UNIVERSITY OF ALASKA FAIRBANKS

Sustainability Plan Draft

September 2014

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The University of Alaska Fairbanks would like to acknowledge the efforts of the many individuals who participated in developing this Sustainability Plan (SP). These include but are not limited to:

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1.0 EXECUTIVE SUMMARY

Colleges and universities across the nation have embraced sustainability as a tool to enhance student learning and development, reduce costs, increase efficiencies, drive research and innovation and preserve environmental qualities. Motivating students, faculty and staff to integrate sustainability in all aspects of campus creates a "whole school" approach to maximize its benefits.

Sustainability has been an active part of campus life, academics, research and operations at the University of Alaska Fairbanks for many years. In the spring of 2009, UAF students voted in favor of paying a $20 fee each semester. Originally called the Student Initiative for Sustainable Energy Now (SIREN) Fee, it is now known as the Student Sustainability Fee. These funds have been a catalyst for numerous energy efficiency programs and solar photovoltaic (PV) installations on buildings across campus.

The Review of Infrastructure, Sustainability and Energy (RISE) Board was created in 2009 to review proposals and to evaluate and prioritize projects funded by the fee. The Office of Sustainability was established in 2010 to champion and coordinate sustainability programs. The Office has since initiated and led many programs and provided student employees leadership opportunities. In 2011, with leadership from the Office of Sustainability, UAF submitted its first report to the Association for the Advancement of Sustainability in Higher Education's (AASHE's) Sustainability Tracking, Assessment and Rating System (STARS). The University received a Gold rating for its efforts across multiple performance areas including education, energy, water, transportation and waste. Since 2011 UAF has continued to implement a wide range of projects and provide students with rewarding, hands-on engagement opportunities.

This Sustainability Plan (SP) has been developed to further integrate sustainability across campus, as well as to support future improvements in UAF's scoring and rating under the AASHE STARS program. It is a product of input from across campus – including a Steering Committee, small group

interviews, a campus survey and input from a range of subject matter experts. The SP includes several recommended metrics for measuring success over time.

The 12 strategies and their associated actions will require investments of time, people and resources, but they will also result in many tangible economic, environmental and social benefits. The following summary table estimates costs and savings associated with the strategies. Taken together, the strategies would result in over $3.2 million in annual cost savings, with an estimated combined payback across all strategies of approximately 10 years. They would also result in significant reductions in greenhouse gas (GHG) emissions, energy and water use and other resources.

Implementation of this SP will involve a wide range of departments from across campus, as well as students, faculty and organizations within the Fairbanks community.

Summary of Potential Costs and Benefits from Implementing the SP Strategies

CATEGORY	ESTIMATED ANNUAL COSTS & BENEFITS
Greenhouse Gas (GHG) Emissions	Reduction of 18,000 Metric Tons of Carbon Dioxide Equivalent (MTCO2E)
Electricity	Savings of 10,000 Megawatt Hours (MWh)
Steam	Savings of 58,000 Thousand Pounds (klbd)
Potable Water	Savings of 12,000 Thousand Gallons (kgals)
Personal Vehicle Miles Traveled	Reduction of 647,000 Miles (mainly from commuting)
Waste	Reduction in 120 Tons
Annual Cost Savings	$3.25 million
Estimated Overall Simple Payback	10 years

2.0 INTRODUCTION AND PURPOSE

The University of Alaska Fairbanks finds itself in a time of rapid change. Current economic challenges and energy and climate concerns in the Circumpolar North paint an uncertain future. These are pushing UAF to seek ways to be more resourceful.

These challenges also provide opportunities for UAF and have prompted the University to become more energy and resource efficient. Beyond this UAF can also seek ways to build on its already successful partnerships and collaborations across campus to further educate and involve University students, faculty and staff in sustainability opportunities. Not only can these and other strategies help reduce UAF's impact on the environment, they can provide many additional benefits, from sustaining a healthy, productive learning and working environment to preparing students for the future. They can also help make UAF an even more attractive destination for the growing community of sustainability-minded students, faculty and researchers.

Funded by UAF's Student Sustainability Fee, this document has been developed to take stock of UAF's progress toward sustainability to date and create a cohesive plan for the University. The SP creates a road map for UAF and provides an overall framework for sustainability that includes key goals, strategies and actions to support sustainability in University facilities, operations and curriculum.

The SP provides guidance for further improving UAF's score under the Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking, Assessment & Rating System (STARS). In 2011 UAF completed its first STARS report and received a "Gold" rating for its sustainability performance. Throughout this SP are references to various components of STARS and their connection to the specific strategies and action steps outlined in the Plan.

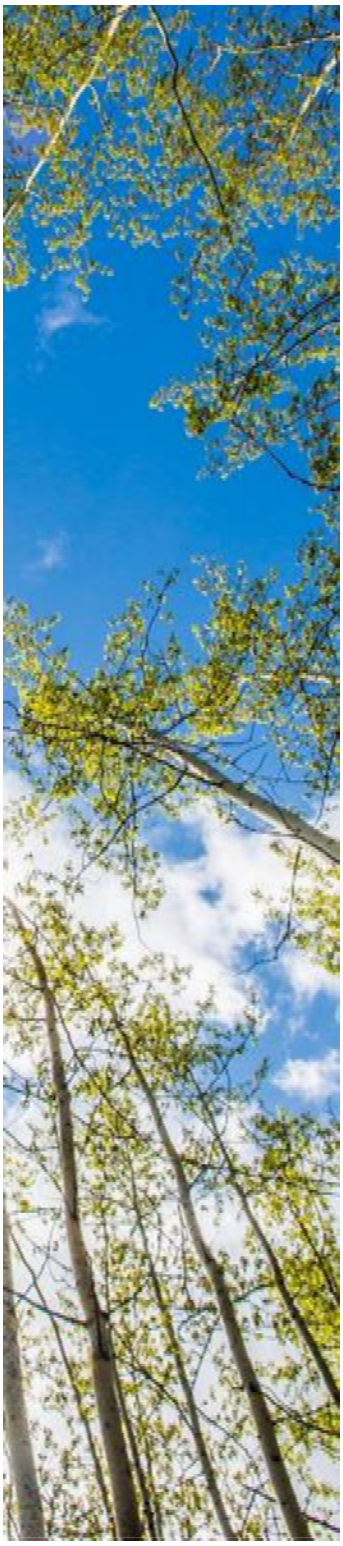
This SP provides an overview of the development process, a snapshot of UAF's current sustainability footprint and practices, and a framework for action to further sustainability. The goals and strategies identified in the SP have been

WHAT IS SUSTAINABILITY?

Sustainability at UAF is the integration of cultural, economic, environmental and energy components and supports projects and perspectives that have positive impacts on future resources, ecosystem health and human wellbeing.

Sustainability is not a destination, it is a process. Sustainability is:

- An opportunity to transform/reinvent the community, organization and the world.
- A capacity for an interdisciplinary approach to solving problems.
- Meeting today's needs without compromising future generations' ability to meet their needs.



developed around four focus areas identified by University staff and Steering Committee members

- **Protect Resources:** Energy, Water, Climate, Transportation, Grounds
- **Support the Campus Community (Faculty, Staff, Students):** Human Resources, Curriculum, Processes and Institutions
- **Close Loops and Conserve Materials:** Waste and Procurement
- **Shape Alaska's Future:** Research**,** Investment**,** Public Engagement, Community Partnerships

This document presents an approach to implementation that looks at staffing, partnering, funding, measurement and reporting, and avenues for moving beyond University operations to the community as a whole.

For each focus area the SP includes goals, strategies, action steps with timelines, responsible parties and measures of success. Finally, the SP presents cross-cutting themes, including the important topic of marketing and communications.

2.1 History of Sustainability at UAF

Sustainability has been an active part of campus life, academics, research and operations at UAF for many years. Over 10 years ago the Sustainable Campus Task Force organized the first Annual Sustainable Living Conference at UAF.

In 2008 the Chancellor established a Sustainability Transition Team to assemble a document of recommendations. This planning text addresses goals related to energy, carbon, transportation and other topics.

2009-2013: The SIREN Fee as a Catalyst for Sustainability

In the spring of 2009, UAF students voted in favor of paying a $20 fee each semester called the Student Initiative for Sustainable Energy Now (SIREN) Fee, now known as the Student Sustainability Fee. To date, these funds have been applied to numerous projects including energy efficiency programs and solar photovoltaic (PV) installations on buildings across campus.

The Review of Infrastructure, Sustainability and Energy (RISE) Board was created in 2009 to review proposals and evaluate and prioritize projects funded by the Student Sustainability Fee. From green bikes to student-run recycling and student employment opportunities, the RISE board and Office of Sustainability have made great improvements at UAF.

The Office of Sustainability was established in 2010 to champion and coordinate sustainability programs across campus. The Office has since initiated and led many programs and provided student employees leadership opportunities.

In 2011, with leadership from the Office of Sustainability, UAF submitted its first AASHE STARS report, a transparent, self-reporting process using a framework for colleges and universities to measure their sustainability performance. The University received a Gold rating for its performance across multiple performance areas including education, energy, water, transportation and waste.

In 2013 the RISE board and Office of Sustainability hired a consulting firm to develop this SP. This planning document builds on the 2008 *Campus Sustainability Recommendations from the Chancellor's Sustainability Transition Team*, which provides a strong foundation for this newer-generation Plan.

HISTORY OF SUSTAINABILITY AT UAF

- **2004** – Sustainable Campus Task Force (SCTF) organizes first Annual Sustainable Living Conference.
- **Spring 2008** – Students in NRM 430 class prepare a first draft of a UAF campus sustainability plan.
- **Summer 2008** – Chancellor's Sustainability Transition Team develops recommendations for UAF Campus Sustainability.
- **Spring 2009** – Students vote in favor of $20/semester SIREN fee.
- **Fall 2009** – Review of Infrastructure, Sustainability and Energy (RISE) Board created to maximize the use of SIREN fee.
- **Spring 2010** – Student Initiative for Sustainable Energy Now (SIREN) fee up and running.
- **Fall 2010** – Office of Sustainability established. First UAF Sustainability Director hired.
- **2011** - STARS report completed.

2.2 UAF'S AASHE STARS Scorecard

UAF AND AASHE STARS

In 2011 UAF participated in AASHE's STARS (Sustainability Tracking, Assessment & Rating System) a transparent, self-reporting framework for colleges and universities to gauge relative progress toward sustainability.

The University received a Gold Rating with a total score of 65.88.

A driving purpose behind this SP is to help identify opportunities to improve UAF's STARS rating and score – and in the process move the University further toward sustainability in a number of areas.

The STARS system assigns a number of potential points across the broad topics of Education and Research; Operations; Planning, Administration & Engagement; and Innovation. Colleges and universities then submit a report documenting progress for a number of credits across these topic areas, which correlate to a set of points achieved. Points are totaled, and an overall score and level of achievement (Bronze, Silver, Gold, Platinum) is given.

The University is already a high-performing institution with respect to sustainability. It has implemented a number of initiatives related to staffing, communications, sustainability-related programs, curriculum, events and specific projects. The STARS Report Summary of Results for UAF shows that it is highly rated in a number of areas, including but not limited to Co-curricular Education and Research, Dining Services, Grounds, Purchasing, Coordination and Planning and Human Resources. UAF also provides significant opportunities for student involvement through the RISE Board, student positions and other programs. The Student Sustainability fee now funds the Office of Sustainability and an extensive student grant program.

