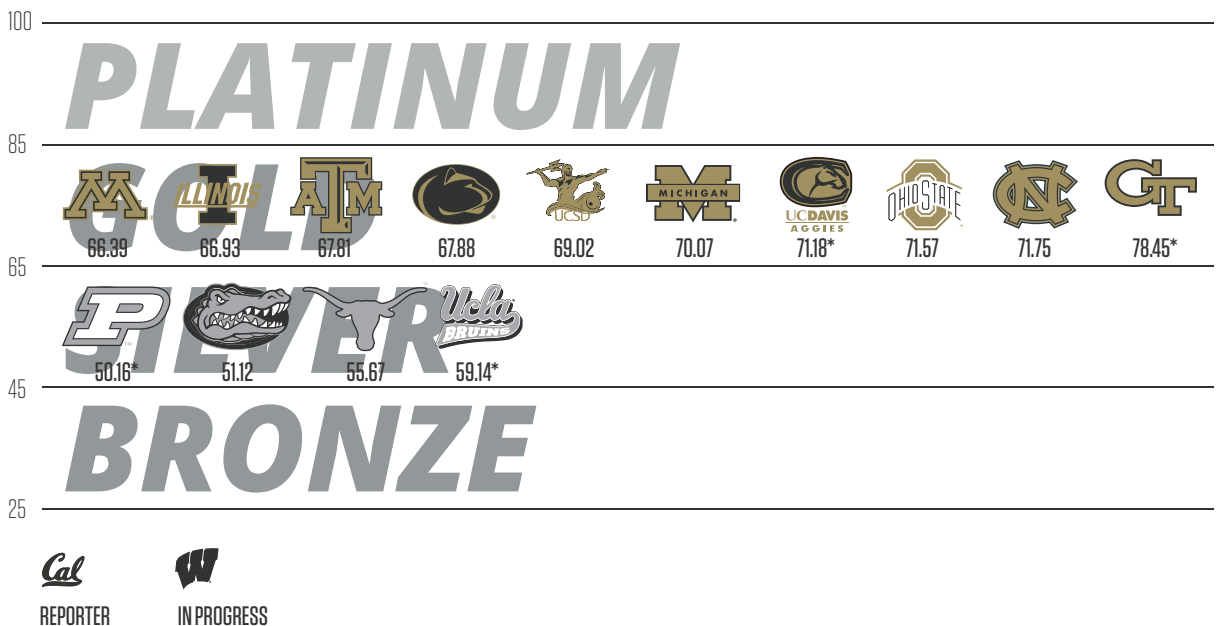
Because STARS is used by over 420 colleges and universities, Texas A&M's efforts to annually update its STARS report support peer comparisons with the

University strategic plan's Vision 2020 peer group and beyond. As with all third-party sustainability rating systems, however, the questions STARS asks do not entirely align with Texas A&M's sustainability priorities. STARS reporting is exceptionally valuable to understand how Texas A&M is performing relative to its peers, but it is not the only metric by which Texas A&M defines its sustainability achievements.

Texas A&M's existing sustainability successes place it in the middle of the Vision 2020 peer group's STARS scores. This SMP has been developed to improve Texas A&M's STARS rating among peer institutions and demonstrate leadership in sustainability.

While there are five categories in the STARS rating system, they are unequally weighted and Texas A&M's achievements in each are varied. Operations offers the largest number of points, recognizing that college and university buildings, dining operations, transportation systems, grounds maintenance, and

### Texas A&M University's STARS Rating Compared to Vision 2020 Peer Group as of 28 June 2018



STARS rates institutions on a scale from Reporter to Platinum. Texas A&M's current score places the institution in the middle of the Vision 2020 peer group, demonstrating both existing successes as well as room for improvement. Ratings marked with an asterisk (\*) indicate data reported by the institution is greater than three years old.

waste management contribute significantly to an institution's impact. Texas A&M achieved 47% of the Operations points available in the 2017 STARS submission, with the greatest success in the Water sub-category and the greatest room for improvement in the Food and Dining sub-category.

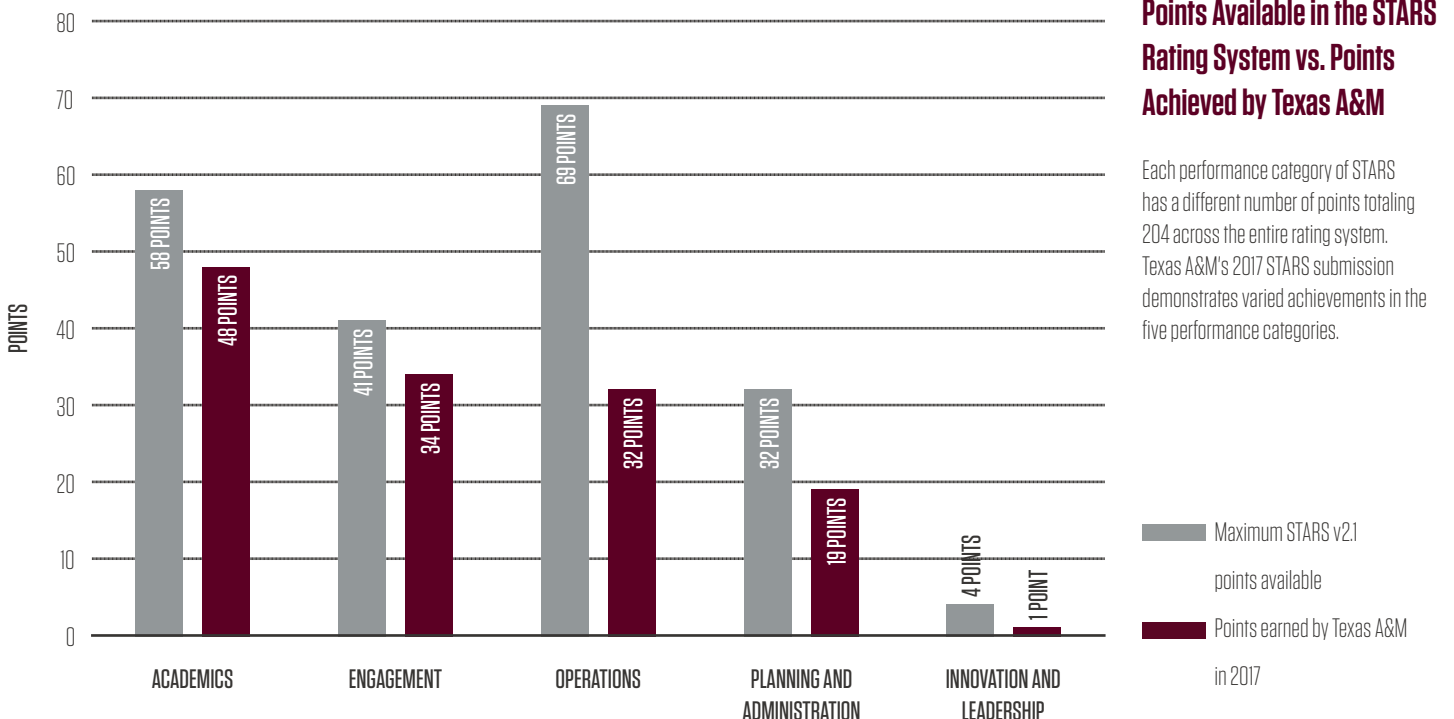
Academics offers the second highest number of points. Research and scholastic achievements are intrinsic to a university's educational mission, and producing sustainability-literate graduates as well as research that leads the world to a more sustainable future is critically important. Texas A&M achieved 83% of this category's available points in the 2017 STARS submission, achieving full points in the Research sub-category. The greatest opportunity for improvement is in the Learning Outcomes credit.

The Engagement category focuses on outreach both within the campus community as well as broader interaction with the public. Texas A&M achieved 91% of the available points in 2017. The greatest opportunities for growth are in Trademark Licensing and Community Service.

The Planning and Administration section of STARS recognizes accomplishments in diversity, affordability, and investments as well as the caliber of the work environment for faculty and staff. The greatest opportunity for improvement is in the Investment & Finance credit. While this is a challenging credit for many institutions, several peer institutions provide information that grants them partial credit. Texas A&M currently chooses not to provide information and therefore earns no points in this credit.

The Innovation and Leadership category recognizes institutions using exemplary and innovative practices. Texas A&M currently achieves 25% of the category's available points, most notably for being a Fair Trade campus and for recognition by the Arbor Day Foundation's Tree Campus USA program.

To review Texas A&M's recent and historical STARS reports, visit: <https://stars.aashe.org/institutions/texas-am-university-tx/report/>.





## UN Sustainable Development Goals

Beyond STARS, the United Nations 2030 Sustainable Development Goals (UN SDGs) define 17 ways to transform the world into a more economically prosperous, environmentally conscious, and socially equitable place. While these 17 goals are articulated to address global challenges, the UN acknowledges that global success will require local actions by countries, institutions, businesses, and individuals. Think global, act local.

The 17 UN SDGs are:

- 1: No Poverty
- 2: Zero Hunger
- 3: Good Health and Well-Being
- 4: Quality Education
- 5: Gender Equality
- 6: Clean Water and Sanitation
- 7: Affordable and Clean Energy
- 8: Decent Work and Economic Growth
- 9: Industry, Innovation and Infrastructure
- 10: Reduced Inequalities
- 11: Sustainable Cities and Communities
- 12: Responsible Consumption and Production
- 13: Climate Action
- 14: Life Below Water
- 15: Life on Land
- 16: Peace, Justice and Strong Institutions
- 17: Partnerships for the Goals

Colleges and universities are inherently places of learning and teaching with broad research agendas, rich social cultures, complex built operations, and governance structures that are uniquely positioned to advance the UN SDGs. The graphic that follows, along with the summary text below, explains how Texas A&M's initiatives, practices, and policies align with the UN SDGs.

Students, faculty, and staff indicated in the 2017 Sustainability Literacy Assessment that access to clean air, access to clean water, and public health are the top three sustainability challenges our global population is facing. These subjects tie to many of the UN SDGs.

Issues of clean air are distributed across a number of the SDGs including SDG 11: Sustainable Cities

and Communities, which specifically addresses air quality in urban environments. Using electric-powered maintenance equipment in lieu of gas-powered helps preserve air quality on campus and allows local actions at Texas A&M to contribute to global successes with the SDGs. SDG 6: Clean Water and Sanitation and SDG 14: Life Below Water address our relationship with water resources, including both access to potable water and the impact our behaviors have on aquatic ecosystems and marine life. The on-campus restoration of White Creek is a relevant local action that contributes to the global work of the UN SDGs.

SDG 1: No Poverty, SDG 2: Zero Hunger, and SDG 3: Good Health and Well-Being work in concert to address lack of access to resources, food insecurity, and public health. While these issues occur at substantially different scales in a global context, they also manifest themselves locally in the Texas A&M community. Work by student organizations such as The 12th Can provides food to students, faculty, and staff who are experiencing food insecurity and epitomizes the kind of local work that can be done on the UN SDGs to achieve global objectives.

The 2017 Sustainability Literacy Assessment revealed the issues students, faculty, and staff find most pressing for Texas A&M to address on campus related to the UN SDGs. Conserving energy, conserving water, reducing waste, using renewable energy, and recycling were identified as the community's top priorities for on-campus action. Issues of energy and water conservation are embedded in SDG 6: Clean Water and Sanitation and SDG 11: Sustainable Cities and Communities, while SDG 12: Responsible Consumption and Production addresses our material streams and how to minimize waste. SDG 7: Affordable and Clean Energy directly relates to the campus community's interest in renewable energy. Advancing the campus community's priority issues will positively contribute to global progress on the United Nations Sustainable Development Goals.

For additional information on the UN SDGs, visit: <https://sustainabledevelopment.un.org/sdgs>.



# Relationships Among the United Nations Sustainable Development Goals and the Texas A&M Sustainability Themes

## Texas A&M Sustainability Themes

## United Nations Sustainable Development Goals



Energy Use and GHG Emissions



Stormwater Management



Campus Mobility



Built Environment and Site Design



Waste Management



Social Sustainability



Education, Outreach, and Engagement

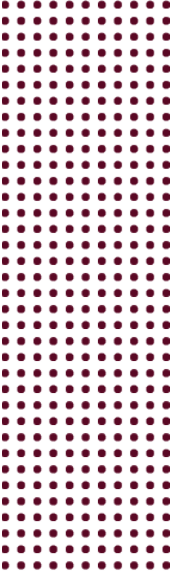


Administrative Support



Instruction, Research, and Innovation





## Process and Engagement

The 2018 Sustainability Master Plan (SMP) team organized its process with three layers of engagement during academic year 2017-2018. At the leadership level, the 2018 SMP's development was guided by the President's Sustainability Advisory Council (SAC). This group is charged with formulating strategy to foster and promote sustainability throughout the university community, and it is comprised of an inclusive cross-section of administrators, faculty, staff, and students.

Nine sustainability themes were inherited for the 2018 SMP process from the 2017 Campus Master Plan. Four working groups comprised of campus experts on the nine sustainability themes were developed to discuss the challenges and opportunities within each theme (see page 93). Two of these groups, Physical Environment and Institutional Efforts, discussed multiple themes simultaneously because of the interconnected nature of their content. Working group participants were invited to the process by the Office of Sustainability because of their expertise regarding how these themes manifest on campus. Undergraduate and graduate students were invited to participate in each working group.

Working groups were engaged in two ways: individually and collectively. Discussions with individual working groups supported deeper technical dives into subject-specific content, while conversations hosted across working groups identified interconnections among the nine themes. To broaden engagement, the 2018 SMP effort worked to build buy-in to the plan's goals, targets, and actions by specially reaching out to a number of university communities beyond the working groups including:

- Asian President's Council
- Athletics
- Council for the Built Environment
- Council of Deans
- Council for Minority Student Affairs
- Department of Student Activities

- Faculty Senate
- Graduate & Professional Student Council
- Office for Diversity
- Student Senate
- Student Sustainability Coalition
- Undergraduate Studies
- University Staff Council
- Utilities and Energy Services

Ayers Saint Gross, the external consultant engaged by Texas A&M to lead the 2018 SMP effort, also hosted student, faculty, and staff open houses. The consultant also participated in Campus Sustainability Day during the Fall 2017 semester to increase student awareness of the plan and engagement in the process.

Efforts through Workshop 3 aimed to establish evergreen goals and targets appropriate to each theme while work thereafter aimed to vet targets, metrics, and actions. Critical questions that determined the final targets, metrics, and actions within this document included:

- Will knowing the metric effect change?
- Does implementation of the target support payback?

Payback for some targets is anticipated to be economic while the payback for others may be in student retention, success, or other forms.

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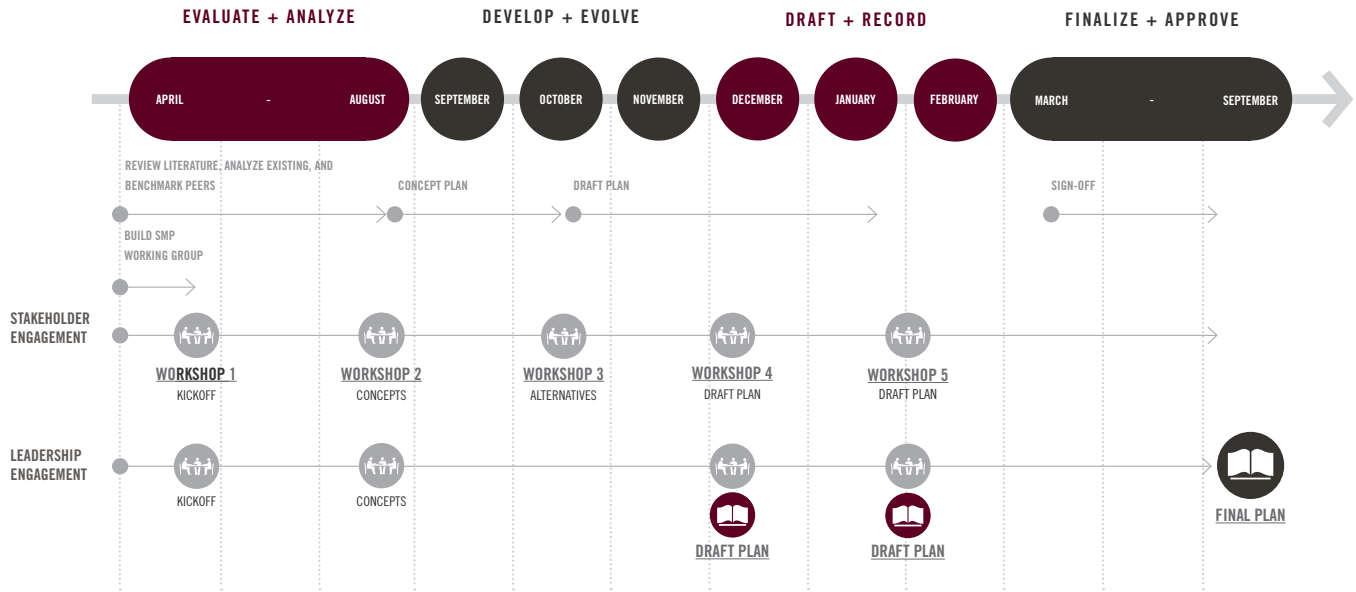
Aggies engaged in the development of the SMP

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Months of on-campus SMP engagement

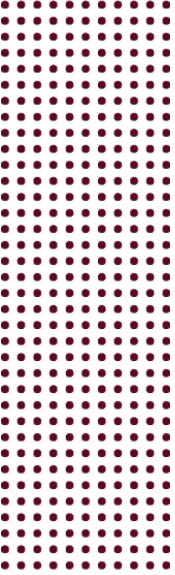
# 2018 Sustainability Master Plan Schedule



The 2018 Sustainability Master Plan process kicked off in April 2017 with the bulk of campus engagement and plan development occurring during the Fall 2017 semester. The final plan was released in the Fall 2018 semester.







Students, faculty, and staff were engaged in a variety of ways to gather technical and experiential information, and to provide both depth and breadth to the 2018 Sustainability Master Plan. Nearly 250 students responded to the planning team's survey during Campus Sustainability Day while working group session participants engaged in hands-on activities and discussions.



## How This Document Is Structured

This document is structured in nine themes and organized into a hierarchical series of Goals, Targets, and Actions. There are four colors throughout the plan which align these themes into larger focus areas:

-  Physical Environment
-  Waste Management
-  Social Sustainability
-  Institutional Efforts

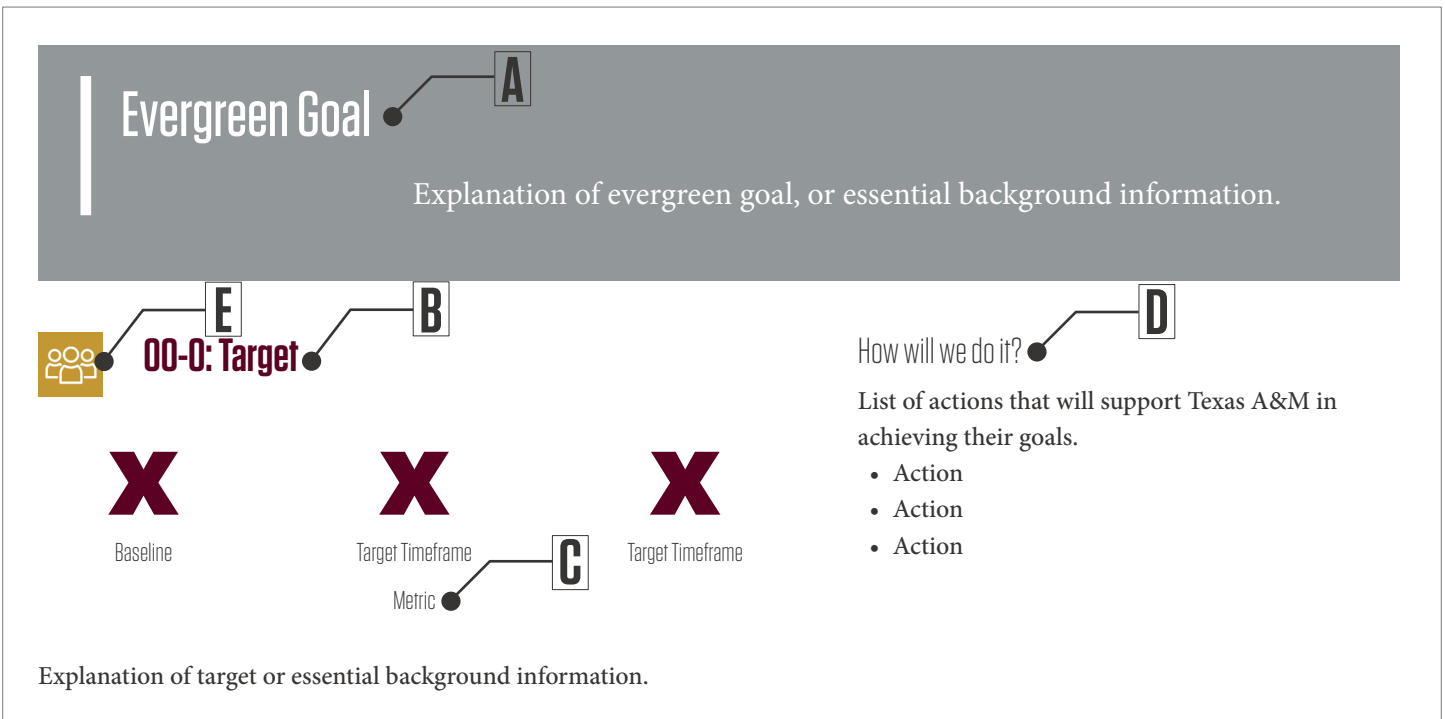
**Evergreen Goals:** Within each theme, there are one or more evergreen goals which are long-term milestones. These evergreen goals are visionary and will likely be aligned with Texas A&M's sustainability initiatives in perpetuity. *See A.*

**Targets:** Under each evergreen goal, there are one or more targets, measurable objectives set to a timeline that will advance the Texas A&M community toward its evergreen goals. The baseline year varies from target to target depending on the quality of base data available. In some cases, no base data was available, creating a few targets that require baseline data to be set as the target is pursued. *See B.*

**Metrics:** Each target is measurable and therefore has a metric associated with it. Metrics and their timelines for achievement have been established by the 2018 SMP's working groups and the Sustainability Advisory Council. *See C.*

**Actions:** Each target identifies actions to be advanced by individuals, units, and the institution as a whole to create progress. Actions are proposed based on known opportunities to create positive change today. As this document cannot foresee future opportunities, however, the community is encouraged to be opportunistic and make the best decisions available with current data as circumstances and technology evolve. *See D.*

**Social Sustainability:** Social sustainability is woven into every aspect of the 2018 Sustainability Master Plan. While Chapter 06 – Social Sustainability is the central location for this topic, social sustainability ideas can be found in most of the other 2018 SMP themes. The social sustainability graphic icon identifies these connections throughout the document. *See E.*



Typical hierarchical layout of Goals, Targets, and Actions within each Evergreen Goal.

## How This Plan Will Be Implemented

Each target includes measurable milestones. Baseline data is identified by year, with many targets drawing their baseline data from Texas A&M's 2017 STARS report. Targets for future achievements are broken into short, medium, and long term timeframes to provide resilience to this document and accommodate unforeseen opportunities that may arise in intervening years. While some targets may have short and medium term milestones, others may identify only medium and long term milestones. It is anticipated that efforts to advance the targets of this plan are constantly evolving. The definitions of short, medium, and long term timeframes are:

<b>FY2019 - FY2023</b>	<b>FY2024 - FY2028</b>	<b>FY2029 &amp; BEYOND</b>
SHORT TERM	MEDIUM TERM	LONG TERM

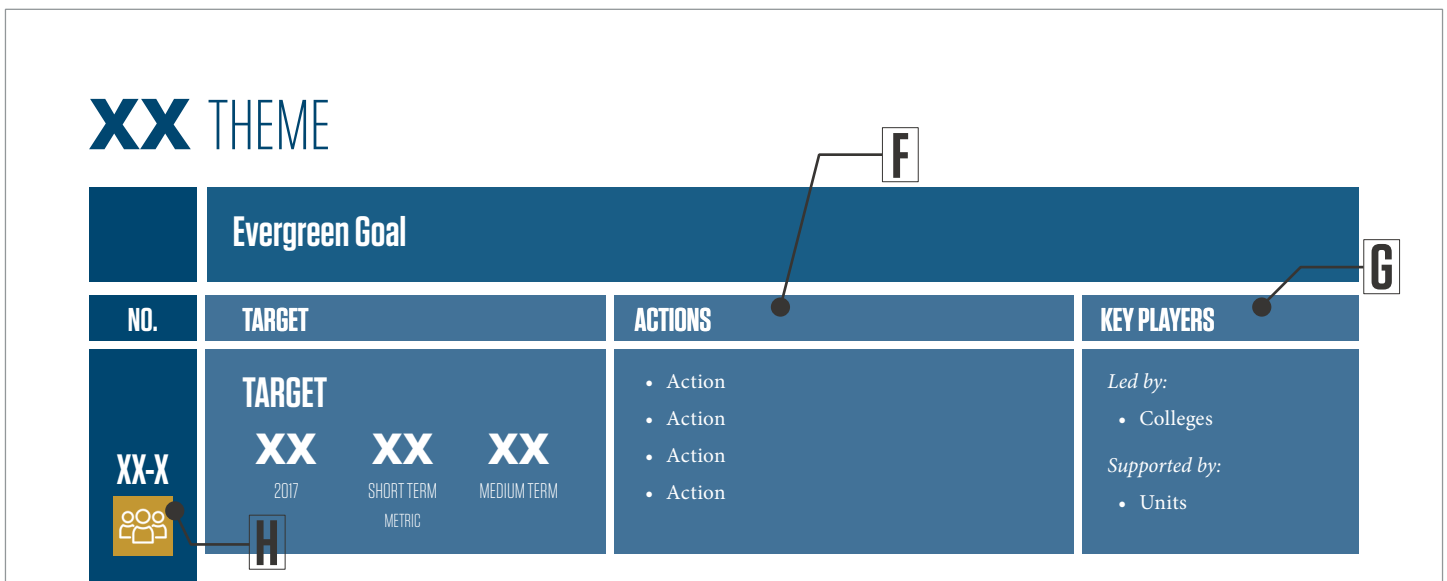
Chapter 11 of this document includes the Plan at a Glance, a summary table identifying every evergreen goal, target, and action described by the plan. This executive summary table includes Key Players and will support progress check-ins on how the implementation of the 2018 SMP is going.

