OHIO
UNIVERSITY

**Office of
Sustainability**

2021 OHIO

Sustainability and Climate Action Plan

Approved by the Ohio University Board of Trustees on June 18, 2021

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Executive Summary

The 2021 OHIO Sustainability & Climate Action Plan is a road map for the next 5 years of progress toward the carbon neutrality and academic requirements of the Presidents' Carbon Commitment (formerly the American College and University Presidents' Climate Commitment) and the OHIO strategic priority of "enhancing the University's national position as a leading edge laboratory for sustainability." The plan challenges the University to reach new targets beyond those included in the 2011 Sustainability and 2012 Climate Action Plans.

To streamline external reporting and facilitate national recognition, the plan aligns with the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment, and Rating System (STARS) credits as well as the United Nations Sustainable Development Goals (SDGs).

The sixteen sections of the plan are: Administrative Support, Buildings, Climate, Curriculum, Energy, Engagement, Food, Grounds, Human Resources, Investments, Procurement, Research, Student Life, Transportation, Waste and Water. Goals are included in each section of the plan along with metrics, targets, strategies for reaching those goals as well as general triple bottom line costs and benefits of implementing the strategies. The plan will be partnered with an internal implementation document which will be more fully developed over the next academic year.

The creation of this document was a University and community-wide effort, informed by more than 450 comments from faculty, staff, students, and community members with valuable feedback integrated into the plan.

Guiding principles for the 2021 OHIO Sustainability & Climate Action Plan were:

- The new plan must direct progress toward the achievement of the Presidents' Carbon Commitments.
- The new plan must merge and align the goals of the former Ohio University Sustainability Plan, Ohio University Climate Action Plan and the AASHE STARS submissions to minimize duplicate reporting requirements.
- The new plan must provide triple bottom line cost benefit analyses for strategies, to aid in implementation decisions.

Strengths of this plan lie in the expansion of sustainability goals to include issues such as diversity and inclusion in the Human Resources and Student Life areas; in the incorporation of flexible experiential and community-engaged learning laboratory strategies in both the plan and in the implementation process; and in the focus on strategies that simultaneously benefit the triple bottom line of sustainability: people, planet and prosperity, now and into the future.

Background

Ohio University is known for its strong commitment to sustainability, evidenced in part by its founding of Recycle Mania with Miami University in January 2001, its listing on the Top 30 College & University US EPA Green Power Partner list, its status as home to the largest in-vessel composting system of any college or university in the nation, and its support of sustainability focused research and curriculum. The university has almost 1 million square feet of Leadership in Energy & Environmental Design (LEED) certified building space. Ohio University has achieved numerous sustainability accolades, including: AASHE STARS Silver status for the past six years; Tree Campus Higher Education recognition for the fifth straight year; Bicycle Friendly University for the past three years; recognition as a LEED Lab institution; a national Gameday Recycling Challenge repeat winner; and a Platinum Ohio EPA Encouraging Environmental Excellence recognition. Ohio University is a past winner of the APPA Sustainability Award and the NACUFS bronze award for Waste Management.

Former President Roderick McDavis signed the American College and University Presidents' Climate Commitment, now called the Presidents' Carbon Commitment, on March 15, 2007, committing the University to:

- creating and updating a climate action plan to achieve carbon neutrality
- annual carbon tracking and reporting
- actions to make carbon neutrality part of the curriculum for all students
- actions to expand research in carbon neutrality

The first Ohio University Sustainability Plan was created through an extensive public planning process and was approved by the Board of Trustees in 2011. The first Ohio University Climate Action Plan was then created the following year in 2012 to meet the Carbon Commitment requirements.

More recently, President Duane Nellis reaffirmed Ohio University's Carbon Commitment on his first day in office, June 12, 2017, by signing the "We are Still In" declaration of continued commitment to reaching carbon neutrality.

Planning Process

The 2021 OHIO Sustainability and Climate Action Plan was created after an extensive planning process. Initial development began in 2016 by defining guiding principles and creating a timeline for plan completion. Despite consistent advances, we extended our process several times, first in response to faculty requests, then to needs of administrators and to navigate structural changes, and finally due to circumstances caused by the COVID-19 pandemic.

Guiding principles were:

- The new plan must direct progress toward the achievement of the Presidents' Carbon Commitments.
- The new plan must merge and align the goals of the former Ohio University Sustainability Plan, Ohio University Climate Action Plan and the AASHE STARS submissions to minimize duplicate reporting requirements.
- The new plan must provide triple bottom line cost benefit analyses for strategies, to aid in implementation decisions.

The final planning process timeline included goal and target envisioning, vetting by responsible parties and the public as well as multiple revisions over a two-year period, as is shown in Figure 1.

Figure 1: Final planning process timeline.

How to read the plan categories

Category heading and aspirational statement

Relevant national and international frameworks for the category

Climate
Hub: Administration
Aspiration: Achieve carbon neutrality by 2050

OHIO UNIVERSITY — Office of Sustainability

aashe — The Association for the Advancement of Sustainability in Higher Education — STARS OP 1 & 2

SUSTAINABLE DEVELOPMENT GOALS

CARBON COMMITMENT — CLIMATE LEADERSHIP — Scope 1, 2 & 3 emissions

Where we are now

✓ Benchmark 1 : Reduce institutional greenhouse gas emissions **Target of 25% reduction by 2030 exceeded (34% reduction occurred by FY17)**

STARS Climate Comparisons

Higher is better

Ohio University score / Average for US / Average for Doctoral Programs / Average for 20000+ students

Carbon Emissions for Ohio University

OHIO Carbon Emissions Breakout, FY18

Moving forward

Goal 1: Reduce institutional greenhouse gas emissions.[1] (Metric: Metric Tons Equivalent CO_2; % reduction from baseline. FY12 baseline[2] = 166,000 MT eCO_2)

FY17
- 110,000 MT e-CO_2
- 34%

FY26
- 83,000 MT e-CO_2
- 50%

OHIO Carbon Emissions Breakout, FY26 Projection

Proposed strategies
- Reduce emissions by 100% from purchased electricity
- Incrementally reduce emissions from on-campus stationary sources[2], commuting, and paper purchasing
- Improved monitoring and reporting of all carbon offsets
- Replace steam heating with more efficient, lower carbon form of heating
- Reimagine space utilization and the University's footprint

Benefits of Goal #1	Costs of Goal #1
Emissions reduction	O&M costs
Human health benefits	Capital costs
Reputational benefits	
Resiliency benefits	
Economic activity	

Moving forward

Goal 2: Reduce or eliminate criteria air pollution from stationary[3] and mobile sources (Metric: Tons of EPA criteria air pollutants[4]. 2013 baseline = 367.1 tons)

FY17
- 61.7 tons

FY26
- 58 tons

Proposed strategies
- Create and implement written policy on air pollutant emissions from mobile sources such as from fleet vehicle or lawn care equipment idling
- Continue corrective and preventative repairs on steam system
- Increase energy efficiency (see Energy theme goals)
- Improve energy recovery from all stationary sources
- Utilize cleaner fuel sources where possible: heating plant, chiller plant, vehicles, lawn care equipment

Benefits of Goal #2	Costs of Goal #2
Human health benefits	Capital costs
O&M savings	O&M costs
Air quality improvements	

Notes and Definitions
1. OHIO greenhouse gas emissions are calculated using SIMAP and are reported to Second Nature annually. OHIO is a signatory to the Second Nature Carbon Committment and the We Are Still In declaration.
2. Baseline emissions do not include emissions from food.
3. Stationary sources include central heating & cooling equipment, such as boilers and chillers.
4. EPA criteria air pollutants are: nitrogen dioxide, sulfur dioxide, ground-level ozone, particulate matter, carbon monoxide and lead.

The left column of each category contains the status of progress toward goals in the previous plan; AASHE STARS scores compared to peers; and carbon emissions related to the category.

The right two columns of each category contain the 2021-2025 goals; metrics, targets, proposed strategies for each goal; expected costs & benefits of implementing strategies; and notes & definitions for the category.

Categories in the Plan

Sustainability at Ohio University is structured into core components and Sustainability Hubs. There are three Sustainability Hubs, each led by a faculty member and comprising 4 thematic categories. The core components, Sustainability Hubs and the Hub thematic categories are listed below and are hyperlinked to each section of the 2021 OHIO Sustainability & Climate Action Plan.

Core Components

- Administrative Support
- Curriculum
- Engagement
- Research

Sustainable Administration Hub Categories

- Climate
- Human Resources
- Investments
- Procurement

Sustainable Living Hub Categories

- Food
- Grounds
- Student Life
- Transportation

Sustainable Infrastructure Hub Categories

- Buildings
- Energy
- Waste
- Water

Administrative Support Core

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STARS PA 1 & 2

Aspiration: Create a community-driven, award-winning AASHE STARS[1] Gold Sustainability program at OHIO

SUSTAINABLE DEVELOPMENT GOALS

CARBON COMMITMENT — CLIMATE LEADERSHIP

Scope 1, 2 & 3 emissions

Where we are now

✓ Benchmark 6: Institute annual sustainability profile tracking and assessment process. Target met; tracking & assessment process exists.

✓ Benchmark 10: Integrate sustainability goals and objectives into capital campaign. Target not met; no capital campaign has started since plan was created.

STARS Coordination & Planning Comparisons

Higher is better

(Categories: Ohio University score, Average for US, Average for Doctoral Programs, Average for 20000+ students)

Carbon Emissions from Office of Sustainability staff (estimated)

Type of employee	# of staff (FTE)	Emissions (MT e-CO2)
Staff	2	8.7
Student	7	30.5
Faculty	0.3	1.3
Total	**9.3**	**40.5**

Fun fact: Ohio University students, faculty and staff emit an average of 4.35 MTe-CO2 per full time equivalent (FTE) per year.

