AUS CLIMATE ACTION PLAN

SEPTEMBER 2022

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Letter from the AUS Chancellor

September 1, 2022

In October 2021, the UAE made a pledge in advance of the COP26 meetings to be net-zero by 2050. This pledge was a catalyst for AUS and put in motion our Climate Journey. Developing this Climate Action Plan is the first step in putting our commitment to reducing carbon emissions into action.

AUS has been a leader in addressing sustainability in the region. We were the first university in the MENA region to receive an Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking and Assessment Rating Systems (STARS) and the first university in the UAE to implement a single-use plastic ban.

Over the last year, AUS has conducted a greenhouse gas (GHG) accounting report, held numerous workshops with staff, conducted community outreach through a climate action exhibition, participated in numerous class discussions, and conducted a climate action survey. The results of all of this work have been compiled into the following Climate Action Plan.

The Climate Action Plan is a roadmap to guide AUS towards meeting the United Nations 2030 goal of limiting the global temperature increase to 1.5°C, which will require a 46.2% decrease in campus carbon emissions. This is a monumental task, but I am committed to reducing our carbon emissions in line with the UAE and UN targets. Carbon reductions will be accomplished by focusing on three areas: generation of alternative energy, sustainable transportation, and sustainable supply chain and construction, as outlined in our strategic actions.

I invite you, whether you are a student, alumni, faculty or staff, to join AUS in this journey to emissions reduction. We will learn through research, classroom engagement, strategic operational actions and community behavior change. We will share our research and lessons learned throughout this process with the hopes of inspiring our community, as well as other universities in the region, to play a positive role in addressing climate change and building a better future.

Regards,

Dr. Susan Mumm

AUS Chancellor

Executive Summary

AUS Climate Goals

In line with the October 7, 2021 announcement of the United Arab Emirates (UAE) Government's commitment to reach net-zero by 2050, AUS is developing a roadmap to understand our greenhouse gas (GHG) emissions and how to reduce the university's impact on climate change.

AUS understands the important role higher education institutions play in leading change, educating the future generations, serving as a living laboratory for innovation, and modeling the adaptations and behavior changes needed for the UAE to meet its ambitious targets on climate change.

Greenhouse Gas (GHG) Accounting Report

AUS' GHG accounting report showed that from June 1, 2018 to May 31, 2019 the majority of AUS' GHG emissions were caused by purchased electricity (68.8%). Table 1 shows that purchased electricity contributed 30,371.8 metric tons of carbon dioxide equivalent (tCO_2e) to AUS' total footprint of 44,126.7 tCO_2e.

Table 1: GHG emissions by source

Scope	Emissions (tCO_2e)	% of total
Scope 1: Direct GHG emissions	632.6	1.4
Scope 2: Indirect GHG emissions from purchased electricity	30,371.8	68.8
Scope 3: Other indirect GHG emissions	13,122.3	29.7
Total GHG emissions	**44,126.7**	**100.0**

(Source: South Pole, based on AUS, 2022)

Based on the total emissions, some base year findings were established, as shown in Table 2 below.

Table 2: Summary of findings

Number of employees and students	6,161	tCO_2e/employee and students	7.2
Weighted campus users[1]	5,950	tCO_2e/per weighted campus user	7.4
Premises area (m^2)	363,789.27	tCO_2e/m^2	0.12

Climate Action Plan (CAP)

Three main areas were identified to target carbon emissions reduction in the development of the AUS CAP. These were energy generation and usage, sustainable transportation, and sustainable supply chain

[1] Weighted campus user was calculated using a formula developed by the Association for the Advancement of Sustainability in Higher Education. It is used as a measurement of an institution's population that is adjusted to accommodate how intensively certain community members use the campus. *The Sustainability Tracking, Assessment & Rating System, Technical Manual*, V2.1, 2017. (Source: South Pole, based on AUS,2022)

and construction. The majority of AUS' emission reduction will come through the efforts made under energy generation and usage, but it was felt that AUS could make additional emission reductions and provide leadership to other institutions in the areas of sustainable transportation, and sustainable supply chain and construction.

The main focus of the proposed reductions is within scope 1 GHG emissions (direct emissions owned by the university, e.g., fuel consumption, university-owned vehicles and fugitive emissions[2]) and scope 2 GHG emissions (e.g., purchased energy). AUS will address some of our scope 3 GHG emissions, including business travel, staff and student commutes, purchased goods (e.g., paper and single-use plastics) and waste produced on campus. These identified focus areas will help AUS make great strides towards meeting the UAE's 2050 target of net-zero. AUS will share annual CAP progress reports and GHG calculations to ensure that the university is meeting its goal of reducing its overall GHG emissions and is on target to meet the UAE's goal.

Strategies to Achieve AUS' Climate Goals

This report represents an overview of the recommended strategies AUS plans to pursue under each of the three GHG scopes and the administrative recommendations for tracking and financing GHG emission reductions. The recommendations were developed based on three components. First, there was a series of climate action workshops with the Chief Operations Officer and the Directors of HR, ICT, Facilities, Campus Development, Finance and Budget, Supply Chain Management, and Sustainability and with key managers identified within each of the aforementioned departments who would be responsible for the implementation of the recommendations. Second, AUS worked with an outside consultant group, South Pole Carbon Asset Management Ltd., to conduct a GHG accounting report, which can be found here. After the workshops and the accounting report were complete, AUS held a CAP exhibition in March 2022 to share the GHG accounting findings and the identified focus areas with our stakeholders. The community had an opportunity to provide input into the CAP, enabling collaboration and coordination with faculty, students, staff and our external partners.