**Actions:** Each target includes actions, activities on the critical path toward success in achieving the

targets. The actions presented in the Plan at a Glance are summary information only, and more detailed information can be found in the corresponding chapter of this Sustainability Master Plan. Some actions are associated with multiple targets, while some actions are associated with only one target. This reflects the variability in whether actions affect multiple outcomes or not. *See F.*

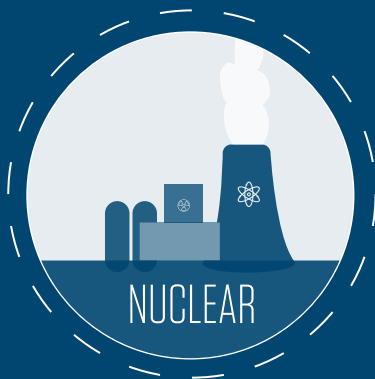
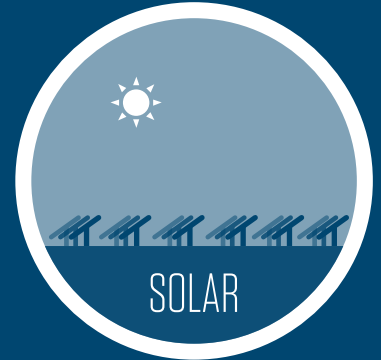
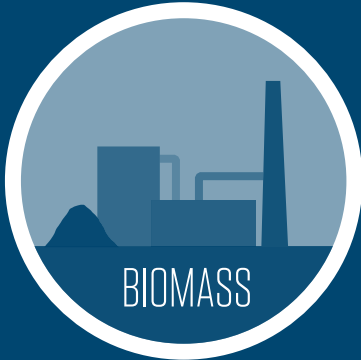
**Key Players:** The key players listed in the Plan at a Glance are the parties who will most influence the successful achievement of each target and are closely connected to the actions listed. The Texas A&M Office of Sustainability will be integrally involved in the execution of this plan and will guide, support, and coordinate stakeholders in Texas A&M's journey toward a more sustainable future. Contributions from stakeholders across the Aggie community, however, are key to the success of many actions in this plan. Every Aggie has a role to play in the plan's implementation. *See G.*

**Social Sustainability:** When a target within a theme connects to social sustainability, it is identified in the Plan at a Glance by the social sustainability graphic icon. *See H.*



Typical hierarchical layout of Goals, Targets, Actions, and Key Players in the Plan at a Glance.

# Energy Sources

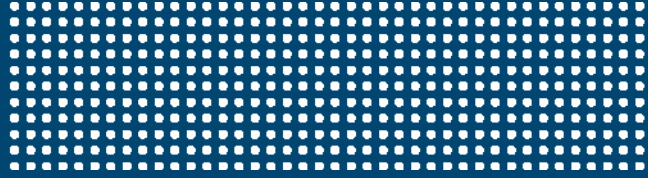


RENEWABLE ENERGY



NON-RENEWABLE ENERGY

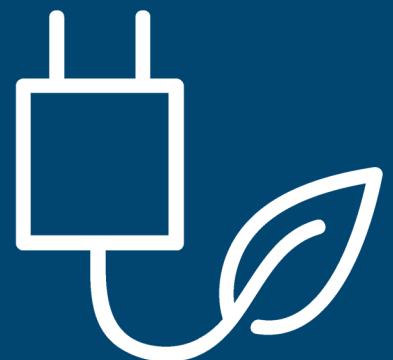
# 02



## ENERGY USE AND GREENHOUSE GAS EMISSIONS

Energy is required for the operation of our buildings, maintenance of our grounds, transportation for our campus community, and production of the goods required to run our institution. What sources that energy comes from and how much energy is required to meet our needs directly translate into the campus' greenhouse gas emissions. As of the 2017 STARS submission, Texas A&M University has decreased its greenhouse gas emissions by 41% per weighted campus user\* between FY 2003 and FY 2017. Ongoing efforts seek to decrease campus energy use to avoid energy expenses and minimize environmental impact.

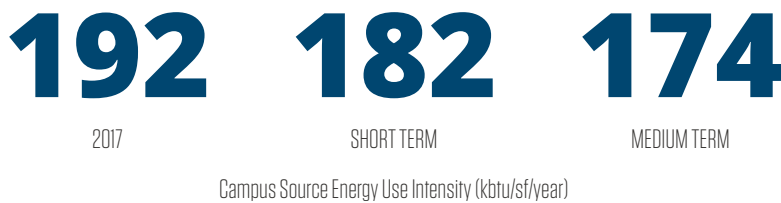
\*Weighted campus user is A STARS-defined statistical measurement that is used to normalize information across campuses of varying student, faculty, and staff populations.



# Achieve a 50% reduction in greenhouse gas emissions per weighted campus user by 2030; achieve net-zero emissions by 2050.

Texas A&M University is committed to achieving net-zero greenhouse gas emissions per weighted campus user by 2050.

## 02-1: Decrease campus energy use intensity.



Energy use intensity (EUI) is a measure of how much energy is consumed per square foot in campus buildings each year. Cutting down on energy use intensity requires efficient buildings and changes in Aggie behaviors that use energy.

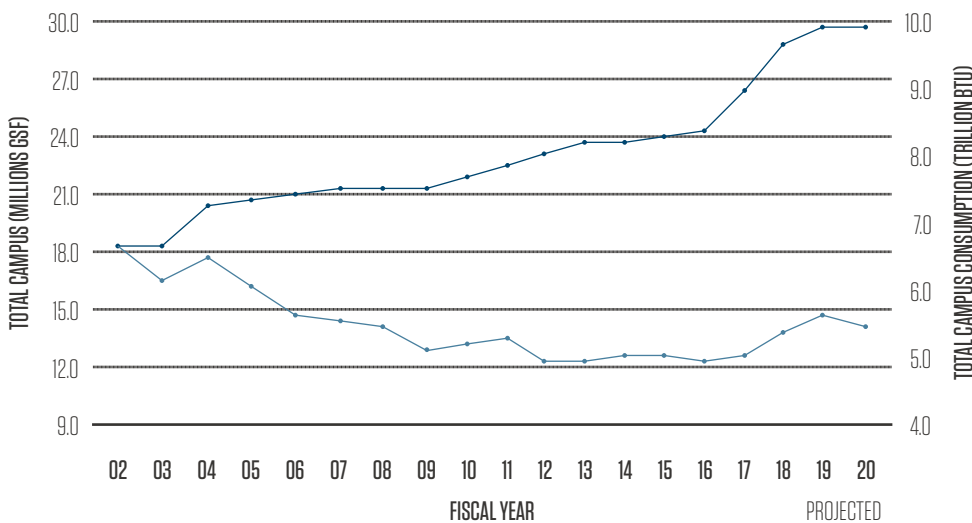
How will we do it?

Campus buildings can decrease energy use by:

- Increasing effectiveness of air-side heat recovery.
- Updating building automation systems.
- Communicating system feedback to end users.
- Upgrading laboratory fume hoods.
- Meaningfully integrating exterior shading solutions, such as that provided by trees or architectural features.

Aggies can cut energy use by:

- Turning off the lights when exiting a room.
- Turning off and unplugging devices prior to extended campus breaks.



### Campus Gross Square Footage vs. Energy Consumption

While campus square footage is projected to increase 60% between fiscal years 2002 and 2020, energy consumption is predicted to decrease 20% over the same period. Energy savings can be attributed to improvements in the Central Heating and Power Plant, building-scale equipment upgrades, and improved Utility and Energy Services energy management practices.

- Total Campus (million GSF)
- Total Campus Consumption (trillion Btu)



## Types of Greenhouse Gas Emissions

Greenhouse gas emissions come in three types or scopes depending on who owns the emitting asset.

### Scope 1



Emissions from sources controlled by Texas A&M, primarily from building and campus energy equipment that burns fossil fuels and the campus fleet vehicles.

### Scope 2



Emissions from the consumption of purchased electricity, steam, or other energy sources generated upstream from Texas A&M.

### Scope 3



Emissions that are a consequence of Texas A&M's operations that are not owned or controlled by the organization, such as the emissions associated with commuting and University travel.

## 02-2: Decrease Scope 1 and Scope 2 greenhouse gas emissions per weighted campus user.

**5.81    5.52    5.23**

2017

SHORT TERM

MEDIUM TERM

Metric Tons of Carbon Dioxide Equivalent (MTCO<sub>2e</sub>) per Weighted Campus User

The energy used for campus operations is either produced on campus and contributes to Scope 1 GHG emissions or purchased from the Energy Reliability Council of Texas (ERCOT) grid and contributes to Scope 2 GHG emissions. Since FY 2008, energy produced on campus has produced fewer GHG emissions than energy purchased from ERCOT.

How will we do it?

The following actions will help Texas A&M optimize on-campus energy production and purchases:

- Investigate strategies to minimize peak demand to maximize opportunities for on-campus production to meet energy needs.
- Investigate strategies to increase capacity for on-campus energy production.
- Replace equipment that is past its industry recommended service life.
- Increase use of heat pump chillers.
- Upgrade existing cooling towers.

More information on the actions above can be found in the 2017 Utilities & Energy Services Master Plan.



For every 0.58 MTCO<sub>2e</sub> reduction per weighted campus user, the equivalent of 6,394 cars are removed from the road for a year.

**1,712**

Number of On-campus Fume Hoods Supporting Laboratory Teaching and Research

**\$3.1M**

Estimated Annual Cost to Run Campus Fume Hoods

**40% - 65%**

Energy Savings Possible from Upgrading Fume Hoods

## 02-3: Increase the use of renewable energy.

5%

MEDIUM TERM

10%

LONG TERM

Percentage of Campus Electricity Consumption Sourced from Renewable Energy

While Texas A&M produces no renewable energy on campus today, the University purchases approximately half of campus' annual energy demand from the Electrical Reliability Council of Texas (ERCOT) grid, which includes energy generated from wind power.

How will we do it?

To increase the amount of electricity powered by renewable sources:

- Consider structuring appropriately oriented new construction to accommodate solar panels in future.
- Investigate Power Purchase Agreements (PPAs) as a way to procure on- or off-site renewable energy.
- Investigate Renewable Energy Certificates (RECs) as a way to increase renewable energy purchases.

## 02-4: Decrease miles traveled via taxis, ferries, and rental cars as well as reimbursed personal mileage.

5.4

2017

5.1

SHORT TERM

4.9

MEDIUM TERM

Miles Traveled Annually (in Millions)

The University must maintain business-related travel as part of its operations, but there are ways to reduce emissions while increasing collaboration and travel opportunities for students, faculty, and staff.

How will we do it?

Personal behavior and transportation choices impact carbon emissions, and Aggies are committed to living a less carbon-intensive lifestyle. Ways to help include:

- Using virtual communication when possible.
- Using alternative modes of transit for University travel (train, bus, bicycle, hybrid or electric car, walking).
- Carpooling when possible.
- Considering incentives to promote more sustainable transportation choices.

### Purchasing Carbon Offsets

Aggies benefit from increased access to study abroad experiences and conferences, which conflicts with goals to minimize greenhouse gas emissions. To achieve both goals, Aggies must commit to purchasing greenhouse gas emission offsets for emissions associated with study abroad and air travel financed directly by Texas A&M.

Preliminary research indicates carbon emissions for air travel are in the range of 0.144 - 0.254 kg CO<sub>2</sub>e per passenger mile. A typical trip from College Station to Europe, for example, might generate approximately 6,600 pounds of CO<sub>2</sub>e which could be offset at a rate of approximately \$6 / 1000 pounds of emissions. Offsetting the greenhouse gas emissions on a trip to Europe, therefore, would add about \$40 to the price of the ticket.



Your Trip's Carbon Footprint



Certified Carbon Offsets

Funds Renewable Energy Projects and Research



Net-Zero Carbon Footprint

## Strategies to Increase Renewable Energy Use at Texas A&M

Renewable energy can be procured at Texas A&M in a variety of ways from a variety of renewable sources. The four strategies identified below focus on solar electric for illustrative purposes, but similar strategies could apply to other renewable energy sources.

### Texas A&M Could Own and Operate On-Site Solar



Texas A&M could increase the use of renewable energy on campus by owning and operating its own solar panels or other renewable energy systems. In addition to owning the energy generated by such systems and their environmental benefits, Texas A&M would need to prepare for the on-going maintenance and operation of such systems.

### Texas A&M Could Purchase Renewable Energy Certificates



Renewable energy certificates (RECs) are a tradable, non-tangible commodity that represent proof of energy purchased from existing renewable sources. To increase the use of renewable energy on campus, Texas A&M could purchase RECs to offset on-campus consumption.

### Texas A&M Could Lease On or Off Campus Property to Power Purchase Agreements



Texas A&M could lease on-campus rooftops or off-campus property owned by the University to a third party who would own and operate solar panels or other renewable energy systems on that real estate. The University would contract to both purchase the energy generated by such systems as well as their environmental benefits, but would not own the panels nor be responsible for their operations or maintenance.

### Texas A&M Could Fund Renewable Energy Projects and Purchase the RECs Produced



In this arrangement, Texas A&M could fund the development of new renewable energy installations anywhere and purchase the environmental benefits associated with the production of such energy as RECs.

## Scope 3 Emissions in the Document

Because Scope 3 Emissions are driven by Aggie activities and behaviors, they fall into multiple sections of this document. The items that follow are reported in other sections:



Commuting: Chapter 04 - Campus Mobility



Water: Chapter 05 - Built Environment and Site Design



Waste Stream: Chapter 06 - Waste Management

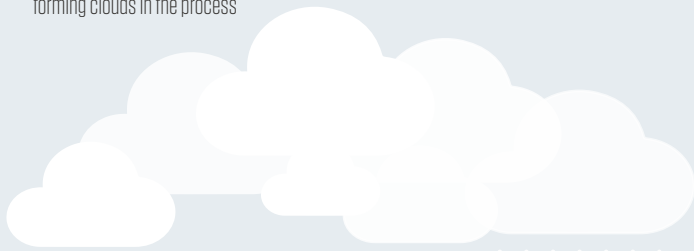


Paper Purchasing: Chapter 09 - Administrative Support

# The Water Cycle

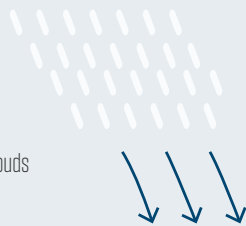
## Condensation

water vapor changes phases into a liquid, forming clouds in the process



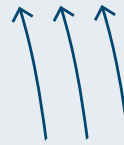
## Precipitation

liquid water released from clouds as rain, hail, sleet, or snow



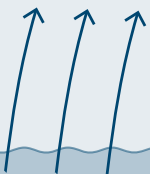
## Evapotranspiration

precipitation evaporates from landmasses and transpires from plants; in both cases, liquid water changes phases to gaseous water vapor



## Evaporation

liquid water changes phases into a gaseous vapor



## Runoff

precipitation that travels over impervious surfaces



## Surface Water

visible bodies of water including streams, rivers, lakes, and glaciers

## Infiltration

precipitation that permeates the soil to reach substrata layers

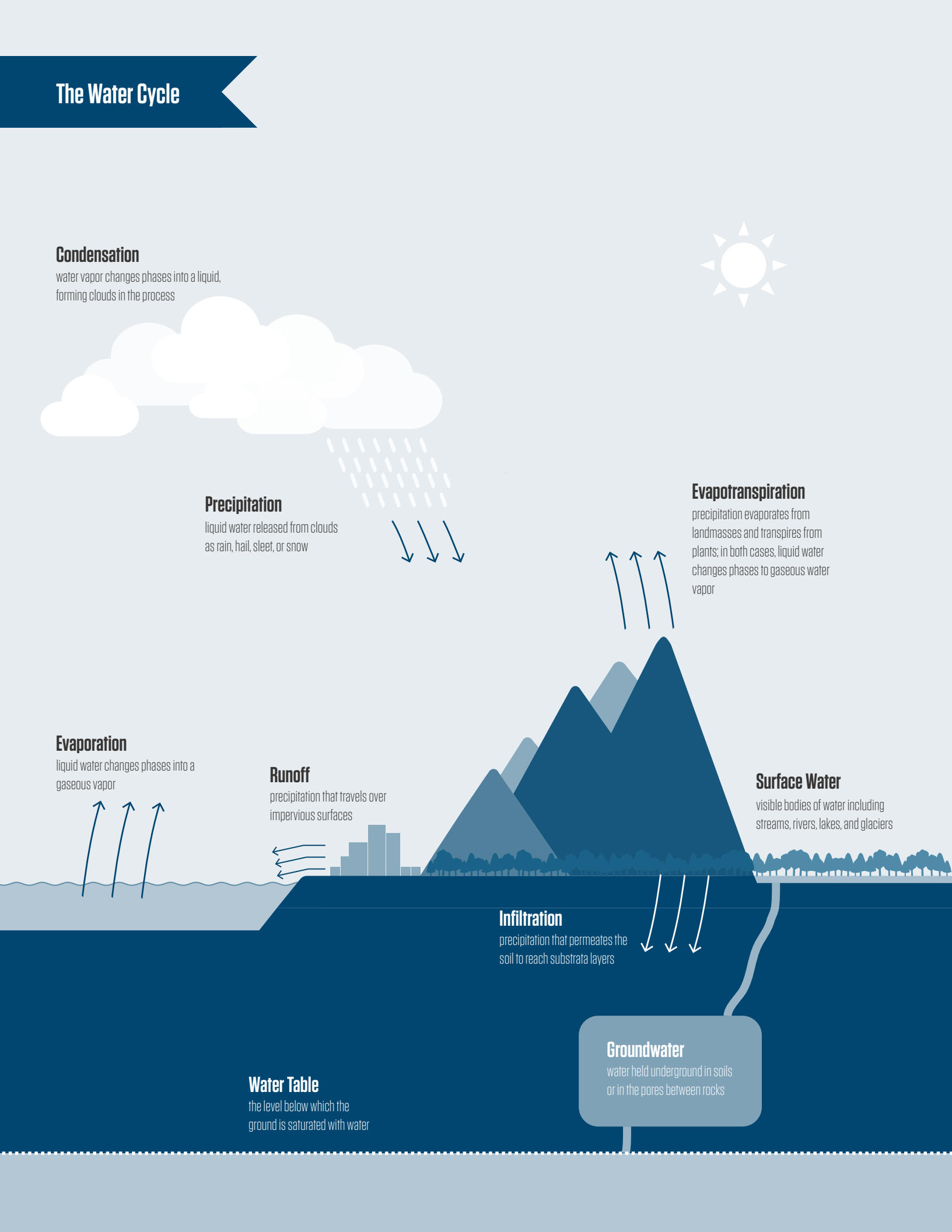


## Water Table

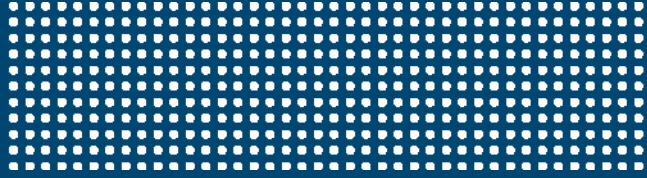
the level below which the ground is saturated with water

## Groundwater

water held underground in soils or in the pores between rocks



# 03



## STORMWATER MANAGEMENT

Water is the ultimate renewable resource. It falls as precipitation in rain or snow onto landmasses and water features where it flows in surface waterways, infiltrates soil to recharge underground aquifers, or evaporates back into the atmosphere to condense and precipitate again. When precipitation falls on impervious surfaces such as building roofs, parking lots, and other hardscapes, however, this cycle is interrupted and stormwater becomes runoff that can cause erosion and other detrimental impacts if not appropriately handled. Stormwater is managed with both civil engineering and landscape solutions at Texas A&M, but it is challenged by the fast pace of campus development and clay soils that have limited capacity to support infiltration.



# Minimize erosion and contaminants in stormwater runoff.

The 2017 Campus Master Plan covers best management practices for stormwater design solutions at campus, site, and building scales for new construction. This document sets goals to repair erosion and contaminant issues that campus is facing today in existing infrastructure.

## 03-1: Improve mulch loss and replacement.



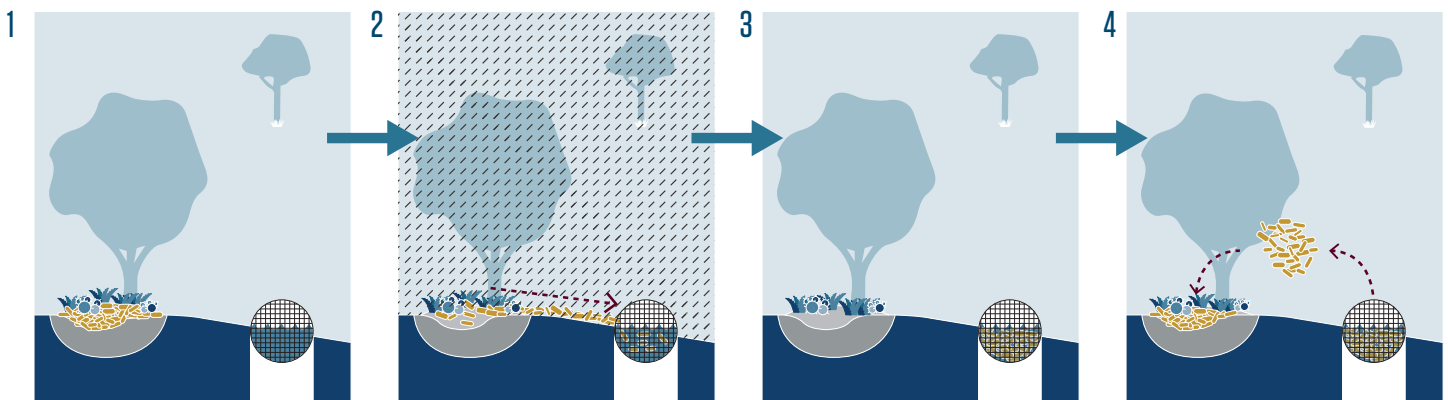
Storm events in College Station tend to be intense bursts of heavy precipitation that overpower campus' clay soils and erode large quantities of mulch into downstream stormwater sewers. The University's grounds maintenance contractor recovers much of that mulch and replaces it in planting beds, but some is lost during each storm event. Minimizing the amount of new mulch placed will demonstrate erosion has been controlled by indicating mulch has stayed in its initial location in lieu of being lost downstream.

How will we do it?

Mulching helps minimize landscaping's irrigation requirements by maintaining soil moisture, improving the nutrient content of soils, and suppressing weed growth. The following actions will minimize the erosion of mulch from planting beds during storm events to maintain these benefits:

- Inventory spaces that need improvement.
- Install improved edging at the junction of planting beds and other groundscapes.
- Increase soil percolation.
- Use groundcover plants to stabilize soils.
- Evaluate mulch product installed to ensure the optimal product is being used. Change typical mulch used on campus if necessary to improve performance.

## The Campus Mulching Cycle



The graphic above illustrates the mulching cycle at Texas A&M. New mulch is placed in Stage 1, but displaced during intense storm events in Stage 2. Eroded mulch clogs stormwater drainage in Stage 3 which must then be removed by grounds staff and replaced in Stage 4. Improved installation and soil practices will prevent this cycle.

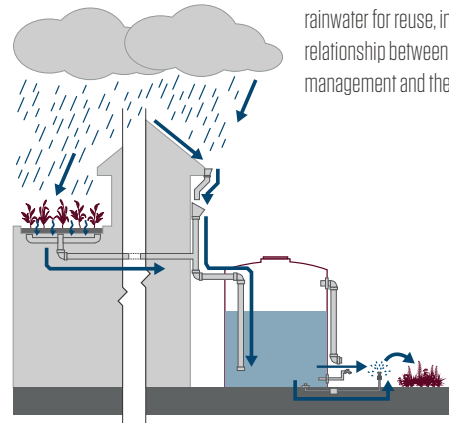
## Stormwater Management Elsewhere in the Document

Targets in this section are connected to two targets in Chapter 05:

05-1: Evolve architectural guidelines in alignment with the 2017 Campus Master Plan.

05-4: Reduce irrigation's demand for water.

05-5: Increase the use of non-potable water for irrigation.



Advancing rainwater cistern guidelines will support Texas A&M in capturing rainwater for reuse, improving the relationship between stormwater management and the built environment.

## 03-2: Increase soil percolation.

**0.05**      **0.08**      **0.10**

2017

MEDIUM TERM

LONG TERM

Absorption Rate (in / hr)

Soil absorption at Texas A&M has two phases during a rain event: the first flush where dry soil readily accepts large volumes of water, and a second phase after the first flush has sealed and set campus' clay soils and limits its capacity to absorb additional stormwater. The metric above indicates target absorption rates for the second phase of a storm event.

How will we do it?

The following actions will increase the rate at which campus soils infiltrate water after the first flush:

- Inventory areas that require the greatest improvement.
- Fortify soils with organic materials such as compost, landscape waste, and manure.
- Use groundcover plants to stabilize soils.
- Support new plants in establishing robust root systems.
- Increase aeration to allow air and water to penetrate the ground.
- Better manage irrigation to keep soil from saturation prior to storm events.
- Address the build-up of sodium in local soils.
- Consider piloting strategies on test plots with the Department of Soil and Crop Sciences before making larger deployments across campus lands.