Moving forward

Goal 1: Achieve recognition for innovative and robust sustainability planning, coordination and governance (Metric: AASHE STARS[1] rating; Sustainability rankings)

FY17
- STARS Silver; see appendix for rankings

FY26
- STARS Gold; increased rankings

Potential strategies
- Transform OHIO Sustainability into model engagement ecosystems utilizing the Sustainability Hubs
- Apply for national sustainability rankings and awards
- Plan and implement compelling sustainability events; encourage green events in campus/community
- Increase marketing of sustainability events, initiatives & achievements to OHIO campuses, communities & alumni
- Track & third-party verify carbon, nitrogen, & air pollutant emissions through internationally accepted reporting protocols
- Maintain reporting for all other internal and external sustainability commitments

Benefits of Goal #1 Strategies	Costs of Goal #1 Strategies
Reputation (Presidential commitment fulfillment)	Staff time (O&M)
Reduction opportunities (emissions, O&M, etc.)	
Social (engagement, D&I, etc.)	

Notes and Definitions

1. AASHE STARS Gold is a rating from the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking Assessment and Rating System(STARS). Gold is the second highest rating; as of 2019 only 4 institutions have the highest rating, Platinum.

Moving forward

Goal 2: Build resiliency into processes and infrastructure (Metric: existence of resiliency plans and procedures)

FY17
- Plans & procedures in place

FY26
- Plans & procedures align with national sustainability metrics
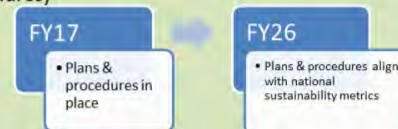
Potential strategies
- Review best practices for resiliency & sustainability integration at other institutions
- Create recommendations for Chief Facilities Officer

Benefits of Goal #2 Strategies	Costs of Goal #2 Strategies
Resiliency/risk reduction	Staff time (O&M)
Emission reductions	
O&M reductions	
Reputation	

Goal 3: Create funding mechanisms for sustainability initiatives outside of General Funds (Metric: $/year)

FY17
- $0K/year

FY26
- $10K/year
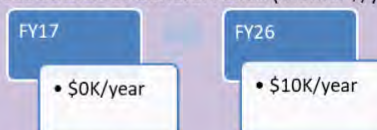
Potential strategies
- Collaborate with Advancement to develop a philanthropic case for sustainability; continue to promote sustainability in annual giving materials
- Apply for grant funding
- Create sustainability revolving loan fund

Benefits of Goal #3 Strategies	Costs of Goal #3 Strategies
Source of capital funds	Staff time (O&M)
Carbon emissions reductions	
Reputational/enrollment benefits	

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STARS AC 1-8

SUSTAINABLE DEVELOPMENT GOALS

CARBON COMMITMENT
CLIMATE LEADERSHIP
Scope 1, 2 & 3 emissions

Aspiration: Ensure that all OHIO students understand and can appropriately apply the framework of sustainability

Where we are now

✓ Benchmark 8: Improve sustainability literacy of students, faculty and staff. **In progress; literacy is improving, according to surveys.**

✓ Benchmark 9: Increase enrollment in sustainability-themed courses, majors and programs **Target of 5% increase since Dec 2011 easily met.**

✓ Benchmark 11: Provide undergraduate students with a sustainability-focused major, degree program or equivalent. **Target achieved.**

STARS Curriculum Comparisons

OHIO Carbon Emissions Breakout, FY18
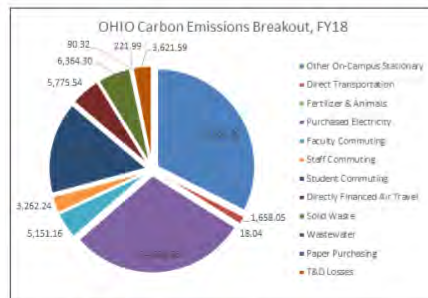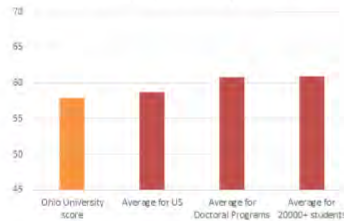
All OHIO carbon emissions are related to curriculum in one way or another.

Moving forward

Goal 1: **Increase opportunities for formal, experiential, and community-engaged sustainability learning experiences** (Metric: See subgoals)

Subgoals and Targets	FY17	FY26
Undergraduates enrolled in sustainability majors[1]	44	75
Graduate students enrolled in sustainability majors[1]	42	60
Students enrolled in sustainability certificate programs[1]	74	100
OHIO course offerings including sustainability[2]	2.3%	7.5%
Students taking course with sustainability learning outcomes[3]	7%	25%
Students involved in Sustainability Project Laboratory[4] curricular and co-curricular projects	0	200

Proposed strategies for Goal 1:

- Create incentives and training program for sustainability course development
- Develop sustainability learning outcomes to embed in general education, colleges, departments, experiential learning program, community engagement (C-courses) and honors programs
- Showcase and expand sustainability components of existing programs, majors, certificate programs and co-curricular experiential learning and community engagement experiences
- Incorporate sustainability into immersive study experiences
- Explore sustainability course designation

Benefits of Goal #1 Strategies	Costs of Goal #1 Strategies
Enhanced academic quality	Faculty/staff time
Reputation	
Proactive environmental behavior	

Moving forward

Goal 2: **Assess and strengthen sustainability culture and literacy** (Metric: performance on a literacy survey or test[5])

FY17
- 73% of campus community answered 6 questions about climate correctly

FY26
- 60% of campus community is sustainability-literate using a more rigorous test[5]
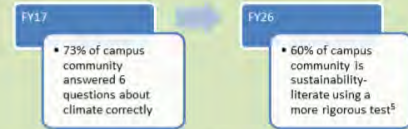
Proposed strategies for Goal 2:

- Adopt standard literacy survey such as Sulitest
- Engage with Libraries to create online curricular sustainability resources
- Create strong OHIO sustainability network through the Sustainability Hub programs

Benefits of Goal #2 Strategies	Costs of Goal #2 Strategies
Enhanced academic quality	Staff time (O&M)
Reputation (enrollment)	
Proactive environmental behavior	

Notes and Definitions

1. Sustainability majors at OHIO include Urban Planning & Sustainability and HTC Environmental Studies (undergraduate), and Environmental Studies (graduate). Certificate programs include Environmental Studies and Environmental Studies-Sustainability.
2. Course offerings including sustainability are defined by AASHE in the AC1 section of the Technical Manual.
3. Sustainability learning outcomes are defined by AASHE in the AC2 section of the Technical Manual. More details are in the appendix.
4. See Sustainability Project Laboratory webpage.
5. In FY17, sustainability literacy was defined as being able to correctly answer 6 simple questions about the climate. For FY26, the target will be using a more rigorous literacy test.
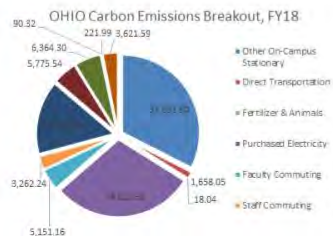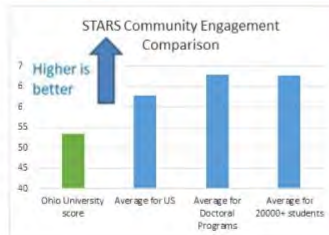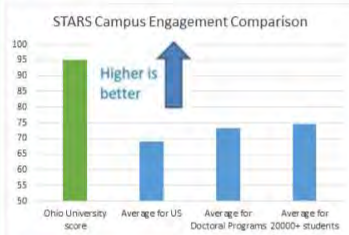
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SUSTAINABLE DEVELOPMENT GOALS

CARBON COMMITMENT — CLIMATE LEADERSHIP | Scope 1, 2 & 3 emissions

Aspiration: Create transformative sustainability engagement ecosystems[1] for and with alumni, students, faculty, staff & community members

Where we are now

✓ Benchmark 8: Improve sustainability literacy of students, faculty and staff. **Target met and strategies in progress.**

✓ Benchmark 33: Encourage residency in City of Athens for Athens campus employees. **Target partially met, but benchmark will be abandoned in new plan.**

STARS Campus Engagement Comparison

Higher is better

- Ohio University score
- Average for US
- Average for Doctoral Programs
- Average for 20000+ students

STARS Community Engagement Comparison

Higher is better

- Ohio University score
- Average for US
- Average for Doctoral Programs
- Average for 20000+ students

OHIO Carbon Emissions Breakout, FY18

- Other On-Campus Stationary
- Direct Transportation
- Fertilizer & Animals
- Purchased Electricity
- Faculty Commuting
- Staff Commuting

90.32 221.99 3,621.59 6,364.30 5,775.54 3,262.24 1,658.05 18.04 5,151.16

All carbon emissions are related to engagement In one way or another.

Moving forward

Goal 1: Create, enhance & track transformative sustainability engagement ecosystems (Metric: number of ecosystems created/enhanced)

FY17 • 1 → FY26 • 16

Proposed Strategies:

- Sustainability Project Laboratory
- Sustainability Hub initiatives
- Center for Campus & Community Engagement, Experiential Learning, Honors Programs, and Office of Sustainability collaborations on sustainability experiential learning projects
- Ohio Sustainability Professionals Consortium participation

Benefits of Goal #1	Costs of Goal #1
Community building	Capital costs, for some
Reputation (enrollment)	Operating costs, for some
Proactive environmental behavior	

(Goal both requires employee time and saves employee time)

Notes and Definitions

1. Engagement ecosystems are initiative-driven working groups which ideally include members of all the following: OHIO faculty, OHIO staff, the local community and the OHIO student body
2. As defined by AASHE STARS Technical Manual EN-14.