Introduction

Sustainability and Climate Action Role of AUS

AUS has worked to lead the region in addressing sustainability on campus. The next big sustainability challenge for AUS will be to comprehensively address climate change. This will be done through the development of a Climate Action Plan (CAP), which will have three sections:

1. Greenhouse Gas (GHG) base year accounting report, which will serve as the foundation for measurement of reductions in AUS' GHG emissions
2. operational recommendations, which will address the operational, infrastructural and budgetary changes proposed to reduce campus emissions
3. engagement recommendations, which will address how information about the Climate Action Plan will be shared, the types and focus of events and campaigns regarding campus emissions, and collaborations with faculty on research and integration of the Climate Action Plan into their classes

[2] Fugitive emissions are leaked gasses from storage tanks, equipment and refrigerant units–such as air conditioners.

AUS GHG Accounting Report

Organizational Boundary

As part of the CAP, it is necessary to define the perimeters of AUS to be able to establish the university's GHG emissions and to set targets to reduce our emissions within that boundary. The physical boundaries of the GHG accounting report cover the entire AUS campus, including the academic buildings, the student residential halls, faculty housing and all of the athletics fields. For the purposes of the GHG accounting report, the base year of June 1, 2018 – May 31, 2019 was selected, as this was the last academic/fiscal year that campus activities were not impacted by COVID-19. Moving forward, these initial GHG emission levels will serve as the base year that future emissions will be compared against and to which reduction targets will be measured.

Emission Sources

GHG Protocol (https://ghgprotocol.org/) is the most widely used guidance for organizations worldwide to report on GHG accounting. Under the GHG Protocol, emissions are divided into direct and indirect. Direct emissions are those originating from sources either owned or controlled by the reporting entity, while indirect emissions are those generated by the reporting entity's activities but which occur at sources owned or controlled by another entity. Emissions are divided into three scopes: 1) emissions directly managed by the organization; 2) emissions generated by purchased electricity; 3) other indirect emissions

GHG Protocol's Corporate Standard reporting requires entities to include scope 1 and 2, with scope 3 reporting as optional. AUS has decided to include a partial calculation of our scope 3 emissions in our base year GHG accounting report. This decision is two-fold. First, the inclusion and calculation of all of our scope 3 emissions was impractical because of cost and lack of access to data. Second, AUS is committed to being a leader in GHG emissions reduction and understands the impact that can be made by taking GHG emissions into consideration when making operational and procurement decisions. Managing AUS' supply chain with attention to GHG emissions will signal to vendors the importance of emissions management and drive them to revise or prioritize their impact on global climate change. It is hoped that our attention to GHG emissions will have a ripple effect, bringing attention to climate change within AUS' supply chain.

AUS worked with an outside vendor, South Pole Carbon Asset Management Ltd., to complete the base year GHG accounting report. The vendor requested numerous data points to complete the accounting. Table 3 is a list of the data requested, data provided and identified gaps and recommendations for future GHG accounting reports. The data is broken down by scope. The vendor was pleased with the amount and quality of data available but provided recommendations for future data collection. AUS will work to standardize the data collection and address these recommendations.

Table 3: Data sources used to calculate AUS' GHG emissions

Data requested	Data provided (Y/N/Partial) (Unit/Source)*	Identified gaps and recommendations for future data collection
Scope 1: Direct energy use per primary source		
Stationary combustion		
Propane or LPG (food vendors)	Yes (liters)	N/A
Diesel (generator)	Yes (liters)	N/A
Mobile combustion		
Diesel or petrol (AUS vehicles)	Yes (liters)	N/A
Refrigerants	Yes (kg)	N/A
Scope 2: Indirect energy use per primary source		
Electricity	Yes (kWh)	N/A
Scope 3: Other indirect emissions		
Business travel		
Air	Partial/(flights)	All business travel
Rented Vehicles	Yes (annual spend)	Kms driven or fuel amount used
Accommodations	No	# of guest nights and hotel location purchased for business travel
Purchased goods and services		
Water	Yes (gallons)	N/A
Paper	Yes (reems/rolls)	Include external printing services
Recycled	Yes (tons recycled)	Tons recycled in housing areas
Food and beverages	Yes (annual sales)	Vendor spend and/or food and beverage volumes
Food and beverages/catering	Yes (annual spend)	N/A
Cloud services	No	# of software licenses
Furniture and other materials	Yes (annual spend)	N/A
Capital goods		
IT equipment (purchased during year)	Yes (# and type of device)	N/A
Upstream transportation and distribution		
Freight (air, sea, road)	Yes (origin and destination)	Granular origin and destination data (i.e., physical addresses)
Waste generated in operations		
General waste	No	Tons of general waste removed; ton of food waste in Student Center
Paper and cardboard	Yes (tons)	N/A