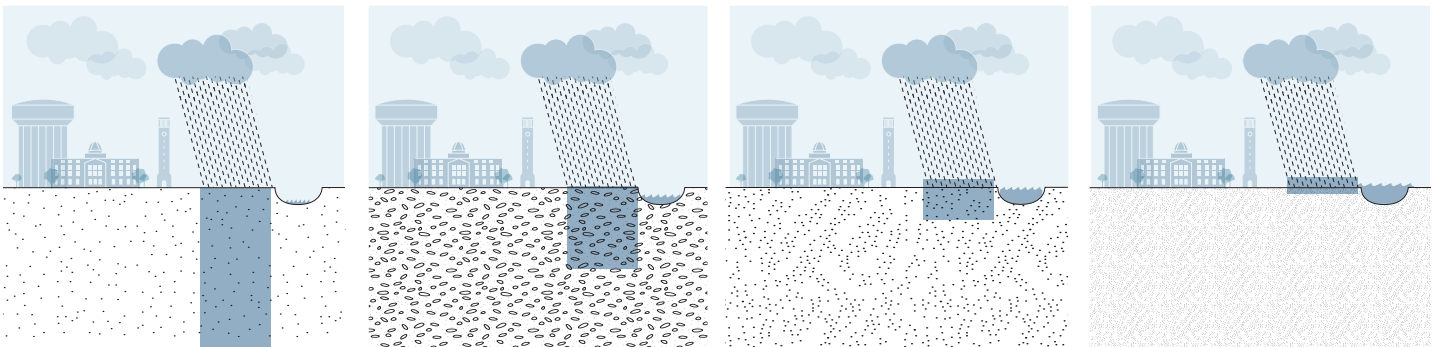
## Soil Types and Percolation

**Sandy** - Fast Infiltration Rate

**Loamy** - Moderate Infiltration Rate

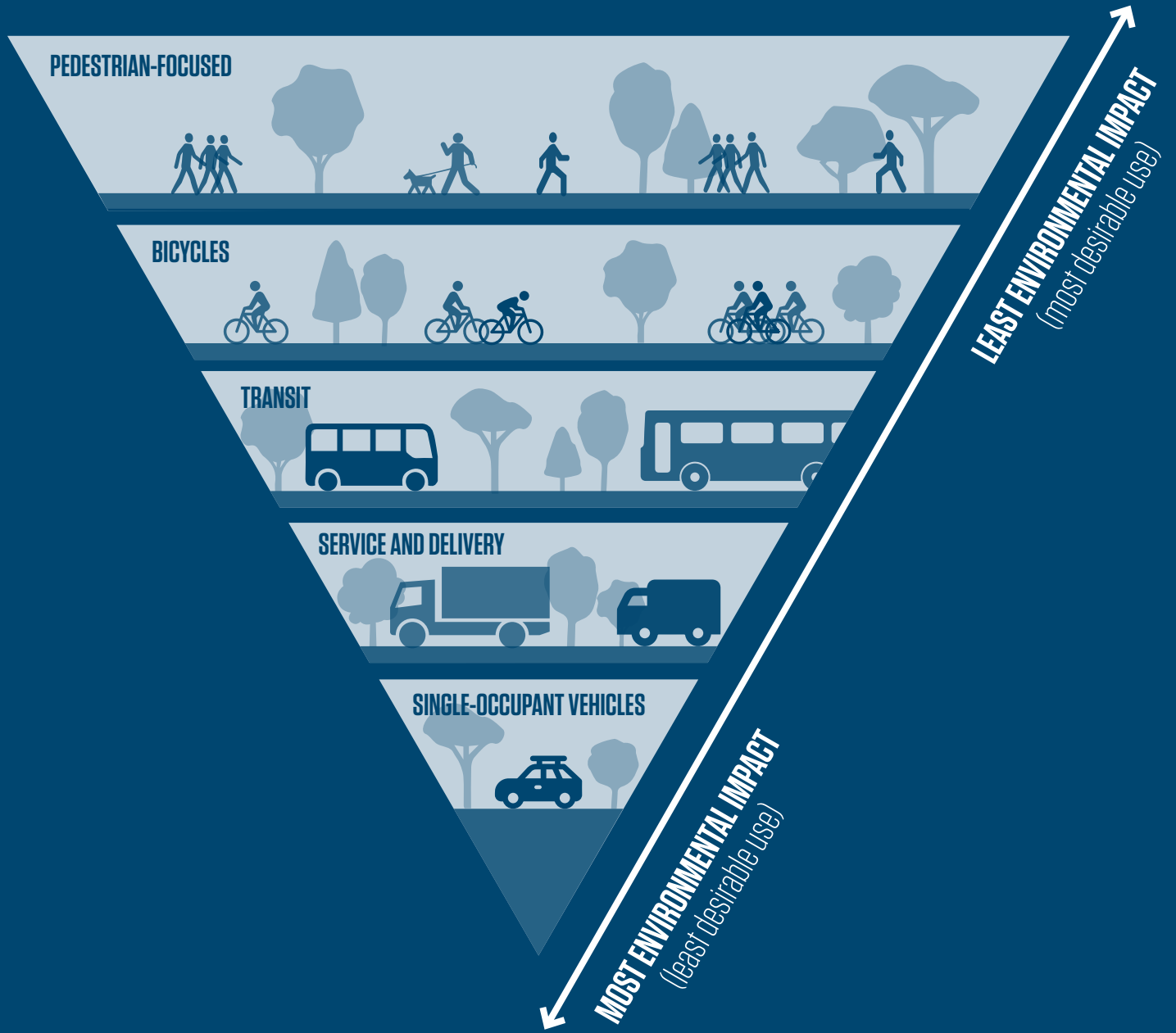
**Silty** - Moderate / Slow Infiltration Rate

**Clay** - Slow Infiltration Rate



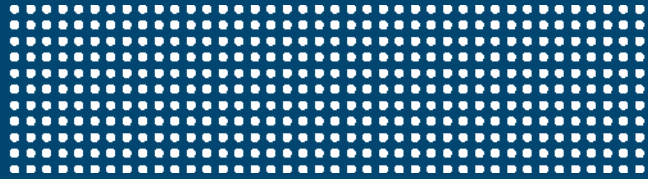
Soil types include sandy, loamy, silty, and clay. Texas A&M's soils are predominantly clay which has difficulty percolating water down into substrata layers. Other soil types have greater capacity to infiltrate water and return it to groundwater resources. The graphic above illustrates the different relationships stormwater has with varying soil types.

Mobility Hierarchy





# 04



## CAMPUS MOBILITY

Transporting Texas A&M University's 63,000 students, 5,800 employees, and numerous visitors to and across the institution's 5,000-acre campus has significant environmental, economic, and social impacts. As more campus users choose alternative forms of transportation, and as the campus fleet transitions to alternatively fueled vehicles, the greenhouse gas emissions and environmental impact of moving people and items around campus will decrease.

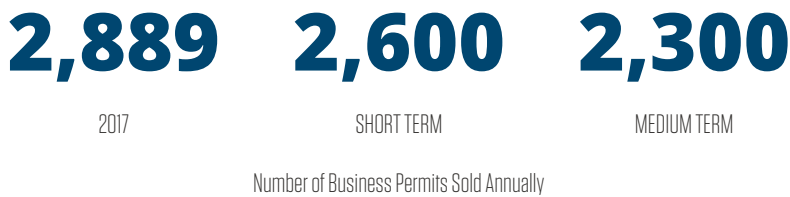
The 2017 Campus Master Plan states the University's preferred travel modes for campus users are walking, biking, and on-campus transit because these modes have the lowest environmental impact. A shift from a vehicle-centric campus to a pedestrian-focused campus requires investment in both transportation systems and the built environment. These investments include increases to on-campus transit capacity, relocation of parking to the perimeter of the campus, and improved connectivity with the surrounding community. Walking and biking support the University's goals for student, faculty, and staff health and wellness and create a richer social environment with more opportunities for the exchange of ideas and chance meetings to collaborate and socialize.



# Minimize the number of total vehicle miles traveled by campus users.

The way campus users travel to and around campus each day affects Aggies' quality of life as well as the University's reported greenhouse gas emissions. Because the campus covers such a large area, there often isn't time to walk between classes, meetings, or other activities. Providing more convenient ways for students, faculty, and staff to move around the campus deters campus users from bringing a car to campus, and/or moving a car multiple times per day.

## 04-1: Decrease the number of business permits sold.



Business permits have long been a tool in helping people move about campus for work-related needs. As per Transportation Services and the Transportation Services Advisory Committee, Texas A&M is quickly approaching a time to find alternatives to business permits and other inefficient uses of parking spaces because they increase campus traffic. The campus parking system must encourage customers to park once and then walk, bike, or use transit to move around campus.

### How will we do it?

With recognition that the campus is large and that people must move around, long-term plans call for the creation of other means of transportation, pending an updated funding model that allows for increased service during class times and semester breaks. In the interim, Transportation Services with the support of the Transportation Services Advisory Committee will:

- Increase the price of business permits to deter administrative units from purchasing more permits than are needed.
- More closely regulate the distribution of permits.

## 04-2: Increase capacity of the on-campus transit system.



The on-campus bus system is a well-utilized amenity with over seven million annual riders. As the Texas A&M University community expands, transit service must keep pace by increasing capacity in order to maintain and increase traction with faculty, staff, and students who use less environmentally impactful means to commute to campus.

### How will we do it?

Texas A&M University and Transportation Services will:

- Continue studying route frequency and utilization to identify the most impactful areas of the transit system in which to invest.
- Investigate viable financing options to maintain and expand the campus transit fleet.

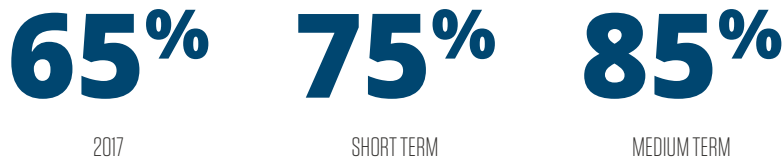


### 04-3: Increase the number of students, faculty, and staff who commute to campus using something other than a single occupancy vehicle.

Faculty/Staff



Students



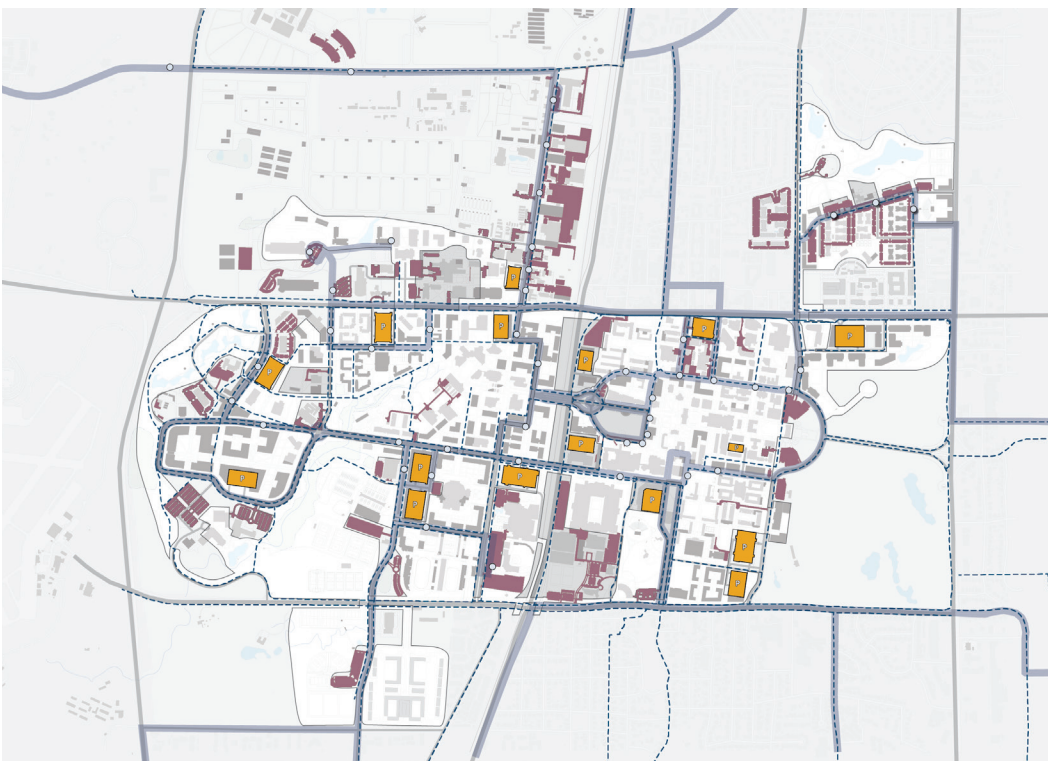
Percent of Campus Users Using Alternative Transportation

According to the latest Transportation Mode Split Survey, 65% of students travel to campus in something other than a single occupancy vehicle, while only 16% of faculty and staff report commuting via an alternative mode of transportation. Improving the coverage of bicycle infrastructure and public transportation options for all campus users will help increase the percentage of Aggies who use alternative transit.

How will we do it?

Implement the recommendations in the 2017 Campus Master Plan to advance Texas A&M's pedestrian safety priority.

- Emphasize bicycle safety by increasing the number of protected bike lanes on campus.
- Emphasize pedestrian safety by removing surface parking lots in the pedestrian priority zone.
- Relocate small interior surface parking lots to the perimeter of the campus in parking structures.
- As fewer campus users rely on personal vehicles, adapt the on-campus transportation network to meet increased demand.
- Strengthen bicycle and bus connections to the Bryan-College Station region.
- Consider integrating bicycle racks with campus buses to stretch the coverage of the existing bus network.



### Proposed Mobility Network

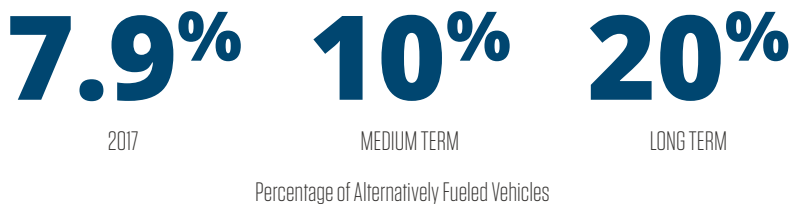
The mobility network within the 2017 Campus Master Plan envisions a future in which travelers to campus leave their vehicles at perimeter garages and move into the heart of campus via the network of bicycle and pedestrian paths or transit options connected directly to the garages.

- Roadways (Unlimited Access)
- Transit Routes & Stops
- - - Bicycle Routes
- Surface Parking Lot
- Parking Structure

# Operate a campus fleet that minimizes demand for fossil fuels.

Alternatively fueled vehicles improve air quality and support the University's pledge to emit net-zero greenhouse gases. Alternatively fueled vehicles range from hybrid and electric vehicles to biodiesel and hydrogen vehicles.

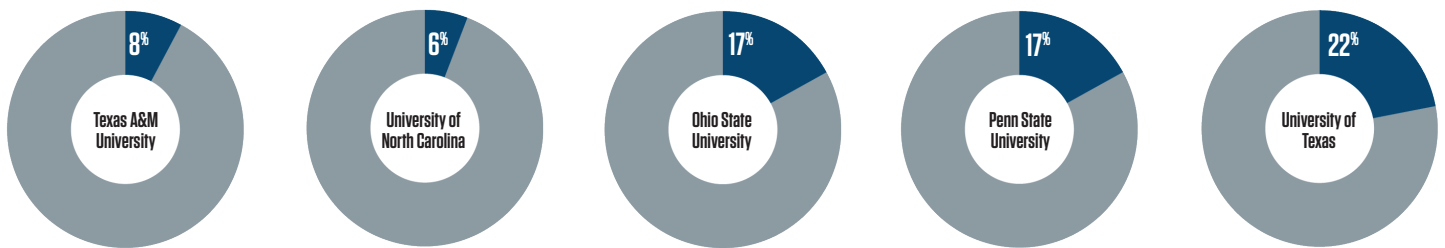
## 04-4: Increase use of alternatively fueled vehicles.



In 2017, of the 1,453 vehicles that made up the campus fleet, only 115 vehicles were alternatively fueled. To become competitive with peer institutions, an aggressive transition to alternatively fueled vehicles must occur over the next 20 years.

### How will we do it?

- The University's current grounds maintenance contractor will begin replacing their fleet with electric vehicles in 2018.
- Future University contracts with grounds maintenance contractors should encourage an electrified maintenance vehicle fleet.
- As Transportation Services' vehicles (buses, etc.) are purchased or replaced upon age-out, the University should promote the purchase of alternatively fueled vehicles.
- Increase the number of electric vehicle charging stations on campus as the number of electric vehicles on campus increases.



This is a major area for improvement on Texas A&M's STARS report. Many of the University's peer institutions have transitioned to campus fleets that include significantly greater percentages of alternatively fueled vehicles. Data reported above are current per AASHE STARS reporting as of August 17, 2018.



## Sustainable Transportation Initiatives at Texas A&M University

**92**

Buses/Shuttles in Transportation Fleet



**13,000**

On-Campus Bicycle Parking Spaces



**7.6M**

Transit Riders Annually



**10**

FIXIT Bike Repair Stops



**968**

Car Sharing Participants



**14**

Electric Vehicle Charging Stations



**19,360**

Ridesharing Participants since Inception

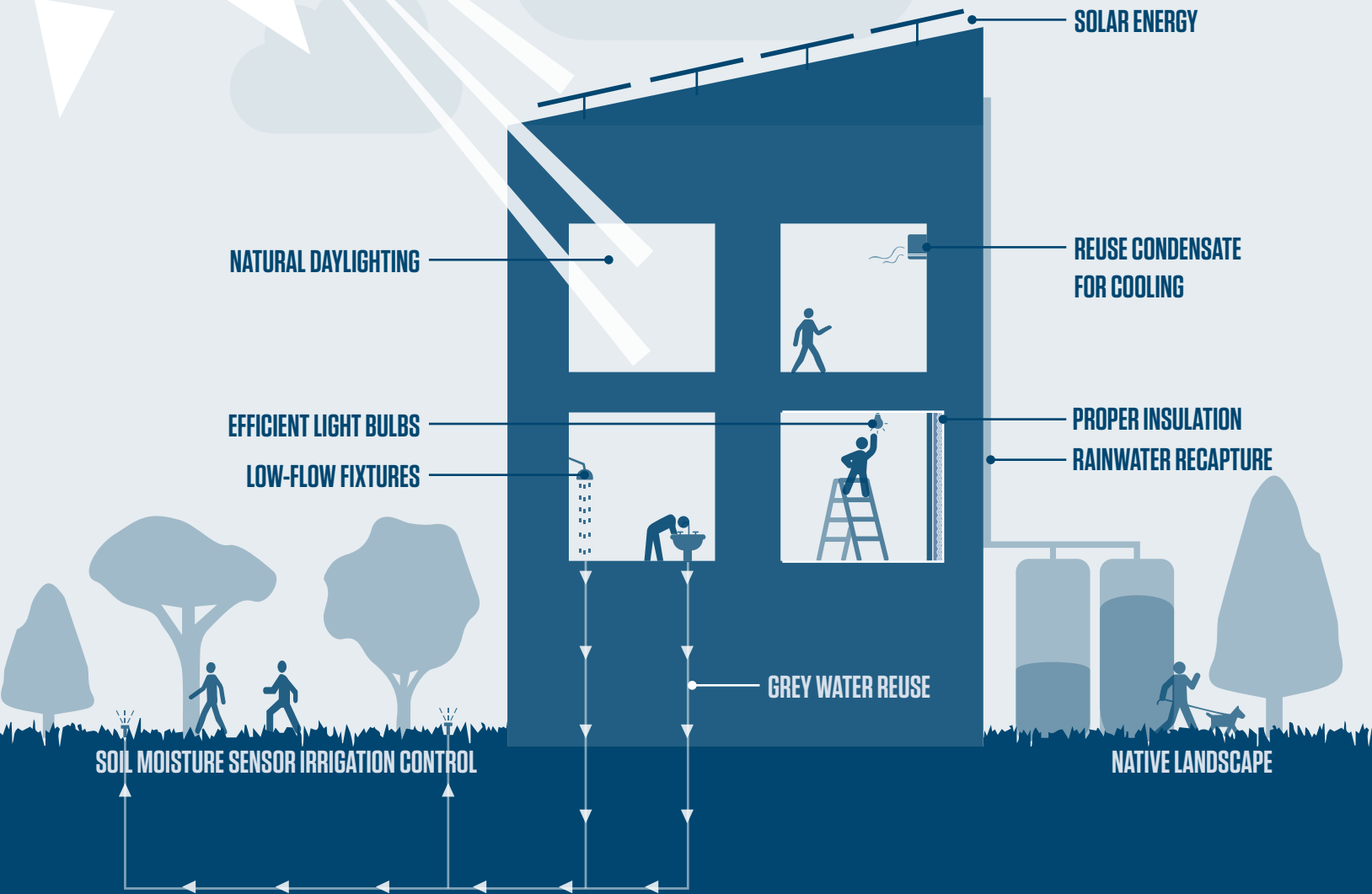


**4,000**

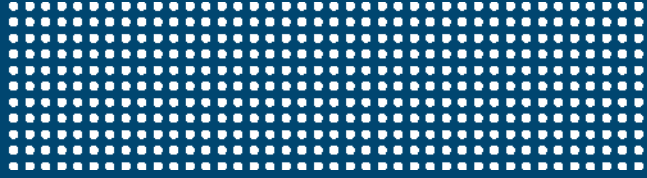
Dockless Bikeshare Bikes



# Sustainable Built Environment Characteristics



# 05



## BUILT ENVIRONMENT AND SITE DESIGN

Future campus buildings and landscapes must consider that environmental, social, and economic conditions evolve, and resiliency in the face of these known and unknown changes supports the sustainability of Texas A&M's campus environment.

The University is largely its own energy and water utility, and if individual building and landscape projects fail to meet rigorous performance objectives, Texas A&M must allocate funds for infrastructure projects that can accommodate wasteful building-scale projects. This is not economically sustainable nor the highest and best use of physical and economic resources. Each project must make its contribution to treading lightly upon the land by minimizing stormwater runoff, decreasing peak and overall energy demand, and reducing potable water consumption.



# Deliver the lowest life-cycle cost construction to build, operate, maintain and decommission through facility performance criteria.

As a result of the 2017 Campus Master Plan, the decision was made to create a new set of facility performance guidelines that incorporate elements of LEED 2009, LEEDv4, and SITES for future campus development.

## 05-1: Evolve architectural guidelines in alignment with the 2017 Campus Master Plan.

- 2018 **EXTERIOR BUILDING ENVELOPE**
- 2019 **INTERIOR FINISHES**
- 2020 **RAINWATER CISTERNS**
- 2021 **CONSTRUCTION MATERIALS PROCUREMENT**

To keep pace with the building industry's green project certification standards, Texas A&M will develop specific, enforceable guidelines. These guidelines will define Texas A&M's intention to build high-performance projects and empower the Office of the University Architect and the Council for the Built Environment in reviewing and approving the work of design consultants and construction contractors.

### How will we do it?

This target aligns with the 2017 CMP and expands upon information in that document. Over the next five years:

- Update the campus Facility Design Guidelines to align with criteria stated in LEED 2009, LEED v4, and SITES.
- Revise exterior building envelope guidelines first to maximize long-term energy savings.
- Apply revised cistern guidelines to the maintenance and/or renovation of existing campus cisterns.



### Exterior Building Envelope

Higher performing building envelopes achieve environmental separation between the indoors and the outdoors, using less energy.



### Interior Finishes

Interior finishes are most sustainable when they are durable, support human health, and minimize the chemicals they off-gas into a space.



### Rainwater Cisterns

Streamlining the design and maintenance of rainwater cisterns will increase the productivity of their use on campus.



### Construction Procurement

Prioritizing the purchase of local goods as well as those with recycled content reduces the environmental impacts of construction.





## 05-2: Develop public, civic spaces (interior or exterior) to represent a broader cross-section of the Aggie community.

# 3

SHORT TERM

Number of Public, Civic Spaces (Interior or Exterior) Developed

# 6

MEDIUM TERM

How will we do it?

While the existing public art program speaks strongly to Texas A&M's celebrated history, it is challenging for underrepresented members of the campus community to feel valued and included when their social and cultural identities are not reflected in the institution's public image. It is important for all Aggies to feel welcomed, included, and represented in the public art on campus. As the campus environment evolves to include additional public and civic spaces, the University will make an effort to select artwork and commission artists from diverse backgrounds. Student focus groups expressed a strong desire to make campus art more representative of the broad variety of backgrounds in today's Aggie community.

## 05-3: Decrease potable water consumption within on-campus residences.

# 6,700      6,365      6,030

2017

SHORT TERM

MEDIUM TERM

Gallons of Water Consumed Annually per On-Campus Resident

Water consumption by on-campus residents is driven by the operations and maintenance of on-campus facilities as well as the behavior of approximately 11,000 on-campus residents. On-campus residents consume a significant volume of potable water each year and every on-campus resident has a role to play in achieving this target.

How will we do it?

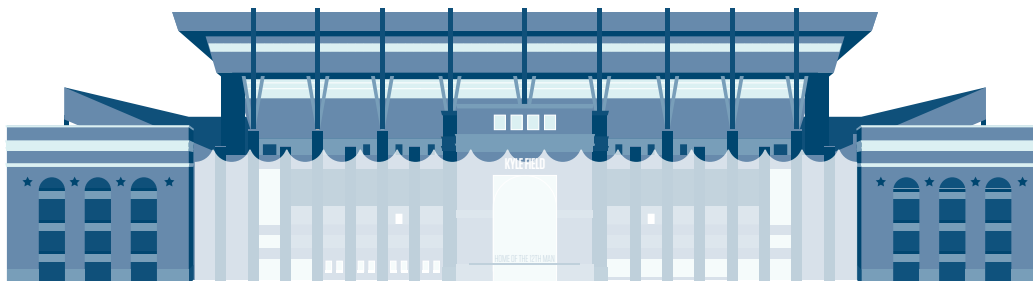
Successfully achieving the target described will require efforts from both the Department of Residence Life and on-campus residents. The Department of Residence Life will:

- Upgrade building systems and fixtures to support water efficiency.
- Provide educational materials to on-campus residents on water consumption.

On-campus residents will:

- Practice water-conserving behaviors such as taking shorter showers, running full loads of laundry, and turning off faucets when not in use.
- Reporting leaks as soon as possible.

## On-Campus Residents' Water Consumption



On-campus residents use enough water to fill Kyle Field every four years. Better educating on-campus residents about their water use behaviors can help conserve resources.

# Deliver biodiverse, connective landscapes that integrate campus lands into the larger eco-region through site design criteria.

Transitioning to native and adaptive plantings reduces irrigation and other maintenance requirements, thus decreasing softscape's impact on the campus environment when compared with turf grass or non-native specimen plantings.

## 05-4: Reduce irrigation's demand for potable water.

**537**

2017

**483**

SHORT TERM

**430**

MEDIUM TERM

Gallons of Potable Water Used Annually for Irrigation (in Millions)

Reducing the demand for potable water on campus decreases operational expenses and minimizes the strain communities experience when potable water supplies are overused.

How will we do it?

Texas A&M and its grounds maintenance contractor have established a landscape maintenance priority map that guides grounds' activities. In addition to evolving this plan over time, the University and its grounds' contractor can undertake the following activities to achieve this target:

- Transition non-heritage open spaces, such as traffic and parking lot islands as well as interstitial open spaces from turf grass into plantings with lower water demand.
- Improve and expand weather sensors to better measure the frequency of irrigation's demand.
- Increase soil percolation.
- Transition pop-up spray heads to drip irrigation as possible.



### Potable water

Potable water is fit for human consumption. Public water is tested regularly for water quality to ensure its safety.



### Grey water

Grey water is discharged from sinks, showers, and washing machines without organic contaminants. It can be reused for irrigation in many cases.



### Black water

Black water contains organic contaminants and must be cleaned prior to any reuse.



### Rainwater

Rainwater can pick up contaminants as it runs across impermeable surfaces. It can be reused if captured in cisterns.

## 05-5: Increase the use of non-potable water for irrigation.

**9-12**      **10-13**      **11-14**

2017  
Treated Effluent

MEDIUM TERM  
Treated Effluent  
and Rainwater Recapture

LONG TERM  
Treated Effluent  
and Rainwater Recapture

Gallons of Non-Potable Water Used for Irrigation Annually (in Millions)

A modest amount of treated effluent relative to irrigation's total demand for water is currently reused for irrigation. To increase the use of non-potable water for irrigation, additional sources such as rainwater recapture will need to be considered.

How will we do it?

Capturing rainwater from roofs in cisterns before it crosses the ground keeps rainwater cleaner and makes it appropriate for reuse in irrigation. This alternative water supply can be particularly important during times of drought, but the transition to using recaptured rainwater will take time since cistern guidelines must be updated first. To reach this target the University will:

- Develop cistern guidelines to improve their effectiveness and increase their use on campus.
- Consider earmarking funds for cistern maintenance.
- Increase the use of drip irrigation and prepare it for non-potable water.