UAF's STARS Report also indicates where there is opportunity to improve its sustainability performance. The SP addresses many of the gaps found in the 2011 STARS report including opportunities with respect to buildings and energy, transportation, waste, water and investment. Table 1 summarizes UAF's 2011 STARS report card performance.

TABLE 1: 2011 UAF STARS RESULTS

TOTAL SCORE	65.88 (GOLD)
EDUCATION & RESEARCH	Points Achieved/ Points Eligible
Co-Curricular Education	18.00 / 18.00
Curriculum	31.55 / 55.00
Research	26.77 / 27.00
OPERATIONS	Points Achieved/ Points Eligible
Buildings	6.13 / 13.00
Climate	2.25 / 16.50
Dining Services	6.70 / 8.50
Energy	3.02 / 16.50
Grounds	3.00 / 3.25
Purchasing	5.07 / 7.50
Transportation	4.63 / 12.00
Waste	5.79 / 12.50
Water	4.87 / 10.25
PLANNING, ADMINISTRATION & ENGAGEMENT	Points Achieved/ Points Eligible
Coordination and Planning	18.00 / 18.00
Diversity and Affordability	13.50 / 13.75
Human Resources	14.75 / 19.75
Investment	0.50 / 16.75
Public Engagement	21.10 / 31.75
INNOVATION	Points Achieved/ Points Eligible
Innovation	4.00/4.00

HELPFUL RESOURCES

- UAF Campus Sustainability Recommendations from the Chancellor's Sustainability Transition Team July 2008: http://www.uaf.edu/files/sustainability/commitments/CSTT.SustainabilityReportFinal.pdf

The University of Alaska Fairbanks is listed as one of the Top 50 Greenest Universities in America

http://www.bestcolleges.com/features/greenest-universities/

3.0 DEVELOPING THE SP

3.1 Overall Process

This SP lays the groundwork for moving UAF systematically toward sustainability. It provides an opportunity to implement a comprehensive and coordinated approach that is integrated with standard measures (metrics) of performance. It focuses attention on environmental, economic and social issues at all levels of the University and how these topics relate to University operations and programs. The SP also helps create efficiencies and consistencies among programs and provides a shared decision-making and problem-solving framework for University staff, faculty and students.

The SP is intended to be a constantly evolving rather than a static, one-time document. Figure 1 illustrates a proposed cycle of planning and action, including planning, implementing actions, monitoring progress and revising the SP– all working toward a long-term sustainability vision and mission. Built from the continuous improvement model of "plan-do-check-act," the SP starts an ongoing cyclical process aimed at long-term thinking and action for sustainability. As a result, the SP is meant to be a living document and planning process, with strategies implemented, progress toward goals measured and new strategies and actions added as previous goals are met and strategies completed.

FIGURE 1. PLAN-DO-CHECK-ACT PROCESS

3.2 SP Steering Committee and Small Group Interviews

Development of this SP included collaboration with a Steering Committee consisting of knowledgeable and interested stakeholders from across the University able to validate the inventory process, craft a vision and mission, help document existing University sustainability practices, create focus areas and goals, and develop strategies and implementation steps. The Committee represented a diversity of interest, from facilities and operations to research, student life, and curriculum. Over the course of developing the SP, the Committee met four times in workshop-style formats to achieve the following:

- Kick off the project and establish a forum for the collaborative tasks ahead;
- Recommend a vision/mission and focus areas for the SP;
- Craft goals that are uniquely suited to UAF and that will guide forward progress on sustainability; and
- Discuss strategies and actions for reaching established goals.

In addition to the SP Steering Committee meetings, the consultant team convened several small group interviews spanning across a variety of University departments. These interviews were designed to engage University staff, faculty and students and to give them a forum to discuss good things already happening related to sustainability at UAF as well as opportunities for improved sustainability in their unique areas of work or student life. These small group interviews covered a range of topics including curriculum, human resources, procurement and waste, transportation, buildings and facilities, and finance/investment. The many ideas generating from these interviews were particularly helpful in informing the strategies and implementation steps in the SP.

3.3 Campus Survey

The Office of Sustainability coordinated a campus-wide, two-part web-based survey to identify how the UAF community felt the University was performing with respect to sustainability and to assess current practices related to transportation (primarily commuting) for the SP's greenhouse gas inventory. Over 700 individuals across campus responded to the survey. Overall, over 90 percent of respondents were willing to help implement this SP.

Table 2 below presents a brief summary of the survey results. On the key topic of existing practices, survey results both show perceptions of what is "working well" on campus as well as opportunities for enhanced communications around the "don't know" topics. Full survey results can be found in (Appendix A).

THE SP SURVEY

Over 700 individuals responded to the campus-wide survey, including:

- Over 500 students
- Over 150 staff
- Over 60 faculty members

TABLE 2. SUMMARY OF SURVEY RESULTS

TOPIC	SURVEY RESPONSES
Sustainability Definition: Sustainability at UAF is the integration of cultural, economic, environmental, and energy components and supports projects and perspectives that have positive impacts on future resources, ecosystem health, and human wellbeing.	• 85.2% or 597 participants felt this was an acceptable definition for sustainability.
Existing Practices: *Where is UAF doing well with respect to sustainability?*	• **Doing well:** Curriculum, research, building operations, building design, lighting, grounds, transportation, waste and recycling. • **Don't Know:** Co-curricular education, carbon footprint, dining services, renewable energy, energy metering, purchasing.
Greatest Opportunities: *Where are the greatest opportunities to further sustainability at UAF?*	• Develop incentives for staff and/or students to participate. • Recognize schools, individuals or departments for accomplishments. • Hold competitions between schools or departments to see who can save the most energy/resources.
Willingness to participate in implementing the SP	• 91.3% of participants were willing to participate in implementing SP.

As America's arctic research university, the University of Alaska Fairbanks leads the way in conducting climate change research that affects Alaska and the rest of the Circumpolar North.

4.0 BASELINE INVENTORY AND BENCHMARKING

4.1 Greenhouse Gas Inventory: Methodology

In 2010, UAF completed a greenhouse gas (GHG) inventory and footprint using Clean Air-Cool Planet's Campus Carbon Calculator, a methodology to calculate GHG (carbon) emissions specifically for colleges and universities. As part of the SP development process, the consultant team updated UAF's GHG inventory for calendar year 2013.

The University has two unique aspects that differentiate it from many other universities - a combined heat and power (CHP) plant and a water treatment plant. The CHP plant primarily burns coal and has auxiliary boilers that burn oil and natural gas[1]. The CHP plant provides electricity, steam and chilled water to campus buildings[2]. The water treatment plant provides potable domestic water to all campus buildings[3].

A large portion of UAF's GHG emissions are from the CHP plant, accounting for over 80 percent of total emissions. Student and staff commuting are the next largest sources of GHG emissions, followed by air travel and purchased electricity. These emission sources and amounts were used to forecast GHG emissions for UAF, and to help form the strategies recommended in the SP.

[1] http://www.uaf.edu/heatandpower
[2] http://www.uaf.edu/fs/services/utilities
[3] http://www.uaf.edu/fs/departments/utilities/water-plant

Data reviewed to update the GHG inventory included the following:

- CHP plant carbon dioxide (CO_2) emissions
- Purchased electricity in kilowatt hours (kWh) from Golden Valley Electric Association (GVEA)
- Diesel and gasoline (gallons) used by the UAF vehicle fleet
- Estimated financed air travel miles
- Estimated commuting miles
- Landfilled waste (pounds)
- Recycling, 2011 and 2012
- Water produced by the treatment plant (gallons)
- Wastewater (gallons)
- Fertilizer (pounds)

Data for power plant emissions were obtained from the U.S. Environmental Protection Agency (EPA) Greenhouse Gas Reporting Program's Facility Level Information on GHG Tool (FLIGHT) that collects data from large emitters. Purchased electricity data were provided by the local utility, GVEA. Fleet fuel use was provided by UAF. Air travel miles were estimated based on a survey of 2011 and 2012 travel authorization (TA) forms. Commuting miles were estimated based on responses to UAF's 2013 SP survey.

Greenhouse gas emissions are typically organized into three "scopes". The purpose of scopes is to prevent double counting emissions between reporting entities. In general, Scope 1 emissions are direct emissions occurring within a designated boundary, Scope 2 emissions are those resulting from energy that is purchased by an entity but generated elsewhere (primarily electricity from power plants, and Scope 3 emissions are other indirect emissions that occur outside of the designated boundary as a result of the activities or demand generated by the entity.

For example, a power plant would report emissions from generating electricity as Scope 1, while consumers using that electricity would report their responsibility to those emissions as Scope 2. By segregating these emissions, they are allocated accurately and not added together.

4.2 GHG Baseline Inventory

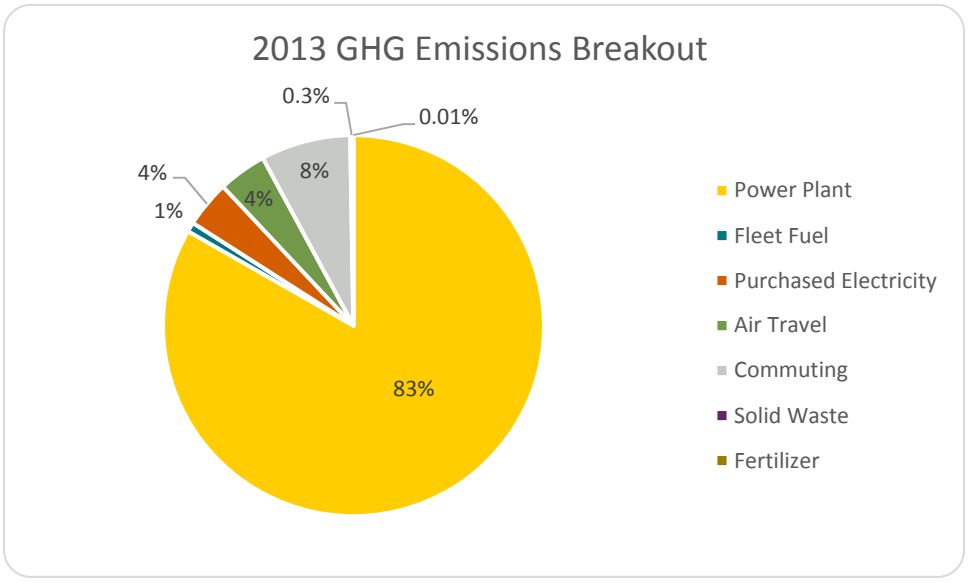
In 2013, UAF's GHG emissions totaled 155,800 metric tons of carbon dioxide equivalent (MT CO_2e). Table 3 summarizes the emission sources included in the UAF inventory with the scope for each indicated.

Figure 2 illustrates the breakout of each emission source, showing UAF's power plant accounting for over 80 percent of total emissions.