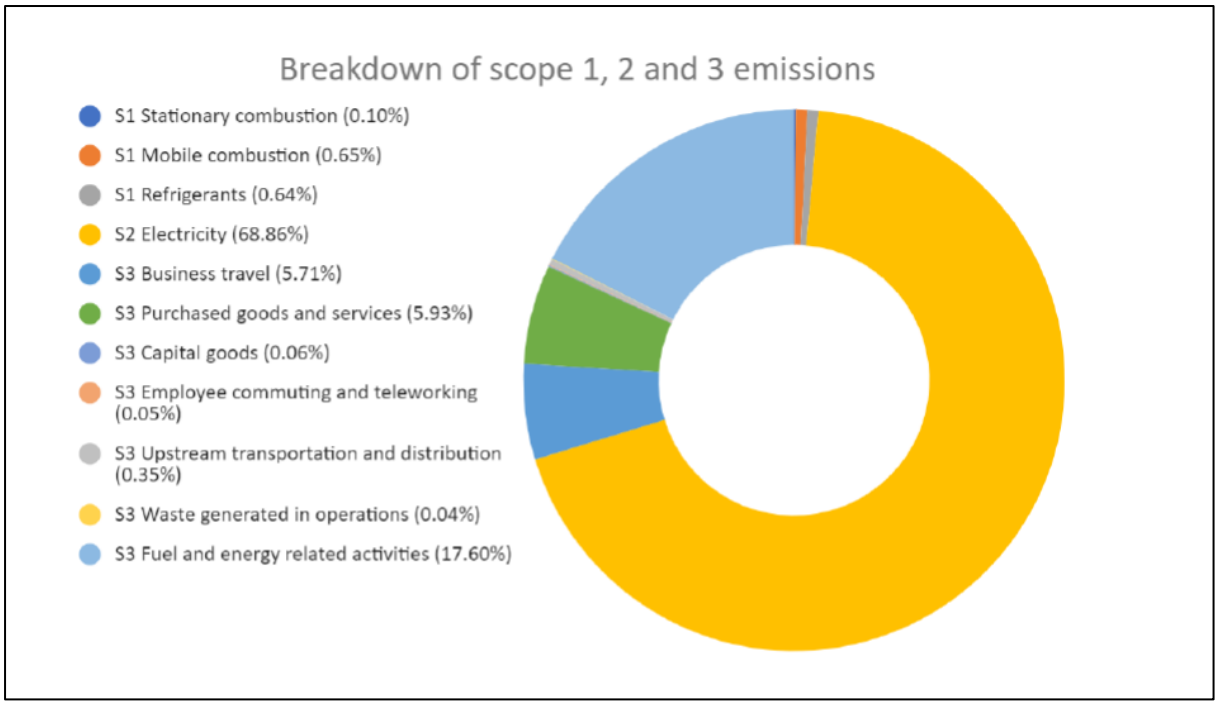
(Source: South Pole, based on AUS, 2022) *All data collected was anonymized and did not contain any personal data.

GHG Accounting Base Year Report (2018-2019) Findings

Figure 1, below, shows the breakdown of all of the emissions categories. Electricity comprises over two-thirds of AUS' emissions. Also, of note is the final scope 3 (S3) listing *fuel and energy related activities,* which is 17.6% of AUS' total emissions. These emissions are what is called "Well to Tank" or WTT. Well

to tank emissions are created from the extraction and refinement of crude oil, or the emission created by getting the crude oil from the well to a tank, where it can be utilized. Purchased electricity is responsible for 17.56% of the WTT emissions, virtually 100% of this category. When looking at the WTT and the scope 2 (purchased electricity) emissions combined, they contribute more than 86% of AUS' total emissions. Therefore, any increase in alternative energy generation (i.e., reduction in purchase electricity demand) would have the biggest impact on AUS' overall carbon emissions.

Figure 1: Scope 1, 2 and 3 emissions by source (%) in 2018–2019



(Source: South Pole, based on AUS, 2022)

Based on the results of the GHG accounting report developed by South Pole, an emissions reduction plan was suggested, including the setting of targets. South Pole used the Science Based Target initiatives (SBTi) Target Setting Tool to calculate targets to not exceed a 1.5° increase by 2030. The absolute contraction approach was used as a target-setting method, as no other target setting options are available for education providers.

The targets in table 4 focus only on scopes 1 and 2, as scope 3 emissions must exceed 40% of total organizational emissions for target setting, based on the SBTi Target Setting Tool. AUS' scope 3 emissions are just below 30%.

Table 4: Target Setting Summary

Total scope 1 and 2 base year (2018–2019) emissions	31,004 tCO_2e
Total projected business as usual (BAU) scope 1 and 2 emissions in 2030	51,928 tCO_2e
% reduction target to not exceed 1.5° increase	46.2%
Target emissions in 2030	16,681 tCO_2e
Annual emission reduction by 2030	14,324 tCO_2e

An annual growth rate of 4.8% was applied to the base year to account for growth in business as usual (BAU) emissions. The results from the SBTi Target Setting Tool were used to set a 2030 reduction target for AUS, with the base year being 2018–2019. The results show that AUS would have to lower its scope 1 and 2 emissions by 46.2% or 14,324 tCO_2e compared to the 2018–2019 emissions, as shown in table 4. This means that AUS must reduce its emissions to 16,681 tCO_2e by 2030.

Operational Recommendations Overview

Operational recommendations were developed through a series of Climate Action workshops with the Chief Operations Officer and the Directors of HR, ICT, Facilities, Campus Development, Finance and Budget, Supply Chain Management, and Sustainability. Three main areas of action were identified during these workshops to focus on in the CAP. These were: 1) energy generation and usage; 2) sustainable transportation; and 3) sustainable supply chain and construction. Each department made recommendations for emissions reduction which were incorporated into a CAP strategic action plan. All of these actions address operational and infrastructural changes.