## 05-6: Increase the percentage of campus lands managed with Integrated Pest Management (IPM) strategies.

**7%**      **15%**      **30%**

2017

MEDIUM TERM

LONG TERM

Percentage of Campus Lands Managed with IPM Strategies

How will we do it?

AASHE STARS recognizes achievements in Integrated Pest Management and organic land management practices because such practices minimize the use of inorganic fertilizers and chemical pesticides, herbicides, and fungicides that can contaminate stormwater runoff and have unintended negative consequences. Texas A&M's 2017 STARS report indicates 7% of campus lands are managed with a qualifying IPM program. To improve the institution's environmental impact:

- Revise the IPM Plan to the latest metrics and standards.
- Apply a revised IPM Plan to larger areas of campus lands.

### What is Integrated Pest Management (IPM)?

IPM combines biological, cultural, mechanical, and chemical tools to manage pest problems using the least invasive measures first and scaling up intensity only as necessary.



AASHE STARS awards points to campuses who use a four-tiered approach to IPM that includes:

- Setting action thresholds that identify at what point pests require action.
- Monitoring and identifying pests that are present in the campus environment.
- Preventing or removing conditions that attract pests such as stagnant water.
- Using control measures that start with the least invasive first.

# Net-Zero Waste



DIVERT 100% OF ORGANIC WASTE



DIVERT 100% OF RECYCLABLE WASTE FROM LANDFILL



SAFELY DISPOSE OF 100% OF HAZARDOUS WASTE



RESELL, RECYCLE, OR REUSE 100% OF ELECTRONIC WASTE



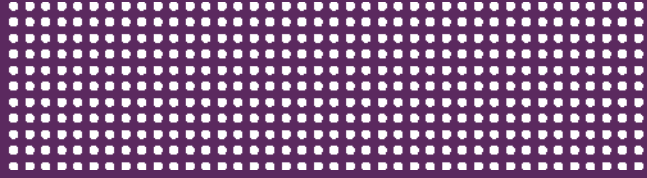
RESELL, RECYCLE, OR REUSE 100% OF DURABLE GOODS



DIVERT 100% OF CONSTRUCTION WASTE



# 06



## WASTE MANAGEMENT

Waste Management addresses the total volume of Texas A&M’s waste stream, how the total volume can be minimized, and how waste can be diverted from landfills. “Waste” at Texas A&M includes many things: organic materials such as animal bedding from agricultural facilities and food waste from dining facilities; recyclables such as plastic bottles, aluminum cans, and cardboard; hazardous wastes such as lab chemicals; electronic waste such as laptops, cell phones, and batteries; durable goods such as department furniture and student belongings discarded during move-out; and construction waste from campus development.

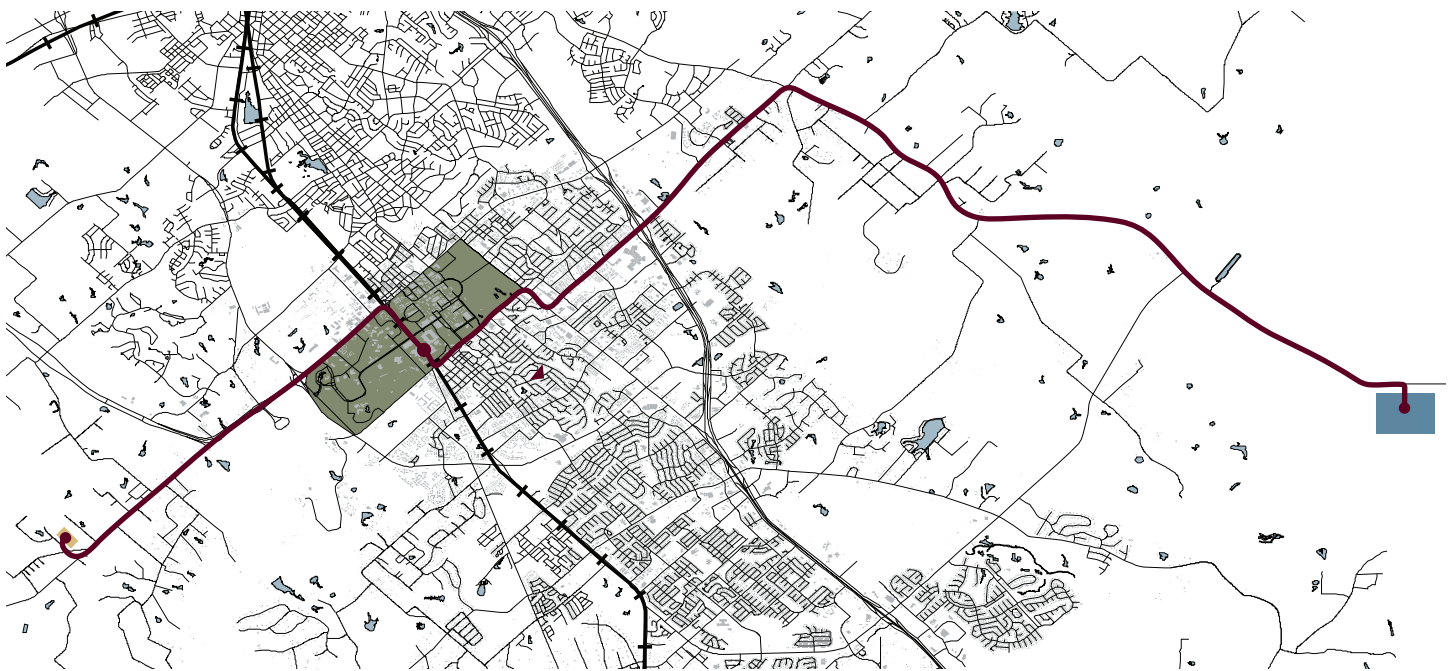


# Achieve zero waste to landfill by 2055.

Along with sending zero waste to landfill, Texas A&M should focus on waste minimization as the institution is the largest generator of waste per weighted campus user amongst its peers. Achieving this goal will require significant efforts in University operations as well as the behaviors and actions of individual Aggies.

What happens with our goods and materials when we are done using them? What does it mean to throw something “away?” Where is “away?” At Texas A&M, non-recyclable wastes are sent to the Twin Oaks Landfill; approximately 14 miles from campus. Recyclables are sent to Brazos Valley Recycling; approximately 5 miles from campus. Aggies make

decisions every day that can minimize the amount of material sent to Twin Oaks Landfill. Reducing individual waste production and diverting wastes from the landfill through composting, donation, and recycling helps the University community advance toward its ambitious zero waste to landfill goal.



## Campus Waste Collection

Wastes generated at Texas A&M are sent to either the Twin Oaks Landfill, if placed in a non-recyclable container, or Brazos Valley Recycling Center, if placed in a recycling container.

- Texas A&M Main Campus Boundary
- Twin Oaks Landfill
- Brazos Valley Recycling Center
- Driving Routes to Waste Facilities



# Organic Wastes

This waste stream includes landscape wastes, animal bedding, and food wastes. It is important this stream is composted in lieu of landfilled because it generates the greenhouse gas methane when buried and has significant nutrient content that can only be re-captured if composted.

## 06-1: Increase post-consumer composting in dining locations.

# 1

2017

Memorial Student Center  
Upper Level Food Court Only

# 2

MEDIUM TERM

# 4

LONG TERM

Number of On-Campus Dining Venues Engaged in Post-Consumer Composting

Composting in dining facilities happens in two places: pre-consumer (in kitchens prior to customer purchases) and post-consumer (after a customer has made a purchase and finished their meal). While pre-consumer composting is succeeding at Texas A&M, post-consumer composting is challenging because it requires all members of the campus community be knowledgeable about what can and cannot be composted.

How will we do it?

At Texas A&M today, the only dining facility to offer post-consumer composting is the Memorial Student Center Upper Level Food Court. To support Aggies in improving post-consumer composting, Texas A&M and its dining vendor, will:

- Provide consistent signage in the MSC Upper Level Food Court to improve education on post-consumer composting.

Once Aggies better understand which waste goes in which stream after dining, Texas A&M and their dining vendor aim to increase the availability of post-consumer composting to other campus dining facilities. Because food service is contracted to a third party, Texas A&M:

- Must maintain strong contract language and oversight.
- Consider compostable requirements for food retail partners (national chains) that want to locate on campus.

## 06-2: Maintain 100% diversion of landscape wastes from landfill.



2017



MEDIUM TERM



LONG TERM

Percentage of Landscape Wastes Diverted from Landfill

Ground management generates approximately 18,000 cubic yards of landscape waste annually including grass clippings, leaves, branches, and other organic material. One hundred percent of that waste is composted for use on campus as fertilizer, mulch, wood chips, and compost sand blends for turf top dressing.

How will we do it?

Because grounds maintenance is contracted to a third party, Texas A&M:

- Must maintain strong contract language and oversight.
- Must develop provisions for what should happen if the supply of compost generated from landscape waste exceeds campus demand for that compost.

One strategy to maintain 100% landscape waste diversion in the case of unequal campus supply and demand is to:

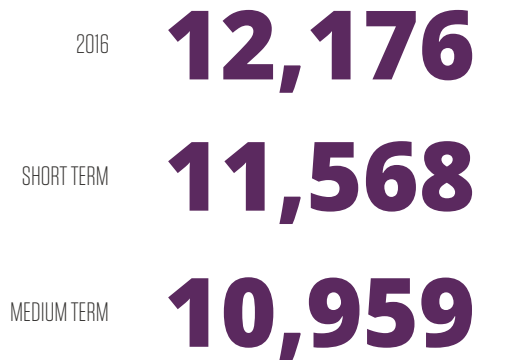
- Explore opportunities to sell or donate compost in the local community.



# Recyclables and Waste Minimization

Given the rapid rate of construction on campus and the high diversion rate of construction waste, narrowing in on non-construction waste aligns with the University's daily operations and best highlights actions Aggies can take to reduce the amount of waste headed to the landfill.

## 06-3: Reduce the total weight of non-construction waste.



Tons of Non-Construction Waste Generated Annually

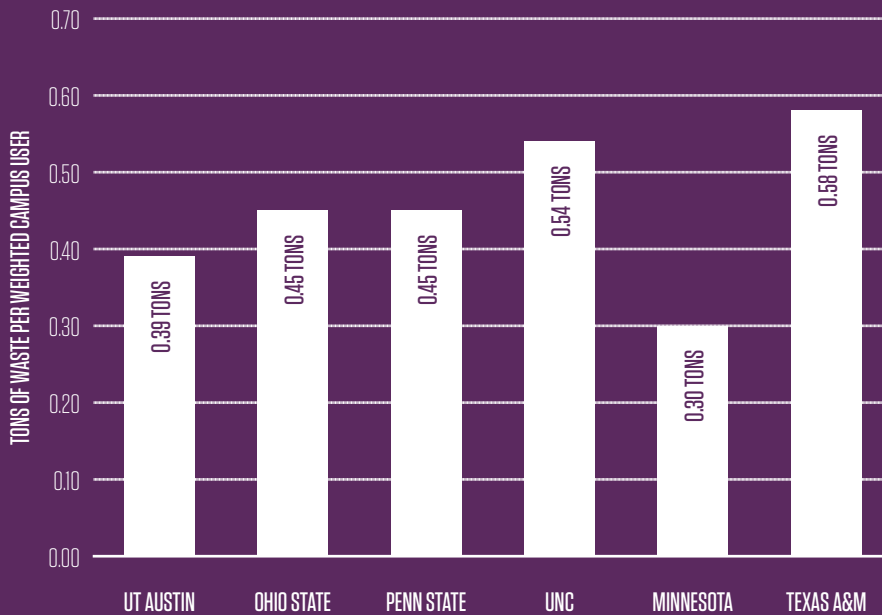
### How will we do it?

Minimizing waste will require every Aggie do their part. Aggies can cut Texas A&M's waste stream by:

- Refraining from using single-use goods.
- Reusing refillable hot and cold beverage containers.
- Printing double-sided to reduce paper waste.
- Dining in with durable silverware and plates.
- Using reusable takeout containers.
- Accepting digital assignments.
- Bringing lunch to campus in reusable containers.
- Double-checking print jobs for errors before sending them to print.

As an institution, Texas A&M's dining vendor could also incentivize reusable containers by providing discounts for their use. Athletics can also consider zero waste initiatives for game days.

### Total Waste per Aggie



The total amount of waste generated at Texas A&M is greater than its peers. The graph at left represent total waste per weighted campus user, including construction waste.

Waste minimization is key to creating a more sustainable environment. Diversion only cannot get Texas A&M to its evergreen goal.

Aggies produce the largest volume of waste annually per full-time equivalent enrollment of the Vision 2020 peers studied. Data illustrated are current as of December 1, 2017 STARS reporting for each institution.

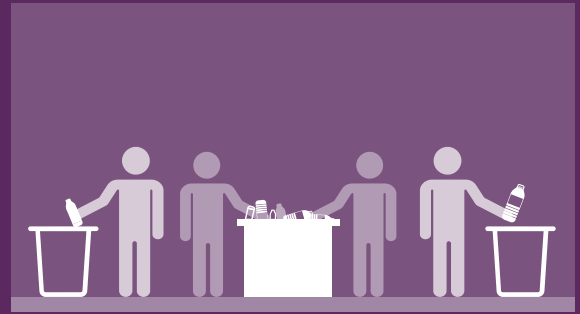


## Universal Waste Audits

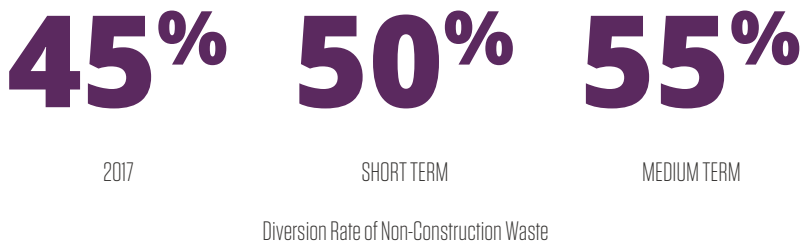
To create targets and actions that correlate to recyclable waste (which is defined as items that are thrown into the trash that can be recycled), waste audits must be conducted regularly and frequently to understand how much of what is being thrown away can be diverted or replaced with more sustainable alternatives.

Waste audits can be used as an educational tool as well as a resource for the University to achieve its diversion goals. As a pilot program, the Department of Residence Life will conduct a waste audit to better understand the actions and behaviors of on-campus Aggies.

The education of custodial staff will also continue, describing the relationship Texas A&M has with Brazos Valley Recycling (BVR) and the level of sorting BVR does. Custodial staff do not need to judge whether recycling has been contaminated or not as BVR's process removes contaminants from the recycling stream.



### 06-4: Increase diversion rates for non-construction waste.



Texas A&M employs a multi-stream recycling system that requires Aggies to sort paper from plastic and aluminum. Aggies must be taught Texas A&M's recycling process and have access to conveniently located recycling bins, both exterior and interior, to make this system work. Bins must be made universal so the community can be trained in one repeatable behavior in lieu of having to learn multiple behaviors to successfully recycle on campus.

#### How will we do it?

- Conduct a universal waste audit on campus and then set specific targets focusing on areas that need improvement.
- Expand educational, marketing, and communication tools to increase competency on how recycling on campus works. Such tools should include signage at recycling bins, office recycling guides, and unified information located on the UES website.
- Place interior three-stream recycling bins in each classroom, conference room, and lobby.
- Place paper recycling bins in all offices.
- Increase exterior recycling bins around campus based on 2017 exterior waste audit results.
- Increase availability of recycling at athletic events.

**On campus residents identify recycling as the most important sustainable amenity in on-campus housing.**





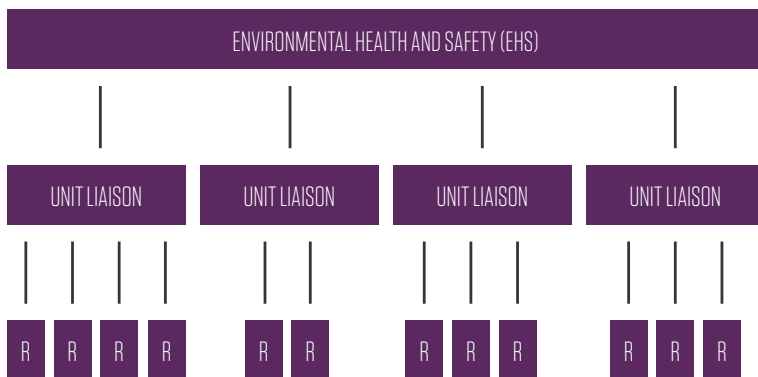
# Hazardous Waste

Materials such as lead paint, asbestos, and laboratory chemicals are considered hazardous waste. These materials require special handling to ensure they are safely disposed of, and many must meet legal disposal requirements.

## 06-5: Create an improved system and corresponding policies for unused chemical collection.

TIMELINE - LONG TERM

With over 4,000 laboratories on campus, enormous amounts of chemicals are purchased, used, and disposed of by Texas A&M. The disposal of chemicals and solvents is currently underreported and underutilized. Organic solvents are often the most hazardous chemicals in the laboratory.



Environmental Health and Safety (EHS) oversees the policies and collection of chemicals for the University. The diagram above proposes unit-level liaisons work with researchers (R) to assist with ordering, promote sharing, and facilitate chemical collection in line with EHS policies and processes.

How will we do it?

To increase the collection of chemicals and solvents and/or to minimize the amount of hazardous wastes located in laboratories, the University will assign unit-based and/or building-based liaisons to assist researchers who work with chemicals and solvents.

Together, EHS and the liaisons will assist researchers and encourage units to:

- Minimize over-ordering.
- Increase inter-laboratory sharing.
- Investigate the use of desalinization systems.
- Promote the reuse of chemicals when allowable.

These liaisons will also work with Environmental Health and Safety (EHS) to ensure the Chemical Waste Disposal process is being followed correctly.

### Single-Use Equipment and Devices in Labs

Whenever possible, reusable equipment should be used to support the University's waste minimization goals. Where single-use equipment is necessary, the University will research single-use devices that can be collected, reprocessed, and/or purchased for reuse by a third-party vendor. At present, the Department of Biology is piloting the purchase and use of biodegradable nitrile gloves that meet the same functional and safety standards of conventional nitrile gloves but decompose into soil components much faster. Such strategies should be advanced as opportunities become available.





# Electronic Waste

Materials such as batteries, laptops, and cell phones are known as electronic waste or e-waste. When e-waste is improperly disposed of in landfills it can contaminate land and groundwater resources.

## 06-6: Increase the number of opportunities provided for on-campus residents to recycle electronic waste.

# 1

2017  
(Annual E-Waste Collection Event)

# 2

MEDIUM TERM  
(Located at Residence Life 24-Hour Desk Locations)

# 4

LONG TERM  
(Additional locations at Libraries and Student Centers)

Number of Collection Points for Batteries and E-waste

Batteries and electronic waste such as cell phones and laptops have the potential to contaminate landfills and require special disposal practices.

### How will we do it?

To better capture electronic waste from students, the University will expand collection from a single-day event to permanent collection points within Residence Life 24-Hour Desks and major buildings such as Evans Library and the Memorial Student Center.

In addition to increased collection points, education and communication are critical. Various departments currently offer conflicting information about how to dispose of e-waste, and the inconsistencies confuse members of the campus community. The University will clarify collection practices for batteries and e-waste, and all unit websites who share information about electronic waste will link to a single webpage hosted by Environmental Health and Safety.

### Recycling Batteries On Campus

Alkaline batteries are not recycled on campus. Environmental Health and Safety (EHS) encourages the use of rechargeable batteries wherever possible as an environmentally friendly alternative.

Spent rechargeable, lead acid, mercury, and lithium ion batteries from departmental equipment may be processed through the Chemical Waste Program. Batteries should be prepared for disposal by insulating the terminals with tape, bagging or boxing them for transportation, and attaching a Chemical Waste Disposal Tag. Single use lithium ion batteries are recycled by a separate program, but should similarly carry a Chemical Waste Disposal Tag for processing. The batteries will be processed for recycling by EHS.

The Chemical Waste Program is for official use only. Drop boxes for the Aggie community to dispose of similar batteries are located in Evans Library and the Memorial Student Center.

			
TYPE	LITHIUM	ALKALINE	RECHARGEABLE
USED FOR	Cameras, Cell Phones, Laptops, Power Tools	Cameras, Video Game Controllers, Remotes, Radios, Toys	Cameras, Video Game Controllers, Remotes, Radios, Toys
RECYCLE?	Yes	No	Yes
WHERE?	Chemical Waste Program	Dispose with Landfill Waste	Chemical Waste Program



# Durable Goods

This waste stream addresses goods of enduring value such as clothing, furniture, appliances, and textbooks. It is important to keep these goods from the landfill because while their first owner may be finished using them, the goods can retain utility for multiple owners.

## 06-7: Increase the opportunities provided for on-campus residents to donate durable goods.

2017

**TEMPORARY COLLECTION AVAILABLE DURING MOVE-OUT**

MEDIUM TERM

**PERMANENT DONATION BINS LOCATED ON CAMPUS AND/OR MID-SEMESTER EVENTS FOR RESIDENTS TO DONATE ITEMS**

LONG TERM

**PERMANENT AGGIE SWAP STORE IN PLACE**

On-campus residents accumulate many possessions between move-in and move-out. Donation stations are currently set up during move-out to support students in diverting unwanted durable goods from landfill, but because space is at a premium during move-out, donation stations may not be as convenient as desirable.

How will we do it?

In the short term, the Department of Residence Life will investigate how to more regularly offer durable goods collection to take some of the pressure off of move-out and increase the diversion of durable goods from the landfill.

This can be achieved through:

- Identifying space to house permanent collection bins near on-campus residence halls.
- Creating mid-semester events that encourage residents to donate items prior to move-out.

In the longer-term, the University or a student organization could investigate the feasibility of creating a permanent donation center that re-sells items to the campus population and the public. The profits from this center could potentially be used to fund sustainability initiatives on campus.

## 06-8: Increase capacity to collect data that tracks the diversion rate of the Surplus Property Office.

**85%**

2017 (Estimated)

**95%**

LONG TERM

Surplus Property Waste Diversion Rate

When a campus department disposes of durable goods or a bicycle is impounded, those goods must go to the Texas A&M University Surplus Office where products in good working order are re-sold at a reduced rate.

How will we do it?

The University must invest in a system and policies that track data associated with Surplus Property. This data will enable the rigor needed to evaluate areas for improvement and increase diversion rates for surplus property. Critical areas to measure include:

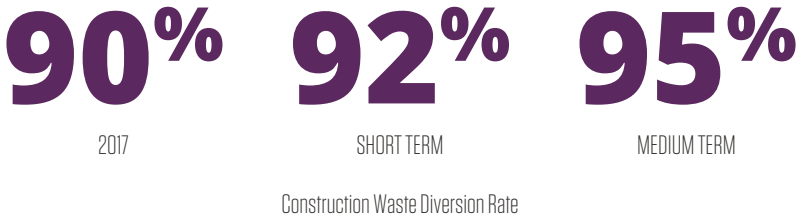
- Average tonnage of an auction lot.
- Direct sales.
- E-waste tonnage.
- Bicycle sales and recycling.
- Metal/scrap recycling (including shredded hard drives).
- Pallets.
- Batteries.
- Recycling waste.
- Estimation of non-handled surplus.



# Construction Waste

Construction waste includes any disposable material associated with campus development, including wastes generated through renovation and new construction projects.

## 06-9: Increase construction waste diversion rate from landfill.

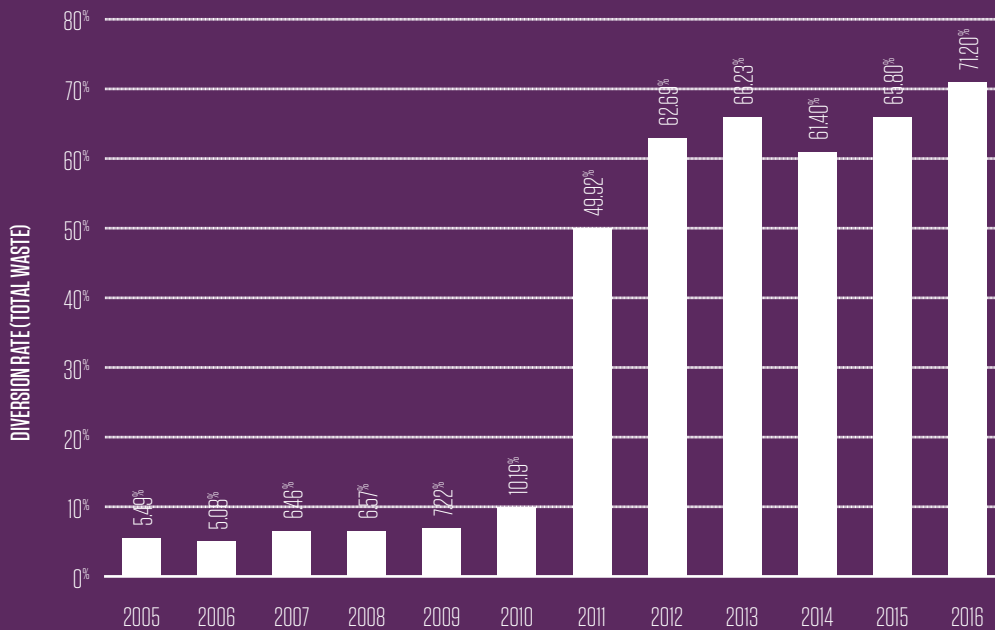


Texas A&M has a successful partnership with Brazos Valley Recycling (BVR), which processes all of campus' recyclable construction wastes. The University generally achieves a 90% landfill diversion rate for construction waste.

### How will we do it?

The 10% of construction wastes sent to landfill are attributable to contamination from non-construction wastes, such as disposable food and beverage containers, that appear on construction sites. Contractors are not currently required to provide waste diversion infrastructure for these items. On projects for which the University manages the contract, future agreements will incorporate requirements that contractors provide recycling infrastructure for these types of waste on the construction site.

### Recycling Partnership



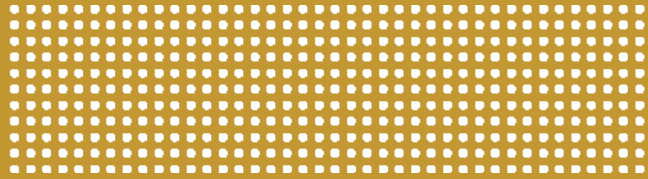
Community infrastructure to support recycling at Texas A&M was only minimally available before Brazos Valley Recycling's establishment. The partnership, starting in FY 2011, substantially changed Texas A&M's waste diversion rates and has significantly improved environmental performance in Aggieland.

Texas A&M's partnership with Brazos Valley Recycling has provided landmark improvements in waste diversion.

# What is Social Sustainability at Texas A&M?



# 07



## SOCIAL SUSTAINABILITY

Goals in this chapter strive to create an environment where all members of the University are set up to succeed and be happy, healthy, social, satisfied, and treated equitably.