TABLE 3. 2013 GHG EMISSIONS BY SOURCE

SECTOR	SCOPE
Built Environment	
Power Plant (electricity, steam, chilled water)	Scope 1
Purchased Electricity	Scope 2
Transportation and Other Mobile Sources	
Fleet	Scope 1
Financed Air Travel	Scope 3
Commuting	Scope 3
Other	
Solid Waste	Scope 3
Fertilizer	Scope 1

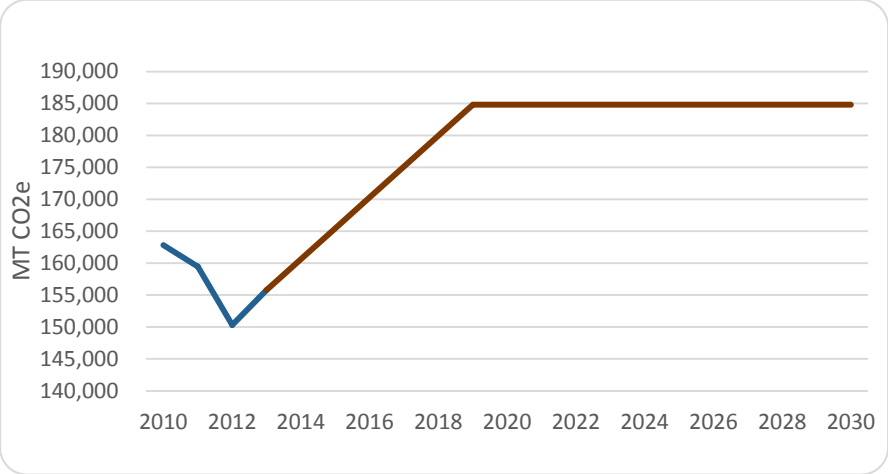
FIGURE 2. 2013 GHG EMISSIONS



4.3 GHG Forecast

In addition to taking stock of UAF's 2013 GHG emissions, the consultant team also developed a forecast of future emissions based on projected campus growth. To do so, the team referenced the most current UAF campus master planning efforts and an ongoing space utilization study, which projects student enrollment increasing by 1,000 students in six years over a 2010 baseline. Actual enrollment has decreased since 2010, but this trend is expected to reverse in the coming years. Figure 3 shows the projected increase in GHG emissions based on enrollment increasing by 1,000 students over the 2010 baseline starting in 2014 and proceeding until 2020. After that time, it is unclear to what degree campus population will continue to increase.

FIGURE 3: FORECAST GHG EMISSIONS



4.4 Existing Practices

In addition to updating UAF's GHG inventory, the team compiled information on UAF's existing practices related to sustainability, drawing from the 2011 STARS report, the Office of Sustainability web site, interviews and other sources.

It is important to note that UAF is not starting from scratch with respect to its sustainability efforts. These existing practices, further detailed in UAF's full AASHE STARS report[4], serve as a basis for identifying future opportunities and prioritizing strategies. For example, UAF has undertaken a number of efforts to make its operations more efficient. The University has established the Office of Sustainability, which oversees many sustainability projects and initiatives and

[4] https://stars.aashe.org/institutions/university-of-alaska-fairbanks-ak/report/2011-08-26/

communicates results through its website and other communication methods. Table 4 summarizes UAF's existing practices. It should be noted that most of these practices were taken from UAF's 2011 STARS report and may not reflect most recent efforts.

TABLE 4: SUMMARY OF EXISTING SUSTAINABILITY PRACTICES

STARS REPORT CATEGORY	SUMMARY OF EXISTING PRACTICES
Education and Research	
Co-curricular Education	• There are multiple new student orientation activities, extracurricular events and peer-to-peer outreach activities on campus. New Student Orientation (NSO) incorporates an emphasis on sustainable practices in several ways including "Wilderness Welcome" - a multi-night, leave-no-trace adventure. • The University conducts sustainability outreach and student involvement through multiple outlets including its Office of Sustainability website, newsletters, volunteer opportunities, the Sustainable Campus Action Force (SCAF), Students In Free Enterprise (SIFE) and student Competitions coordinated by the Office of Sustainability. • The student RISE board approves over $250,000 annually for sustainability related projects and programs. • The University has an Integrated Lucid-backed auditing system. This includes meters in 20 buildings (including dorms and major student hubs) and screens displaying energy and water usage information. • UAF has an extensive trail system and walking maps for students and visitors. • Formerly known as the Sustainable Campus Task Force, the Sustainable Campus Action Force (SCAF) is a grassroots student group focusing on local sustainability issues. The SCAF has been responsible for many initiatives including earth day celebrations, sustainability conferences and engaging students about local food.
Curriculum	• Sustainability in the curriculum addresses the integration of cultural, economic, environmental and energy components. Projects and perspectives that have positive impacts on future resources, ecosystem health and human wellbeing are supported. • The University offers 157 sustainability-focused courses (concentrating on the concept of sustainability) and 654 sustainability-related courses (incorporating sustainability as a course component) across 56 different departments.

STARS REPORT CATEGORY	SUMMARY OF EXISTING PRACTICES
Research	• There are 263 faculty members engaged in sustainability research across 70 departments. • The University's sustainability research themes include the following: o Climate change and adaptation o Culture and sustainability o Ecosystems and natural resources management o Energy efficiency and renewable and alternative energy o Food security and agriculture systems o Water quality and supply
Operations	
Buildings	• 2,939,076 gross square feet of building space are operated in accordance with sustainable operations and maintenance guidelines. • 2,959,548 square feet of building space are covered by an indoor air quality plan, policy and/or practices that include regular auditing or monitoring and a mechanism for occupants to register complaints. • The University has a strong green building educational program through the Cooperative Extension Service and the Cold Climate Housing Research Center (CCHRC).
Dining Services	• Dining Services has sustainability efforts, including posters outlining sustainability-related food service improvements made over the last 5 years such as recycling/composting and local food sourcing. • The University grows organic produce used in Dining Services. Students work in the community garden and gain experience with various organic methods including integrated pest management, vermiculture compost and organic fertilizers. Chemical pesticide use has been banned in greenhouses. The University has a separate integrated pest management plan. • Trayless dining halls reduce the volume of post-consumer waste and water/electricity used for washing. Reusable to-go containers are available. • UAF has a strong local focus with a policy giving advantages to organizations owned by Alaskans as well as non-profits and groups that have strong diversity. • Dining Services has partnered with local mushers to recycle protein scraps to fuel Alaskan sled dogs. Excess unprepared food is donated to the Fairbanks Community Food Bank.

STARS REPORT CATEGORY	SUMMARY OF EXISTING PRACTICES
Energy	• The University has a central Energy Management and Control System (EMCS). Most of UAF's buildings have Direct Digital Control (DDC) systems to provide building automation of Heating, Ventilation, and Air Conditioning (HVAC) and other systems. Each DDC system is centrally managed by the EMCS to provide monitoring, alarming and energy management of the buildings. • The UAF power plant is a CHP facility that provides electricity, domestic water and steam for heating. The plant is also operating a small turbine in place of a pressure relief valve to generate low pressure heating steam in winter. • Variable frequency drives have been routinely installed on projects for over 20 years. Facilities Services and Residence Life offer student, staff and faculty the opportunity to purchase green power from the GVEA Sustainable Natural Alternative Power (SNAP) program. • Utilities meter power generation, electricity and water usage and provide this information in online reports from Facilities Services, accessible to users. This provides the opportunity for future planning and decision-making. • Motion sensors have been installed across campus to reduce unnecessary lighting. Cathode ray tube (CRT) monitors have been replaced with more efficient liquid crystal display (LCD) flat panel monitors and 99 percent of campus lighting has been converted to more efficient fluorescent bulbs (an average 30 percent reduction in energy use). Vending machines have been retrofitted with Vending Miser motion sensor technology. • Facilities Services has begun testing light emitting diode (LED) technologies and converting to LED lighting on campus. Energy efficient products are included in design standards. • Mechanical air handling heating coils are installed in the Elvey building. There is a small solar panel installation at the Nenana parking lot shuttle station. • The University installed a photovoltaic (PV) system at the Sustainable Village as part of the GVEA SNAP program in the summer of 2013.
Grounds	• UAF mulch mows lawns and composts grass clippings and other landscape waste. Composted material is being applied in flower beds (food scraps, fish and bird waste, paper clippings and lawn materials). • Integrated Pest Management (IPM) and organic fertilizers are used in the greenhouse. Chemical pesticides are banned in greenhouses. Soaker hoses and trickle irrigation are used at Georgeson Botanical Garden (GBG) to reduce water usage for irrigation. • Native plants are used in the flower beds on campus to reduce maintenance and replanting.

STARS REPORT CATEGORY	SUMMARY OF EXISTING PRACTICES
Purchasing	• In UAF Procurement Policies and Procedures preference is given to purchasing products from companies that are both environmentally and socially responsible. This includes preference for recycled materials and for companies that are operating locally in a responsible way. • All purchasing at UAF is governed by the University of Alaska (UA) Procurement Policy. Under Section 7 preference is given to businesses in Alaska. The University supports local businesses whenever possible. • The University purchases locally produced coffee, baked goods, ice cream and some organic foods. Dining services uses 90 percent recycled napkins. • The University a member of the Responsible Purchasing Network, which is dedicated to socially and environmentally responsible purchasing.
Transportation	• Five of UAF's fleet vehicles are hybrids. • A fleet of mountain bikes is available for free long-term rental to students throughout the year. Tools and trained mechanics are on hand to help guide students through tuning up their personal bikes during regular office hours. • An 11-person passenger van being converted to electric. Power for heating vehicles is cycled to save energy. • All campus shuttles carry GPS trackers; displays in shelters and online show locations. Any UAF campus identification can be used to ride the Metropolitan Area Commuter System (MACS) public bus system for free due to a donation from the Chancellor. • To reduce dependence on personal vehicles on campus, UAF has a shuttle system and campus ride-share program utilizing AlterNetWays, a Certified Green Business. • Anti-idling zones have been established on campus.

STARS REPORT CATEGORY	SUMMARY OF EXISTING PRACTICES
Waste	• UAF's electronic waste is recycled through Interior Alaska Green Star or shipped to Total Reclaim. Total Reclaim recycles electronics and disposes of the hazardous waste in a safe and environmentally friendly way. • In Summer 2010 the UAF library donated several books to Fairbanks Literary Agency, keeping them from landfills. • The University hosts the Really Free Market on Saturdays from May through August. This provides the UAF community the opportunity to exchange materials that would otherwise not be used or thrown away. The left over material, including electronic waste, is then collected and recycled by UAF. • Maintenance is re-using door hardware where appropriate. Facilities Services is re-using old planters in greenhouses. Waste oil from Dining Services is used to make biofuel. • Newsletters and bids also now published electronically. • The University implements many paper-saving practices such as limiting free printing and publishing many materials, such as the UAF course catalog and schedules, online. The University replaced its 100 page hardcopy schedule with a 35-page registration guide. Additionally, UAF prints about 20,000 fewer copies per year than it did previously. • The UAF recycling program includes paper, aluminum, glass, ink, toner cartridges, batteries, clothing, batteries, coal ash and a limited amount of #1 and #2 plastics. • Construction projects are approached with sustainable practices including recycling, donating and recovering materials whenever possible. • The University manages hazardous waste as a large quantity generator, which requires Environmental Health and Safety and Risk Management to ship Resource Conservation and Recovery Act (RCRA) regulated hazardous waste from its facility every 90 days. All hazardous waste and non-regulated waste is removed from UAF every 90 days by a U.S. Environmental Protection Agency permitted disposal contractor.