Engagement Recommendations Overview

Using the information from the GHG accounting report and the operational recommendations, a climate action exhibition was developed. The exhibition introduced the AUS community to the CAP and provided an opportunity to get community input. It also raised awareness and encouraged engagement in reducing AUS' carbon emissions.

In March 2022, AUS hosted a climate action exhibition ***AUS' Journey to Climate Action*** (see figure 2). The exhibition highlighted the GHG accounting report findings, provided an overview of the categories of operational recommendations: 1) Energy Generation and Usage; 2) Sustainable Transportation; and 3) Sustainable Supply Chain and Construction. The exhibition was open to everyone. Special events were held for all stakeholders including staff, faculty, community members, students, as well as the media. Over 20 classes (approximately 500 students) attended the exhibition for private tours, and over 400 unique users completed at least one of the exhibition surveys.

Figure 2: Climate action exhibition AUS' Journey to Climate Action

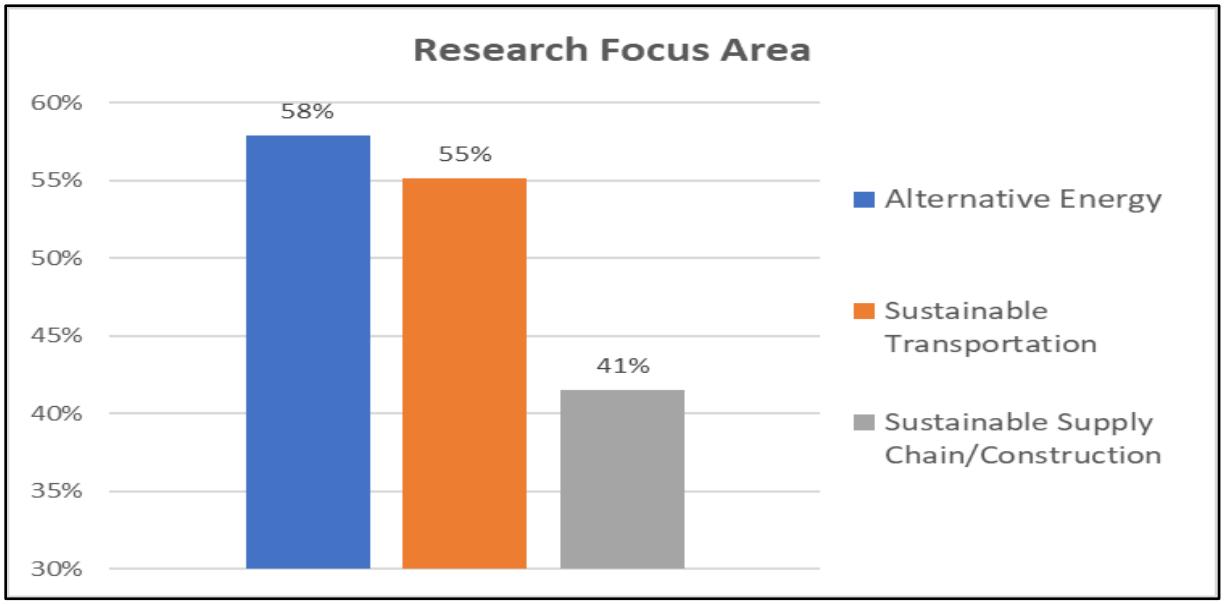
Exhibition Survey Results

Throughout the exhibition surveys were conducted and the data collected was compiled. During the course of the exhibition visitors were asked to complete surveys covering research, classroom engagement, activities and events, educational awareness campaigns, and big bold ideas. The surveys focused on how to integrate climate action into these different elements of life at AUS and focused on the target areas from the operational recommendations. Below is an overview of the data collected.

Research

Exhibition visitors were asked: ***Which of the three Climate Action Plan (CAP) focus areas would be of research interest to you?*** Over 50% of respondents chose Alternative Energy (58%) and Sustainable Transportation (55%), with 41% choosing Sustainable Supply Chain/Construction.