Moving forward

Goal 2: Continue offering opportunities for alumni, campus and community members to learn about or contribute to sustainability initiatives (Metric: opportunities available)

Opportunities	FY17	FY26
Student Sustainability Educators	yes	yes
Sustainability in Orientations	yes	yes
Sustainability in Student Life	yes	yes
Sustainability Continuing Education (# of courses)	2	10
Community Service (% of students)	24%	50%
Participation in Public Policy Advocacy for Sustainability[2]	yes	yes
Community Sustainability Partnerships	yes	yes
Sustainability Outreach	yes	yes
Sustainability Professional Development	yes	yes

Proposed Strategies:

- Create Sustainability Badge Course for Employees
- Expand Sustainability Alumni Network for Alumni
- Expand Sustainability Tracking & Evaluation Program (STEP) for Employees

Benefits of Goal #2	Costs of Goal #2
Reputation	Staff time
Social justice benefits	Capital cost (supplies)
Proactive environmental behavior	

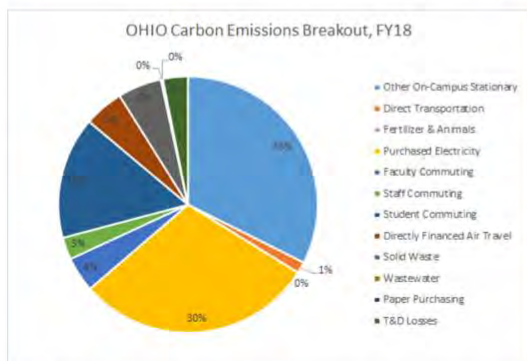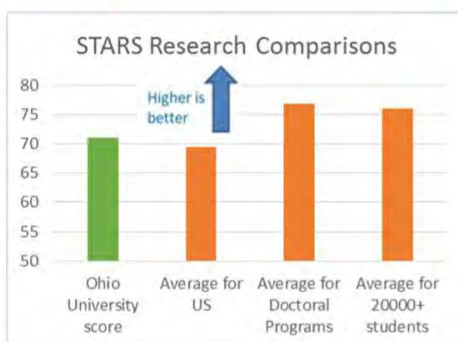(Volunteers save time, while planning uses employee time)

Research

Core

Aspiration: All researchers at OHIO will understand the framework of sustainability

Where we are now

- ✓ Benchmark 1: Strengthen sustainable research activities. **In progress (% is increasing for faculty and departments who conduct sustainability research)**
- ✓ Benchmark 35: Define and track sustainability research activities. **Target met. Definition and tracking in place.**

STARS Research Comparisons

Higher is better

Ohio University score / Average for US / Average for Doctoral Programs / Average for 20000+ students

OHIO Carbon Emissions Breakout, FY18

- Other On-Campus Stationary
- Direct Transportation
- Fertilizer & Animals
- Purchased Electricity
- Faculty Commuting
- Staff Commuting
- Student Commuting
- Directly Financed Air Travel
- Solid Waste
- Wastewater
- Paper Purchasing
- T&D Losses

Research contributes to emissions in all categories reported by Ohio University

Moving forward

Goal 1: **Increase research focused on sustainability[1] or carbon neutrality** (Metric: % of active researchers and research departments with applicable research)

FY17 → FY26

- 17% of researchers; 35% of departments
- 25% of researchers; 75% of departments

Proposed strategies:

- Encourage use of the Sustainability Project Laboratory throughout the University
- Increase interest and participation in sustainability-focused research opportunities by featuring such research in Hub Seminars, newsletters, reports and award applications
- Develop new sustainability research collaborations through Hub Coordinators
- Provide incentives and support for sustainability research (see Goal 2)
- Investigate methods of collecting research data to improve accuracy of metrics.

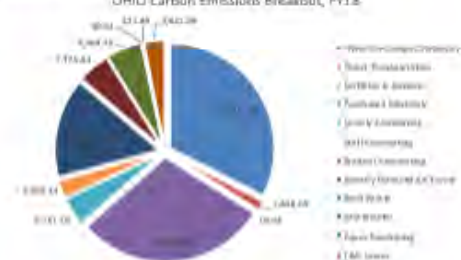| Benefits of Goal #1 Strategies	Costs of Goal #1 Strategies
Fulfillment of core mission	Staff time
Reduction in environmental impacts from research	
Decrease in operating expenses	

Notes and Definitions

1. As defined by the Association for the Advancement of Sustainability in Higher Education (AASHE) in section A9 of their STARS Technical Manual.
2. Open Access resources promote social justice and equity in research. They are particularly relevant in supporting sustainability researchers.

Moving forward

Goal 2: **Provide incentives and support to researchers who conduct sustainability engagement ecosystem research with triple bottom line benefits** (Metric: # of programs, grants, awards or tools supporting sustainability engagement ecosystem research)

FY17 → FY26

- 6
- 10

Proposed strategies

- Create sustainability mini-grants program
- Develop library guides for sustainability researchers
- Support development and use of Open Access[2] resources for sustainability research
- Develop training programs for researchers on incorporating sustainability and the triple bottom line into their research
- Enhance Sustainability Project Laboratory database to support sustainability research project formulation
- Continue Student Expo Sustainability awards
- Publicize Experiential Learning funding opportunities for undergraduate sustainability researchers and faculty/staff who serve them
- Monitor and circulate sustainability-focused external grant opportunities; provide letters of support for grant applications for sustainability researchers

Benefits of Goal #2 Strategies	Costs of Goal #2 Strategies
Fulfillment of core mission	Staff time
Reduction in environmental impacts from research	
Decrease in operating expenses	

Climate

Where we are now

✓ Benchmark 1 : Reduce institutional greenhouse gas emissions **Target of 25% reduction by 2030 exceeded (34% reduction occurred by FY17)**

STARS Climate Comparisons

Higher is better

Carbon Emissions *for Ohio University*

OHIO Carbon Emissions Breakout, FY18

Moving forward

Goal 1: **Reduce institutional greenhouse gas emissions.**[1] (Metric: Metric Tons Equivalent CO_2; percent reduction from baseline. FY12 baseline[2] = 184,281 MT eCO_2)

FY17	FY26
• 112,495 MT e-CO_2 • 34%	• 92,140 MT e-CO_2 • 50%

OHIO Carbon Emissions Breakout, FY26 Projection

Proposed strategies
- Reduce emissions by 100% from purchased electricity
- Incrementally reduce emissions from on-campus stationary sources[2], commuting, and paper purchasing
- Improved monitoring and reporting of all carbon offsets
- Replace steam heating with more efficient, lower carbon form of heating
- Reimagine space utilization and the University's footprint[5]

Benefits of Goal #1	Costs of Goal #1
Emissions reduction	O&M costs
Human health benefits	Capital costs
Reputational benefits	
Resiliency benefits	
Economic activity	

Moving forward

Goal 2: **Reduce or eliminate criteria air pollution from stationary[3] and mobile sources** (Metric: Tons of EPA criteria air pollutants[4]. 2013 baseline = 367.1 tons)

FY17	FY26
• 61.7 tons	• 58 tons

Proposed strategies
- Create and implement written policy on air pollutant emissions from mobile sources such as from fleet vehicle or lawn care equipment idling
- Continue corrective and preventative repairs on steam system
- Increase energy efficiency (see Energy theme goals)
- Improve energy recovery from all stationary sources
- Utilize cleaner fuel sources where possible: heating plant, chiller plant, vehicles, lawn care equipment

Benefits of Goal #2	Costs of Goal #2
Human health benefits	Capital costs
O&M savings	O&M costs
Air quality improvements	

Notes and Definitions
[1]OHIO greenhouse gas emissions are calculated using SIMAP and are reported to Second Nature annually. OHIO is a signatory to the Second Nature Carbon Committment and the We Are Still In declaration.
[2]Emissions from food are not included in baseline or goal.
[3]Stationary sources include central heating & cooling equipment, such as boilers and chillers.
[4]EPA criteria air pollutants are: nitrogen dioxide, sulfur dioxide, ground-level ozone, particulate matter, carbon monoxide and lead.
[5]See the Ohio University space utilization strategic initiative

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STARS PA 4-6, 11-14
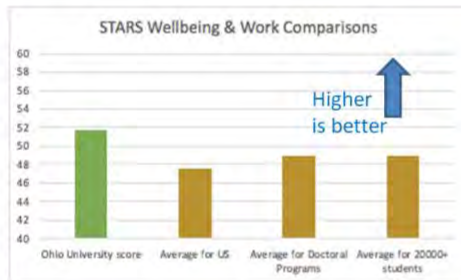OP 9,13, 21

Human Resources
Hub: Administration

Aspirational Goal: Foster a healthy, productive, sustainable, diverse and inclusive workforce to enhance the academic mission of the University
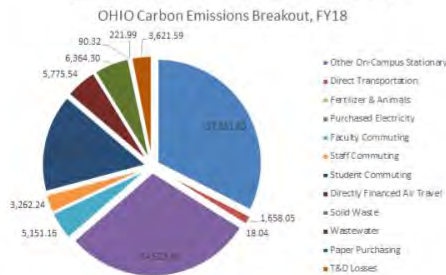
SUSTAINABLE DEVELOPMENT GOALS

CARBON COMMITMENT
CLIMATE LEADERSHIP

Scope 1,2,3 emissions

Where we are now

Benchmark 8: Improve sustainability literacy of students, faculty and staff. *Target met and strategies in progress.*

Benchmark 19: Increase use of green cleaning products. *Target met, procedure active.*

Benchmark 22: Implement recruitment strategies targeting sustainability-minded students, faculty, and staff. *Target met and strategies in progress.*