Social Sustainability at Texas A&M blends traditional social policy areas such as equity, diversity, and inclusion with social issues such as justice, economic opportunity, participation and influence, community and global needs, and wellbeing and quality of life. It is defined and built around four topics: Equity, Diversity, and Inclusion; Health and Wellness; Voice and Influence; and External Engagement.

Changing a university's campus climate and culture is a collective undertaking that requires steady work, reflection, and accountability. A college campus is a microcosm of our larger society and world, and the issues we face at all scales of community that are rooted historically and systemically require consistent monitoring, commitment, resources, assessment, and ownership.

Aggies embody strong core values of Excellence, Integrity, Leadership, Loyalty, Respect, and Selfless Service. In concert with research, these values position Texas A&M as an ideal incubator for advancing an interdisciplinary conversation about social equity and its relationship to a comprehensive approach to sustainability.





# Equity, Diversity, and Inclusion

Aggies demonstrate and promote a working and learning environment that welcomes, supports, and nurtures everyone's success.

## 07-1: Increase the demographic diversity of the campus through recruitment and retention.

TIMELINE - CONTINUOUS, LONG TERM

In alignment with the Vision 2020 Plan, Texas A&M is working to increase the geographic and compositional diversity represented in its faculty, students, and staff. As the Aggie family grows more diverse, it is desirable for everyone to share the same quality of campus experience which is measured by a metric called "campus climate." Texas A&M's campus climate assessment data, reported in the 2016 State of Diversity report, demonstrate that members of historically underrepresented groups have sharply different experiences with the overall campus climate than do majority group members. The most common incidents reported on campus relate to microaggressions and race-based prejudice and harassment. Texas A&M's goal is to reduce the number of students, faculty, or staff who leave the institution because they have perceived a less welcoming environment.

The campus community wants more opportunities for cross-cultural and critical dialogue to empower individuals and develop awareness of diversity and inclusion's importance. In addition, the legacies of inclusion/exclusion, inter/intragroup dynamics, internationality, and institutional norms, practices, and systems that reproduce an inequitable environment must be addressed.

How will we do it?

- Target areas of the state, country, and world from which to recruit faculty, students, and staff to achieve a campus population that reflects the demographics of Texas and the nation.
- Maintain and enhance educational initiatives that improve campus climate such as Stop Hate, peer education programs, and leadership training.
- Increase program and training offerings and requirements for all students, faculty, and staff to learn how to better support and respect campus users from underrepresented groups through improved dialogue, mentoring, and mediation/conflict management.



### International and Cultural Diversity Graduation Requirements

Students want opportunities to engage in difficult topics related to race, gender, sexual orientation, and privilege. New changes to the International and Cultural Diversity Graduation Requirements will take place in 2019 that will help prepare Aggies to live and work effectively in a diverse and

global society, articulate the value of a diverse and global perspective, and recognize diverse opinions and practices. The new International and Cultural Diversity Requirements will focus on ensuring Aggies are equipped to have difficult conversations and become leaders in a diverse and global society.



## 07-2: Continue to close the gaps in student success rates.

TIMELINE - CONTINUOUS, LONG TERM

78%

Overall 5-Year Graduation Rate

80%

Vision 2020 6-Year Graduation Rate Goal

### 5 Year Graduation Rates by Racial and Ethnic Diversity

79%

White

77%

Asian

70%

Hispanic

68%

Black/African American

### 5 Year Graduation Rates by Socio-Economic Diversity

74%

Low SES Students

Information illustrated above is from the 2016 State of Diversity report.

Texas A&M seeks to nurture each individual student to ensure the highest probability of academic success. Vision 2020 sets forth a goal to attain a 95 percent freshman retention rate and an 80 percent six-year graduation rate—levels consistent with the best institutions. The University will continue to increase support and resources for minority, low-income, and first generation college students.

In order to achieve the target retention and graduation rates, Texas A&M strives to provide:

- Readily available opportunities for academic enrichment such as honors courses, study abroad experiences, interdisciplinary curricula, internships, cooperative education, and research experiences.
- Services and support systems such as supplemental instruction or tutoring, tuition and financial assistance, scholarships, counseling and career services, mentorship opportunities, and a safe, welcoming environment.

How will we do it?

The 2016 State of Diversity report reveals student success and graduation rates are not consistent among racial and ethnic groups. Hispanic and Black/African American students graduate at a rate about 10% less than the average graduation rate. Students from underrepresented groups often have challenges adjusting to campus life, especially if they are first-generation college students. Many have reported experiencing bias or microaggressions from fellow students, faculty, and leadership.

In Fall 2016, 23% of incoming students were from low socio-economic status backgrounds, and 22% of all students participated in programs that support low-income students. Affordability can deter educational success for students, and existing programs have supported a 74% five-year graduation rate for low socio-economic status students.

To help close the gap in student success rates, Texas A&M will:

- Increase support and resources for minority, low-income, and first generation college students.
- Improve using focused interventions for struggling students.
- Respond to issues that emerge in student climate assessment.
- Continue programs that help students find the right college program for their needs, acquire financial aid, and teach the value of a college education.
- Provide readily-available opportunities for academic enrichment experiences such as: expanded honors courses, study abroad experiences, interdisciplinary curricula, internships, cooperative education, and research opportunities.
- Continue to provide services and support systems such as: supplemental instruction or tutoring, tuition and financial assistance, scholarships, counseling and career services, mentorship opportunities, and a safe, welcoming environment.



# Health and Wellness

Aggies maintain their health and wellness by taking care of the body, engaging the mind, and nurturing the spirit to improve their quality of life.

## 07-3: Increase the amount of recreational space available.

2017	<b>4.5 NASF</b>
SHORT TERM	<b>5.8 NASF</b>
MEDIUM TERM	<b>7.0 NASF</b>

Net Assignable Square Footage (NASF) of Recreational Space per Population Served

As reported through campus engagement, students, faculty, and staff feel healthiest when they are physically active and 80% of the students at Texas A&M use the recreation center. The need for additional recreational space is highly demanded and prioritized.

How will we do it?

Using benchmarks from the 2017 Space Assessment, the minimal benchmark for recreation space is 7.0 NASF per 100% of the undergraduate enrollment, 25% of the graduate enrollment, and 15% of the faculty and staff. To achieve this benchmark:

- The University will build satellite recreation locations on campus to meet the demand.
- The placement of recreation locations should be in alignment with the 2017 Campus Master Plan and adjacent to student housing where possible.
- Integrate walking trails, bicycle trails, fitness stations, and healing gardens into the campus landscape to better utilize the whole campus as a recreation space.

## 07-4: Increase faculty and staff participation in WELLNESS WORKS! and Wellness Release Time.

TIMELINE - CONTINUOUS, LONG TERM

WELLNESS WORKS! is Texas A&M University's employee wellness program designed to encourage employees to live healthier lifestyles, support a healthy workplace, and create a culture of wellness. The program includes physical, financial, and interpersonal components and provides fitness sessions, Wellness Release Time, tuition assistance, wellness seminars, stress management programs, and financial consulting.

How will we do it?

To increase participation:

- Track attendance per employee to better determine the participation in each program.
- Increase availability of educational programs, healthy eating seminars, and preventive care information sessions.
- Increase programming with components of mindfulness, reflection, or meditation.

WELLNESS WORKS!  
By the Numbers:

**13,980**

Participants in 2017 Fitness Sessions

**2,235**

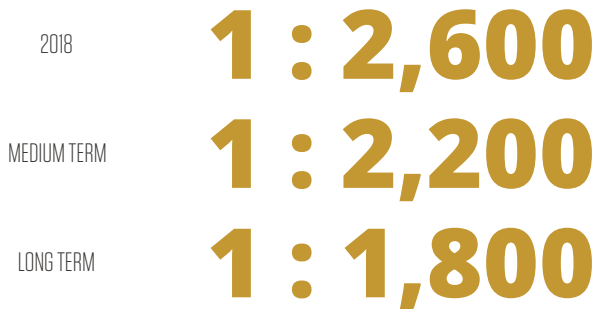
Participants in 2017 Health Screening and Vaccines

**1,860**

Participants in 2017 Living WELL Awareness Events

## 07-5: Increase capacity for mental health and preventive health services to meet student needs.

### Health Services



Ratio between Clinical Staff and Population Served

How will we do it?

According to multiple studies, a reasonable benchmark for calculating physician need is 1,800 patients per physician. To meet this benchmark for a campus population of approximately 63,000 students:

- Partner with Texas A&M Health Sciences Center to increase staff availability.
- Maintain funding to ensure quality, dedicated staff in health services.
- Transition to an integrated behavioral health model which embeds counseling and support services in campus primary care settings to provide whole health and collaborative care.

### Counseling Services



2018

MEDIUM TERM

LONG TERM

Number of Mental Health Outreach Programs

How will we do it?

- Partner with Texas A&M Health Sciences Center to increase staff availability.
- Maintain funding to ensure quality, dedicated staff in counseling services.
- Transition to an integrated behavioral health model which embeds counseling and support services in the University's primary care settings to provide whole health and collaborative care.
- Increase mental health and psycho-education outreach programs.

### Dietary Choice



2018

MEDIUM TERM

LONG TERM

Number of Campus Dietitians

How will we do it?

Many campus users feel best when they eat healthy; however, some campus users are unsure what foods are most appropriate to their health goals and healthy food options are not always available on campus or may be limited. To improve dietary choice on campus:

- Maintain funding to ensure quality, dedicated staff for dietary choice.
- Increase efforts to provide healthy food options during all points of the day on campus.
- Vegan, vegetarian, and gluten-free diets will be better supported on campus.

The University provides complimentary nutrition services to all students through programs run through the University's dining vendor and Student Health Services dietitians.

Existing On Campus Dining Achieves All Points in STARS' Sustainable Dining Credit for:



Hosting the Farmer's Market at Sbisa Dining Hall



Using Trayless Dining



Celebrating Meatless Mondays during October's Vegan Awareness Month



# Voice and Influence

Foster a climate that encourages all Aggies to participate in the campus environment, policy planning, and decision-making to develop a university that is inclusive of its diverse constituents.

Voice and Influence are critical to the social structure of a university and can gradually break down existing systemic and institutional barriers to equity. When all members of campus feel they have the right and opportunity to contribute to their campus in a genuine and meaningful way, the campus will be more inclusive and equitable. With a campus community of 63,000 students and 5,800 faculty and staff members, giving every single individual in Texas A&M's large community an equal voice may be an impossible task, but efforts toward the evergreen goal above should continue.

As the campus has developed over time, so have various social influence networks, both formal and informal. Formal social influence networks include long-standing organizations such as campus leadership and government organizations that typically include elections as part of their succession plan. Informal advocacy and stewardship groups include individuals that come together based on shared life experiences or interests. Informal social influence groups often connect on matters of race, gender, religion, and/or sexual orientation. Historically, informal social influence networks are formed as a result of an incident or to lobby against injustice or for change.

Dialogue must remain open and active, and campus leaders must be willing to listen for change to occur in the campus community. More effort will be made to become more inclusive and hear additional voices. Overall wellbeing is higher when members of a community have the confidence to exercise control over local circumstances and the ability to influence decisions that affect their quality of life and environment.

## Share Ideas, Express Concerns, and Participate in Decision-Making



You can exercise your voice and influence on campus by:

- Reaching out to your representatives within Student Senate, Faculty Senate, or University Staff Council.
- Attending a Graduate & Professional Student Council Presidential Town Hall.
- Providing feedback on campus building and planning projects via on-campus open houses.
- Using social media. Official Texas A&M accounts are monitored and reported to Leadership.

## Voice and Influence Targets

Voice and Influence targets are reported in other sections of this document:



**05-2: Develop public, civic spaces (interior or exterior) to represent a broader cross-section of the Aggie community.**



**08-2: Increase the number of opportunities for campus stakeholders to collaborate on sustainability initiatives.**



# External Engagement

Aggies engage across local and state communities, and across national and cultural borders, to advance academic exchange, collaboration, and dialogue.

Service and engagement with the community builds social capital and civic responsibility for individual Aggies as well as the institution as a whole. Texas A&M's Core Value of Selfless Service makes engaging with the community locally and globally an important part of Aggie traditions. Vision 2020 sets forth a goal for Texas A&M to attain the highest rate of student participation in volunteer service activities in a national research university.

Through large service programs such as The Big Event, service learning programs such as Texas Target Communities, and global research and service initiatives such as the Center for Conflict and Development, Texas A&M University is leading the way for large, public research institutions to focus on service both inside and outside of the classroom. This work is connected to the University's history as a land-, sea-, and space-grant institution and links academic teaching and research with real-world applications addressing the nation's biggest challenges.

## External Engagement Targets

External Engagement targets are reported in other sections of this document:



**08-3: Report hours of community service per full time equivalent enrollment commensurate with the Texas A&M Core Value of Selfless Service.**



**10-4: Increase capacity for tracking and recording curricular service-learning opportunities on campus.**



**10-8: Increase global research and service initiatives.**

## Texas Target Communities

Texas Target Communities is a service learning program. For over 25 years, faculty and students have been working alongside local governments and community stakeholders to create sustainable, equitable, resilient, and adaptive communities across Texas. The program has provided technical assistance on land use planning and design to disadvantaged communities across the state.

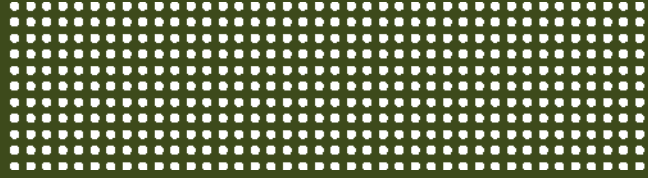


Master of Urban Planning students working with Dickinson, Texas to determine land use and transportation goals and objectives for inclusion in comprehensive plans for the community.

Exchange Ideas

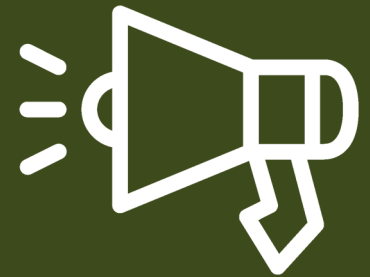


# 08



## EDUCATION, OUTREACH, AND ENGAGEMENT

With numerous tabling events, websites, social media accounts, fliers, emails, in-person classes, webinars, and word-of-mouth opportunities, an Aggie student, faculty member, or staff member can find sustainability information almost anywhere. To connect information and individuals, however, it is important to understand who is looking for what information in which locations to ensure education, outreach, and engagement activities are successful. This section addresses the types and quantities of extra-curricular opportunities available for students, faculty, and staff to learn about sustainability, serve the community through outreach, and engage with information that deepens the community's sustainability expertise.



# Expand the Aggie community's knowledge of sustainability to be inclusive of social, economic, and environmental factors while normalizing socially just and resource efficient behaviors.

To increase sustainability literacy on campus, the University must increase both the depth of sustainability expertise in individuals as well as the breadth of the Aggie community reached. To improve efficacy, participation-focused targets will validate that efforts undertaken provide the level and quality of engagement intended.

## 08-1: Increase the number of student organizations that participate in Campus Sustainability Day.



Texas A&M has over 1,000 student organizations that address a wide variety of student interests. Because sustainability includes a variety of social, environmental, and economic components it can be difficult to identify a student organization as sustainability-focused or not which can also make finding natural collaborators for sustainability initiatives across student organizations difficult. Increasing the ease of identifying sustainability-focused student organizations and increasing their connectivity to one another and supporting University resources will aid these groups in advancing sustainability awareness and literacy on campus.

### How will we do it?

Maintaining sustainability-focused student organizations and increasing their visibility through Campus Sustainability Day provides students with both broad and deep extra-curricular sustainability experiences. The following actions will increase the visibility and connectivity among sustainability-focused student organizations:

- The Office of Sustainability and Department of Student Activities will collaborate to define what a "sustainability-focused" student organization is.
- Add "sustainability" as a classification on the Department of Student Activities online directory of student organizations.
- Increase outreach to student organizations to build Campus Sustainability Day's visibility.
- Develop sponsorship opportunities for Campus Sustainability Day.
- Increase student organizational leaders' awareness of sustainability.

### Growing Faculty and Staff Outreach and Engagement

The 2018 SMP recognizes that growing sustainability initiatives at Texas A&M will require additional education, outreach, and engagement opportunities for faculty and staff. The Aggie Sustainability Alliance (see page 61) coordinated by the Office of Sustainability is one such endeavor, but it is hoped that outreach to faculty and staff will grow to include online training modules and/or in-person seminars coordinated through the Division of Human Resources and Organizational Effectiveness.





## 08-2: Increase the number of opportunities for campus stakeholders to collaborate on sustainability initiatives.

1

2017

2

SHORT TERM

Events Annually

4

MEDIUM TERM

Building capacity for four well-attended events each year will support cross-campus partnerships and ensure other targets of this plan are met. Today the Office of Sustainability hosts one such event, the annual Sustainability Breakfast and Awards Ceremony.

### How will we do it?

The following actions will build capacity for additional sustainability networking events:

- Develop sponsorship opportunities for events.
- Schedule events in concert with other University meetings to capture built-in audiences.

It is hoped that increased collaboration opportunities will reduce redundant programming, create new multi-disciplinary connections, and increase conversations between students, faculty, and staff. The existing Office for Diversity event calendar and program database can be used as a starting point to coordinate scheduling and proactively engage likely collaborators.



## 08-3: Report hours of community service per full time equivalent enrollment commensurate with the Texas A&M Core Value of Selfless Service.

132

2017

150

SHORT TERM

175

MEDIUM TERM

Hours of Community Service Reported per Full Time Equivalent Enrollment

### How will we do it?

Aggies share a Core Value of Selfless Service, but reporting of service activities varies from year-to-year. To increase reporting:

- Add a training module to the content for student organization leaders indicating where and how to report service events.
- Set minimum service expectations for student organizations that self-identify as having a "Community/Volunteer Service" focus through the Department of Student Activities.

## 08-4: Develop all the outreach collateral types recognized by STARS to better address communications needs.

6

2017

3

SHORT TERM

0

MEDIUM TERM

Number of STARS Recognized Outreach Materials Missing

Redeveloping existing outreach collateral and creating new outreach tools will better engage Aggies with sustainability content, advance other goals, targets, and actions of this SMP, and improve Texas A&M's STARS rating.

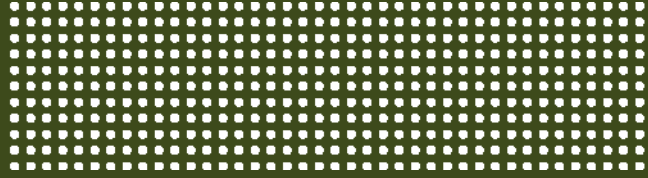
### How will we do it?

- The Office of Sustainability (OS) will develop a Sustainability Newsletter to recognize SMP progress not addressed via STARS reporting.
- Educational signage standards will be developed by the Office of the University Architect and outside service vendors on sustainable grounds and dining practices.
- OS will work with the Office of Mapping and Space Information to add a sustainability-focused walking tour layer to the online Aggie map.
- OS will keep The Battalion informed of sustainability events on campus to encourage the creation of a sustainability beat.

# What does Administrative Support include?

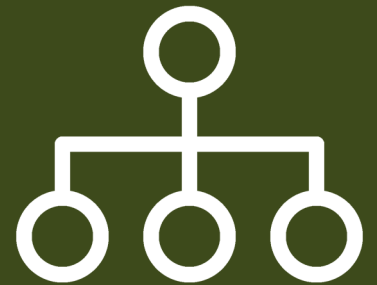


# 09



## ADMINISTRATIVE SUPPORT

Coordinated policies, processes, and procedures amplify the individual efforts of thousands of Aggie faculty, staff, and students to achieve sustainable outcomes. This chapter addresses how University purchasing, internal and external reporting, and staffing help achieve the broad range of goals and targets articulated across this plan.



# Develop and implement policies and practices that institutionalize sustainability efforts.

When Aggies make sustainable purchasing and operations decisions, it significantly influences how local supply chains operate because the Aggie community is so large. Making these practices more continuous will increase sustainability's momentum on campus and beyond and ensure that Texas A&M's Leadership and Excellence in sustainability do not ebb and flow with time but are maintained consistently as part of Aggieland's legacy.

## 09-1: Leverage institutional purchasing dollars to advance a sustainable supply chain.

**Increase paper purchases that include at least 30% post-consumer recycled content**



**Maintain purchases of green cleaning and janitorial supplies**



**Increase electronics purchases that meet at least EPEAT Bronze**



**Increase dining services' food and beverage expenditures on products considered sustainable by STARS criteria.**



How will we do it?

The scale at which Texas A&M purchases goods and services significantly influences local supply chains. Prioritizing the use of recycled paper, environmentally sensitive cleaning and janitorial products, sustainable electronics, and third-party verified sustainably sourced foods supports positive evolutions in related industries that will build a more sustainable future for us all. The actions identified below will help use institutional purchasing dollars to advance a sustainable supply chain:

- Identify and publicize recycled content office papers that are known to be compatible with University printers and copiers.
- Identify existing building materials that cannot be cleaned with green cleaners.
- Engage maintenance staff in the design review process of new University buildings to ensure products specified can be maintained with green cleaners.
- Streamline reporting protocols for electronics purchases.
- Improve the tracking of electronics purchases to better collect data on EPEAT certified electronics.
- Collaborate with the University's dining vendor to identify procurement opportunities that could increase the percentage of food and beverage expenditures on products that are verified as sustainable by a STARS-recognized third party.

## 09-2: Certify faculty and staff through the Aggie Sustainability Alliance (ASA).

**program  
launch**

2018

**5% 10%**

MEDIUM TERM

LONG TERM

Total Percentage of Faculty and Staff Certified

How will we do it?

The actions of over 5,800 faculty and staff members are important to sustainability at Texas A&M. How faculty and staff run their offices influences the environmental impact, economic performance, and social equity practices of the entire Aggie community. The actions below will increase the network of sustainability champions on campus and advance efforts articulated throughout this plan:

- Offer ASA certification on a regular basis to increase faculty and staff awareness and improve participation.
- Provide opportunities for faculty and staff interested in sustainability to interact and exchange ideas for workplace sustainability.

### Aggie Sustainability Alliance Recognizes Faculty, Staff, and Office Accomplishments

The Office of Sustainability's Sustainable Office Certification (SOC) is evolving into the Aggie Sustainability Alliance (ASA) to increase the connectivity of sustainability supporters, advocates, and champions among Texas A&M's faculty and staff. The new program, which will launch in 2018, allows faculty and staff to become individually certified for their sustainable practices on campus and identify their offices with ASA signage. By making sustainability champions easier to identify, faculty and staff interested in sustainability will more readily be able to find one another to build a stronger network. Once 35% of the individuals in an office are individually certified, the office can certify through an additional, office-specific checklist. Both the individual and office recognitions celebrate all three pillars of sustainability.

### Texas A&M Recognized as the Largest Fair Trade Campus in the United States

In August 2017, Texas A&M President Michael K. Young signed the official University Fair Trade Resolution to support food and beverage product purchases that prioritize environmentally respectful, socially equitable growing, harvesting, and trading practices. To advance Fair Trade practices on campus the University and its partners will:

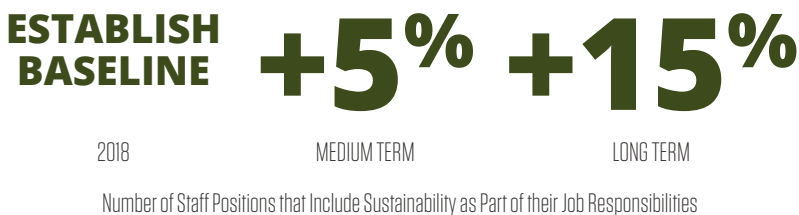
- Provide educational materials on sustainably sourced products.
- Partner with Fair Trade Campaigns to host "Fair Trade Finals" events preceding finals week.
- Host events bringing Fair Trade products, vendors, and/or producers to campus.



# Align sustainability staffing and funding to the depth and breadth of work being done.

This plan charts a course to increase Texas A&M's achievements in sustainability, but to succeed, staffing and funding resources must scale accordingly. Operational efficiency is critical to making the most of the University's resources.

## 09-3: Increase the number of staff positions that include sustainability-related objectives as part of their job responsibilities.



Including sustainability-related objectives in job responsibilities is important to ensure continuity in the University's sustainability efforts.

### How will we do it?

The baseline for this target can be established by cataloging staff job descriptions that include key terms. It is advisable to begin establishing a baseline using the job descriptions for staff members engaged in the 2018 SMP working groups and the Sustainability Advisory Council as their job descriptions may help establish key search terms. To establish the baseline and reach the target OS should:

- Develop a list of key search words in job descriptions.
- Advocate for formalizing sustainability-related objectives in job descriptions.

### Where is the Office of Sustainability and what does it do?

The Office of Sustainability (OS) is located in the General Services Complex. Its work primarily includes education, outreach, and engagement activities with Aggie students, faculty, and staff including:

- Spearheading the SMP development and implementation process.
- Managing and mentoring interns through a high-impact learning course.
- Recruitment, education, and advising for the Aggie Sustainability Alliance.
- Hosting the Sustainability Breakfast and Awards Ceremony.
- Outreach via tabling, events, email, reports, press releases, and social media.
- Hosting Campus Sustainability Day.
- Coordinating data and goals for the annual STARS report.
- Administering the Aggie Green Fund.
- Supporting the President's Sustainability Advisory Council.
- Coordinating the sustainability literacy assessment.
- Representing Texas A&M at regional and national conferences.

**10**

Number of Sustainability Interns Each Semester

**6**

Texas A&M Bus Line Connecting Office of Sustainability to Memorial Student Center

**55%**

Students Who Report They Would Be More Likely to Engage with the Office of Sustainability If It Were Located on East Campus

## 09-4: Increase the amount of external research funding received annually for sustainability-related research.



Millions of Dollars Received for Sustainability-Related Research Annually

### How will we do it?

Texas A&M participates in significant sustainability research to advance the world. Substantial grant funding is awarded for research from a variety of entities, including federal and state agencies as well as private, non-profit, and corporate entities. The following actions could increase Texas A&M's competitive advantage in seeking external research funding for sustainability:

- Increase opportunities for interdisciplinary collaboration.
- Increase awareness of sustainability-focused research grants and the number of proposals submitted.
- Increase the number of sponsored research agreements that include private, non-profit, and corporate entities engaged in campus research.

## 09-5: Incentivize curriculum development and redevelopment that prioritizes sustainability.

### TIMELINE - LONG TERM

Developing new courses and redeveloping existing ones to prioritize sustainability ensures the curriculum stays up-to-date in the face of a fast-changing global world. While sustainability is included in many undergraduate and graduate courses across the University, there are additional opportunities for sustainability to become better embedded in the Aggie academic experience to produce sustainability literate graduates in all fields of study.

### How will we do it?

Colleges can encourage faculty to emphasize sustainability in the curriculum by:

- Offering grants and time releases for faculty to complete course development and redevelopment.
- Require online courses related to sustainability be regularly updated with the most up-to-date content.