Figure 3: Research Focus Area

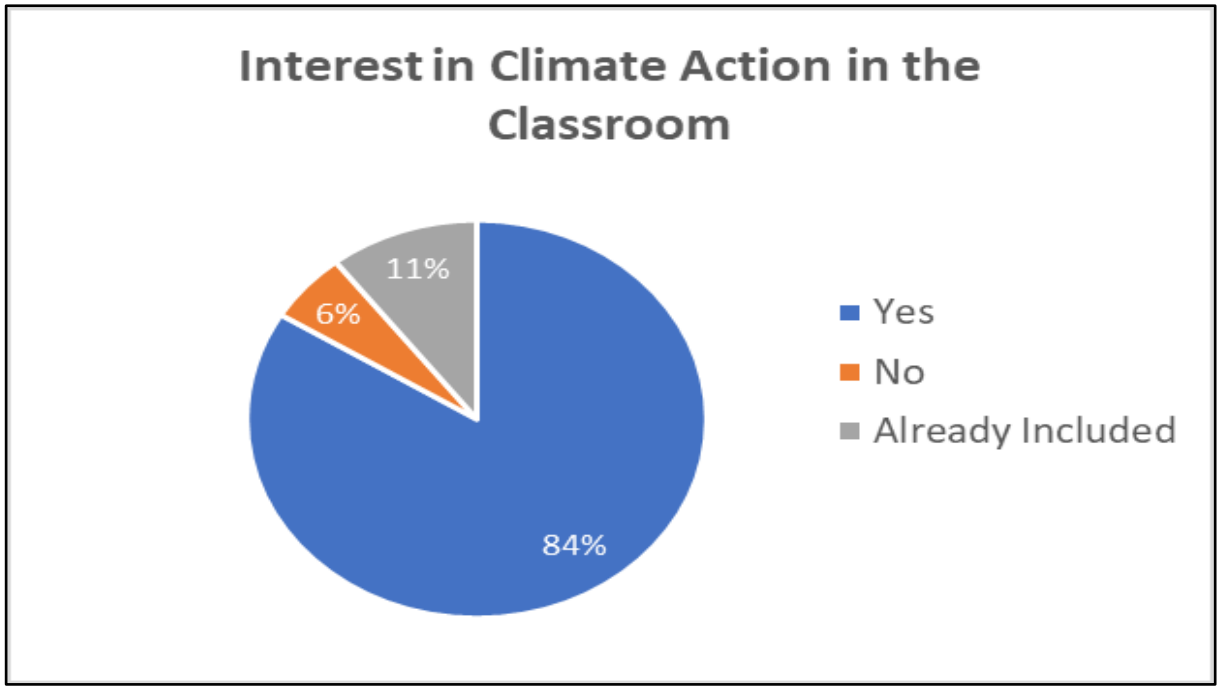


Visitors were also asked: ***If you are already doing research in one of these three focus areas, please elaborate.*** Many students highlighted that their senior design projects fell within the three focus areas, specifically on alternative energy and transportation.

Classroom Engagement

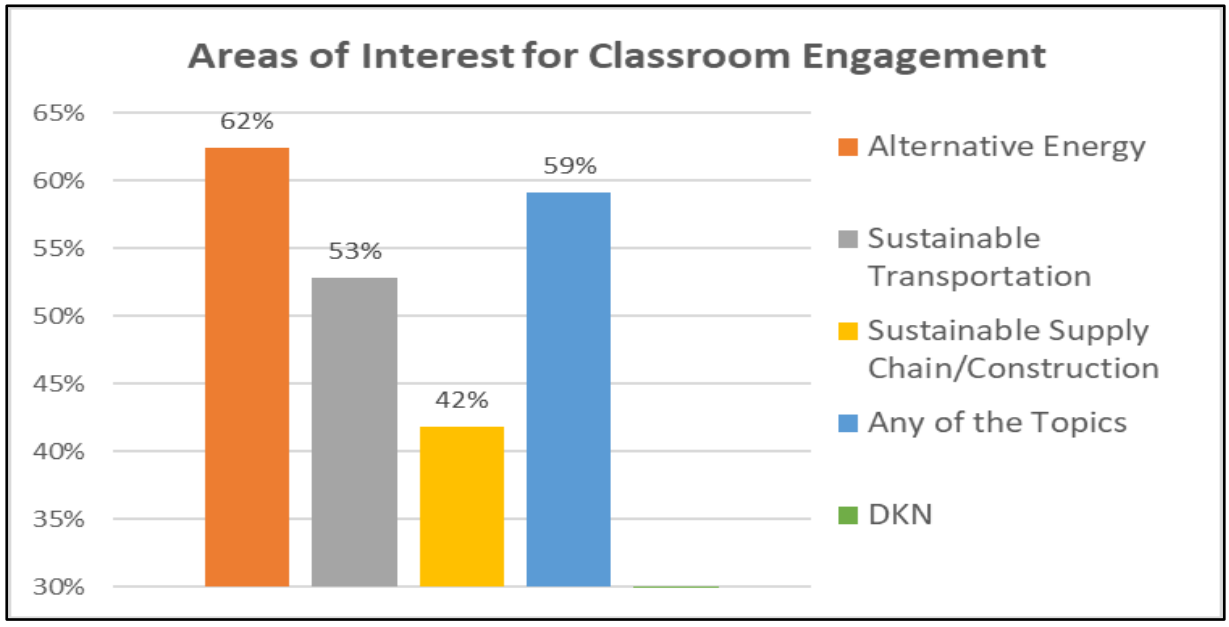
Exhibition visitors were asked: ***Are you interested in finding a way to incorporate climate action into your class(es)?*** An overwhelming majority (~95%) of those who responded said they were interested or already have incorporated climate change into their class.

Figure 4: Interest in Climate Action in the Classroom



When asked about which of the three focus areas they would be interested in having incorporated into their classes, the responses were similar to the research preferences with over 50% interested in both alternative energy (62%) and sustainable transportation (53%), and 42% stating an interest in sustainable supply chain/construction. Overall, 59% stated they had no particular preference, and any topic would be of interest.