STARS REPORT CATEGORY	SUMMARY OF EXISTING PRACTICES
Water	• Stormwater policy for new construction follows the Alaska Pollutant Discharge Elimination System General Construction Permit. University policy for existing buildings is governed by Fairbanks stormwater regulations. Combined, these policies attempt to eliminate pollutants such as chemicals and excess sediment in rainwater. • The plumbing shop has tested Sloan touchless water faucets. The Georgeson Botanical Garden (GBG) uses soaker hoses, trickle irrigation and mulching to reduce water use. Rainwater is captured to water plants. Stormwater is managed at GBG with porous gravel walkways, diversion ditches, directional slopes and paths. A large constructed rain garden at GBG reduces runoff. • The University has switched from chlorine to mixed-oxidant technology to disinfect water. • Building-level water consumption meters monitor where water enters each building. The meters have wire transmitters that send the data back to the water plant.
Planning, Administration, and Engagement	
Diversity and Affordability	• The Office of Multicultural Affairs and Diversity (OMAD), Student and Enrollment Services and International Programs offer support to all students. The OMAD is committed to raising awareness, respect,and understanding while striving for equal opportunities for all underrepresented individuals in UAF's campus community.
Human Resources	• Employee satisfaction surveys are conducted. • Every year on staff appreciation day UAF offers sustainability trainings. • The Early Childhood Lab School at the University of Alaska Fairbanks is committed to providing high-quality, licensed care to children of enrolled university students, faculty and staff, while providing rich observation and practicum experiences for University students studying early childhood education.

4.5 Waste Audit and Findings

As a supplement to this SP, UAF conducted a waste audit in a targeted subset of 16 campus buildings. Objectives of the waste audit included determining the current percentage of waste being diverted from landfills, identifying barriers to waste reduction and diversion and targeting opportunities for waste reduction and increased diversion. Interviews with building managers and occupants were conducted as well as a walk-through of the 16 buildings to identify current waste, recycling and materials management practices. In 2012, UAF generated 1,970,000 pounds [5] of waste (Figure 4) with a 51 percent diversion rate due to recycling, reuse and composting activities on campus.

Currently, UAF disposes of non-hazardous waste using four primary methods: landfilling, recycling, composting and reuse. The University is taking a number of steps to divert materials from landfill including recycling paper, cardboard, glass, aluminum, tin, ink cartridges and batteries. Additional practices include shipping electronic waste (e-waste) through the Interior Alaska Green Star program to Total Reclaim, where it is responsibly processed and separated into various raw materials such as plastic, glass, steel, copper and aluminum, which are then sold as commodities. Facilities Services recycles scrap metals locally and yard waste and pre-chop scraps from Dining Services are composted on campus.

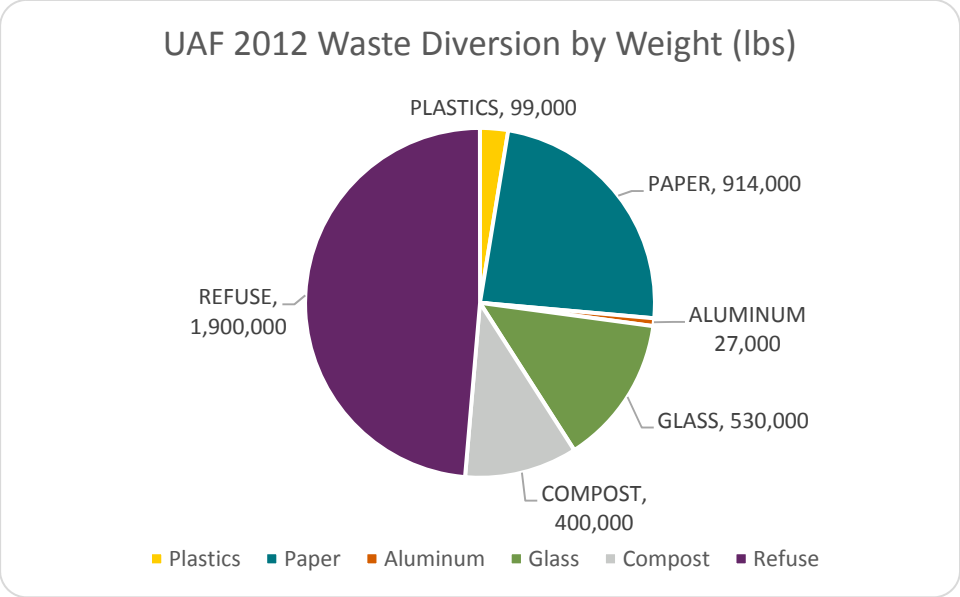
In addition to recycling and composting UAF offers a number of reuse programs. Property & Central Receiving has established a surplus warehouse for the inter-departmental reutilization of un-needed furniture and electronics. Surplus items that go unused by University employees are periodically auctioned to the public. Residence Life offers on-going student exchanges for clothing and materials. The University holds the Really Free Market, an annual yard-sale style summer event that allows Residence Life, UAF and Fairbanks community members to drop off and pick up items for free. The Athletic Department donates used, functional equipment to local schools and sports teams, and it auctions off old weight machines to the public.

During the audit, opportunities for increased waste diversion and reduction identified included:

- Source reduction
- Centralized waste and recycling collection
- Expanding composting capacity
- Campus education

[5] The recycling data used for this calculation were collected in 2012.

FIGURE 4: UAF SOLID WASTE DIVERSION BY WEIGHT



These opportunities have been integrated into the SP in waste-related strategies. The full waste audit report is included in Appendix B.

4.6 Benchmarking

To provide some context for sustainability performance compared to other institutions of higher education, the consultant team benchmarked UAF to a number of peers for which performance information was available through STARS, the American College and University Presidents Climate Commitment (ACUPCC's) Reporting System[6] or individual college and university websites. Benchmarking included GHG emissions, associated energy use and water consumption.

There are many factors that contribute to an institution's sustainability performance, and therefore benchmarks should be considered with care. The local climate's impact on heating and cooling systems, the available electricity resource mix, age of buildings and the nature of academic and research programs are just a few of the many factors that are largely outside of an institution's direct influence, and that can have a significant impact on performance measures such as GHG emissions. The fact that UAF has a CHP plant and a water treatment plant also contributes to the difficulty of making direct comparisons with other schools.

[6] http://rs.acupcc.org/

For this GHG report the contractor did not compare research focused building with academic focused buildings. Energy usage in research facilities was not accounted for and may be responsible for the high energy use per student when benchmarked with other universities. We anticipate that water usage in research facilities may also have skewed results.

The varying extent to which indirect emissions, like airline travel, are included in an institution's GHG inventory can also make comparisons difficult. Benchmarks for direct (Scope 1) and indirect electricity (Scope 2) GHG emissions are generally accounted for more consistently and therefore tend to be more comparable than Scope 3 emissions.

As Figure 5 and Figure 6 indicate, UAF's GHG emissions are on the higher end of the range of benchmarked schools on per student and per square foot of floor space bases. This appears to be primarily due to the power plant and associated emissions. The four additional institutions selected for comparison were chosen because of their similar cold climate locations, and/or because they are considered peer schools to UAF.

Based on the lower energy usage and overall carbon intensity of these benchmarked institutions, UAF has the opportunity to continue to reduce the energy intensity of its buildings, and to seek lower carbon energy sources to make progress toward reducing GHG emissions.