### Aggie Green Fund Celebrates 8 Years and \$1.9M of Sustainability Projects on Campus

The Aggie Green Fund awards Major Grants (\$3,500+) annually and Micro-Grants (less than \$3,500) on a rolling basis to advance sustainability projects on campus. The Aggie Green Fund Advisory Committee, composed of students, faculty, and staff, funds applications which may be submitted by any Aggie. Funded projects must address environmental improvements to the Texas A&M campus, may not primarily address research, and are encouraged to increase student education and involvement. Previously funded projects include water bottle filling stations in residence halls, occupancy sensors, campus educational signage, and more. For more information about funded projects, how to get involved, or how to apply, see <http://greenfund.tamu.edu/>.



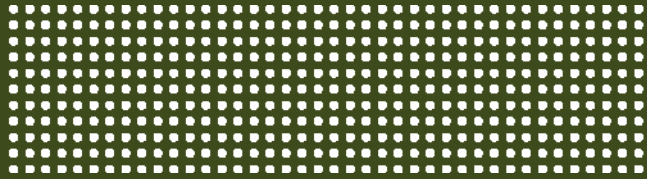
**Aggie Green Fund**

# Campus as a Living Laboratory





# 10



## INSTRUCTION, RESEARCH, AND INNOVATION

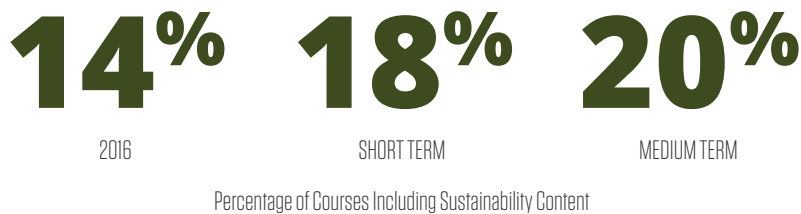
As an institution of higher education, Texas A&M has an obligation to produce graduates empowered to think critically, communicate effectively, and work productively with others in all scales and types of communities. Because sustainability-related courses and research touch most University departments, sustainability is an embedded part of the Aggie experience. Texas A&M provides opportunities for students to equip themselves with the knowledge necessary to make positive impacts on the global challenges facing the Aggie community, Texas, the nation, and beyond.



# Produce sustainability-literate graduates from all fields of study who are competitive additions to the workforce and society.

AASHE's STARS recognizes that the largest impact Texas A&M can have on supporting a sustainable future is ensuring its undergraduate and graduate students become sustainability-literate members of their communities.

## 10-1: Increase availability of undergraduate and graduate courses on or related to sustainability.



## 10-2: Increase departments offering courses on or related to sustainability.



### How will we do it?

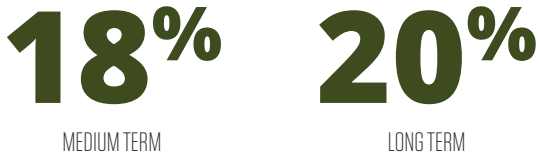
Texas A&M offers undergraduate and graduate level courses that are either focused on sustainability or that offer sustainability content as part of a lesson or learning unit. The targets at the left have been set to increase or maintain Texas A&M's achievement of full points under the AASHE STARS curriculum credits in recognition that it is unrealistic and unsustainable for 100% of courses at Texas A&M to be on or related to sustainability. Maintaining or changing the percentages will require:

- Re-developing existing courses to more intentionally teach sustainability content.
- Developing new courses.
- Encouraging additional departments to provide sustainability-related courses.
- Maintaining an accurate sustainability-related course inventory.

### How Courses Identify as having Sustainability Content in AASHE STARS Tracking

The Office of Sustainability audits each course's syllabus to determine if it has sustainability content. The audit includes searching the term 'sustainability' and related terms, as well as determining if the course covers environmental, economic, or social issues related to sustainability. The entire list of search terms and contributing courses and departments can be found at <http://sustainability.tamu.edu/stars.aspx>.

### 10-3: Increase the percentage of students who take a course with a sustainable learning outcome.



Percentage of Students Taking Courses with Sustainable Learning Outcomes

In its STARS reporting to date, Texas A&M has not tracked the percentage of students who take courses with sustainable learning outcomes. Taking stock of learning outcomes at the course, program, division, and institutional level will support Texas A&M in advancing its STARS rating amongst its peer group.

#### How will we do it?

This target is written to align with the sustainable course offerings target, as it is envisioned that such courses are likely to articulate sustainable learning outcomes as part of their syllabi. To achieve this learning outcome target:

- Educate faculty about what sustainable learning outcomes are, how existing learning outcomes can be edited, and how new learning outcomes could be developed.

Texas A&M can more quickly advance in this target by documenting sustainable learning outcomes at larger scales of influence such as by program, division, or across the institution as a whole.



### 10-4: Increase capacity for tracking and recording curricular service-learning opportunities on campus.

TIMELINE - MEDIUM TERM

Many Aggies engage in community service through teaching, learning, and research. Integrating service experiences into the academic curriculum is mutually beneficial for both students and the community. Students are learning directly in the field in which they study, the community is benefiting from the work being done, and most importantly, both benefit from the relationships that are formed. Because service-learning is decentralized across the University and occurs at many scales in many units, the Leadership and Service Center has challenges tracking the impact of service-learning to understand how and where these courses and programs should grow. Better understanding this data is imperative to demonstrating the Core Value of Selfless Service in action.

#### How will we do it?

- The University will increase capacity to record data surrounding service learning. This tracking will allow the University to record the amount of service being completed by faculty and students and will enable the University to understand the level of participation in current curricular service-learning programs.
- The University will investigate offering incentives to faculty who integrate service learning into their academic curriculum.
- Curricular service learning can bring people from many disciplines together. The University will work to connect departments and researchers to create interdisciplinary service-learning projects.



### 10-5: Increase the number of university classrooms that include technology to aid those with disabilities.

TIMELINE - CONTINUOUS, LONG TERM

Universal Design describes environments that can be accessed and used by all members of a community. According to the US Department of Education, 11% of students in postsecondary institutions have self-identified as having a disability and those with differing abilities can experience impediments in Texas A&M's educational environments. Texas A&M will work to ensure physical and technological access in all university-owned classrooms to create an equitable educational environment that supports the academic success of every Aggie.

#### How will we do it?

Multiple groups within the University will collaborate to inventory and remediate existing university-owned classrooms to ensure Universal Design. Ensure spaces provide:

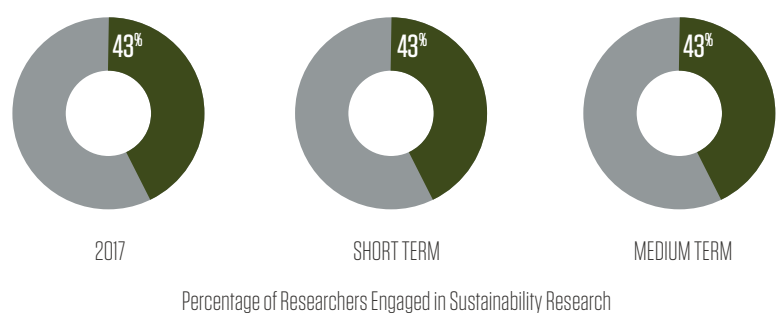
- Unlimited physical access (ramps, accessible signage, lighting, and noise adjustments).
- Accessible technology (assistive technology such as screen readers, listening units, hearing aid compatible receivers, amplifiers, etc.).

Design new classroom spaces to accommodate these features.

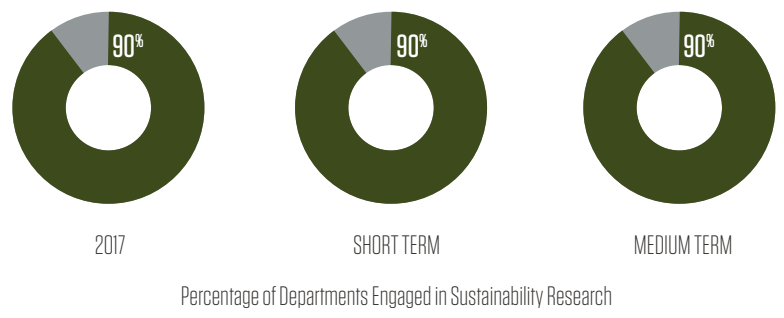
# Advance local, national, and global communities toward a more socially just, resource efficient future through discoveries at Texas A&M.

Active research through every college and a host of dedicated research centers and institutes helps address the challenges of our time and in many cases align with the United Nations Sustainable Development Goals. From engineering and technical research that informs our built environment to health research and beyond, developments at Texas A&M change the world.

## 10-6: Maintain the percentage of researchers that are engaged in sustainability research.



## 10-7: Maintain the percentage of departments that are engaged in sustainability research.



How will we do it?

The research community at Texas A&M engages in a broad variety of research to help advance our world. The targets set in the research category for both the percentage of researchers and the percentage of departments engaged in sustainability-related research are maintenance targets, as existing levels of engagement achieve full points under the AASHE STARS rating system. The following actions will enhance the work and visibility of existing research efforts:

- Host an annual UN Sustainable Development Goals research showcase to encourage collaboration.
- Develop an avenue to publish student sustainability research.

**Texas A&M Transportation Institute Studies Autonomous Vehicles**

Research at the Texas A&M Transportation Institute (TTI) studies connected and automated vehicles, among other cutting-edge mobility technologies. An open request for information invites non-University entities to bring their technologies to Texas A&M for evaluation in the campus' real-world setting. To learn more about connected and autonomous vehicles, see <https://tti.tamu.edu/>.





## 10-8: Increase global research and service initiatives.

TIMELINE - CONTINUOUS, LONG TERM

In alignment with the Vision 2020 Plan's goal to better prepare Aggies for a global and diverse society, Texas A&M University is working to provide expanded opportunities for students to have international experiences and gain an understanding of globalization issues. These opportunities include developing and offering international distance education programs for students, encouraging former students to get involved in expanding the university's research and exchange programs worldwide, and providing faculty with opportunities and support for international teaching and research experiences.

How will we do it?

- The University will provide additional funding through grants and financial aid for more students, faculty, and staff to participate in global research and service programs.
- The University will increase national and global service that focuses on solving the world's biggest problems in alignment with the United Nations Sustainable Development Goals.
- The University will create a cohesive message about its research and service programs abroad in connection to the University's mission to prepare students to assume roles in leadership, responsibility, and service to society. The University will also develop better communication and records of global research and service programs.

### Global Outreach at Texas A&M University

The Center on Conflict and Development at Texas A&M University works to improve the effectiveness of development programs and policies for conflict-affected countries through multidisciplinary research and education. Working across disciplines, the center includes researchers, faculty, and students from the College of Agriculture and Life Sciences, the Bush School of Government and Public Service, the Department of Political Science, and the Texas A&M Health Science Center School of Public Health.

The research focuses largely on mitigating conflict related to four program areas:

- Food Security: How can design interventions build upon local coping strategies to incentivize food security and promote resilience?
- Natural Resource Management: How can natural resource management be used as a peace-building approach?
- Youth Employment: How can youth populations be engaged in workforce development programs that link to permanent jobs?
- Local Institutions: How do legitimate local institutions redirect elite competition and promote cooperation dynamics?



The Mutsora run-of-the-river mini hydroelectric facility is located just outside the Virunga National Park, North Kivu. Photo Credit: Brent Stirton/Getty Images.



Children participate in a Center on Conflict and Development program in Guatemala called Learn, Grow, Eat, & Go! Photo Credit: Center on Conflict and Development.

# Sustainability Timeline

2018

2019

2020

2021

2022

2023

2024

2025

2026

2027

2028

2029

## Short Term Targets

The 2018 SMP identifies FY 2018 - FY 2022 as the timeframe for achieving short term targets.

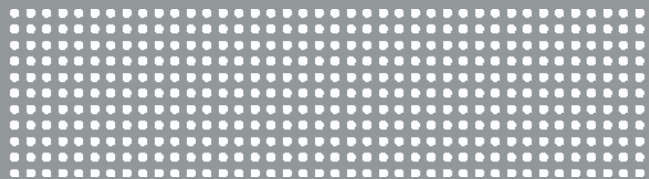
## Medium Term Targets

The 2018 SMP identifies FY 2023 - FY 2027 as the timeframe for achieving medium term targets.

## Long Term Targets

The 2018 SMP identifies FY 2028 and beyond as the timeframe for achieving long term targets. It is anticipated that as this timeframe approaches, a new round of campus sustainability planning may be required to keep pace with evolutions in the University and the changing landscaping of sustainability in higher education.

# 11



## THE PLAN AT A GLANCE

The 2018 SMP is a comprehensive sustainability master plan that outlines what metrics the University community should target in future to advance its sustainability, who is most likely to take leadership and supporting roles in advancing actions towards meeting those targets, on what timeline targets should be advanced, and why the advancement of the targets in this plan are important. For easy reference, the Plan at a Glance summarizes every goal, target, and action contained in the 2018 SMP. The Plan at a Glance is an executive summary of the 2018 SMP and is intended to support discussions on how meeting the targets is progressing.



## How This Plan Will Be Implemented

Each target includes measurable milestones on variable timelines. Baseline data is identified by year, with many targets drawing their baseline data from Texas A&M's 2017 STARS report. Targets for future achievements are broken into short, medium, and long term timeframes to provide resilience to this document and accommodate unforeseen opportunities that may arise in intervening years. While some targets may have short and medium term milestones, others may identify only medium and long term milestones. It is anticipated that efforts to advance the targets of this plan are constantly evolving. The definitions of short, medium, and long term timeframes are:

<b>FY2019 - FY2023</b>	<b>FY2024 - FY2028</b>	<b>FY2029 &amp; BEYOND</b>
SHORT TERM	MEDIUM TERM	LONG TERM

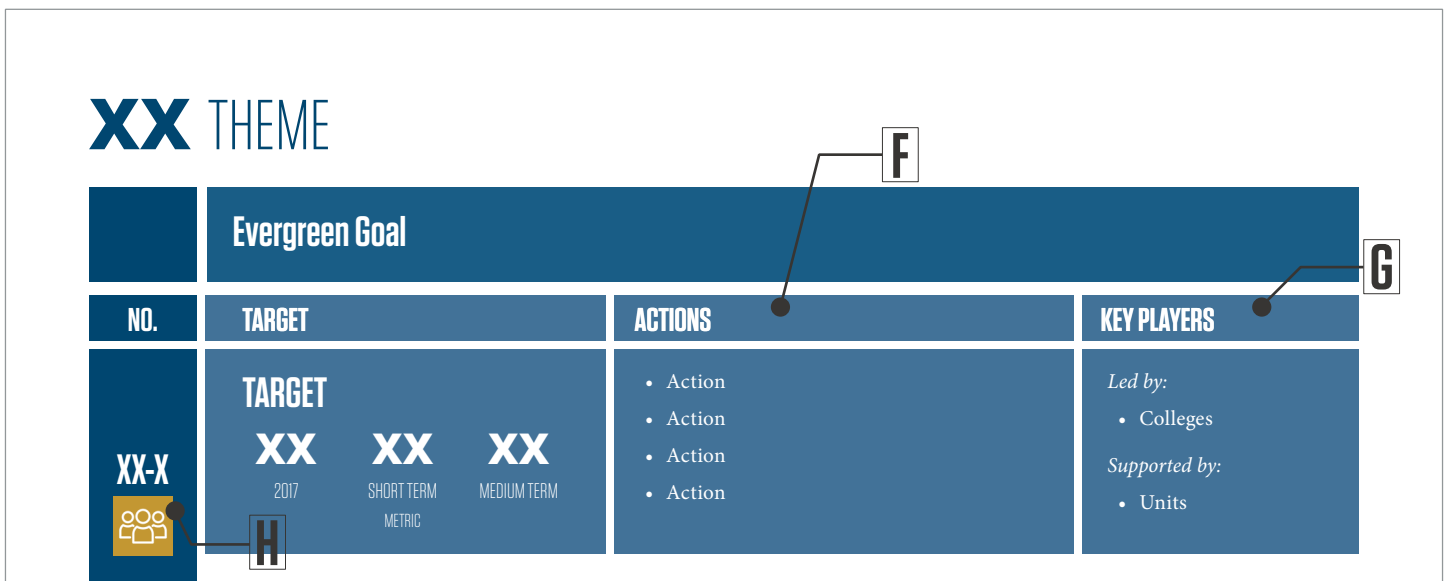
The Plan at a Glance is a summary table identifying every evergreen goal, target, and action described by the plan. This executive summary table includes Key Players and will support progress check-ins on how the implementation of the 2018 SMP is going.

**Actions:** Each target includes actions, activities on the critical path toward success in achieving the

targets. The actions presented in the Plan at a Glance are summary information only, and more detailed information can be found in the corresponding chapter of this Sustainability Master Plan. Some actions are associated with multiple targets, while some actions are associated with only one target. This reflects the variability in whether actions affect multiple outcomes or not. *See F.*

**Key Players:** The key players listed in the Plan at a Glance are the parties who will most influence the successful achievement of each target and are closely connected to the actions listed. The Texas A&M Office of Sustainability will be integrally involved in the execution of this plan and will guide, support, and coordinate stakeholders in Texas A&M's journey toward a more sustainable future. Contributions from stakeholders across the Aggie community, however, are key to the success of many actions in this plan. Every Aggie has a role to play in the plan's implementation. *See G.*


**Social Sustainability:** When a target within a theme connects to social sustainability, it is identified in the Plan at a Glance by the social sustainability graphic icon. *See H.*



Typical hierarchical layout of Goals, Targets, Actions, and Key Players in the Plan at a Glance.



# 02 ENERGY USE AND GREENHOUSE GAS EMISSIONS

 <b>Achieve a 50% reduction in greenhouse gas emissions per weighted campus user by 2030; achieve net-zero emissions by 2050.</b>			
NO.	TARGET	ACTIONS	KEY PLAYERS
02-1	<p><b>Decrease campus energy use intensity.</b></p> <p><b>192</b>   <b>182</b>   <b>174</b></p> <p>2017   SHORT TERM   MEDIUM TERM</p> <p>Campus Source Energy Use Intensity (kbtu/sf/year)</p>	<p><i>Campus buildings can decrease energy use by:</i></p> <ul style="list-style-type: none"> <li>Increasing effectiveness of air-side heat recovery.</li> <li>Updating building automation systems.</li> <li>Communicating system feedback to end users.</li> <li>Upgrading laboratory fume hoods.</li> <li>Meaningfully integrating exterior shading solutions, such as that provided by trees or architectural features.</li> </ul> <p><i>Aggies can cut energy use by:</i></p> <ul style="list-style-type: none"> <li>Turning off the lights when exiting a room.</li> <li>Turning off and unplugging devices prior to extended campus breaks.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Utilities and Energy Services</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>All Aggies</li> </ul>
02-2	<p><b>Decrease Scope 1 and Scope 2 greenhouse gas emissions per weighted campus user.</b></p> <p><b>5.81</b>   <b>5.52</b>   <b>5.23</b></p> <p>2017   SHORT TERM   MEDIUM TERM</p> <p>Metric Tons of Carbon Dioxide Equivalent (MTCO<sub>2</sub>e) per Weighted Campus User</p>	<ul style="list-style-type: none"> <li>Investigate strategies to minimize peak demand to maximize opportunities for on-campus production to meet energy needs.</li> <li>Investigate strategies to increase capacity for on-campus energy production.</li> <li>Replace equipment that is past its industry recommended service life.</li> <li>Increase use of heat pump chillers.</li> <li>Upgrade existing cooling towers.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Utilities and Energy Services</li> </ul>
02-3	<p><b>Increase the use of renewable energy.</b></p> <p><b>5%</b>   <b>10%</b></p> <p>MEDIUM TERM   LONG TERM</p> <p>Percentage of Campus Electricity Consumption Sourced from Renewable Energy</p>	<ul style="list-style-type: none"> <li>Consider structuring appropriately oriented new construction to accommodate solar panels in future.</li> <li>Investigate Power Purchase Agreements (PPAs) as a way to procure on- or off-site renewable energy.</li> <li>Investigate Renewable Energy Certificates (RECs) as a way to increase renewable energy purchases.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Utilities and Energy Services</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>Office of Sustainability</li> </ul>



Social Sustainability is woven into every aspect of the 2018 Sustainability Master Plan. Chapter 06 - Social Sustainability is the central location of social sustainability information and concepts, however each of the themes has topics within it that relate back to the social sustainability.



## 02 ENERGY USE AND GREENHOUSE GAS EMISSIONS (CONTINUED)

NO.	TARGET	ACTIONS	KEY PLAYERS
02-4	<p><b>Decrease miles traveled via taxis, ferries, and rental as well as reimbursed personal mileage.</b></p> <p><b>5.4</b>   <b>5.1</b>   <b>4.9</b></p> <p>2017   SHORT TERM   MEDIUM TERM</p> <p>Miles Traveled Annually (in Millions)</p>	<ul style="list-style-type: none"> <li>• Use virtual communication when possible.</li> <li>• Use alternative modes of transit for University travel (train, bus, bicycle, hybrid or electric car, walking).</li> <li>• Carpool when possible.</li> <li>• Consider incentives to promote more sustainable transportation choices.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• All Aggies</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Office of Sustainability</li> <li>• Utilities and Energy Services</li> </ul>

## 03 STORMWATER MANAGEMENT

 <b>Minimize erosion and contaminants in stormwater runoff.</b>			
NO.	TARGET	ACTIONS	KEY PLAYERS
03-1	<p><b>Improve mulch loss and replacement.</b></p> <p><b>3,451</b>   <b>3,106</b>   <b>2,761</b></p> <p>2017   SHORT TERM   MEDIUM TERM</p> <p>Cubic Yards of New Mulch Placed Annually</p>	<ul style="list-style-type: none"> <li>• Inventory spaces that need improvement.</li> <li>• Installation of improved edging at the junction of planting beds and other groundscapes.</li> <li>• Increase soil percolation.</li> <li>• Use groundcover plants to stabilize soils.</li> <li>• Evaluate mulch product installed to ensure the optimal product is being used. Change typical mulch used on campus if necessary to improve performance.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Facilities and Dining Administration</li> <li>• Grounds Management</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Utilities and Energy Services</li> </ul>
03-2	<p><b>Increase soil percolation.</b></p> <p><b>0.05</b>   <b>0.08</b>   <b>0.10</b></p> <p>2017   MEDIUM TERM   LONG TERM</p> <p>Absorption Rate (in / hr)</p>	<ul style="list-style-type: none"> <li>• Inventory areas that require the greatest improvement.</li> <li>• Fortify soils with organic materials such as compost, landscape waste, and manure.</li> <li>• Use groundcover plants to stabilize soils.</li> <li>• Support new plants in establishing robust root systems.</li> <li>• Increase aeration to allow air and water to penetrate the ground.</li> <li>• Better manage irrigation to keep soil from saturation prior to storm events.</li> <li>• Address the build-up of sodium in local soils.</li> <li>• Consider piloting strategies on test plots with the Department of Soil and Crop Sciences before making larger deployments across campus lands.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Facilities and Dining Administration</li> <li>• Grounds Management</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Utilities and Energy Services</li> </ul>


# 04 CAMPUS MOBILITY

 <b>Minimize the number of total vehicle miles traveled by campus users.</b>			
NO.	TARGET	ACTIONS	KEY PLAYERS
04-1	<b>Decrease the number of business permits sold.</b> <b>2,889   2,600   2,300</b> <small>2017      SHORT TERM      MEDIUM TERM</small> <small>Number of Business Permits Sold Annually</small>	<ul style="list-style-type: none"> <li>• Increase the price of Business Permits to deter administrative units from purchasing more than are needed.</li> <li>• More closely regulate the distribution of permits.</li> </ul>	<i>Led by:</i> <ul style="list-style-type: none"> <li>• Transportation Services</li> </ul>
	<b>Increase capacity of the on-campus transit system.</b> <b>92      102      112</b> <small>2017      MEDIUM TERM      LONG TERM</small> <small>Full-Size Buses Available for Daily Routes (not including charters)</small>		
04-3	<b>Increase the number of students, faculty, and staff who commute to campus using something other than a single occupancy vehicle.</b> <small>Faculty/Staff</small> <b>16%      18%      20%</b> <small>2017      SHORT TERM      MEDIUM TERM</small> <small>Students</small> <b>65%      75%      85%</b> <small>2017      SHORT TERM      MEDIUM TERM</small> <small>Percent of Campus Users using Alternative Transportation</small>	<ul style="list-style-type: none"> <li>• Emphasize bicycle safety by increasing the number of protected bike lanes on campus.</li> <li>• Emphasize pedestrian safety by removing surface parking lots in the pedestrian priority zones.</li> <li>• Relocate small interior surface parking lots to the perimeter of the campus in parking structures.</li> <li>• As fewer campus users rely on their car, adapt the on-campus transit network to meet increased demand.</li> <li>• Strengthen bicycle and bus connections to the Bryan-College Station region.</li> <li>• Consider integrating bicycle racks with campus buses to stretch the coverage of the existing bus network.</li> </ul>	<i>Led by:</i> <ul style="list-style-type: none"> <li>• Transportation Services</li> <li>• Office of the University Architect</li> </ul>
			




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## 04 CAMPUS MOBILITY (CONTINUED)

 <b>Operate a campus fleet that minimizes demand for fossil fuels.</b>			
NO.	TARGET	ACTIONS	KEY PLAYERS
04-4	<b>Increase use of alternatively fueled vehicles.</b>  <b>7.9%</b> <b>10%</b> <b>20%</b> <small>2017            MEDIUM TERM            LONG TERM</small> <small>Percent of Alternately Fueled Vehicles</small>	<ul style="list-style-type: none"> <li>The University's current grounds maintenance contractor will begin replacing their fleet with electric vehicles in 2018.</li> <li>Future University contracts with grounds maintenance contractors should encourage an electrified maintenance vehicle fleet.</li> <li>As Transportation Services' vehicles (buses, etc.) are purchased or replaced upon age-out, the University should promote the purchase of alternatively fueled vehicles.</li> <li>Increase the number of electric vehicle charging stations on campus as the number of electric vehicles on campus increases.</li> </ul>	<i>Led by:</i> <ul style="list-style-type: none"> <li>Transportation Services</li> <li>Facilities and Dining Administration</li> <li>Grounds Management</li> </ul>

## 05 BUILT ENVIRONMENT AND SITE DESIGN

 <b>Deliver the lowest life-cycle cost construction to build, operate, maintain and decommission through facility performance criteria.</b>			
NO.	TARGET	ACTIONS	KEY PLAYERS
05-1	<b>Evolve architectural guidelines in alignment with the 2017 Campus Master Plan.</b>	<ul style="list-style-type: none"> <li>Update the campus Facility Design Guidelines to align with criteria stated in LEED 2009, LEED v4, and SITES.</li> <li>Revise exterior building envelope guidelines first to maximize long-term energy savings.</li> <li>Apply revised cistern guidelines to the maintenance and/or renovation of existing campus cisterns.</li> </ul>	<i>Led by:</i> <ul style="list-style-type: none"> <li>Office of the University Architect</li> <li>Facilities and Dining Administration</li> </ul> <i>Supported by:</i> <ul style="list-style-type: none"> <li>Utilities and Energy Services</li> <li>Council for the Built Environment</li> </ul>
	2018 <b>EXTERIOR BUILDING ENVELOPE</b>		
	2019 <b>INTERIOR FINISHES</b>		
	2020 <b>RAINWATER CISTERNS</b>		
	2021 <b>CONSTRUCTION MATERIALS PROCUREMENT</b>		