Figure 5: Areas of Interest for Classroom Engagement

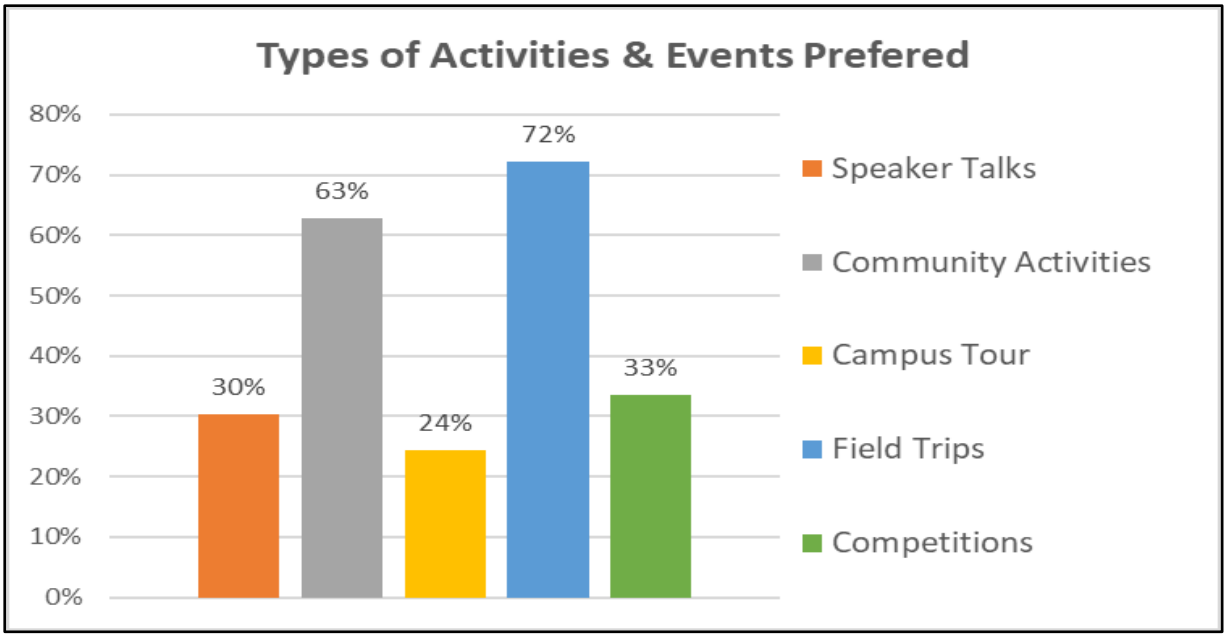


Activities and Events

One way to promote the CAP is through hosting in-person activities and events focused on reducing individual carbon footprint, and sharing successes, challenges and progress made on AUS' journey to reducing carbon emissions. Exhibition visitors were asked: ***What type of CAP related events would you***

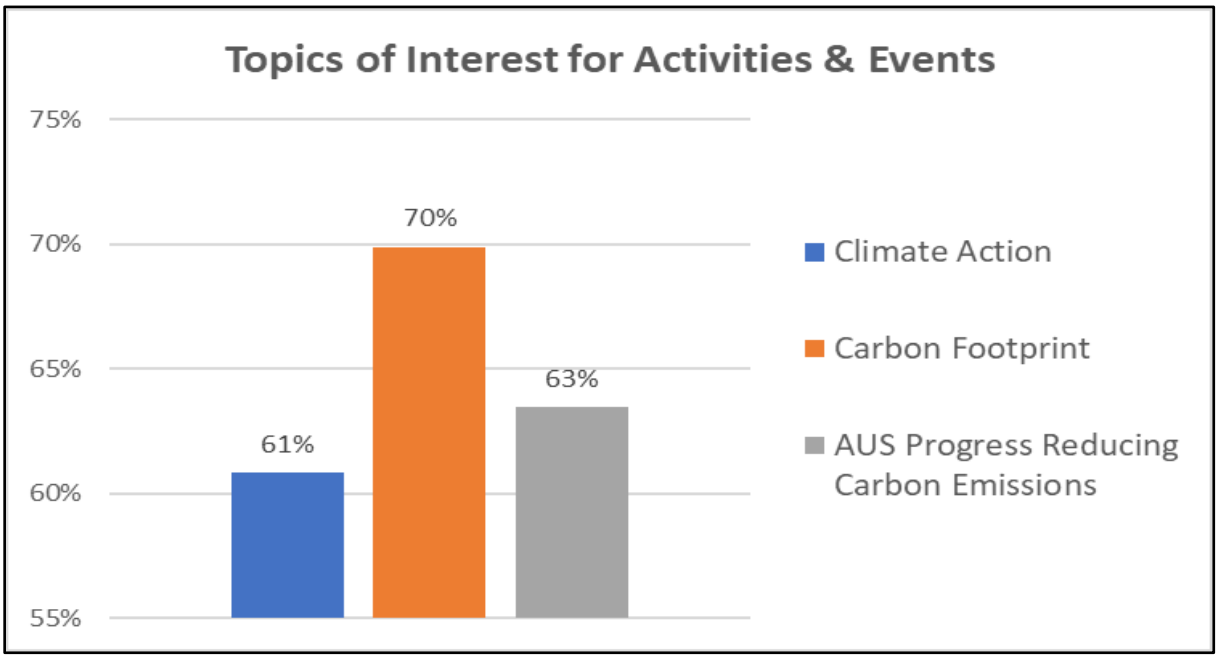
be interested in attending? The respondents were very interested in field trips (72%) and community activities, such as participating in a bird census, campus clean-up, etc. (63%). They were less interested in competitions (33%), speaker talks (30%) and campus tours (24%). With interest in the latter group at around a quarter of the respondents, it could be valuable to still host these events, but making sure to target them to the right audience will be important.