FIGURE 5: SCOPE 1 AND 2 EMISSION INTENSITY PER STUDENT

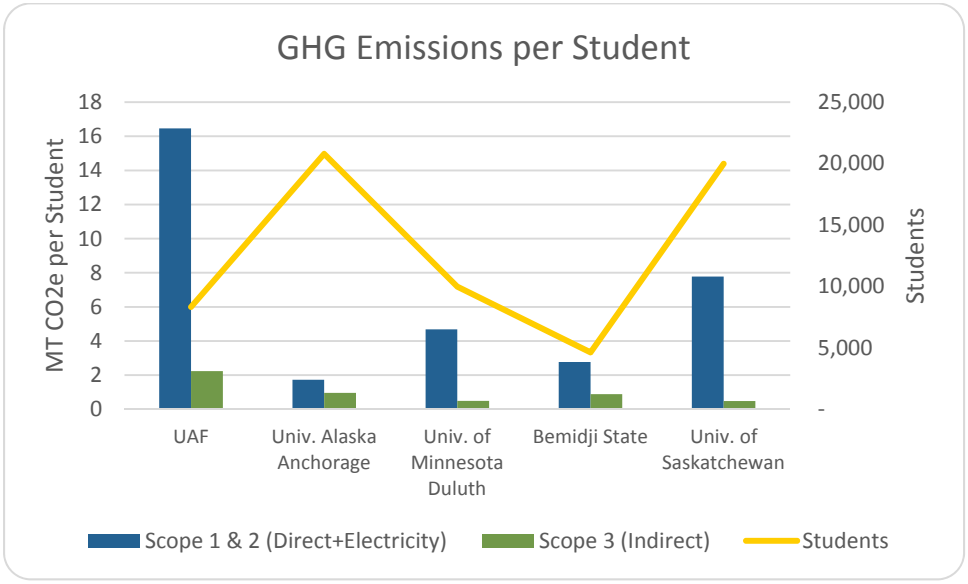


FIGURE 6: SCOPE 1 AND 2 EMISSION INTENSITY PER 1,000 SQUARE FEET

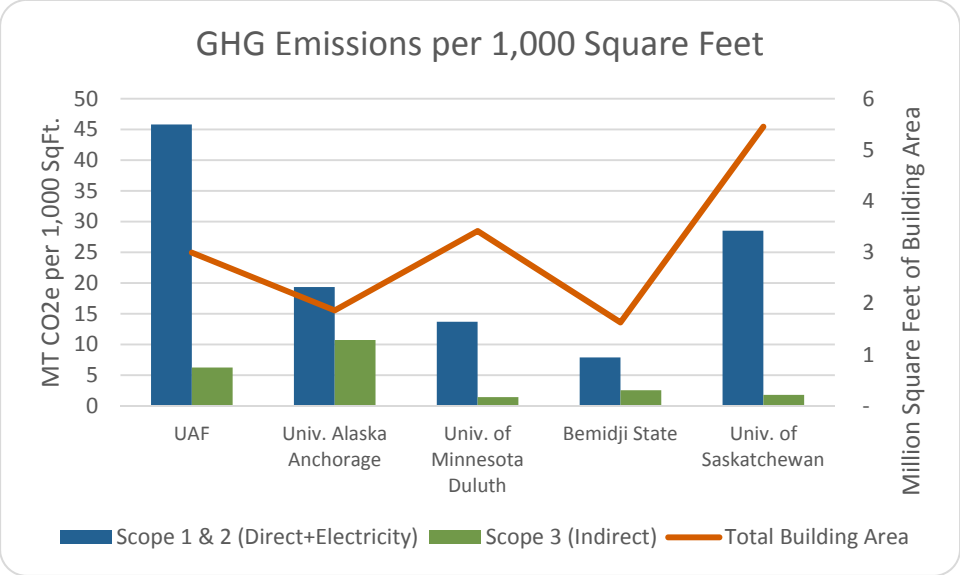
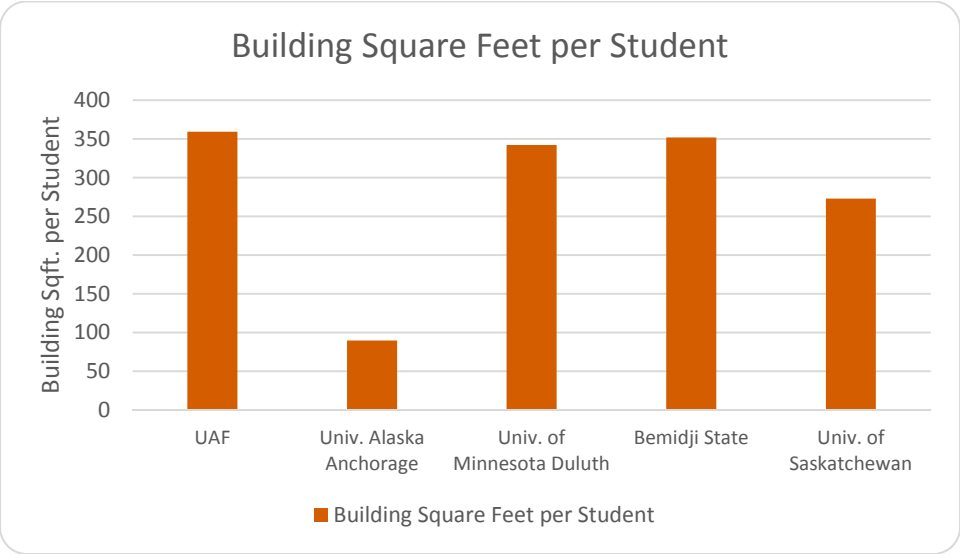


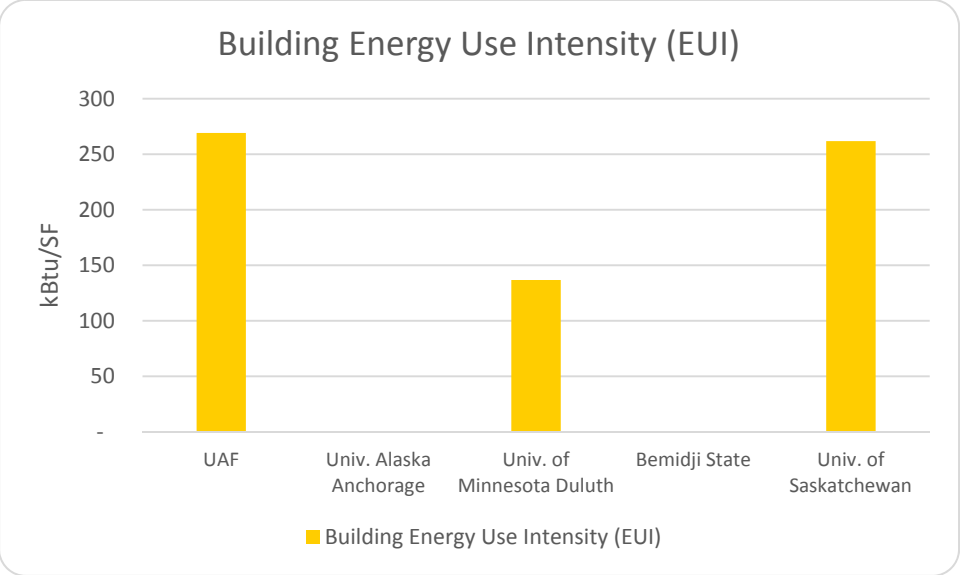
Figure 7 shows that UAF has comparable amount of building square footage per student with respect to peers, with the exception of the University of Alaska-Anchorage.

FIGURE 7: BUILDING SQUARE FEET PER STUDENT



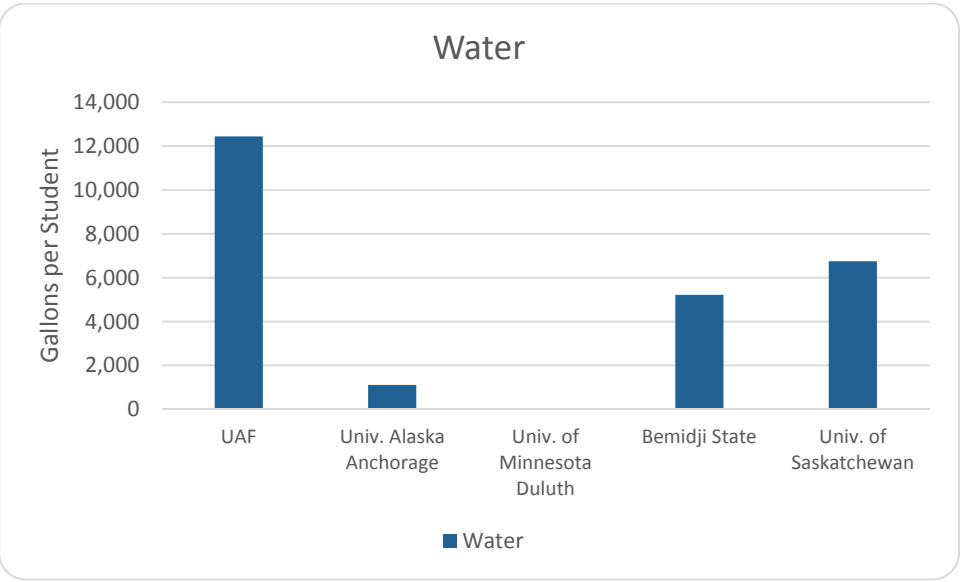
UAF has high building energy use as shown by energy use intensity (EUI) in Figure 8. Data on EUI for the University of Alaska-Anchorage and Bemidji State were not available.

FIGURE 8: BUILDING ENERGY USE INTENSITY



UAF also has high water use per student based on water produced at the treatment plant, as shown in Figure 9. Data for the University of Minnesota-Duluth were not available.

FIGURE 9: WATER USE PER STUDENT

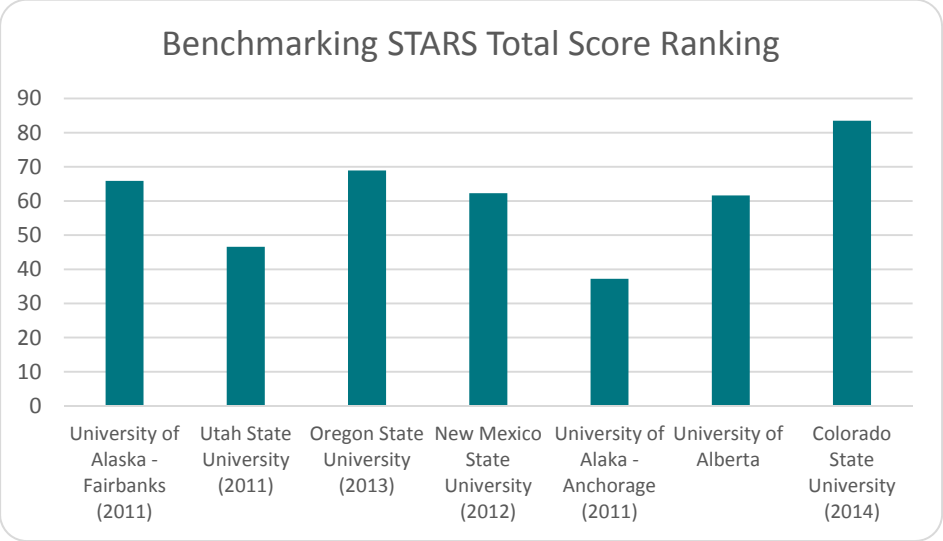


4.7 Comparing STARS Scores

To provide some context for UAF's STARS rating and performance compared other institutions of higher education, UAF was benchmarked against a number of peers and best in class institutions reporting to AASHE's STARS initiative.

As illustrated in Figure 10, UAF is a top performer among its peers. With a total of 65.88 points for its 2011 STARS report, the University is just 17.6 points away from the highest ranked institution in the nation, Colorado State University. Within the 18 specific topic areas on which universities are required to report, UAF's curriculum and research programs were especially high performing. Additionally, UAF showed noteworthy performance in building, energy, grounds and public engagement.

FIGURE 10: STARS BENCHMARKING



UAF has converted 99 percent of campus fluorescent lights to higher efficiency bulbs and ballasts, saving an average of 30 percent in energy use.

5.0 SP VISION, MISSION AND STRUCTURE

5.1 Introduction and Terminology

Central to this SP is the framework, or organization of the Plan, presented on the following pages and chapters. This framework brings together the various SP components – from its vision and mission to focus areas, goals and supporting strategies – into one cohesive plan for furthering sustainability at UAF.

The chapters of the SP are organized around four main "focus areas" that map to a number of AASHE STARS categories and incorporate terminology from other UAF strategic planning efforts: Protecting Resources, Supporting the Campus community, Closing Loops and Conserving Materials, and Shaping Alaska's Future (Figure 11; note that some STARS categories are addressed under more than one focus area). These were identified through a review of the AASHE STARS categories, a facilitated dialogue with the Steering Committee and a review of other major campus master and strategic plans.

For each of these focus areas the SP includes a number of goals, followed by detailed strategies and implementation steps to work toward the goals.

FRAMEWORK TERMS

The following definitions provide for a common and shared understanding of the framework among University students, faculty, staff and other stakeholders:

Focus Areas: Priority areas determined by the SP Executive Committee as themes under which goals and strategies are organized.

Goals: Short-term and long-term outcome statements to serve as "yardsticks" toward sustainability for each focus area.