STARS Wellbeing & Work Comparisons

Higher is better

Ohio University score / Average for US / Average for Doctoral Programs / Average for 20000+ students

Carbon Emissions *for Ohio University*
(all emissions are indirectly tied to HR)

OHIO Carbon Emissions Breakout, FY18

- Other On-Campus Stationary
- Direct Transportation
- Fertilizer & Animals
- Purchased Electricity
- Faculty Commuting
- Staff Commuting
- Student Commuting
- Directly Financed Air Travel
- Solid Waste
- Wastewater
- Paper Purchasing
- T&D Losses

90.32 221.99 3,621.59
6,364.30
5,775.54
3,262.24
5,151.16   1,658.05   18.04

Moving Forward

Goal 1: Ensure sustainability, wellbeing, diversity and inclusion are factors in employee hiring, professional development, retention, and assessments.
(Metric: number of trainings, professional development certificates, employee programs, policies, assessments and recruitment programs related to sustainability, wellbeing, diversity and inclusion)

FY17
- 31

FY26
- 35

Proposed Strategies

- Create training for supervisors focused on holistic onboarding and collaborative performance management which assist in connecting employees to institutional priorities including diversity and inclusion, wellbeing, and sustainability
- Offer sustainability and cultural competency workshops and training opportunities to faculty & staff
- Offer training on implicit bias for job search committees
- Use a market-based pay schedule for faculty and staff
- Include wellbeing benefits as recruitment tool
- Incorporate sustainability into Wellness Champion program
- Create professional development programs that impact this goal
- Regularly engage in structured assessment processes to improve diversity, equity and inclusion on campus

Benefits Goal #1	Costs Goal #1
Recruiting	Staff time (O&M)
Reputation	
Productivity	

Moving Forward

Goal 2: Support and promote employee wellbeing and resilience (**Metric:** % engagement of eligible participants (employees and spouses/partners) in WellWorks-supported wellbeing programs; annual number of recordable incidents of work-related injury or ill health per 100 FTE employees)

FY17
- 21.2% (Virgin Pulse[1] program only); 2.1

FY26
- 50%; 2.0
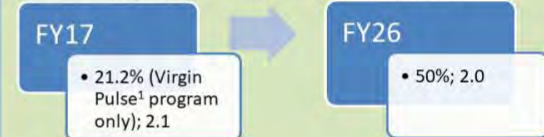
Proposed Strategies

- Continue to offer diverse employee wellness programs
- Conduct faculty and staff surveys on employee satisfaction and engagement.
- Continue employee benefits that contribute to wellbeing, resilience and sustainability, such as the Athens Transit Bobcat Pass, winter break closure, green cleaning procedures and flexible work schedules
- Track aggregate utilization of employee assistance program and personal medical guidance
- Offer regular workplace health and safety trainings

Benefits Goal #2	Costs Goal #2
Human health	Staff time (O&M)
Recruiting	Healthy OHIO cost
Productivity	
Emissions reduction	
Insurance cost reductions	

Notes:
1. This number does not include participation in other WellWorks supported employee wellbeing programs such as Biometric Health Screenings, 100 Day Challenge and Risk Reduction.
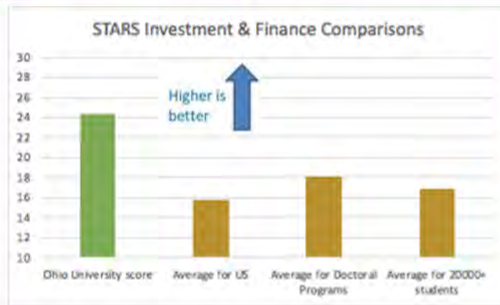
Investments

Hub: Administration

Aspiration: 100% of OHIO investments support sustainable economic activity
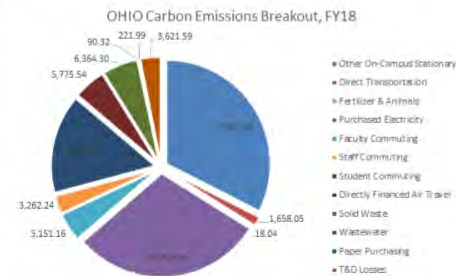
Scope 3 emissions

Where we are now

✓ Benchmark 21 : Assess endowment investment in sustainable corporations and entities and recommend strategies for increasing investment in these corporations and entities **Target met and in progress. OUSEMG and OUFIMG invest using sustainable investment guidelines.**

STARS Investment & Finance Comparisons

Higher is better

- Ohio University score
- Average for US
- Average for Doctoral Programs
- Average for 20000+ students

Carbon Emissions *for Ohio University*

OHIO Carbon Emissions Breakout, FY18

- Other On-Campus Stationary
- Direct Transportation
- Fertilizer & Animals
- Purchased Electricity
- Faculty Commuting
- Staff Commuting
- Student Commuting
- Directly Financed Air Travel
- Solid Waste
- Wastewater
- Paper Purchasing
- T&D Losses

Carbon emissions are not currently determined for investments. The chart above shows the total reported emissions for the University. In 2016, a student analysis of the University's investments in fossil fuel could be used as a baseline for a carbon emissions analysis. The University directly invested $42.6 billion in fossil fuel investments, which is 14 times the amount spent on purchased natural gas during FY18. If emissions correlate directly with cost, emissions from investments could be 14 times our emissions from purchased natural gas.

Moving forward

Goal 1: Increase investments that support sustainable economic activity (Metric: % USD invested in high-scoring Environmental, Social, and Governance (ESG)[1])

FY17
- 0.6% ESG investments ($3.3 M)

→

FY26
- 1.2% ESG investments

Proposed Strategies

- Continue student investing program with ESG investing guidelines for entire portfolios
- Continue investment disclosure program
- Capture sustainability related investments and services in Tech Growth activities
- Analyze percentage of endowment already invested in high-scoring ESG investments
- Analyze carbon emissions from endowment investments as a possible proxy for sustainable investments[2]

Benefits of Goal #1	Costs of Goal #1
Reputation	Staff time
Improved investment performance	
Community environmental benefits	

Notes and Definitions

[1]To be determined using MSCI ESG Manager, Bloomberg or Sustainalytics data

[2]Carbon emissions from Foundation Investments have not been calculated for Ohio University.

Current Student Investments

OUSEMG

Student Equity Management Group Performance

SEMG Sustainable 5-year Cumulative Growth vs the S&P 500 Index

6/30/2019

Ohio University
Student Fixed Income Management Group

Student Fixed Income Management Group Performance

FIMG Sustainable 5-year Cumulative Growth vs the Barclay's US Aggregate Index

6/30/2019

Purchasing

Hub: Administration

Aspiration: Sustainable purchasing will be the standard operating procedure at Ohio University

STARS OP 11-15

Scope 3 emissions

Where we are now

- Benchmark 20 : Increase the percentage of paper products on campus that include post-consumer recycled content **Target not met**
- ✓ Benchmark 24 : Encourage use of sustainable and/or recyclable materials and containers in place of polystyrene by developing environmentally preferable purchasing guidelines **Preferable Purchasing Guidelines Created**
- ✓ Benchmark 28 : Increase purchase of non-food local goods and services and environmentally preferable goods **Alternative baseline determined**
- ✓ Benchmark 29 : Increase purchase of environmentally preferable computer products **Target exceeded**
- Benchmark 31 : Develop sustainability guidelines for concessionaires and franchisees **Target in progress**

STARS Purchasing Comparisons

Higher is better

Ohio University score | Average for US | Average for Doctoral Programs | Average for 20000+ students

OHIO Carbon Emissions Breakout, FY18, in MTeCO2

6,364.30   90.32   3,621.59
5,775.54

- Other On-Campus Stationary
- Direct Transportation
- Fertilizer & Animals
- Purchased Electricity
- Faculty Commuting
- Staff Commuting
- Student Commuting
- Directly Financed Air Travel
- Solid Waste
- Wastewater
- Paper Purchasing
- T&D Losses

3,262.24
5,151.16   1,658.05
18.04

Greenhouse gas emissions (GHGe) data collection is limited for purchasing. Purchased paper accounts for 0.2% of emissions.

Moving forward

Goal 1: **Increase purchasing of sustainable and/or recycled products across a range of categories** (Metric: % of total product purchases; see targets for categories below)

FY26 Targets by Category

Item	FY17	FY26
Recycled Paper	7%	50%
EPEAT[1] Gold Electronics	94%	95%
"Green Cleaning Products"[2]	51%	65%
Alternative Fuel Vehicles[3]	1.4%	3%
Battery-powered Lawn Care Products	0%	50%
Concessionaires / Franchisees with Sustainable Purchasing[4] in contract	0%	100%
Total sustainable purchases[4]	TBD	30%

Notes and Definitions

1. EPEAT Gold Electronics are as defined by the EPEAT Registry
2. "Green Cleaning Products" are as defined in the AASHE STARS Technical Manual for OP 13.
3. Alternative Fuel Vehicles are as defined for alternative fuel and power vehicles in AASHE STARS Technical Manual for OP15.
4. To be defined in 2020 OHIO Sustainable Purchasing guidelines.