Figure 6: Types of Activities & Events Preferred



Respondents were given three options for the topics of the potential activities and events. Reducing your carbon footprint was the lead with 70%, but AUS's progress towards reducing carbon emissions (63%) and climate action (61%) were not far behind.

Figure 7: Topics of Interest for Activities and Events

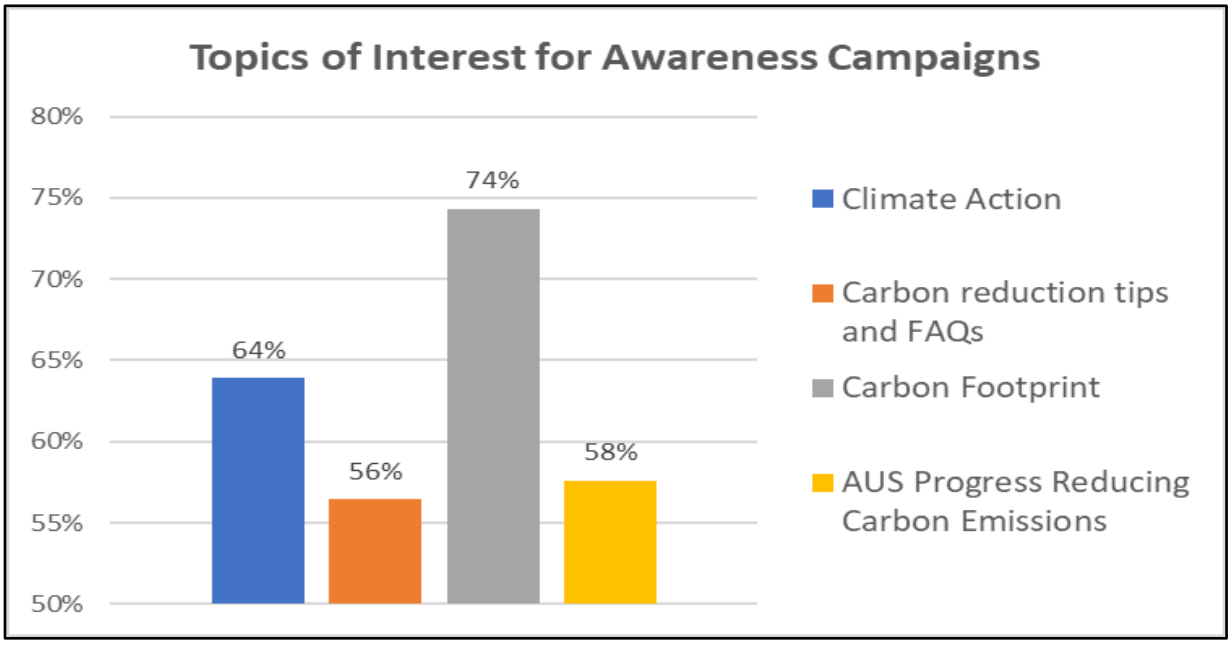


Educational Awareness Campaigns

Awareness campaigns are an opportunity to provide additional information about climate change, reducing organizational and individual carbon emissions and other topics covered throughout AUS' Climate Action Plan. These campaigns can take the form of social media campaigns, resources, frequently asked questions, tips and best practices available online. The campaigns and interest will also help determine the types of giveaways and marketing materials which should be procured and developed. These campaigns would be directed at filling in gaps of knowledge and assisting the community to know about the best course of action when trying to reduce carbon emissions.

Exhibition visitors were asked: ***What are some topics you would be interested in learning more about?*** Not surprisingly, the results are similar to the activities and events. Reducing your carbon footprint was the lead with 74%, climate action (64%) was next, and AUS's progress towards reducing carbon emissions (58%) was not far behind. The additional option of carbon reduction tips and FAQs was available for this question and 56% of the respondents selected it.