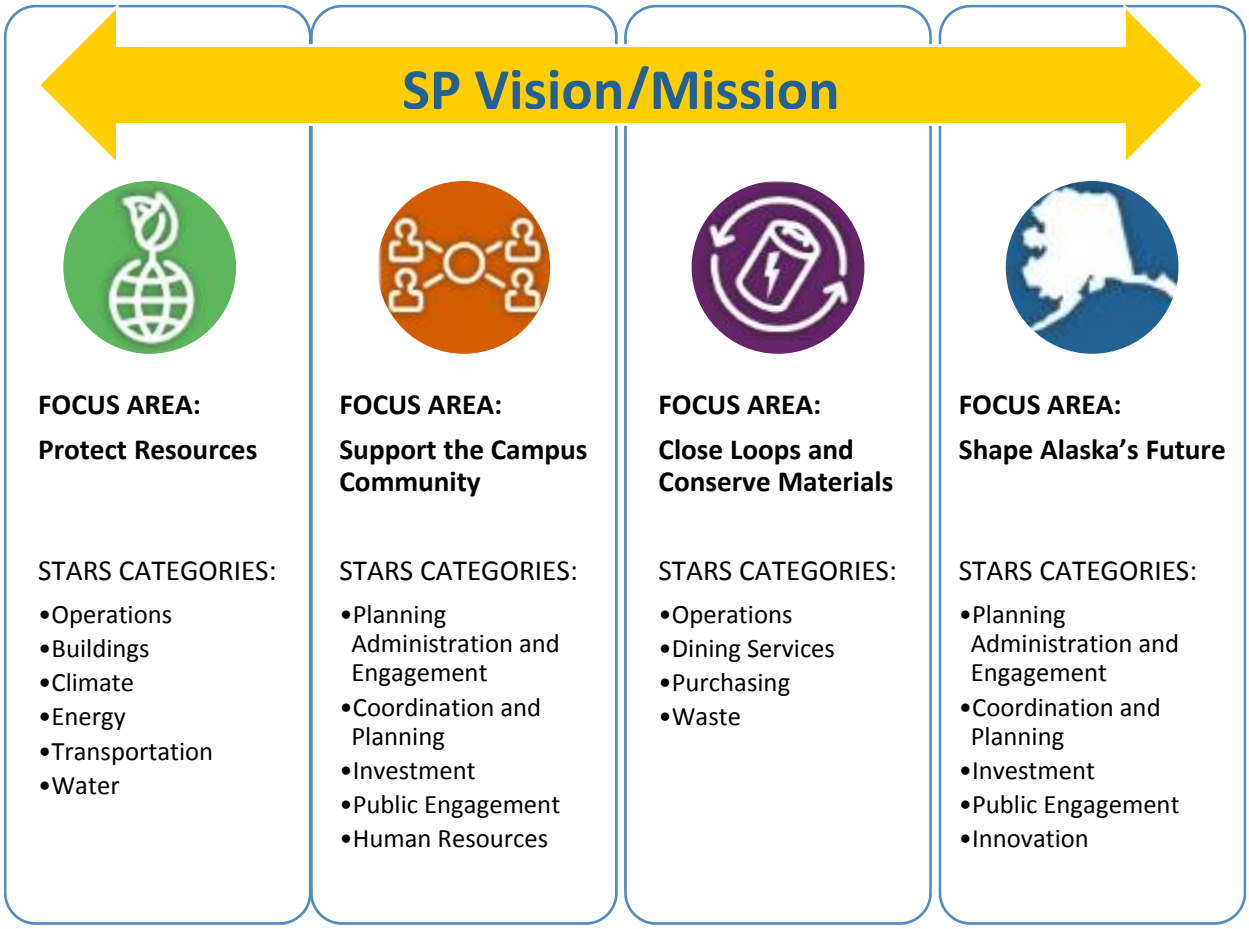
Strategies: The main paths for achieving goals – for example, energy efficiency improvements (under the Protect Resources focus area).

Implementation Steps: A specific set of steps/action items to complete each strategy.

Metrics: Quantitative measures that can be used to track and report progress toward sustainability for specific focus areas, goals and strategies.

Timeline: "Fall" refers to the time period between September 1st and December 31st; "Spring" refers to the time period between January 1st and May 31st; "Summer" refers to the period between June 1st and August 31st.

FIGURE 11. SP FOCUS AREAS AND STARS CATEGORIES



5.2 Vision and Mission Statements

The highest-level guidance for this SP is embodied in the Plan's vision and mission statements, provided below. These statements are products of dialogue and deliberation among Steering Committee members, as well as cross-referencing other UAF plans and strategic documents to help align them with past and ongoing efforts.

Vision

The defining vision for sustainability at UAF supports the SP effort as well as other University sustainability activities and collaboration with the broader community.

> *UAF inspires Alaska's diverse communities with leadership in environmental stewardship, energy and resource management, social justice and fiscal responsibility.*

This vision anchors the remaining components of the SP and provides direction for developing goals, implementing strategies, creating partnerships and involving the entire University in moving the SP forward.

Mission

Crafting a sustainability-specific mission for the University can help ensure the long-term viability of sustainability efforts at UAF, and help engage the entire campus community in working together toward shared outcomes.

> *UAF's sustainability mission is to be a model for the Circumpolar North by impacting future resources, ecosystem health and human wellbeing in a positive manner. We will do so by incorporating sustainability into research, curriculum, operations and campus life; allowing us to thrive now and be resilient in the face of a changing future.*

5.2 Goals

Goals are important components of the SP framework to more specifically articulate intended outcomes for charting progress toward sustainability. Each of the four focus areas contains a number of supporting goals. These goals will serve as yardsticks to which the University will strive, both over the near term as well as into the future, to map its progress toward sustainability and to improve its STARS score.

Goal statements in the SP embody both short-term and long-term goals. Longer-term goals are intended to keep UAF on a continual path of improvement toward sustainability, employing new methodologies and technologies as they evolve.

Some of the SP's short-term goal statements are structured to follow a "SMART" format, ensuring that they contain specific, measurable, achievable, realistic and timely elements. This helps facilitate goals that are actionable, can be achieved over a specific time horizon and for which results can be tracked and measured. The Steering Committee expressed preference for a

mix of goal types (SMART and non-SMART formats); as such, some goals in each focus area contain specific targets and timelines, while others are more open ended in nature.

S = Specific. Keeping short-term goals specific makes them more likely to be achieved. Identify who (is involved), what (to be accomplished), where (location, if applicable) and why (specific reasons or purpose of short-term goal).

M = Measurable. Establish concrete criteria for measuring progress toward each short-term goal. Answer how much, how many and/or how will we know when it is accomplished?

A = Attainable. Set short-term goals within reach to garner commitment and to increase the likelihood of success.

R = Realistic. Short-term goals should fit with the overall strategy and priorities of the organization, and the tools needed to accomplish the short-term goals should be available.

T= Time-bound. Set a time frame for each short-term goal that is measurable, attainable and realistic.

5.3 Strategies, Implementation Steps and Metrics

The strategies presented in the following chapters by focus area were developed on the basis of input from the Office of Sustainability, Steering Committee members, small group interview participants and best practices from other universities and organizations. Each focus area contains a number of strategies that align with and support goals.

Where feasible, strategies also include estimates of cost, savings and energy and resource reductions. These estimates were developed using an Excel-based cost evaluation tool that incorporates actual data from UAF, but also includes estimates for elements such as, for example, participation rates in commuting initiatives based on available research and benchmarks from other organizations. Conservative estimates have been used to avoid overstatement of potential impacts/benefits. Where quantification is not feasible, more qualitative statements of benefits (economic, environmental, social) are provided.

It is important to recall the preceding introductions and descriptions of goals and strategies in this document. In particular, the **goals** represent the **greater desired outcomes** of the SP, while the **strategies** are **specific programs or initiatives to help reach the goals**. Strategies further contain **specific implementation steps** to complete the intended program or initiative as well as suggested **metrics to measure success.**

Many opportunities that relate to potential strategies were collected throughout the SP development process; organization and prioritization was then used to help focus efforts on the most relevant topics. This approach involved taking into consideration the overall mix of strategies and keeping a number of themes in mind such as:

- Cost effectiveness;
- Opportunities to improve UAF's STARS score;
- Existing University goals, practices and sustainability projects; and
- Leveraging existing University partnerships.

The UAF Office of Sustainability will be developing and to provide training and materials that define sustainability for members of the parties involved in strategy implementation.

5.4 Putting the Pieces Together

The following four chapters (Chapters 6.0 through 9.0) present the goals and strategies for each of the SP's four focus areas, as well as related STARS categories and credits, and metrics to measure success.

UAF's Office of Sustainability has offered student positions to approximately a dozen students to pursue interests and initiatives in alternative transportation, waste, education, and other topics.

6.0 PROTECT RESOURCES

THE ***PROTECT RESOURCES*** FOCUS AREA FOCUSES ON RESOURCE CONSERVATION THROUGH BOTH INCREASED OPERATIONAL EFFICIENCY AS WELL AS REDUCED CONSUMPTION OF RESOURCES FOR BUILDINGS, TRANSPORTATION AND THE CAMPUS AS A WHOLE.

RELATED STARS CATEGORIES:

- OPERATIONS:
  - AIR AND CLIMATE
  - BUILDINGS
  - ENERGY
  - TRANSPORTATION
  - WATER

PROTECT RESOURCES GOALS

- Reduce campus water use (indoor and outdoor) 7% per year below the 2012 baseline to achieve total reduction of by 70% 2025.
- Reduce UAF's carbon footprint by 3% per year below the 2012 baseline to achieve total reduction of 30% by 2025.
- Increase UAF's renewable energy generation by 3% per year (absolute, not compared to a baseline) to achieve total generation of 30% by 2025.
- Review and adapt campus design/construction standards to further integrate sustainability by 2015.
- Increase student, staff and faculty alternative transportation use by 25% by 2025 via incentives and challenges.

Note that water, energy and carbon goals may also be tracked on a building square footage basis (e.g., GHG emissions per square feet of building space).

6.1 Strategy: Increase Efficiency of Existing Buildings

DESCRIPTION

The University has made significant strides in increasing building energy efficiency and identifying conservation opportunities campus-wide. Previously implemented strategies include upgrading lighting and heating, ventilation and air conditioning (HVAC) controls as well as installing sub-meters on some campus buildings to identify water and energy use. This strategy outlines further building-specific energy savings opportunities.

FOCUS AREA: PROTECT RESOURCES

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

- OP 8: Building Energy Consumption

MEASURES OF STRATEGY SUCCESS

- Building energy use intensity (kBtu/square foot)
- Lighting power density (watts/square foot) for individual buildings and campus wide
- Greenhouse gas emissions (MTCO2e)

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Conduct Re-commissioning and Retro-Commissioning Re- or retro-commissioning may include testing energy efficiency and thermal/environmental performance of a building's automatic control, heating, cooling and refrigeration systems. It can also include lighting and daylighting controls (e.g., verify sensor calibrations) and building envelope systems.	**Facilities Services** (Conduct or contract commissioning services)	2015 - 2020
Implement Lighting Improvements Retrofit T8 fluorescent lighting with light-emitting diode (LED) lighting.	**Facilities Services**	2015-2020
Implement Envelope Improvements Leverage past building assessments to identify candidates for envelope improvements or demolition. Improvements can include adding additional insulation, upgrading to high performance windows and weatherization. Envelope commissioning could also be conducted if the following criteria are applicable: • Comfort issues exist near the perimeter of the building • Building pressurization issues exist • IAQ/mold/water infiltration issues exist • Roof replacement or other	**Facilities Services** (Identify candidate buildings and implement improvements)	2015 - 2025

envelope work is planned (e.g. window replacement) Commissioning could include infrared testing, envelope pressurization and insulation inspection.		

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Cost to implement: $22.3 million
- Cost savings (Utilities and Operations/Maintenance): $1.56 million/year
- Payback: 14.3 years

ENVIRONMENTAL IMPACTS

- Reduced electricity: 5,450 megawatt hours (MWh)/year
- Reduced steam: 30,000 thousand pounds (klb) /year
- Reduced GHG emissions: 9,000 metrics tons of carbon dioxide equivalent (MTCO2e)/year

SOCIAL IMPACTS

- Re-commissioning and envelope assessments can lead to improved indoor air quality and thermal comfort for building occupants

HELPFUL RESOURCES

- Commissioning Existing Buildings: https://www1.eere.energy.gov/femp/pdfs/OM_7.pdf
- Energy Star Equipment: www.energystar.gov/index.cfm?c=products.pr_find_es_products

6.2 Strategy: Beyond Buildings - Reduce Campus Energy Use and Carbon Footprint

DESCRIPTION

This strategy focuses on campus-wide energy use and reaches beyond building- specific energy reductions. The University already has an energy efficient central power plant that is able to provide electricity, steam and chilled water to the entire campus. With the new coal powered central plant it is important to develop a strategy that focuses on improving system energy efficiency and reduces emissions in the near term. This strategy also includes a proposal to transition toward renewable sources of energy as a next step to reduce GHG emissions.