# 05 BUILT ENVIRONMENT AND SITE DESIGN (CONTINUED)

NO.	TARGET	ACTIONS	KEY PLAYERS
<b>05-2</b> 	<p><b>Develop public, civic spaces (interior or exterior) to represent a broader cross-section of the Aggie community.</b></p> <p><b>3</b>      <b>6</b>            2020      2025</p> <p>Number of Public, Civic Spaces (Interior or Exterior) Developed</p>	<ul style="list-style-type: none"> <li>The University will make an effort to select artwork and commission artists from diverse backgrounds.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Office of the University Architect</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>Council for the Built Environment</li> </ul>
<b>05-3</b>	<p><b>Decrease potable water consumption within on-campus residences.</b></p> <p><b>6,700</b>   <b>6,365</b>   <b>6,030</b>            2017      SHORT TERM      MEDIUM TERM</p> <p>Gallons of Water Consumed Annually per On-Campus Resident</p>	<p><i>The Department of Residence Life will:</i></p> <ul style="list-style-type: none"> <li>Upgrade building systems and fixtures to support water efficiency.</li> <li>Provide educational materials to on-campus residents on water consumption.</li> </ul> <p><i>On-Campus Aggies will:</i></p> <ul style="list-style-type: none"> <li>Practice water-conserving behaviors such as taking shorter showers, running full loads of laundry, and turning of faucets when not in use.</li> <li>Reporting leaks as soon as possible.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Department of Residence Life</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>On-Campus Residents</li> </ul>
	<p><b>Deliver biodiverse, connective landscapes that integrate campus lands into the larger eco-region through site design criteria.</b></p>		
NO.	TARGET	ACTIONS	KEY PLAYERS
<b>05-4</b>	<p><b>Reduce irrigation's demand for potable water.</b></p> <p><b>537</b>   <b>483</b>   <b>430</b>            2017      SHORT TERM      MEDIUM TERM</p> <p>Gallons of Potable Water Used Annually for Irrigation (in Millions)</p>	<ul style="list-style-type: none"> <li>Transition non-heritage open spaces, such as traffic and parking lot islands as well as interstitial open spaces from turf grass into plantings with lower water demand.</li> <li>Improve and expand weather sensors to better measure the frequency of irrigation's demand.</li> <li>Increase soil percolation.</li> <li>Transition pop-up spray heads to drip irrigation as possible.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Facilities and Operations</li> <li>Grounds Management</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>Utilities and Energy Services</li> <li>Office of the University Architect</li> </ul>




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# 05 BUILT ENVIRONMENT AND SITE DESIGN (CONTINUED)

NO.	TARGET	ACTIONS	KEY PLAYERS
05-5	<p><b>Increase the use of non-potable water for irrigation.</b></p> <p><b>9-12</b>    <b>10-13</b>    <b>11-14</b></p> <p>2017                  MEDIUM TERM                  LONG TERM</p> <p>Treated Effluent    Treated Effluent and Rainwater Recapture    Treated Effluent and Rainwater Recapture</p> <p>Gallons of Non-Potable Water Used for Irrigation Annually (in Millions)</p>	<ul style="list-style-type: none"> <li>• Develop cistern guidelines to improve their effectiveness and increase their use on campus.</li> <li>• Consider earmarking funds for cistern maintenance.</li> <li>• Increase the use of drip irrigation and prepare it for non-potable water.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Facilities and Operations</li> <li>• Grounds Management</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Utilities and Energy Services</li> <li>• Office of the University Architect</li> </ul>
	<p><b>Increase the percentage of campus land managed with Integrated Pest Management (IPM) strategies.</b></p> <p><b>7%</b>                  <b>15%</b>                  <b>30%</b></p> <p>2017                  SHORT TERM                  MEDIUM TERM</p> <p>Percentage of Campus Lands Managed with IPM Strategies</p>		

# 06 WASTE MANAGEMENT

 <b>Achieve zero waste to landfill by 2050.</b>			
NO.	TARGET	ACTIONS	KEY PLAYERS
06-1	<p><b>Increase post-consumer composting in dining locations.</b></p> <p><b>1</b>                  <b>2</b>                  <b>4</b></p> <p>2017                  MEDIUM TERM                  LONG TERM</p> <p>Number of On-Campus Dining Venues Engaged in Post-Consumer Composting</p>	<p><i>Texas A&amp;M and its dining vendor, will:</i></p> <ul style="list-style-type: none"> <li>• Provide consistent signage in the MSC Upper Level Food Court to improve education on post-consumer composting.</li> <li>• Increase the availability of post-consumer composting to other campus dining facilities.</li> </ul> <p><i>Because food service is contracted to a third party, Texas A&amp;M:</i></p> <ul style="list-style-type: none"> <li>• Must maintain strong contract language and oversight.</li> <li>• Consider compostable requirements for food retail partners (national chains) that want to locate on campus.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Facilities and Dining Administration</li> <li>• University Dining</li> <li>• Retail Dining Vendors</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• On-Campus Aggies</li> </ul>

# 06 WASTE MANAGEMENT (CONTINUED)

NO.	TARGET	ACTIONS	KEY PLAYERS
06-2	<p><b>Maintain 100% diversion of landscape wastes from landfill.</b></p> <p><b>100%</b>   <b>100%</b>   <b>100%</b></p> <p>2017   MEDIUM TERM   LONG TERM</p> <p>Percentage of Landscape Wastes Diverted from Landfill</p>	<p><i>Because grounds maintenance is contracted to a third party, Texas A&amp;M:</i></p> <ul style="list-style-type: none"> <li>• Must maintain strong contract language and oversight.</li> <li>• Must develop provisions for what should happen if the supply of compost generated from landscape waste exceeds campus demand for that compost.</li> </ul> <p><i>One strategy to maintain 100% landscape waste diversion in the case of unequal campus supply and demand is to:</i></p> <ul style="list-style-type: none"> <li>• Explore opportunities to sell or donate compost in the local community.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Facilities and Dining Administration</li> <li>• Grounds Management</li> </ul>
06-3	<p><b>Reduce the total weight of non-construction waste.</b></p> <p>2016   <b>12,176</b></p> <p>SHORT TERM   <b>11,568</b></p> <p>MEDIUM TERM   <b>10,959</b></p> <p>Tons of Non-Construction Waste Generated Annually</p>	<p><i>Aggies can cut Texas A&amp;M's waste stream by:</i></p> <ul style="list-style-type: none"> <li>• Refraining from using single-use goods.</li> <li>• Reusing refillable hot and cold beverage containers.</li> <li>• Printing double-sided to reduce paper waste.</li> <li>• Dining in with durable silverware and plates.</li> <li>• Using reusable takeout containers.</li> <li>• Accepting digital assignments.</li> <li>• Bringing lunch to campus in reusable containers.</li> <li>• Double-checking print jobs before sending them to print.</li> </ul> <p><i>As an institution,</i></p> <ul style="list-style-type: none"> <li>• Texas A&amp;M's dining vendor will investigate incentivizing reusable containers by providing discounts for their use.</li> <li>• Athletics will revisit the ease of recycling on game day.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• All Aggies</li> <li>• Utilities and Energy Services</li> <li>• Facilities and Dining Administration</li> <li>• Athletics</li> <li>• Custodial Services</li> <li>• University Dining</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Office of Sustainability</li> </ul>



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# 06 WASTE MANAGEMENT (CONTINUED)

NO.	TARGET	ACTIONS	KEY PLAYERS
06-4	<p><b>Increase diversion rates for non-construction waste.</b></p> <p><b>45%</b> 2017 <b>50%</b> SHORT TERM <b>55%</b> MEDIUM TERM</p> <p><i>Diversion Rate of Non-Construction Waste</i></p>	<ul style="list-style-type: none"> <li>• Conduct a universal waste audit on campus and then set specific targets focusing on areas that need improvement.</li> <li>• Expand educational, marketing, and communication tools to increase competency on how recycling on campus works. Such tools should include signage at recycling bins, office recycling guides, and unified information located on the UES website.</li> <li>• Place interior three-stream recycling bins in each classroom, conference room, and lobby.</li> <li>• Place paper recycling bins in all offices.</li> <li>• Increase exterior recycling bins around campus based on 2017 exterior waste audit results.</li> <li>• Increase availability of recycling at athletic events.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• All Aggies</li> <li>• Utilities and Energy Services</li> <li>• Facilities and Dining Administration</li> <li>• Athletics</li> <li>• Custodial Services</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Office of Sustainability</li> </ul>
06-5	<p><b>Create an improved system and corresponding policies for unused chemical collection.</b></p>	<ul style="list-style-type: none"> <li>• Assign unit-based and/or building-based liaisons to assist researchers who work with chemicals and solvents.</li> </ul> <p><i>Together, EHS and the liaisons will assist researchers and encourage units to:</i></p> <ul style="list-style-type: none"> <li>• Minimize over-ordering.</li> <li>• Increase inter-laboratory sharing.</li> <li>• Investigate the use of desalinization systems.</li> <li>• Promote the reuse of chemicals when allowable.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Environmental Health &amp; Safety</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Academic Departments</li> </ul>
06-6	<p><b>Increase the number of opportunities provided for on-campus residents to recycle electronic waste.</b></p> <p><b>1</b> 2017 <b>2</b> MEDIUM TERM <b>4</b> LONG TERM</p> <p><i>Number of Collection Points for Batteries and E-Waste</i></p>	<ul style="list-style-type: none"> <li>• Expand collection from a single-day event to permanent collection points within Residence Life 24-Hour Desks and major buildings such as Evans Library and the Memorial Student Center.</li> <li>• Increase education and communication to increase battery and e-waste collection.</li> <li>• Clarify collection practices for batteries and e-waste, and all unit websites who share information about electronic waste will link to a single webpage hosted through Environmental Health and Safety.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Environmental Health and Safety</li> <li>• Division of Information Technology</li> <li>• Department of Residence Life</li> </ul>



# 06 WASTE MANAGEMENT (CONTINUED)

NO.	TARGET	ACTIONS	KEY PLAYERS
<p><b>06-7</b></p>	<p><b>Increase the opportunities provided for on-campus residents to donate durable goods.</b></p> <p>2017      <b>TEMPORARY COLLECTION AVAILABLE DURING MOVE OUT</b></p> <p>MEDIUM TERM      <b>PERMANENT DONATION BINS LOCATED ON CAMPUS AND/OR MID-SEMESTER EVENTS FOR RESIDENTS TO DONATE ITEMS</b></p> <p>LONG TERM      <b>PERMANENT AGGIE SWAP STORE</b></p>	<p><i>The Department of Residence Life will investigate how to more regularly offer durable goods collection. This can be achieved through:</i></p> <ul style="list-style-type: none"> <li>Identifying space to house permanent collection bins near on-campus residence halls.</li> <li>Creating mid-semester events that encourage residents to donate items prior to move-out.</li> </ul> <p><i>In the longer-term, the University will:</i></p> <ul style="list-style-type: none"> <li>Investigate the feasibility of creating a permanent donation center that re-sells items to the campus population and the public.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Department of Residence Life</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>Division of Student Affairs</li> <li>Office of Sustainability</li> </ul>
<p><b>06-8</b></p>	<p><b>Increase capacity to collect data that tracks the diversion rate of the Surplus Property Office.</b></p> <p><b>85%</b>      <b>95%</b></p> <p>2017 (ESTIMATED)      LONG TERM</p> <p>Surplus Property Waste Diversion Rate</p>	<p><i>The University must invest in a system and policies that track data associated with Surplus Property. This data will enable the rigor needed to evaluate areas of improvement and increase diversion rates for Surplus Property. Critical areas to measure are:</i></p> <ul style="list-style-type: none"> <li>Average tonnage of an auction lot.</li> <li>Direct sales.</li> <li>E-waste tonnage.</li> <li>Bicycle sales and recycling.</li> <li>Metal/scrap recycling (including shredded hard drives).</li> <li>Pallets.</li> <li>Batteries.</li> <li>Recycling waste.</li> <li>Estimation of non-handled surplus.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Logistics Services</li> <li>Utilities and Energy Services</li> <li>Environmental Health and Safety</li> </ul>
<p><b>06-9</b></p>	<p><b>Increase construction waste diversion rate from landfill.</b></p> <p><b>90%</b>      <b>92%</b>      <b>95%</b></p> <p>2017      SHORT TERM      MEDIUM TERM</p> <p>Construction Waste Diversion Rate</p>	<ul style="list-style-type: none"> <li>On projects for which the University manages the contract, future agreements will incorporate requirements that contractors provide recycling infrastructure for non-construction wastes (ie, disposable food and beverage containers) on the construction site.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Facilities and Dining Administration</li> <li>Utilities and Energy Services</li> <li>Office of the University Architect</li> </ul>



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# 07 SOCIAL SUSTAINABILITY



**Aggies demonstrate and promote a working and learning environment that welcomes, supports, and nurtures everyone's success.**

NO.	TARGET	ACTIONS	KEY PLAYERS
07-1	<p><b>Increase the demographic diversity of the campus through recruitment and retention.</b></p>	<ul style="list-style-type: none"> <li>• Target areas of the state, country, and world from which to recruit faculty, students, and staff to achieve a campus population that reflects the demographics of Texas and the nation.</li> <li>• Maintain and enhance educational initiatives that improve campus climate, such as Stop Hate, peer education programs, and leadership training.</li> <li>• Increase program and training offerings and requirements for all students, faculty, and staff to learn how to better support and respect campus users from underrepresented groups through improved dialogue, mentoring, and mediation/conflict management.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• University Leadership</li> <li>• Academic Departments</li> <li>• Office for Diversity</li> </ul>
07-2	<p><b>Continue to close the gaps in student success rates.</b></p>	<ul style="list-style-type: none"> <li>• Increase support and resources for minority, low-income, and first generation college students.</li> <li>• Improve using focused interventions for struggling students.</li> <li>• Respond to issues that emerge in student climate assessment.</li> <li>• Continue programs that help students find the right college program for their needs, acquire financial aid, and teach the value of a college education.</li> <li>• Provide readily-available opportunities for academic enrichment experiences such as: expanded honors courses, study abroad experiences, interdisciplinary curricula, internships, cooperative education, and research opportunities.</li> <li>• Continue to provide services and support systems such as: supplemental instruction or tutoring, tuition and financial assistance, scholarships, counseling and career services, mentorship opportunities, and a safe, welcoming environment.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• University Leadership</li> <li>• Academic Departments</li> <li>• Scholarships and Financial Aid Office</li> <li>• Office for Diversity</li> <li>• Department of Multicultural Services</li> </ul>

# 07 SOCIAL SUSTAINABILITY (CONTINUED)





**Aggies maintain their health and wellness by taking care of the body, engaging the mind, and nurturing the spirit to improve their quality of life.**

NO.	TARGET	ACTIONS	KEY PLAYERS		
07-3	<p><b>Increase the amount of recreational space available.</b></p> <p>2017 <b>4.5 NASF</b></p> <p>SHORT TERM <b>5.8 NASF</b></p> <p>MEDIUM TERM <b>7.0 NASF</b></p> <p><small>Net Assignable Square Footage (NASF) of Recreational Space per Population Served</small></p>	<ul style="list-style-type: none"> <li>The University will build satellite recreation locations on campus to meet the demand.</li> <li>The placement of recreation locations should be in alignment with the 2017 Campus Master Plan and adjacent to student housing where possible.</li> <li>Integrate walking trails, bicycle trails, fitness stations, and healing gardens into the campus landscape to better utilize the whole campus as a recreation space.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Department of Recreational Sports</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>Office of the University Architect</li> </ul>		
	<p><b>Increase faculty and staff participation in WELLNESS WORKS! and Wellness Release Time.</b></p>			<ul style="list-style-type: none"> <li>Track attendance per employee to better determine the participation in each program.</li> <li>Increase availability of educational programs, healthy eating seminars, and preventive care information sessions.</li> <li>Increase programming with components of mindfulness, reflection, or meditation.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Division of Human Resources and Organizational Effectiveness</li> </ul>
	<p><b>Increase capacity for mental health and preventive health services to meet student needs.</b></p> <p><i>Health Services</i></p> <p>2018 <b>1 : 2,600</b></p> <p>MEDIUM TERM <b>1 : 2,200</b></p> <p>LONG TERM <b>1 : 1,800</b></p> <p><small>Ratio between Clinical Staff and Population Served</small></p> <p><i>Counseling Services</i></p> <p><b>10</b>      <b>15</b>      <b>20</b></p> <p>2018      MEDIUM TERM      LONG TERM</p> <p><small>Number of Mental Health Outreach Programs</small></p> <p><i>Dietary Choice</i></p> <p><b>2</b>      <b>6</b>      <b>8</b></p> <p>2018      MEDIUM TERM      LONG TERM</p> <p><small>Number of Campus Dietitians</small></p>				



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## 07 SOCIAL SUSTAINABILITY (CONTINUED)

	<p><b>Foster a climate that encourages all Aggies to participate in the campus environment, policy planning, and decision-making to develop a university that is inclusive of its diverse constituents.</b></p>		
NO.	TARGET	ACTIONS	KEY PLAYERS
	<p><b>Refer to Targets 05-2 and 08-2.</b></p>	<ul style="list-style-type: none"> <li>Refer to actions for Targets 05-2 and 08-2.</li> </ul>	<p><i>See key players for Targets 05-2 and 08-2.</i></p>
	<p><b>Aggies engage across local and state communities, and across national and cultural borders, to advance academic exchange, collaboration, and dialogue.</b></p>		
	<p><b>Refer to Targets 08-3, 10-4, and 10-8.</b></p>	<ul style="list-style-type: none"> <li>Refer to actions for Target 08-3, 10-4, and 10-8.</li> </ul>	<p><i>See key players for Targets 08-3, 10-4, and 10-8.</i></p>



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# 08 EDUCATION, OUTREACH, AND ENGAGEMENT

 <b>Expand the Aggie community's knowledge of sustainability to be inclusive of social, economic, and environmental factors while normalizing socially just and resource efficient behaviors.</b>									
NO.	TARGET	ACTIONS	KEY PLAYERS						
08-1	<p><b>Increase the number of student organizations that participate in Campus Sustainability Day.</b></p> <table border="0"> <tr> <td><b>13</b></td> <td><b>16</b></td> <td><b>20</b></td> </tr> <tr> <td>2017</td> <td>SHORT TERM</td> <td>MEDIUM TERM</td> </tr> </table> <p>Number of Student Organizations Participating in Campus Sustainability Day</p>	<b>13</b>	<b>16</b>	<b>20</b>	2017	SHORT TERM	MEDIUM TERM	<ul style="list-style-type: none"> <li>The Office of Sustainability and Department of Student Activities will collaborate to define what a "sustainability-focused" student organization is.</li> <li>Add "sustainability" as a classification on the Department of Student Activities online directory of student organizations.</li> <li>Increase outreach to student organizations to build Campus Sustainability Day's visibility.</li> <li>Develop sponsorship opportunities for Campus Sustainability Day.</li> <li>Increase student organizational leaders' awareness of sustainability.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Office of Sustainability</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>Department of Student Activities</li> </ul>
<b>13</b>	<b>16</b>	<b>20</b>							
2017	SHORT TERM	MEDIUM TERM							
08-2	<p><b>Increase the number of opportunities for campus stakeholders to collaborate on sustainability initiatives.</b></p> <table border="0"> <tr> <td><b>1</b></td> <td><b>2</b></td> <td><b>4</b></td> </tr> <tr> <td>2017</td> <td>SHORT TERM</td> <td>MEDIUM TERM</td> </tr> </table> <p>Events Annually</p>	<b>1</b>	<b>2</b>	<b>4</b>	2017	SHORT TERM	MEDIUM TERM	<ul style="list-style-type: none"> <li>Develop sponsorship opportunities for events.</li> <li>Schedule events in concert with other University meetings to capture built-in audiences.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Office of Sustainability</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>Office for Diversity</li> <li>Department of Student Activities</li> <li>Department of Multicultural Services</li> <li>Academic Departments</li> </ul>
<b>1</b>	<b>2</b>	<b>4</b>							
2017	SHORT TERM	MEDIUM TERM							
08-3	<p><b>Report hours of community service per full time equivalent enrollment commensurate with the Texas A&amp;M Core Value of Selfless Service.</b></p> <table border="0"> <tr> <td><b>132</b></td> <td><b>150</b></td> <td><b>175</b></td> </tr> <tr> <td>2017</td> <td>SHORT TERM</td> <td>MEDIUM TERM</td> </tr> </table> <p>Hours of Community Service per Full Time Equivalent Enrollment</p>	<b>132</b>	<b>150</b>	<b>175</b>	2017	SHORT TERM	MEDIUM TERM	<ul style="list-style-type: none"> <li>Add a training module to the content for student organization leaders indicating where and how to report service events.</li> <li>Set minimum service expectations for student organizations that self-identify as having a "Community/Volunteer Service" focus through the Department of Student Activities.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Department of Student Activities</li> </ul>
<b>132</b>	<b>150</b>	<b>175</b>							
2017	SHORT TERM	MEDIUM TERM							

# 08 EDUCATION, OUTREACH, AND ENGAGEMENT (CONTINUED)

NO.	TARGET	ACTIONS	KEY PLAYERS
08-4	<p><b>Develop all the outreach collateral types recognized by STARS to better address communications needs.</b></p> <p><b>6</b> 2017 Number of STARS Recognized Outreach Materials Missing</p> <p><b>3</b> SHORT TERM</p> <p><b>0</b> MEDIUM TERM</p>	<ul style="list-style-type: none"> <li>The Office of Sustainability (OS) will develop a Sustainability Newsletter to recognize SMP progress not addressed via STARS reporting.</li> <li>Educational signage standards will be developed by the Office of the University Architect and outside service vendors on sustainable grounds and dining practices.</li> <li>OS will work with the Office of Mapping and Space Information to add a Sustainability-focused Walking Tour layer to the online Aggie map.</li> <li>OS will keep The Battalion informed of sustainability events on campus to encourage the creation of a sustainability beat.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Office of Sustainability</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>Office of the University Architect</li> <li>Facilities and Dining Administration</li> <li>Grounds Management</li> <li>University Dining</li> <li>Office of Mapping and Space Information</li> <li>The Battalion</li> </ul>

# 09 ADMINISTRATIVE SUPPORT

 **Develop and implement policies and practices that institutionalize sustainability efforts.**

NO.	TARGET	ACTIONS	KEY PLAYERS
09-1	<p><b>Leverage institutional purchasing dollars to advance a sustainable supply chain.</b></p> <p>Increase paper purchases that include at least 30% post-consumer recycled content.</p> <p><b>28%</b> 2017 Percentage of Paper Purchased with at Least 30% Recycled Content</p> <p><b>50%</b> SHORT TERM</p> <p><b>75%</b> MEDIUM TERM</p> <p>Maintain purchases of green cleaning and janitorial supplies.</p> <p><b>90%</b> 2016 Percentage of Green Cleaning Supplies Purchased</p> <p><b>90%</b> SHORT TERM</p> <p><b>90%</b> MEDIUM TERM</p> <p>Increase electronics purchases that meet at least EPEAT Bronze.</p> <p><b>16%</b> 2017 Percentage of Electronics Purchased that Meet at Least EPEAT Bronze</p> <p><b>50%</b> SHORT TERM</p> <p><b>75%</b> MEDIUM TERM</p> <p>Increase dining services food and beverage expenditures on products considered sustainable by STARS criteria.</p> <p><b>10%</b> 2017 Percentage of Expenditures on Food and Beverage Products Considered Sustainable by STARS Criteria</p> <p><b>12%</b> MEDIUM TERM</p> <p><b>15%</b> LONG TERM</p>	<ul style="list-style-type: none"> <li>Identify and publicize recycled content office papers that are known to be compatible with University printers and copiers.</li> <li>Identify existing building materials that cannot be cleaned with green cleaners.</li> <li>Engage maintenance staff in the design review process of new University buildings to ensure products specified can be maintained with green cleaners.</li> <li>Streamline reporting protocols for electronics purchases.</li> <li>Improve the tracking of electronics purchases to better collect data on EPEAT certified electronics.</li> <li>Collaborate with the University's dining vendor to identify procurement opportunities that could increase the percentage of food and beverage expenditures on products that are verified as sustainable by a STARS-recognized third party.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>Procurement</li> <li>Logistics Services</li> <li>Facilities and Dining Administration</li> <li>University Dining</li> <li>Division of Information Technology</li> <li>Custodial Services</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>Office of Sustainability</li> <li>Academic Departments</li> </ul>



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# 09 ADMINISTRATIVE SUPPORT (CONTINUED)

NO.	TARGET	ACTIONS	KEY PLAYERS
09-2	<p><b>Certify faculty and staff through the Aggie Sustainability Alliance (ASA).</b></p> <p><b>PROGRAM LAUNCH</b></p> <p>2018      MEDIUM TERM      LONG TERM</p> <p>5%      10%</p> <p>Total Percentage of Faculty and Staff Certified</p>	<ul style="list-style-type: none"> <li>• Offer ASA certification on a regular basis to increase faculty and staff awareness and improve participation.</li> <li>• Provide opportunities for faculty and staff interested in sustainability to interact and exchange ideas for workplace sustainability.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Office of Sustainability</li> </ul>

 **Align sustainability staffing and funding to the depth and breadth of work being done.**

NO.	TARGET	ACTIONS	KEY PLAYERS
09-3	<p><b>Increase the number of staff positions that include sustainability-related objectives as part of their job responsibilities.</b></p> <p><b>ESTABLISH BASELINE</b></p> <p>2018      MEDIUM TERM      LONG TERM</p> <p>+5%      +15%</p> <p>Number of Staff Positions that include Sustainability as Part of their Job Responsibilities</p>	<ul style="list-style-type: none"> <li>• Develop a list of key search words in job descriptions.</li> <li>• Advocate for formalizing sustainability-related objectives in job descriptions.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Division of Human Resources and Organizational Effectiveness</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Office of Sustainability</li> </ul>

09-4	<p><b>Increase the amount of external funding received annually for sustainability related research.</b></p> <p><b>\$132M   \$139M   \$145M</b></p> <p>2017      MEDIUM TERM      LONG TERM</p> <p>Millions of Dollars Received for Sustainability-Related Research Annually</p>	<ul style="list-style-type: none"> <li>• Increase opportunities for interdisciplinary collaboration.</li> <li>• Increase awareness of sustainability-focused research grants and the number of proposals submitted.</li> <li>• Increase the number of sponsored research agreements that include private, non-profit, and corporate entities engaged in campus research.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Division of Research</li> </ul>
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09-5	<p><b>Incentivize curriculum development and redevelopment that prioritizes sustainability.</b></p> <p>CONTINUOUS, LONG TERM</p>	<ul style="list-style-type: none"> <li>• Offer micro-grants and time releases for faculty to complete course development and redevelopment.</li> <li>• Require online courses related to sustainability be regularly updated with the most up-to-date content.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• University Leadership</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Faculty Senate</li> <li>• Faculty</li> </ul>
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# 10 INSTRUCTION, RESEARCH, AND INNOVATION