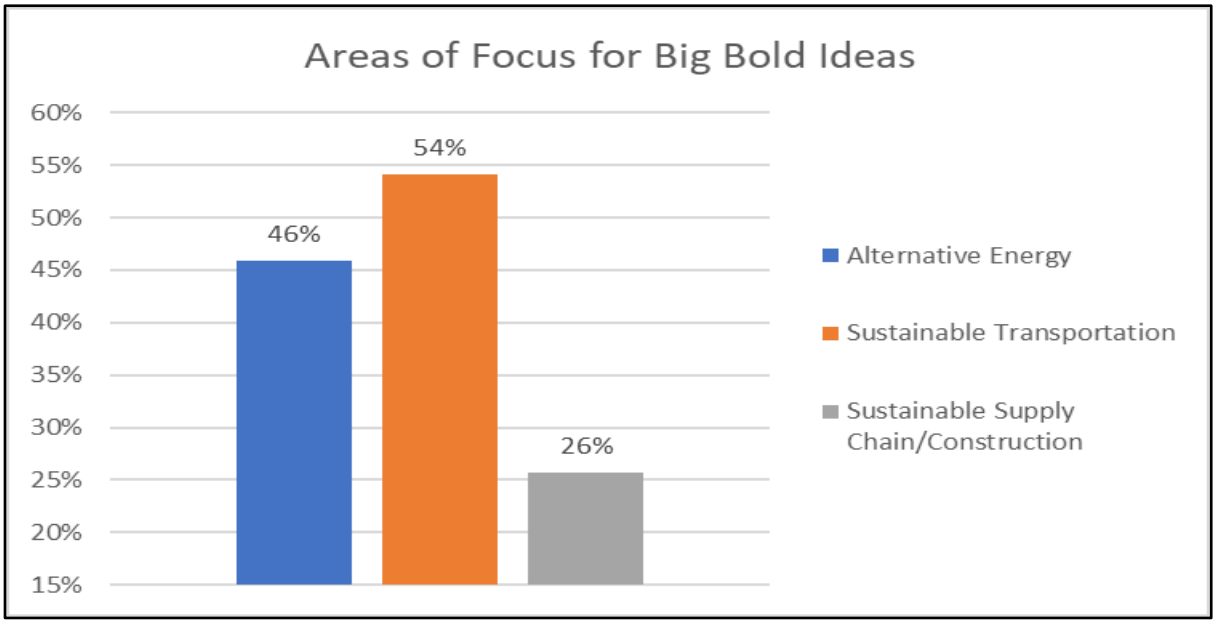
Figure 8: Topics of Interest for Educational Awareness Campaigns



Big Bold Ideas

The final survey question area was on big bold ideas. The goal of this section was to capture ideas that were not covered within the previous questions. Of the respondents that shared their big bold ideas, the majority of them focused on sustainable transportation (54%), then alternative energy (46%), and finally sustainable supply chain/construction at (26%). These results are interesting as alternative energy was the top choice for both research and classroom engagement. This may be due to the fact that many students commute to campus and can see potential for enhancements.

Figure 9: Areas of Focus for Big Bold Ideas



Engagement Plan for Climate Action

The development of an engagement plan will be part of the next steps for the AUS Sustainability office. The engagement plan will address how to ensure all of the university's internal (students, faculty, staff and family dependents) and external stakeholders are aware of the Climate Action Plan and provide an opportunity to meaningfully contribute towards AUS' GHG reductions. The engagement plan will be developed by utilizing the input from all of our stakeholders gathered during the exhibition's special events and survey responses. This will ensure that the plan will harness existing knowledge, skills and excitement across all of our stakeholder groups.

Campus as a Living Lab

To ensure the success of the CAP, it is important that the staff, faculty and students are empowered to experiment with new, innovative ideas and analyze current practices. They should have access to real-time data and projects, which can be anonymized, as necessary. This living lab approach should be encouraged through student and faculty research on ways to reduce campus GHG emissions, perhaps with a small funding source available for pilot projects. Additionally, there should be a process for staff ideas to be heard and potential pilot programs/projects implemented and tested.

Tracking Process

The success of the CAP will be assessed through monitoring the progress of the CAP strategic action plan. Therefore, it is important that a clear and comprehensive tracking process is put into place. This tracking should be transparent, and owners of the individual initiatives should be held accountable through departmental and position-based KPIs.

The completion of the AUS GHG accounting report and the CAP allow for comprehensive targets and goals to be set for each of the initiatives outlined in this document. A CAP strategic action plan will be developed, which will include:

- the projected GHG reductions for each initiative
- the timeline for completing the tasks and overall initiatives

- the responsible department for managing each initiative
- the data measurement and reporting process

The action plan will be reviewed annually, and progress will be shared in an annual CAP progress report.

One of the stated recommendations from the climate action workshops was to develop a proper monitoring and accounting process. The importance of a centralized platform for data management was stressed during the workshops. It was suggested that the system have both internal and external dashboards available. This centralized platform will help with data collection and simplify monitoring of GHG emissions. A few recommendations for data points to be included are:

- individual building characteristics - size, occupancy, usage, etc.
- energy consumption
- water consumption
- commuting miles
- business air travel miles
- goods usage, such as paper
- solid waste generated

The final list of data points should be compiled with input from the owners of each initiative and the data required for the GHG accounting report. At a minimum, the centralized platform would be used for an annual GHG accounting report, the CAP progress reporting and other sustainability reports such as AASHE STARS. Each department would be responsible for inputting and updating departmentally owned data.

Financing and Accounting

Financing

Recommendations will be evaluated on both their financial and carbon merit. Some operational or engagement recommendations will be net positive in both financial and carbon terms. This is likely to, for example, include the solar initiatives, where there are options to receive “energy as a service” at a cheaper rate than current energy supplies. Where there is a material carbon related benefit but a new cash investment is required, the institution will aim to find external sources to fund these.

Carbon Tracking Methodology

AUS will develop a methodology whereby carbon tracking is made transparent both in CO_2 tons, as well as in financial impact, using best practice of carbon related pricing and reporting globally. This transparency will facilitate both the reduction of emissions and the attractiveness for external parties to partner with AUS, supporting the plan not only with know-how but potentially with investment.

At a more detailed level this will include introducing carbon budgets parallel to financial budgets; a phased implementation will include initially material expenses (material both from an emissions and finance perspective).

CAP as a Dynamic Living Plan

The CAP will be a living document. Throughout the implementation and review process the plans will be regularly revised. Changes from previous versions will be documented and shared to ensure transparency over time. These changes and updates will be highlighted in the annual CAP progress report.

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