FOCUS AREA: PROTECT RESOURCES

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

- OP-5: Greenhouse Gas Reductions
- OP-8: Clean and Renewable Energy

MEASURES OF STRATEGY SUCCESS

- Exterior lighting power allowance (watts/square foot)
- Greenhouse gas emissions (MTCO2e)
- Percentage of energy from renewable energy sources

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Upgrade Exterior Lighting A plan to upgrade exterior lighting is already underway; this strategy builds on this existing practice to replace all exterior lighting with high performance light-emitting diodes (LEDs).	**Facilities Services** (Continue lighting upgrades).	2015-2017
Expand Electric and Thermal Metering and Utility Tracking Infrastructure Expand metering throughout campus buildings to better understand where energy savings are being achieved and set specific energy reduction goals by building type. This also provides a more transparent connection between building utilities and building occupants.	**Facilities Services** (Expand metering and set goals). **Office of Sustainability** (Use expanded metering for occupant engagement).	2015-2018

WHAT	WHO	WHEN
Inventory and Prioritize Renewable Energy Application This action incorporates the AASHE STARS renewable energy credit with a focus on solar photovoltaics (PV) but also potentially technologies such as solar thermal. The calculations in this action assume that UAF is able to obtain 30 percent of their energy consumption from renewable sources by 2025. It includes an inventory of buildings for best renewable energy application, followed by implementation. Buildings without access to the campus CHP plant should be prioritized. UAF may wish to explore mechanisms such as Power Purchase Agreements (PPAs) to assist with financing.	**Facilities Services** (Conduct potential study). **Office of Sustainability** (Explore financing options).	2015-2025
Maximize Biomass Usage at the UAF Power Plant. Work towards increasing the amount of biomass being used in the UAF power plant.	**RISE Board** (Facilitate discussions and advocate) **Facilities Services**	Fall 2018
Replace Coal with Natural Gas As natural gas becomes available replace some of the coal fuel source with natural gas in power plant.	**RISE Board** (Facilitate discussions and advocate) **Facilities Services**	When a steady source for natural gas becomes available in Fairbanks.

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Cost to implement: $7.4 million
- Cost savings (utilities and O&M): $1.18 million/year
- Payback: 4.5 years

Environmental Impacts

- Reduced electricity: 4,550 MWH/year
- Reduced GHG emissions: 6,000 MTCO2e/year
- Steam savings: 17,500 klb/year

Social Impacts

- Use more detailed metering an a learning opportunity for students
- Become a leader in renewable energy implementation in higher education

HELPFUL RESOURCES

- Exterior Lighting Power Allowance: ASHRAE 90.1-2010 Table 9.4.3B
- Sub-metering Case Study: http://www.bfrl.nist.gov/buildingtechnology/documents/SubmeteringEnergyWaterUsageOct2011.pdf

FOCUS AREA: PROTECT RESOURCES

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

- OP 26: Water Use
- OP 27: Rainwater Management

MEASURES OF STRATEGY SUCCESS

- Potable water gallons per square foot
- Potable water gallons per campus occupant

6.3 Strategy: Manage Water Efficiently

DESCRIPTION

This strategy focuses on the efficient management of water resources on campus from both a quantity and quality perspective. This starts with being able to better track potable water consumption to identify the greatest opportunities for reducing water use. Once consumption patterns are better understood a more specific water reduction plan can be developed. Currently 1/3 of water used at UAF is for industrial processes at the CHP; this will need to be taken into consideration while working towards the following goals

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Identify Current High Water Usage Areas Identify high water usage areas and locations for additional meters and water savings.	**Facilities Services** **Office of Sustainability** **Engineering Interns**	2015-2018
Expand Water Use Metering Utilize new and existing water meters to collect information on existing practices and develop a baseline characterization of campus-wide water consumption. Identify how and where water is being used across campus.	**Facilities Services**	2015-2018
Develop Plan for Water Reduction Use this plan to provide a path to upgrading water fixtures, addressing leaks, installing higher efficiency equipment and encouraging water conservation through awareness and incentive programs. Look at increasing cost savings on hot water and sewer.	**Facilities Services** **Office of Sustainability**	2015 - 2018
Incorporate EPA Campus Rainworks Challenge	**Office of Sustainability**	2015

Host a school-wide challenge for developing a stormwater management plan.		

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Cost to implement: $810,000
- Cost savings (utilities and O&M): $134,000/year
- Payback: 6.1 years

ENVIRONMENTAL IMPACTS

- Reduced water consumption: 11,000 thousand gallons (kgals)

SOCIAL IMPACTS

- Use more detailed metering an a learning opportunity for students
- Learning opportunities for stewardship of water resources

HELPFUL RESOURCES

- U.S. Environmental Protection Agency WaterSense Program: http://www.epa.gov/watersense/
- U.S. Environmental Protection Agency Rainworks Challenge: http://water.epa.gov/infrastructure/greeninfrastructure/crw_challenge.cfm

6.4 Strategy: Enhance Transportation Planning with Sustainability

FOCUS AREA: PROTECT RESOURCES

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

- OP 21: Support for Sustainable Transportation

MEASURES OF STRATEGY SUCCESS

- Percentage of trips to/from and within campus using alternative modes

DESCRIPTION

This strategy is intended to decrease the number of single-occupant vehicle trips by employees and students traveling to the UAF campus. It focuses on making alternative transportation modes (particularly transit use and cycling), carpooling, ridesharing and teleworking more appealing and convenient choices for commuters.

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Engage in the 2040 Fairbanks North Star Borough MTP Attend Policy and/or Technical Committee Meetings and Open Houses for the current 2040 Metropolitan Transportation Plan update (MTP) and Transportation Improvement Plan (TIP). Provide comments on policies, alternatives, project recommendations, and strategies to support or enhance campus-area circulation, parking, and multi-modal transportation opportunities in this Plan.	**UAF Office of Sustainability** (Attend meetings, review and recommend policies, projects and strategies). **FMATS** (Develop 2040 MTP).	Fall 2014-Ongoing
Update Campus Master Plan/Circulation and Parking Plan Integrate sustainability into transportation planning, parking and circulation plans (2010 Campus Master Plan and/or the 2004 Circulation and Parking Plan) to address transportation and sustainability-related issues and topics such as the following: • Carpooling and car-sharing • Electric vehicle parking and charging • Integration of the pedestrian, bicycle and shuttle/bus systems • Bicycle circulation, safety, and amenities (e.g., parking, repair stations) • Pedestrian and skier circulation, safety, and amenities (e.g., sidewalks, ramps, lighting, emergency systems	**UAF Master Planning Committee** **Circulation and Parking Subcommittee** (Lead Master Plan development).	Begin as early as 2015 but no later than 2017

WHAT	WHO	WHEN
Explore Bicycle Friendly University Assessment/Designation Establish an inter-departmental team to assess Bicycle Friendly University Designation from the League of American Cyclists. If UAF is ready, begin to develop an application to apply for designation. Otherwise, follow the Quick Assessment process to pursue designation at a later time: http://bikeleague.org/bfa/quick-assessment/university	**Office of Sustainability** **UAF Transportation Services and Facilities Services** (Support application/assessment).	Spring 2015
Develop Bicycle Accommodation Policy Develop and adopt a bicycle accommodation or "complete streets" policy to ensure integration of safe and convenient bicycle facilities into campus transportation projects.	**Office of Sustainability** **UAF Transportation Services and Facilities Services** (Review and support policy adoption).	Spring 2015
Initiate a Parking Maximization Study Initiate a parking survey/study to evaluate employee, student, and visitor parking needs and identify opportunities to maximize efficiency and/or reduce parking demand.	**UAF Transportation Services and Facilities Services** (Support study development as funding is provided). **UAF Bursar's Office and Police Department**	Spring 2015
Initiate a Circulator Shuttle Maximization Study Initiate a survey/study to evaluate employee, student, and visitor circulator shuttle use and to identify opportunities to enhance services, ridership, and collaboration with MACS services.	**UAF Transportation Services and Facilities Services** (Support study development as funding is provided).	Spring 2015
Encourage Bicycle and Pedestrian Improvements Encourage continued construction of bike, pedestrian, and ski routes, trails, and improvements identified in the 2010 Campus Master Plan (e.g., campus greenway trail extensions, pedestrian spine along Yukon Drive, and walkway widening).	**UAF Master Planning Committe**e (as part of Circulation and Parking Plan update).	Ongoing

WHAT	WHO	WHEN
Advocate for Bicycle and Pedestrian Improvements to/from Campus Advocate for construction of improvements identified in FNSB and other regional transportation and corridor plans that enhance pedestrian access to campus (e.g., sidewalk on the south side of College Road, and restriping College Road to provide bicycle lanes).	**Fairbanks Metropolitan Area Transportation System, and Fairbanks North Star Borough,** **UAF Transportation Services and Facilities Services** (Coordinate campus connections).	Ongoing
Advocate for Transit Service Improvements Advocate for construction of improvements identified in FNSB and other regional transportation and corridor plans that enhance transit service to campus (e.g., installation of bus pullouts along College Road, increased evening and Sunday service on Blue and Red lines, and adding benches and shelters to key stops).	**Fairbanks Metropolitan Area Transportation System, and Fairbanks North Star Borough.** (Lead engineering and construction). **UAF Transportation Services and Facilities Services** (Coordinate campus connections).	Ongoing
Collaborate on Bicycle Sharing Program Continue to manage, support the Green Bike Sustainability program to provide free or low-cost rental bicycles to students and explore opportunities to collaborate with a bike share service.	**UAF Office of Sustainability** (Continue campus bicycle program).	Ongoing

COSTS AND BENEFITS

ECONOMIC IMPACTS

- Cost to implement (to UAF): $300,000
- Cost savings (annual fuel savings for commuters): $72,000
- Payback (to UAF): 12 years

ENVIRONMENTAL IMPACTS

- Reduced GHG emissions: 100 million MTCO2e (total through 2030)
- Air quality benefits

SOCIAL IMPACTS

- Personal commuting miles reduced by 342,000 miles annually
- Health benefits/physical fitness from active transportation modes (e.g., walking, bicycling, skiing)
- Enhanced bicycle and pedestrian safety and convenience
- Marketing Office of Sustainability and publicity/recognition as a bicycle-friendly campus

HELPFUL RESOURCES

- Fairbanks Metropolitan Area Transportation System
- 2040 Metropolitan Transportation Plan Update: http://fmats.us/programs/metropolitan-transportation-plan/
- Transportation Improvement Plan: http://fmats.us/programs/tip/
- College Road Corridor Study: http://fmats.us/collegeroad/
- Fairbanks North Star Borough: http://www.fnsb.org
- Long Range Transit Plan : http://www.co.fairbanks.ak.us/Transportation/LongRangeTransitPlan.pdf
- League of American Bicyclists
- Bicycle Friendly University Program : http://bikeleague.org/content/universities
- University Quick Assessment : http://bikeleague.org/bfa/quick-assessment/university
- United States Department of Transportation
- Bicycle and Pedestrian Accommodation Policy: http://www.fhwa.dot.gov/environment/bicycle_pedestrian/overview/policy_accom.cfm

6.5 Strategy: Enhance Commuting Choices in Fairbanks

FOCUS AREA: PROTECT RESOURCES

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

- OP 19: Student Commute Modal Split
- OP 20: Employee Commute Modal Split

MEASURES OF STRATEGY SUCCESS

- Total on-campus bicycle and pedestrian improvements (total number or length of new/improved segments)
- Green Bike program participation levels
- Participation rates in parking and circulator shuttle surveys

DESCRIPTION

This strategy is intended to decrease the number of single-occupant vehicle trips by employees and students traveling to the UAF campus. It focuses on making alternative transportation modes - particularly transit use, cycling, carpooling, ridesharing, and teleworking - more appealing and convenient choices for commuters.