Moving forward

Proposed Strategies

- Review and revise existing sustainability purchasing guidelines to direct progress toward sub-goals.
- Educate University purchasers on benefits of, and encourage use of, sustainability purchasing guidelines, both for bid and non-bid purchases.
- Create model RFP criteria and protocol for bid purchases and evaluation tools for non-bid purchases, and include carbon emissions as criteria
- Incorporate sustainability practices into contracts for concessionaires and franchisees
- Develop strategies to monitor non-centralized purchasing, especially post-consumer content in paper purchasing
- Mark vendors or products meeting certain sustainable criteria in BobcatBuy to incentivize increased sustainable procurement
- Create bi-monthly sustainable purchasing group meeting to monitor progress
- Develop an assessment tool for social return on investment, especially for local purchases

Abbreviated TBL CBA *for Purchasing Category*

Benefits Goal #1 Strategies	Costs Goal #1 Strategies
Community engagement & Economic Activity	Capital (first) cost increase
Emissions reductions	Staff time (O&M)
Reputation	
Human health	
Operational costs	

Food
Hub: Living

Aspiration: OHIO campus members will choose to consume mindful neighborhood foods[1]

OHIO UNIVERSITY Office of Sustainability

aashe The Association for the Advancement of Sustainability in Higher Education — STARS OP 7 & 8

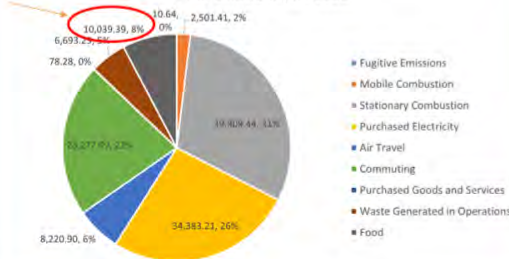SUSTAINABLE DEVELOPMENT GOALS

CARBON COMMITMENT — CLIMATE LEADERSHIP — Scope 3 emissions

Where we are now

✓ Benchmark 14 : Increase purchase of local food
Target exceeded. 12% increase as opposed to 2% proposed.

✓ Benchmark 30 : Provide information to diners regarding sustainability-attributes of food options
Target met.

STARS Food & Dining Comparisons

Higher is better

40
38
36
34
32
30
28
26
24
22
20

Ohio University score | Average for US | Average for Doctoral Programs | Average for 20000+ students

FY19 Emissions (MT eCO2)

10.64, 2,501.41, 2%
10,039.39, 8%
6,693.29, 5%
78.28, 0%
19,808.44, 11%
33,277 IPA, 23%
8,220.90, 6%
34,383.21, 26%

■ Fugitive Emissions
■ Mobile Combustion
■ Stationary Combustion
■ Purchased Electricity
■ Air Travel
■ Commuting
■ Purchased Goods and Services
■ Waste Generated in Operations
■ Food

Emissions from Food are an underestimate for FY19, but are at least 8% of total campus emissions

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Moving forward

Goal 1: Support the local[1] food economy with preference to "neighborhood food[2]" products (Metric: % local food spend)

FY17 → FY26
• 15% → • 16%

Proposed strategies:

* Create baselines and develop goals for "neighborhood food" purchasing and food business spend in FY20
* Develop or maintain sustainability initiatives which advance the goals and strategies of Culinary Services
* Continue Farm to OHIO Working Group
* Promote 30 Mile Meal specials in Latitude 39
* Utilize FoodPro data labeling and analysis

Benefits of Goal #1 Strategies	Costs of Goal #1 Strategies
Community engagement & economic activity	Staff time (O&M)
Emissions reduction	Labor costs
Reputation[3]	Certification costs (externality)
Soil regeneration (externality)	Business modification costs (externality)
Human health benefits[4]	

The Ohio Student Farm high tunnel, photo credit: Ohio University/ Rob Hardin

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Moving forward

Goal 2: Promote mindful foods choices; collaborate with communities to provide education on impacts of food choices (Metric: implement 15 of 15 AASHE STARS initiatives at OHIO; see attached list)

FY17 → FY26
• 15 initiatives → • 15 initiatives

Proposed strategies:

* Create Culinary Services operating guidelines which outline sustainability priorities, goals and strategies (including AASHE STARS initiatives)
* Embark on marketing and educational campaigns for mindful food choices
* Continue high impact, low cost, community-engaged programs (CSA, Discovery Kitchen) as well as other programs which promote mindful food choices
* Create food programming impact database & annual report

Benefits of Goal #2 Strategies	Costs of Goal #2Strgs.
Reputation[4]	Staff time (O&M)
Informed & improved consumer choices	
Emissions reduction	
Community engagement & economic activity	

Notes and Definitions

1. "Local" food as defined by AASHE STARS
2. "Neighborhood foods" are defined as "Grown or processed within a 100-mile radius from the Athens campus with preference given to sources that are closer to campus OR within that 100-mile radius, grown or processed within the Ohio Appalachian counties as defined by the Appalachian Regional Commission". Food/ food products as defined by AASHE
3. Reputational benefits include student attraction and retention, OHIO's reputation as a national leader in food health.
4. In addition to the benefits of healthier campus members, there are potential insurance spend benefits

Food

Hub: Living

STARS OP 7 & 8

Scope 3 emissions

AASHE STARS initiatives to implement and/or maintain

Host a farmers' market, community supported agriculture (CSA) or fishery program, or urban agriculture project, or support such a program in the local community

Host a sustainability-themed food outlet on-site, either independently or in partnership with a contractor or retailer

Support disadvantaged businesses, social enterprises, and/or local small and medium-sized enterprises (SMEs) through its food and beverage purchasing

Host low impact dining events or promote plant-forward options

Have a vegan dining program that makes diverse, complete-protein vegan options available to every member of the campus community at every meal

Inform customers about low impact food choices and sustainability practices through labelling and signage in dining halls

Participate in a competition or commitment program and/or use a food waste prevention system to track and improve its food management practices

Implement trayless dining (in which trays are removed from/not available in dining halls) and/or modified menus/portions to reduce post-consumer food waste

Donate food that would otherwise go to waste to feed people

Divert food materials from the landfill, incinerator or sewer for animal feed or industrial uses

Have a pre-consumer composting program

Have a post-consumer composting program

Utilize reusable service ware for "dine in" meals

Provide reusable and/or third party certified compostable containers and service ware for "to-go" meals (in conjunction with an on-site composting program)

Offer discounts or other incentives to customers who use reusable containers instead of disposable or compostable containers in "to-go" food service operations

Grounds
Hub: Living

OHIO UNIVERSITY — Office of Sustainability

aashe — The Association for the Advancement of Sustainability in Higher Education — STARS OP 9 & 10

CARBON COMMITMENT — CLIMATE LEADERSHIP — Scope 1 emissions

Aspiration: Create and maintain healthy, natural, biodiverse and beautiful campus grounds

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Where we are now

- ✓ Benchmark 13 : Prohibit the installation of permanent irrigation systems that rely on potable water **Target met. Prohibition exists.**
- ✓ Benchmark 17 : Institute storm water management plan **Target met.**
- ✓ Benchmark 26 : Practice Integrated Pest Management (IPM) **Target met. IPM Plan written and approved.**

STARS Grounds Comparisons

Higher is better

(Bar chart — vertical axis 40 to 80: Ohio University score; Average for US; Average for Doctoral Programs; Average for 20000+ students)
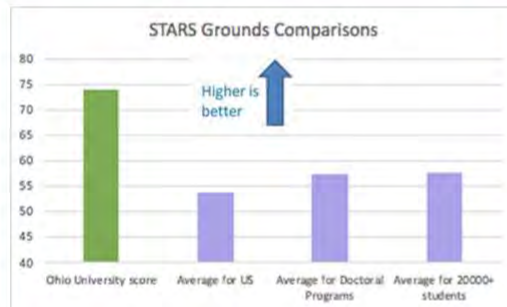
Carbon Emissions *for Grounds Category*

Grounds-related emissions are from Fertilizers and "Direct Transportation" from Grounds vehicles.

OHIO Carbon Emissions Breakout, FY18

221.99 | 3,621.59 | 6,364.30 | 90.32 | 5,775.54 | 3,262.24 | 5,151.16 | 558.05 | 18.04

- Other On-Campus Stationary
- Direct Transportation
- Fertilizer & Animals
- Purchased Electricity
- Faculty Commuting
- Staff Commuting
- Student Commuting
- Directly Financed Air Travel
- Solid Waste
- Wastewater
- Paper Purchasing

Notes:
1. Data provided by Susan Calhoun, Landscape Coordinator, Fall 2020.
2. Data provided by Matt Trainer, Data & GIS Specialist, Voinovich School, Fall 2020.

Moving forward

Goal 1: **Create and maintain healthy, natural, biodiverse and beautiful landscapes that can act as the foundation for sustainability-oriented experiential learning opportunities** (Metric: % of acres managed in accordance with Integrated Pest Management (IPM) plan; ft^2 of naturalized/pollinator space[1]; # of innovative sustainability grounds practices; acres of green space[2])

FY17
- 0%; 193K; 7; 572

FY26
- 100%; 250K; 7; 572

Potential Strategies

- Develop and publish a Sustainable Tree and Landscape Management Plan
- Develop organic land care standard and determine acres managed in accordance with it
- Consider biodiversity in ecosystem management planning
- Maintain Baker Edible Garden, Child Development Center (CDC) Garden and green roofs
- Add bat and bluebird boxes in appropriate locations
- Implement Bee Campus USA Program
- Increase square feet of pollinator/naturalized areas
- Consider using goats for weed management
- Implement mini & micro-clover pilot programs
- Update Tree Care Standards in University Design & Construction Standards
- Maintain protected space on the Ridges

Benefits of Goal #1 Strategies	Costs of Goal #1 Strategies
Community engagement	Staff time
Emissions reduction	O&M costs
Reputation	

Moving forward

Goal 2: **Reduce carbon emissions from grounds-related activities** (Metric: MT e-CO2)

FY17
- 18.04 MT eCO2 (fertilizer only)

FY26
- Reduce 20% from FY21 baseline
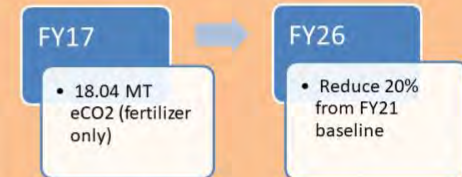
Potential Strategies