**Produce sustainability-literate graduates from all fields of study who are competitive additions to the workforce and society.**

NO.	TARGET	ACTIONS	KEY PLAYERS
10-1	<p><b>Increase availability of undergraduate and graduate courses on or related to sustainability.</b></p> <p><b>14%</b>   <b>18%</b>   <b>20%</b>  <small>2016      SHORT TERM      MEDIUM TERM</small></p> <p><small>Percentage of Courses Including Sustainability Content</small></p>	<ul style="list-style-type: none"> <li>• Re-develop existing courses to more intentionally teach sustainability content.</li> <li>• Develop new courses.</li> <li>• Encourage additional departments to provide sustainability related courses.</li> <li>• Maintain an accurate sustainability related course inventory.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• University Leadership</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Faculty Senate</li> <li>• Faculty</li> <li>• Office of Sustainability</li> <li>• Division of Information Technology</li> </ul>
10-2	<p><b>Increase departments offering courses on or related to sustainability.</b></p> <p><b>82%</b>   <b>87%</b>   <b>90%</b>  <small>2016      SHORT TERM      MEDIUM TERM</small></p> <p><small>Percentage of Departments Offering Sustainability Courses</small></p>		
10-3	<p><b>Increase the percentage of students who take a course with a sustainable learning outcome.</b></p> <p><b>18%</b>   <b>20%</b>  <small>MEDIUM TERM      LONG TERM</small></p> <p><small>Percentage of Students Taking Courses with Sustainable Learning Outcomes</small></p>	<ul style="list-style-type: none"> <li>• Educate faculty about what sustainable learning outcomes are, how existing learning outcomes can be edited, and how new learning outcomes could be developed.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Faculty</li> <li>• University Leadership</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Faculty Senate</li> </ul>
10-4	<p><b>Increase capacity for tracking and recording curricular service-learning opportunities on campus.</b></p> <p><small>TIMELINE - MEDIUM TERM</small></p>	<ul style="list-style-type: none"> <li>• Increase capacity to record data surrounding service learning.</li> <li>• Investigate offering incentives to faculty who integrate service learning in their academic curriculum.</li> <li>• Connect departments and researchers to create interdisciplinary service-learning projects.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Division of Student Affairs</li> <li>• Leadership and Service Center</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Academic Affairs</li> </ul>



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# 10 INSTRUCTION, RESEARCH, AND INNOVATION (CONTINUED)

NO.	TARGET	ACTIONS	KEY PLAYERS
<p>10-5</p> 	<p><b>Increase the number of university classrooms that include technology to aid those with disabilities.</b></p> <p>CONTINUOUS, LONG TERM</p>	<p><i>Multiple groups within the University will collaborate to inventory and remediate existing university-owned classrooms to ensure universal design. Ensure spaces provide:</i></p> <ul style="list-style-type: none"> <li>• Unlimited physical access (ramps, accessible signage, lighting and noise adjustments).</li> <li>• Accessible technology (assistive technology such as screen readers, listening units, hearing aid compatible receivers, amplifiers, etc.).</li> <li>• Design new classrooms to accommodate these features.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Disability Services</li> <li>• Classroom Improvement Committee</li> <li>• Instructional Technology Services</li> <li>• Office of the University Architect</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Academic Affairs</li> </ul>

	<p><b>Advance local, national, and global communities toward a more socially just, resource efficient future through discoveries at Texas A&amp;M.</b></p>
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NO.	TARGET	ACTIONS	KEY PLAYERS
<p>10-6</p> 	<p><b>Maintain the percentage of researchers that are engaged in sustainability research.</b></p> <p><b>43%</b>   <b>43%</b>   <b>43%</b></p> <p>2017   SHORT TERM   MEDIUM TERM</p> <p>Percentage of Researchers Engaged in Sustainability Research</p>	<ul style="list-style-type: none"> <li>• Host an annual UN Sustainable Development Goals research showcase to encourage collaboration.</li> <li>• Develop an avenue to publish student sustainability research.</li> </ul>	<p><i>Led by:</i></p> <ul style="list-style-type: none"> <li>• Division of Research</li> </ul> <p><i>Supported by:</i></p> <ul style="list-style-type: none"> <li>• Office of Sustainability</li> </ul>
<p>10-7</p> 	<p><b>Maintain the percentage of departments that are engaged in sustainability research.</b></p> <p><b>90%</b>   <b>90%</b>   <b>90%</b></p> <p>2017   SHORT TERM   MEDIUM TERM</p> <p>Percentage of Departments Engaged in Sustainability Research</p>		

# 10 INSTRUCTION, RESEARCH, AND INNOVATION (CONTINUED)

10-8



## Increase global research and service initiatives.

CONTINUOUS, LONG TERM

- Provide additional funding through grants and financial aid for more students, faculty, and staff to participate in global research and service programs.
- Increase national and global service that focuses on solving the world's biggest problems in alignment with the UN Sustainable Development Goals.
- Create a cohesive message about research and service programs abroad in connection to the University's mission to prepare students to assume roles in leadership, responsibility and service to society. Develop better communication and records of global research and service programs.

*Led by:*

- Division of Research
- Study Abroad Programs Office

*Supported by:*

- Leadership and Service Center

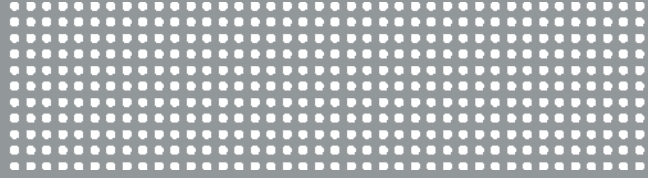


Social Sustainability is woven into every aspect of the 2018 Sustainability Master Plan. Chapter 06 - Social Sustainability is the central location of social sustainability information and concepts, however each of the themes has topics within it that relate back to the social sustainability.



**SUSTAINABILITY**  
**RESPECT. PROTECT. PRESERVE.**

# 12



# APPENDIX

# Acknowledgments

The 2018 Sustainability Master Plan would not have been possible without the contributions of countless students, faculty, and staff. Below we acknowledge the contributions of the President's Sustainability Advisory Council, the Texas A&M Office of Sustainability, and the four working groups without whom this work would not have been possible.

## President's Sustainability Advisory Council

Chair:

- Dr. Jerry Strawser, Executive VP for Finance and Operations and CFO

Members:

- Dr. Jose Fernandez-Solis, Faculty Senate
- Dr. Debbie Thomas, Interim Dean, College of Geoscience
- Dr. Patrick Louchouart, Executive Associate VP for Academic Affairs & Chief Academic Officer, Texas A&M University Galveston
- Dr. Carol Binzer, Director, Residence Life and Housing
- Mr. Matt Fry, Assistant Vice President for Research
- Mr. Casey Ricketts, University Staff Council Delegate
- Ms. Mary Schubert, Director of Strategic Programs, Division of Human Resources & Organizational Effectiveness
- Mr. Bobby Brooks, Student Body President
- Ms. Jasmine Wang, Speaker of the Student Senate
- Ms. Lauren Pechon, President of the Residential Housing Association
- Mr. Matthew Etchells, President of the Graduate & Professional Student Council
- Mr. Richard Gentry, Director of Regional Operations, SSC Service Solutions for Higher Education
- Mr. John Yeager, Director of Dining Services, Chartwells
- Mr. Antone Nemec, Environmental Health and Safety Coordinator, TEEEX

Ex-Officio:

- Ms. Jane Schneider, Associate Vice President, Facilities & Operations
- Ashley Skow, Administrative Coordinator II

## Texas A&M Office of Sustainability

- Ms. Kelly Wellman, Director, Office of Sustainability
- Mr. Ben Kalscheur, Sustainability Assistant Manager
- Ms. Jamie Everett, Sustainability Operations Coordinator

## Additional University Engagement

- Asian President's Council
- Athletics
- Council for the Built Environment
- Council of Deans
- Council for Minority Student Affairs
- Department of Student Activities
- Faculty Senate
- Graduate & Professional Student Council
- Office for Diversity
- Student Senate
- Student Sustainability Coalition
- Undergraduate Studies
- University Staff Council
- Utilities and Energy Services

## Physical Environment Working Group

- Dr. Carol Binzer, Director, Residence Life and Housing
- Mr. Bill Cox, Assistant Director, Facilities And Dining Administration
- Mr. Don Crawford, Resident Regional Manager - Grounds, SSC Service Solutions for Higher Education
- Ms. Tracey Foreman, Assistant Director, Disability Services
- Mr. Matt Fry, Assistant Vice President for Research
- Ms. Lilia Gonzales, University Architect
- Mr. Jeff Heye, Resident Regional Manager - EDCS, SSC Service Solutions for Higher Education
- Ms. Courtney Hill, Manager, District Marketing, Chartwells
- Ms. Deborah Hoffmann, Associate Director, Transportation Services
- Mr. Kenneth M. Kimball, Assistant Director, Transportation Services
- Mr. Peter Lange, Associate Vice President, Transportation Services
- Mr. TJ Marcom, Manager, Athletics
- Mr. Chris Meyer, Associate Vice President, Office of Safety and Security
- Mr. Dan Mizer, Senior Associate Director, Residence Life And Housing
- Mr. James G. Riley, Executive Director, Utilities & Energy Services
- Mr. Jeffrey C. Truss, Assistant Director, Environmental Health & Safety
- Mr. Les Williams, Director, Utilities & Energy Services

## Social Sustainability Working Group

- Dr. Carol Binzer, Director, Residence Life and Housing
- Ms. Sarah Boreen, Customer Relations Manager, SSC Service Solutions for Higher Education
- Mr. Carlo Chunga, Student Government
- Dr. Martha Dannenbaum, Director, Student Health Services
- Dr. Nancy DeLeon, Associate Director, Human Resources, Employee & Organizational Development
- Dr. Tonya Driver, Director, Multicultural Services Department
- Mr. Matthew Etchells, President of the Graduate & Professional Student Council
- Dr. Maggie Gartner, Executive Director, Student Counseling Service
- Ms. Lilia Gonzales, University Architect
- Mr. Joe Hartsoe, Student Development Specialist, Disability Services
- Ms. Courtney Hill, Manager, District Marketing, Chartwells
- Mr. Dustin Kemp, Program Assistant, Honors Program
- Mr. Jason Kurten, Assistant Director, Recreational Sports
- Ms. Jaimie Masterson, Texas Target Communities
- Ms. Barbara Musgrove, Public Relations/Marketing-Graphic Designer, SSC Service Solutions for Higher Education
- Mr. Casey Ricketts, University Staff Council Delegate
- Dr. Jennifer Reyes, Director for Assessment and Diversity Initiatives, Office for Diversity

## Waste Management Working Group

- Dr. Carol Binzer, Director, Residence Life and Housing
- Mr. Bill Cox, Assistant Director, Facilities And Dining Administration
- Mr. Don Crawford, Resident Regional Manager - Grounds, SSC Service Solutions for Higher Education
- Mr. Ted Dawson, Resident Regional Manager - Custodial, SSC Service Solutions for Higher Education
- Mr. Dean Endler, Assistant Vice President, Strategic Sourcing
- Ms. Monica Hartman, Manager, Environmental Health & Safety
- Ms. Courtney Hill, Manager, District Marketing, Chartwells
- Mr. Kevin Hurley, Associate Athletic Director, Athletics
- Mr. Nathan Jones, Manager, Utilities Services, Utilities & Energy Services
- Ms. Hailey Lavigne, Environmental Issues Committee
- Mr. TJ Marcom, Manager, Athletics
- Mr. Andrew Mitchell, Executive Director, Logistics Services
- Ms. Shelia McQueen, Program Coordinator, Utilities & Energy Services
- Ms. Kaitlynn Richter, Aggie Green Fund Chair
- Mr. Joel Salazar, Student Senate
- Mr. Jeffrey C. Truss, Assistant Director, Environmental Health & Safety

## Institutional Efforts Working Group

- Ms. Karen Bigley, Communications Manager, Division of Finance and Operations
- Dr. Carol Binzer, Director, Residence Life and Housing
- Ms. Sarah Boreen, Customer Relations Manager, SSC Service Solutions for Higher Education
- Ms. Mary Bailey, Senior Training & Development Consultant, Human Resources & Organizational Effectiveness
- Mr. Mark Dawson, Student Development Specialist, Multicultural Services
- Dr. Nancy DeLeon, Associate Director, Human Resources, Employee & Organizational Development
- Mr. Matthew Etchells, President of the Graduate & Professional Student Council
- Mr. Matt Fry, Assistant Vice President for Research
- Mr. Kenneth M. Kimball, Assistant Director, Transportation Services
- Mr. TJ Marcom, Manager, Athletics
- Ms. Jaimie Masterson, Texas Target Communities
- Mr. Zachery McNew, Communications Specialist, Utilities & Energy Services
- Ms. Barbara Musgrove, Public Relations/Marketing-Graphic Designer, SSC Services Solutions for Higher Education
- Dr. Jennifer Reyes, Director for Assessment and Diversity Initiatives, Office for Diversity
- Ms. Lilia Gonzales, University Architect
- Mr. Joel Salazar, Student Senate
- Mr. Ron Steedly, Manager, Transportation Services
- Mr. John Yeager, Director of Dining Services, Chartwells

# References and Resources

The Sustainability Master Plan draws on content from existing planning resources developed for Texas A&M. The list below credits sources from which various information has been drawn as well as places to look for additional information.

## Introduction

*Texas A&M Documents of Reference*

- [Vision 2020: Creating a Culture of Excellence](#)
- [2017 Texas A&M Campus Master Plan](#)

*Outside Resources*

- [AASHE STARS](#)
- [2017 Texas A&M AASHE STARS Report](#)
- [UN Sustainable Development Goals](#)
- Boyer, Robert, et al. "Five Approaches to Social Sustainability and an Integrated Way Forward." *Sustainability*, vol. 8, no. 9, June 2016, p. 878.

## Energy Use and Greenhouse Gas Emissions

*Texas A&M Documents of Reference*

- 2012 Texas A&M Utilities and Energy Services Master Plan
- [Texas A&M Energy Action Plan 2020](#)
- 2017 Texas A&M Utilities and Energy Services Master Plan
- Texas A&M GHG Emissions Inventory

*Outside Resources*

- US Energy Information Administration (EIA)
- [Commercial Building Energy Consumption Survey \(CBECS\)](#)
- [TerraPass](#)
- [CarbonFund](#)

## Stormwater Management

*Texas A&M Documents of Reference*

- [2017 Texas A&M Campus Master Plan](#)

## Campus Mobility

*Texas A&M Documents of Reference*

- [2015 Bicycle District Strategic Plan](#)
- [2017 Texas A&M Campus Master Plan](#)
- [Texas A&M Mode Split Surveys](#)

## Built Environment and Site Design

*Texas A&M Documents of Reference*

- [2017 Texas A&M Campus Master Plan](#)

## Waste Management

*Texas A&M Documents of Reference*

- 2010 Texas A&M Pollution Prevention Program

*Outside Resources*

- [TRUE Zero Waste Rating System](#)

## Social Sustainability

*Texas A&M Documents of Reference*

- [2010 Texas A&M Diversity Plan](#)
- [2016 Texas A&M State of Diversity Report](#)
- Campus Diversity Initiatives Database

*Outside Resources*

- Palich, Natasha, et. al. "Social sustainability: creating places and participatory processes that perform well for people." *Environmental Design Guide*, November 2013.
- Woodcraft, Saffron, et al. *Design for social sustainability: a framework for creating thriving new communities*. Young Foundation, 2011.

## Education, Outreach, and Engagement

*Texas A&M Documents of Reference*

- [The Office of Sustainability](#)

## Administrative Support

*Texas A&M Documents of Reference*

- [Aggie Green Fund](#)

*Outside Resources*

- [Fair Trade Universities](#)

## Instruction, Research, and Innovation

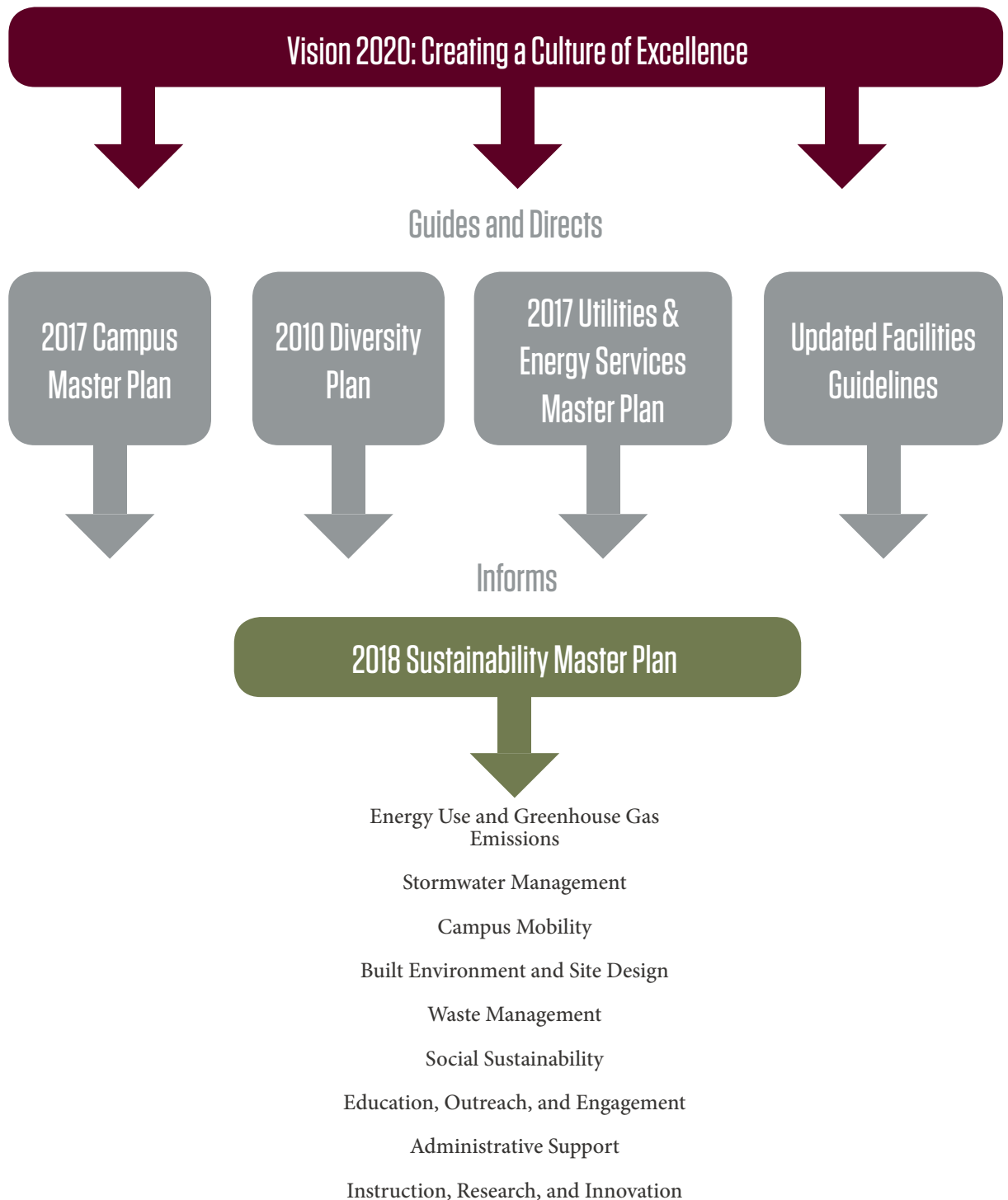
*Texas A&M Documents of Reference*

- [Research at Texas A&M](#)



# Document Coordination

Moving forward, this document will be used in conjunction with a host of other planning materials that guide Texas A&M's development. The diagram below articulates how this document operates in concert with existing technical and planning work.



# Glossary

**AASHE STARS** - The Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking, Assessment, and Rating System (STARS) is a tool for evaluation of campus-wide sustainability efforts. The system recognizes achievements in five categories – Academics, Engagement, Operations, Planning and Administration, and Innovation and Leadership.

**Alternatively Fueled Vehicles** - Vehicles powered by an engine that does not solely run on petroleum, such as electric, hybrid, and hydrogen fuel cell engines.

**Building Envelope** - The portion of a building that separates interior, temperature and humidity controlled space from exterior environmental conditions.

**Carbon Offsets** - A purchased commodity that compensates for, or offsets, an emission made elsewhere. Offsets are typically achieved through financial support of projects that reduce the emission of greenhouse gases in the short- or long-term. The most common project type is renewable energy, such as wind farms, biomass energy, or hydroelectric dams.

**CO<sub>2</sub>e** - An abbreviation for carbon dioxide equivalent. CO<sub>2</sub>e represents the impact of each greenhouse gas in terms of the amount of carbon dioxide that would create the same amount of global warming potential.

**Curricular Service Learning** - Service experiences that are integrated into academic curriculum and that use reflection to help teach course content.

**Energy Use Intensity (EUI)** - A measure of how much energy the square footage of campus buildings uses per year.

**EPEAT** - A free and trusted source of environmental product ratings that makes it easy to select high-performance electronics that meet an organization's IT and sustainability goals.

**Full-Time Equivalent (FTE)** - One FTE is equivalent to one employee working full-time, assuming a 40-hour work week.

**Greenhouse Gas (GHG) Emissions** - Any gas that contributes to the trapping of the sun's warmth in the atmosphere.

**Hardscape** - A way of referring to impervious landscape surfaces of the built environment such as sidewalks and plazas.

**Integrated Pest Management** - A systematic approach to managing pest problems using the least invasive measures first and scaling up intensity only as necessary.

**Leadership in Energy & Environmental Design (LEED)** - LEED is a green building certification program that recognizes best-in-class building strategies and practices. LEED is a program of the U.S. Green Building Council (USGBC).

**Microaggression** - The everyday verbal, nonverbal, and/or environmental slights, snubs, or insults, whether intentional or unintentional, which communicate hostile, derogatory, or negative messages to members of a marginalized group.

**Multi-Stream Recycling System** - A collection method in which waste generators are required to source separate recyclables into two or more separate bins.

**Net-Zero Waste** - 90 percent or higher diversion of solid waste from the landfill or incineration.

**Non-Potable Water** - Water that is not of drinking quality but, depending on its quality, can be used for many other purposes.

**Office of Sustainability** - The staff at Texas A&M University responsible for providing vision and leadership for campus sustainability including the implementation of programs and planning to encourage sustainable practices, coordination of an annual sustainability assessment, and collaboration with other institutions of higher education through regional and national engagement.

**Pedestrian Priority Zone** - An area of campus that gives priority to pedestrians and limits most vehicle traffic. Rather than creating physical barriers, zones are created through planning for future development in a set area to prioritize pedestrian connections over vehicular access.

**Post-Consumer Composting** - Composting that occurs after a customer has made a purchase and finished their meal.

**Potable Water** - Water of a quality suitable for drinking, cooking and personal bathing.

**Pre-Consumer Composting** - Composting that occurs in kitchens prior to customers making their purchases.

**Rainwater Recapture** - The practice of collecting rainfall from impervious surfaces and storing it for future use.

**Renewable Energy** - Energy from sources that regenerate rapidly such as solar, wind, and hydroelectric.

**Social Capital** - Value expressed through the leveraging of social networks to generate positive and productive outcomes.

**Social Influence Network** - Formal or informal connections among a group of people that tend to affect members' emotions, behaviors, opinions, and attitudes.

**Socio-Economic Status (SES)** - An economic and sociological combined total measure of a person's work experience and of an individual's or family's economic and social position in relation to others, based on income, education, and occupation.

**Softscape** - A way of referring to landscape surfaces and other pervious areas of the built environment.



# Glossary (continued)

**Soil Percolation** - The rate at which soil absorbs water.

**Sustainable SITES Initiative (SITES)** - A comprehensive rating system designed to distinguish sustainable landscapes, measure their performance, and elevate their value.

**Treated Effluent** - Wastewater that has been cleaned sufficiently for reuse in prescribed manners.

**United Nations Sustainable Development Goals (UN SDGs)** - A universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity. The goals target the year 2030 for completion.

**University Leadership** - Individuals, committees, councils, or other bodies empowered with the authority to make decisions on behalf of Texas A&M University or units thereof.

**Utilities & Energy Services** - The staff at Texas A&M University responsible for providing utilities and energy management services to the institution's 750+ buildings totaling over 23 million gross square feet.

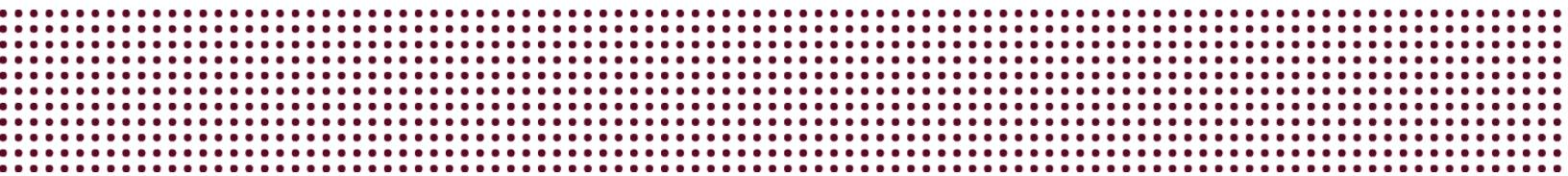
**Vision 2020: Creating a Culture of Excellence** - Texas A&M University's strategic plan that articulates the University's bold recognition of necessary institutional evolution required to achieve its mission as a land, sea, and space grant institution of global preeminence.

**Waste Audit** - An analysis of a facility's waste stream. It identifies what types of recyclable materials and waste an institution generates and how much waste is recovered for recycling or sent to landfill.

**Waste Diversion or Landfill Diversion** - The process of sending waste to recycling facilities or other reuse infrastructure in lieu of sending it to landfills.

**Weighted Campus User** - A STARS-defined statistical measurement that is used to normalize information across campuses of varying populations. The measurement includes the number of on-campus residents and the numbers of full-time equivalent students, faculty, and staff.







### Stay Involved in the Conversation

For more engagement in sustainability on campus, follow Texas A&M's sustainability-focused social media accounts or find the Office of Sustainability online or via email:

 [sustainability.tamu.edu](https://sustainability.tamu.edu)

 [sustainability@tamu.edu](mailto:sustainability@tamu.edu)

 [facebook.com/sustainableTAMU](https://facebook.com/sustainableTAMU)

 [@sustainableTAMU](https://twitter.com/sustainableTAMU)

 [@sustainableTAMU](https://instagram.com/sustainableTAMU)