- Purchase electric lawn care vehicles and tools
- Reduce fertilizer use
- Offer continuing education for Grounds staff
- Develop no-idle policies that are appropriate for Grounds staff

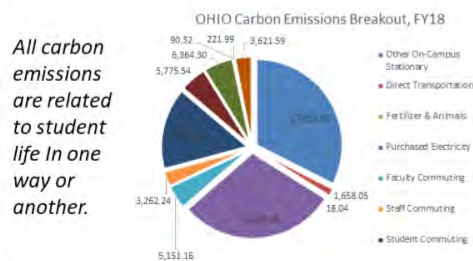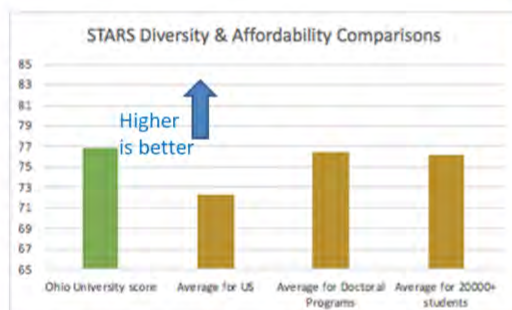| Benefits of Goal #2 Strategies	Costs of Goal #2 Strategies
O&M savings	Capital costs
Emissions reduction	O&M costs

Baker Edible Gardens, 2019. Photo Credit: Elaine Goetz

Student Life

Hub: Living

Aspiration: Students will be educated and empowered to create inclusive, diverse and sustainable communities.

STARS PA 4-7, 13; OP 7, 9 & 21

Scope 1, 2 & 3 emissions

Where we are now

✓ Benchmark 19: Increase use of green cleaning products. **Target met: Facilities Management has a green cleaning program.**

✓ Benchmark 22: Implement recruitment strategies targeting sustainability-minded students, faculty and staff. **Target met partially: sustainability student recruitment brochure created and mailed.**

STARS Diversity & Affordability Comparisons

Higher is better

| Ohio University score | Average for US | Average for Doctoral Programs | Average for 20000+ students |

OHIO Carbon Emissions Breakout, FY18

All carbon emissions are related to student life In one way or another.

90.32 221.99 3,621.59
6,364.30
5,775.54

3,262.24
18.04
1,658.05

5,151.16

- Other On-Campus Stationary
- Direct Transportation
- Fertilizer & Animals
- Purchased Electricity
- Faculty Commuting
- Staff Commuting
- Student Commuting

Moving forward

<u>Goal 1</u>: **Support and promote student wellbeing and resilience** (Metrics: # of faculty participants in mental health and wellbeing trainings; # of student participants in peer wellbeing coaching programs)

FY17
- 0; 0

FY26
- 10; 20

Potential Strategies

- Create a comprehensive plan for student physical & mental health, wellness & resilience
- Utilize RA Outreach/Residential Life Curriculum to promote wellbeing
- Develop off-campus living education on wellbeing and resilience
- Enhance and promote OHIO Basic Needs Initiative
- Continue OHIO Guarantee
- Enhance and promote OHIO Signature Awards
- Engage student employees about wellbeing and resilience
- Identify new & enhance existing programs & services that help students build community and feel connected

Benefits of Goal #1 Strategies	Costs of Goal #1 Strategies
Recruitment/retention	Staff time (O&M)
Human health	
Reputation	
Social justice	
Student success	
Proactive environmental behavior	

Moving forward

<u>Goal 2</u>: **Prioritize sustainability, diversity and inclusion as positive student attributes in recruitment and retention efforts** (Metrics: proportion of students that have participated in cultural competency or sustainability training; % student diversity[1])

FY17
- Some; 21%

FY26
- Most; maintain diversity that matches or exceeds State of Ohio diversity
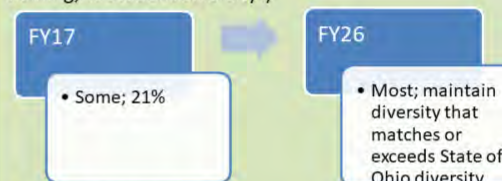
Potential Strategies

- Develop cultural competency training for students
- Develop sustainability training for students
- Encourage inclusivity as a core design principle in teaching and learning
- Incorporate student sustainability, diversity, and inclusion information into recruitment materials and Bobcat Student Orientation
- Utilize Sky Factor survey to determine if sustainability efforts affect student satisfaction

Benefits of Goal #2 Strategies	Costs of Goal #2 Strategies
Recruitment/retention	Staff time (O&M)
Emissions reduction	
Student success	
Reputation	
Social justice	
Proactive environmental behavior	

Notes: 1. Student diversity percentage is calculated from the number of students reporting their race/ethnicity as non-Caucasian.
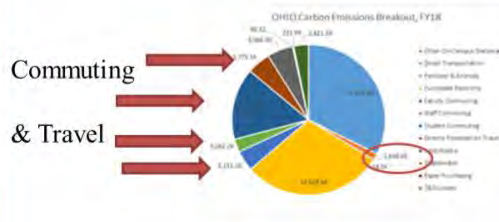
Transportation

Hub: Living

Aspiration: Every OHIO community member will have access to alternative transportation

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Where we are now

- ✓ Benchmark 1 : Reduce institutional greenhouse gas emissions **Target exceeded and in Progress.**
- ✓ Benchmark 16 : Improve sustainability profile of student, staff, and faculty vehicles **Ineffective target and goal.**
- ✓ Benchmark 18 : Improve sustainability profile of campus fleet **Target baseline created (fuel economy) and target met (CAFE).**
- ✓ Benchmark 27 : Decrease use of Single Occupancy Vehicles **Target nearly met and data collected.**

STARS Transportation Comparisons

Higher is better

Ohio University score | Average for US | Average for Doctoral Programs | Average for 20000+ students

OHIO Carbon Emissions Breakout, FY18

Commuting & Travel

Moving forward

Goal 1: Reduce carbon emissions from transportation (Metric: MT e-CO2)

FY17 — 25,208 $MTeCO_2$ → **FY26** — 20,000 $MTeCO_2$

Potential Strategies

- Increase options for and use of alternative transportation to, from and on campus
- Offer opportunities for carbon offset purchases for airline and conference travel
- Increase marketing of alternative transit and carbon emissions reduction initiatives
- Increased use of hybrid vehicles in campus fleet
- Educational campaign to expand campus bus ridership
- Educational campaign to encourage alternative transportation usage
- Improve fuel economy of University vehicles
- Continue Campus Circulation Thru Transit program

Benefits of Goal #1 Strategies	Costs of Goal #1 Strategies
Operating expense reduction	Capital expense increase
Emissions reduction	Operating costs
Human health benefits	

Notes:
1. Includes Bikeway, campus roadway bike lanes, and multi-modal Sweep.
2. Includes all transit available with Bobcat Pass from Athens Public Transit and from campus transportation services.

Moving forward

Goal 2: **Create safe, efficient, affordable and healthy routes and options for non-SOV (single occupancy vehicle) transit** (Metric: miles of non-motorized transportation routes[1]; number of bus routes[2]; number of monthly small shared mobility device users)

FY17 — 3; 7; 2,500 → **FY26** — 3.5; 12; 2750

Potential Strategies

- Offer expanded Shared Mobility Programs
- "Share the Road" educational campaign
- Utilize Complete Streets framework
- Identify additional non-motorized transportation routes

Benefits of Goal #2 Strategies	Costs of Goal #2 Strategies
Operating cost reductions	Capital expense increase
Human health benefits	Operating costs
Community impacts	

BICYCLE FRIENDLY UNIVERSITY 2017-2021 — THE LEAGUE OF AMERICAN BICYCLISTS — BRONZE

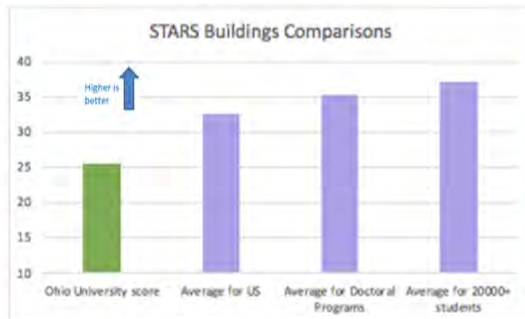Bobcat Pass — RIDE FREE — OHIO UNIVERSITY
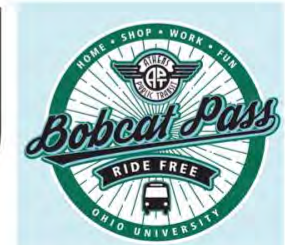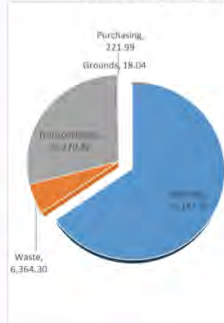
Buildings

Hub: Infrastructure

Aspiration: Minimize impacts from buildings so that educational assets can be maximized

Where we are now

✓ Benchmark 4 : LEED certify new buildings and major renovations on all campuses. **Until 2019, target met: 13 new construction or renovation projects exceeding costs of $2 million were built to LEED Silver standards for 13 building projects.**

✓ Benchmark 12 : Evaluate LEED EBOM of existing facilities. **Target met: Tupper evaluated for LEED EBOM in 2018 and ARC in 2019; Cutler partially evaluated in 2012.**

STARS Buildings Comparisons

Higher is better

Categories: Ohio University score, Average for US, Average for Doctoral Programs, Average for 20000+ students

Carbon Emissions from OHIO buildings

Pie chart labels: Purchasing, 221.99; Grounds, 18.04; Waste, 6,364.30

Buildings produce 65% of our Athens campus emissions. The **76187 metric tons** of CO2 equivalent emitted by our buildings each year is equal to **189,046,628 miles** driven by an average passenger vehicle. (US EPA)

Moving forward

Goal 1: Reduce building impacts by using best practices in construction or divestment (including private partnership, demolition, or sell)
(Metric: % of FY12 GSF of low/zero impact buildings)

FY17
- 10.4% of FY12 GSF (LEED certified)

→ FY26
- 40% of FY12 GSF to be low impact

- Reduce overall gross square footage (GSF) per student
- Create and implement Ohio University Low Impact[1] Building Standards for construction, renovation and demolition projects
- Support curriculum related to low impact buildings

Benefits of Goal #1 Strategies	Costs of Goal #1 Strategies
Operating cost (for energy, water and waste) reduction	Capital cost increase (including demolition costs)
Carbon emissions reduction	Maintenance cost increase possible
Improved occupant comfort & productivity	
Educational & reputational benefits	

Notes and Definitions

1. "Low impact" will be defined in more detail in the proposed OHIO Low Impact Building Standards, and depends on building type and usage.
2. "Corrective maintenance" & "preventative maintenance" are as currently defined by OHIO Facilities Management & Safety.
3. "Setbacks" are adjustments to temperature settings during times of low/no building usage.

Moving forward

Goal 2: Maintain & operate existing buildings to reduce impacts (Metrics: % hours of corrective maintenance (CM) and % hours of preventative maintenance (PM)[2]; square footage of setbacks or reduced HVAC schedules)

FY17
- 83% CM; 17% PM

→ FY26
- 20% CM; 80% PM

FY17
- 0 sq ft of setbacks

→ FY26
- 1 million sq ft of setbacks
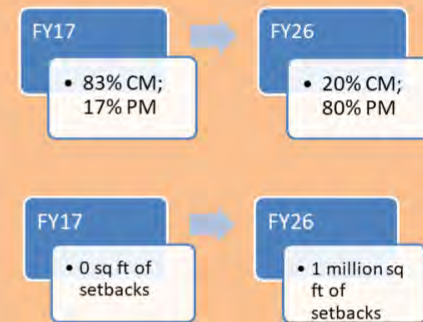
- Expand and institutionalize an OHIO Sustainable Building Operations & Maintenance Program
- Reduce building resources usage through strategic planning & setback[3] utilization
- Increase OHIO communication & education on reducing building impacts; consider building competitions

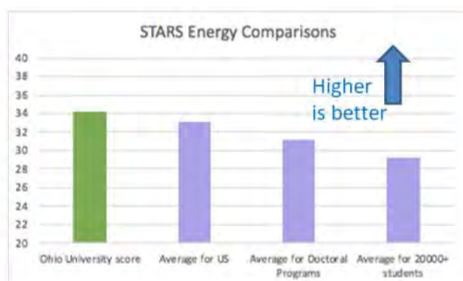| Benefits of Goal #2 Strategies	Costs of Goal #2 Strategies
Carbon emissions reduction	Increase in staff training time
Operating cost reduction	
Improved occupant comfort & productivity	
Possible maintenance cost reduction	
Educational & reputational benefits	

Energy

Hub: Infrastructure

Aspiration: Minimize utilization of energy while maximizing renewable energy sourcing and resiliency
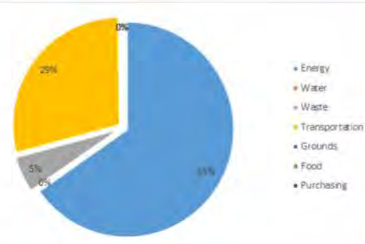
OHIO UNIVERSITY — Office of Sustainability

aashe — The Association for the Advancement of Sustainability in Higher Education

STARS OP 5 & 6

SUSTAINABLE DEVELOPMENT GOALS

CARBON COMMITMENT — CLIMATE LEADERSHIP

Scope 1 & 2 emissions

Where we are now

- ✓ Benchmark 1 : Reduce institutional greenhouse gas emissions **Target of 25% below baseline exceeded. Between Fiscal Year 2012 (FY12) and FY18, net emissions decreased by 30%.**
- ✓ Benchmark 2 : Reduce campus and building energy intensity **Nearing target of 20% reduction from 2004 baseline at 15% reduction.**
- ✓ Benchmark 3 : Increase renewable energy **Nearing target of 20% renewables at 17.9%.**

STARS Energy Comparisons

Higher is better

(Bar chart: Ohio University score, Average for US, Average for Doctoral Programs, Average for 20000+ students — vertical axis 20 to 40)

OHIO's highest percentage of carbon emissions comes from energy usage

(Pie chart legend: Energy, Water, Waste, Transportation, Grounds, Food, Purchasing)

Moving forward

Goal 1: Reduce campus and building energy intensity (Metric: EUI for campus and for building types)

FY17		FY26
• 137 ave kBtu/sq ft	→	• 110 ave kBtu/sq ft
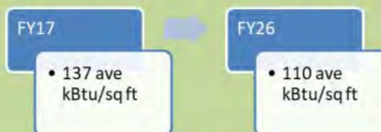
- Create and implement Ohio University Low Impact Building Standards[1] for construction/renovation projects which align with our sustainability commitments
- Expand and institutionalize OHIO Sustainable Building Operations & Maintenance program
- Restart building energy competitions; educate OHIO campus and communities about energy efficiency

Benefits of Goal #1 Strategies	Costs of Goal #1 Strategies
Operating cost reductions – electrical and natural gas bills; peak load charges	Capital expenditure increase possible
Carbon emission reductions	Maintenance cost increase possible
Occupant comfort/productivity improvements	
Enhanced academic quality	

Notes and Definitions

1. "Low impact" will be defined in the proposed OHIO Low Impact Building Standards.
2. Transportation fossil fuel energy is from gasoline & diesel used to operate OHIO fleet vehicles, as well as fuels used in commuting by faculty, staff & students, as required by the SIMAP Reporting Platform.
3. Renewable energy as defined by AASHE STARS, p 5 of Technical Manual, OP6.

Moving forward

Goal 2: Decrease reliance on fossil fuel energy (Metric: % of energy from fossil fuels: electricity, heating, cooling, and transportation[2])

FY17		FY26
• 18% renewable energy[3]	→	• 36% renewable energy

- Pursue innovative and sustainable renewable energy options for all or parts of campus energy
- Consider regional campuses for siting of large on-site renewables

Benefits of Goal #2 Strategies	Costs of Goal #2 Strategies
Operating cost reductions possible	Capital expenditure increases
Carbon emission reductions	Maintenance costs increases
Resiliency benefits	

Caption: Alex Burke, MSES student, with PV array at Building 22. Photo credit: Voinovich School of Leadership and Public Affairs

Waste

Hub: Infrastructure

Aspiration: Responsibly manage all waste; become a Zero Waste institution

SUSTAINABLE DEVELOPMENT GOALS

CARBON COMMITMENT — CLIMATE LEADERSHIP

STARS OP 19 & 21

Scope 3 emissions

Where we are now

- ✓ Benchmark 5 : Reduce solid waste. **Target exceeded. 8.2% annual reduction surpassing the 5% reduction target.**
- ✓ Benchmark 7: Increase recycling rates. **Currently not meeting target.**
- ✓ Benchmark 15 : Improve identification and proper handling of hazardous waste. **Target met. Approval, tracking and notification system in place.**
- ✓ Benchmark 32 : Increase food donations to local service organizations. **Target met and in progress.**
- ✓ Benchmark 34 : Implement notification system for local service organizations regarding availability of surplus items. **Target met and in progress (website).**

STARS Waste Comparisons — Higher is better

(Ohio University score, Average for US, Average for Doctoral Programs, Average for 20000+ students)

Carbon Emissions *from Waste Category*

The 3rd highest percentage of carbon emissions at OHIO come from waste.

- Energy
- Water
- Waste
- Transportation
- Grounds
- Food
- Purchasing
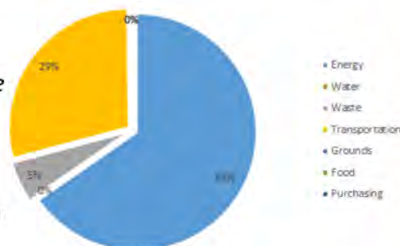
Moving forward

Goal 1 : **Reduce municipal and Universal Solid Waste**
(Metric: tons solid waste per weighted user)

FY17 → FY26

- 0.24 tons/weighted user → - 0.22 tons/weighted user

Potential Strategies

- Educational campaigns for zero waste dining/events; Learning Communities; university events; orientations
- Resource sharing/reuse incentives
- Regional nonprofit salvage/circular economy opportunities
- Print reduction campaigns
- Dining Hall food waste reduction competitions
- Self-serve vs staff-served food portions in dining halls
- Laboratory chemical reuse
- Waste reduction through sustainable procurement; including sustainability goals in new/renewing contracts

Abbreviated TBL CBA *for Waste Category*

Benefits of Goal #1 strategies	Costs of Goal #1 strategies
Operating cost reduction	Staff time
Emissions reduction	Job retraining
Reduced resource extraction	
Circular economic benefits	

Notes and Definitions

1. "Weighted user" as defined by AASHE STARS
2. Construction & Demolition Debris (C&DD) tracking is currently only in place for LEED projects, though C&D materials are recycled whenever possible for all construction projects. By 2026, OHIO Low Impact Building standard will replace LEED for all buildings.

*"Universal" [includes batteries, pesticides, mercury-containing equipment (thermostats, lamps)] and "Hazardous" waste audits will be conducted on an annual basis to correct and calculate percentage targets.

Moving forward

Goal 2 : **Increase diversion from landfill to reuse, recycling and composting** (Metric: % diversion from landfill)

Subgoals and Targets	FY17	FY26
Municipal	56.1%	60%
- Food (estimated)	70%	75%
- Landscape	100%	100%
Universal* (estimated)	90%	95%
C&DD[2] LEED certified	77.5%*	80%
C&DD non-LEED[2] certified	N/A	25%
Hazardous*	100%	100%

Potential Strategies

- Continued co-location of recycling and trash across all campus operations
- Waste diversion videos for orientation programs
- Food recovery programs
- Composting pilot programs (student/faculty/staff)
- Pallet recycling
- Low-cost C&DD recycling program; with salvage included in timeline for community partners
- Waste management plan requirement in contracts for construction and demolition projects
- Waste reduction emphasis at athletic events
- Hazardous waste spill tracking
- Bobcat Buy tracking and notification system for hazardous waste

Abbreviated TBL CBA *for Waste Category*

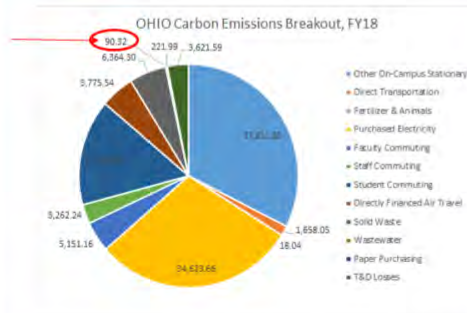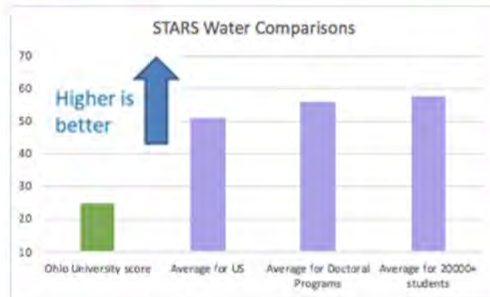| Benefits of Goal #2 strategies	Costs of Goal #2 strategies
Emissions reduction	Increased operational costs
Reduced resource extraction	Staff time
Enhanced community engagement	
Circular economic benefits	

Water

Hub: Infrastructure

Aspiration: Maintain high quality drinking water and reduce flooding potential

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Where we are now

- ✓ Benchmark 13: Prohibit the installation of permanent irrigation systems that rely on potable water. **Target met: Prohibition exists**
- ✓ Benchmark 17: Institute storm water management plan. **Target met: Plan exists**

STARS Water Comparisons

Higher is better

OHIO Carbon Emissions Breakout, FY18

- Other On-Campus Stationary
- Direct Transportation
- Fertilizer & Animals
- Purchased Electricity
- Faculty Commuting
- Staff Commuting
- Student Commuting
- Directly Financed Air Travel
- Solid Waste
- Wastewater
- Paper Purchasing
- T&D Losses

Emissions from wastewater are the only water-based carbon emissions reported by OHIO. They are a very small percentage of our emissions.

Moving forward

Goal 1: **Work with communities to protect ground water quality and surface waters** (Metric: storm drain discharge analysis in channelized reaches; wellhead emergency planning collaboration with City of Athens)

FY17
- No data available

FY26
- All dry weather discharges analyzed; 1 wellfield collaboration/year

- Collaborate with faculty and community members to monitor & eliminate dry weather storm drain discharges
- Collaborate with City of Athens on wellfield protection regulations and emergency planning

Benefits of Goal #1	Costs of Goal #1
Public health benefits	Employee time
Enrollment benefits	Maintenance costs

Goal 2: **Reduce impacts from storm water** (Metric: gal storm water retained on campuses)

FY17
- 7 million gal

FY26
- 20 million gal

- Increase pervious groundcover, including native plantings
- Use rain barrels, cisterns, or ponds to capture & reuse water
- Use low impact development (LID) strategies[1] in site designs
- Collaborate with community partners to reduce impacts from the channelized section of the Hocking River
- Continue OHIO's Storm Water Management Program

Benefits of Goal #2	Costs of Goal #2
Operations cost reduction	Capital cost increase
Emissions reduction	Maintenance costs increase
Flooding risk mitigation	

Moving forward

Goal 3: **Reduce potable water usage and water used for irrigation** (Metric: kilo-gallons per weighted user[2] of potable water, kilo-gallons per acres of vegetated land[3] of potable + non-potable water used for irrigation)

FY17
- 10.1 kgal/user potable; 170 kgal/acre total

FY26
- 9.6 kgal/user potable; 160 kgal/acre total
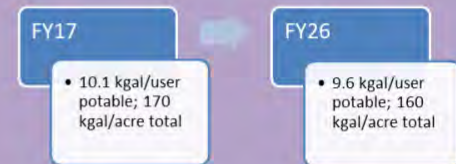
- Increase native and xeriscaped[4] plantings
- Use rain barrels or cisterns to capture and reuse water
- Consider capturing boiler water to use in cooling towers
- Use low-flow fixtures in building renovations and construction where practical
- Create on-site recycling water system for at least one building on one campus

Benefits of Goal #3	Costs of Goal #3
Operations cost reduction	Capital cost increase
Emissions reduction	

Notes and Definitions

1. Example low impact development strategies are outlined in the ODNR Rainwater and Land Development standards.
2. Weighted users as defined by AASHE STARS.
3. Vegetated grounds as reported to AASHE STARS
4. Xeriscaping is the practice of designing landscapes to reduce or eliminate the need for irrigation..

Implementation and Tracking

A plan achieves success when it is complemented by an effective implementation process. The 2021 OHIO Sustainability & Climate Action Plan will be implemented by administrators, faculty, students, and staff throughout the University. Implementation will be facilitated and tracked by the Office of Sustainability and the Sustainability Hubs.

In the 2021-22 academic year, detailed implementation guides will be developed for each category in the plan. The guides will include names of parties who have agreed to implement strategies, the specific metrics that will be gathered to determine progress on those strategies, implementation notes, and how the metrics from each strategy will be compiled to determine overall progress toward the plan goals. The Office of Sustainability Director and Associate Director will each facilitate implementation of eight categories, with assistance from the Sustainability Hub Coordinators, Sustainability Hub Graduate Assistants, and other student staff.

Implementation facilitation will also occur through the [Sustainability Project Laboratory (SPL)](). Strategies will be listed in the SPL as either ideas to be developed into implementable projects, or full projects which are ready to be implemented by graduate students, as class projects, or as student organization projects. Strategy lists are designed to be flexible and to change over time. Strategies will move fluidly from the ideas section of the SPL into the full project section, to webpages as they are implemented, or perhaps back to the ideas section, as resources and priorities change.

Parties responsible for implementation from around the University will be contacted on an annual basis to gather metrics on progress. Metrics will be compiled and compared to targets for each goal in each category on an annual basis and will be reported in one or more of the following ways:

- Second Nature's Annual Presidents' Carbon Commitment Report
- Ohio University Board of Trustee's Annual Sustainability Report
- Ohio University Bi-annual Sustainability Committee Report
- AASHE STARS Tri-annual Report
- Office of Sustainability webpages

Appendices

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2021 OHIO Sustainability & Climate Action Goals List

Administrative Support
- Achieve recognition for innovative and robust sustainability planning, coordination, and governance.
- Build resiliency into processes and infrastructure.
- Create funding mechanisms for sustainability initiatives outside of General Funds.

Buildings
- Reduce building impacts by using best practices in construction, renovation, and demolition.
- Maintain and operate existing buildings to reduce impacts.

Climate
- Reduce institutional greenhouse gas emissions.
- Reduce or eliminate air pollution from stationary and mobile sources.

Curriculum Core
- Increase opportunities for formal, experiential, and community-engaged sustainability learning experiences.
- Assess and strengthen sustainability culture and literacy.

Energy
- Reduce campus and building energy intensity.
- Decrease reliance on fossil fuel energy.

Engagement Core
- Create, enhance, and track transformative sustainability engagement ecosystems
- Offer opportunities to learn about or contribute to sustainability initiatives.

Food
- Support the local food economy with preference to "neighborhood food" products.
- Promote mindful foods choices; collaborate with communities to provide education on impacts of food choices.

Grounds
- Create and maintain healthy, natural, biodiverse, and beautiful landscapes that can act as the foundation for sustainability-oriented experiential learning opportunities.
- Reduce carbon emissions from grounds-related activities.

Human Resources
- Ensure that sustainability, diversity, and inclusion are factors in employee hiring, professional development, retention, and assessments.
- Support and promote employee physical and mental health, wellness & resilience.

Investments
- Increase investments that support sustainable economic activity.

Procurement
- Increase purchasing of sustainable and/or recycled products across a range of categories.

Research Core
- Increase research focused on sustainability or carbon neutrality.
- Provide incentives and support to researchers who conduct sustainability engagement ecosystem research with triple bottom line benefits.

Student Life
- Support and promote student physical and mental health, wellness, and resilience.
- Prioritize sustainability, diversity and inclusion as positive student attributes in academics, recruitment, and retention efforts.

Transportation
- Reduce carbon emissions from transportation.
- Create safe, efficient, affordable, and healthy routes and options for non-single occupancy vehicle transit.

Waste
- Reduce municipal and Universal Solid Waste
- Increase diversion from landfill to reuse, recycling and composting.

Water
- Work with communities to protect ground water quality and surface waters.
- Reduce impacts from storm water.
- Reduce potable water usage and water use for irrigation.

| •Living Hub Goals | •Infrastructure Hub goals | •Administration Hub goals | •Core/Adminstrative goals |

Goals align with the OHIO Strategic Priority "enhancing the University's national position as a leading-edge laboratory for sustainability."