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Develop Bicycle Commuter Guidebook Develop a guidebook that identifies on-campus facilities and infrastructure for bicycle commuters including shower facilities, lockers, and bicycle parking/storage options.	**UAF Office of Sustainability** (Lead creation of guidebook.) **UAF Transportation Services and Facilities Services** (Support guidebook development).	Spring 2015
Conduct Teleworking and Ridesharing Focus Groups Conduct a series of focus groups with current teleworkers and supervisors of teleworkers to discuss current telecommuting policies, what is working well and areas for improvement. Conduct similar focus groups for carpoolers.	**UAF Office of Sustainability** (Convene focus groups). **UAF Human Resources** (Help identify focus group participants and facilitate).	Spring 2015
Draft Teleworking Policy Draft and adopt a teleworking policy for campus employees.	**UAF Human Resources and Staff Alliance Group** (Review, refine, and adopt policy).	Spring 2015

WHAT	WHO	WHEN
Create Incentives Program Develop incentives to increase participation in alternative transportation programs including but not limited to guaranteed ride home options, preferred parking options, and/or other discounts/stipends.	**UAF Human Resources and Transportation Services** (Support incentive development).	Spring 2015
Establish a Ridesharing Program Website Establish a Rideshare Service website to make it user friendly to find a carpool matches and to reflect the range of incentives offered. Integrate other apps/software (e.g. Hitch).	**UAF Human Resources and Transportation Services** (Create web site).	Fall 2015
Develop a Commuting Choices Employee Bulletin Develop and distribute an informational website/bulletin/guide about different commuting options for employees, including the bicycle commuter guide, teleworking policy, ridesharing program, and other opportunities.	**UAF Human Resources and Transportation Services** (Develop and distribute bulletin).	Fall 2015
Conduct a Bike/Ridesharing Marketing Campaign Conduct marketing campaign to encourage student and employee participation and enrollment in campus Bikesharing and Ridesharing programs. Methods might include online and print ads, flyers, a "meet your match" event, and prizes.	**UAF Marketing and Communications** **Staff Alliance and Associated Students** (Help create and disseminate information). **UAF Transportation Services**	Fall 2015
Explore Vanpool Options Conduct workshops to explore options for a shared vehicle/vanpool service in conjunction with other regional partners.	**UAF Office of Sustainability** (Organize and facilitate workshop). **UAF Transportation Services and Facilities Services, Fairbanks DOT, FNSB Transportation Department, FMATS and other interested parties** (Participate in workshop).	Fall 2015

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Cost to implement: $30,000
- Cost savings (annually to commuters in fuel savings): $57,000
- Payback: Immediate

ENVIRONMENTAL IMPACTS

- Reduced GHG emissions: 100 MTCO2e per year
- Air quality benefits

SOCIAL IMPACTS

- Reduction of 305,000 personal vehicle miles per year
- Improved safety and convenience for bicyclists
- Health benefits/physical fitness from active transportation modes (e.g., walking, bicycling)
- Enhanced opportunities for interaction and community-building
- Increased flexibility to reduce stress and time associated with long commutes

HELPFUL RESOURCES

- University of Alaska Rideshare Service website: http://alternetrides.com/zz_list_sponsor_dest_N.asp?Sponsor=5132696&GK=98427983&width=1920&height=1169

7.0 SUPPORT THE CAMPUS COMMUNITY

THE ***SUPPORT THE CAMPUS COMMUNITY*** FOCUS AREA FOCUSES ON INTEGRATING SUSTAINABILITY INTO UNIVERSITY CURRICULUM, ENGAGING THE CAMPUS COMMUNITY AND GENERATING A RELIABLE STREAM OF FUNDING AROUND DEDICATED SUSTAINABILITY.

RELATED STARS CATEGORIES:

- ACADEMICS
  - CURRICULUM
- ENGAGEMENT
  - CAMPUS ENGAGEMENT
- PLANNING AND ADMINISTRATION
  - COORDINATION, PLANNING & GOVERNANCE
  - INVESTMENT
  - HEALTH, WELLBEING & WORK

SUPPORT THE CAMPUS COMMUNITY GOALS

- Further integrate sustainability into curriculum and co-curricular programming.
- Increase the availability of sustainability-focused curriculum by 20% by 2018.
- Secure a dedicated and steady stream of funding for sustainability by 2020.
- Engage 3% annually of University non-student employees in a sustainability champions program to achieve total engagement of 30% by 2025.
- Increase the transparency of and reduce “negative screens” (e.g. investments in weapons, tobacco, etc.) in endowment.

7.1 Strategy: Expand Employee Engagement

FOCUS AREA: SUPPORT THE CAMPUS COMMUNITY

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

- EN 6: Employee Educators Program
- EN 7: Employee Orientation
- EN 8: Staff Professional Development

MEASURES OF STRATEGY SUCCESS

- Number of staff green teams and participating members
- Number of employees receiving voluntary sustainability training
- Number of buildings participating in the sustainability challenge

DESCRIPTION

This strategy focuses on further building staff knowledge, interest and engagement in campus sustainability initiatives through use of expanded training, incentives, and other resources. A "green team" structure serves as the primary platform to develop and deliver expanded training to support employees, and the offering of incentives will help fuel additional interest and involvement.

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Organize staff "green teams" Work with building coordinators and UAF department heads to organize and convene volunteer employee "green teams". Green teams might be established around buildings or campus areas; or around specific topic areas such as energy use, waste/recycling and/or multi-modal transportation.	**UAF Office of Sustainability** (Organize green team structure, identify/recruit participants, appoint team leaders). **All UAF Staff** (Participate on green teams as desired/requested).	Spring 2015 – Launch green teams
Conduct Employee Orientation Update new employee training materials to provide additional information about UAF's sustainability goals, programs and options. Incorporate sustainability efforts into the UAF "Naturally Inspiring" branding efforts such as short videos that can be used during new employee orientation.	**UAF Office of Sustainability** (Develop curriculum). **UAF Human Resources** (Provide new employee training).	Spring 2015 – Curriculum development Fall 2015 – Implement training

WHAT	WHO	WHEN
Train Supervisors Update supervisor training curriculum/suite to provide information about UAF's sustainability goals, programs and options to help build awareness at the supervisor level so that information can be passed on to employees.	**UAF Office of Sustainability** (Develop curriculum, present as needed). **UAF Human Resources** (Provide new supervisor training).	Spring 2015 – Curriculum development Ongoing – supervisor orientation
Train Employees In coordination with green teams, develop expanded semi-annual training and/or professional development opportunities around sustainability topics and practices (formal seminars or presentations, or informal lunch-and-learn or roundtable discussions about sustainability initiatives and ideas). Include guest speakers. Incorporate training into new employee onboarding.	**UAF Office of Sustainability** (Identify dates, establish schedule of topics/ presenters). **UAF Human Resources and Communications** (Publicize training opportunities, onboarding).	Semi-annual, begin Fall 2015
Expand Sustainability Grant Opportunities Expand opportunities for staff to submit proposals for projects that enhance campus sustainability (pending any new funding sources, staff do not pay sustainability fee)	**UAF Office of Sustainability** (Lead program review and recommend enhancements).	Fall 2015 – Pending new funding sources
Provide Staff Awards Develop a new sustainability award to recognize excellence in sustainability contributions to UAF.	**UAF Office of Sustainability** (Develop proposal for revised selection criteria for existing staff awards and/or new staff sustainability award). **UAF Chancellors and President's Offices** (Consider award criteria revisions).	Fall 2015
Create Building Sustainability Challenge Leveraging the Sustainable Village competition in 2013, develop and initiate a broader campus sustainability challenge that focuses on reducing water and energy use, and implementing other sustainable practices in buildings across campus. Work with building coordinators to monitor performance and offer recognition and/or prizes to occupants of winning buildings.	**UAF Office of Sustainability** (Develop challenge parameters and identify prizes). **Building Coordinators** (Assist with outreach and performance monitoring).	Fall 2015 – Develop challenge details Spring 2016 – Initiate challenge

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Cost to implement: Additional costs annually for awards, training, meeting and marketing materials
- Cost savings (utilities and O&M): $79,000
- Payback: Immediate

ENVIRONMENTAL IMPACTS

- Reduced electricity annually: 320,000 kWh
- Reduced water annually: 1,000 kgals
- Reduced GHG emissions annually: 1,400 MTCO2e

SOCIAL IMPACTS

- Stronger knowledge base about campus sustainability efforts
- Increased professional development and training opportunities
- Enhanced leadership and interest around sustainability
- Greater employee recognition for sustainability contributions

HELPFUL RESOURCES

- Green Teams Manual – Engaging Employees in Sustainability: http://www.neefusa.org/pdf/greenbiz-reports-GreenTeams.pdf
- University of Texas Maverick Office Green Teams: http://www.uta.edu/sustainability/initiatives/administration-outreach/green-team.php
- Duke University Green Team Starter Resources: http://sustainability.duke.edu/action/greenworkplace/greenteam.html

7.2 Strategy: Support Students: Curriculum and Co-curricular Initiatives

DESCRIPTION

This strategy focuses on further integrating and formalizing sustainability in the curriculum at UAF. It also addresses sustainability co-curricular activities and programs.

The strategy is built on recommendations by faculty and students provided while developing this Plan, best practices from other colleges and universities and as outlined by AASHE in the STARS framework and related training materials.

Higher education has a key role to play in helping society move to a sustainable future, including the following activities:

- Developing curriculum that examines how we shape a more sustainable world
- Preparing students for living sustainably both professionally and personally
- Explicitly helping students more deeply understand the interactions, interconnections, and consequences of actions and decisions.

Furthermore, AASHE indicates the role of higher education includes finding new ways to educate students differently – changing the pedagogy by using the campus and community as a living context for sustainability education. Thus, this curriculum and co-curricular strategy is linked to every other strategy in this Plan because the educational experience of students is a function not just of what students are taught and how they are taught, but also how UAF conducts research, operates, purchases, design facilities, invests, and interacts with local communities.

Engaging the student body will be integral to the successful implementation of the SP. Engagement, however, cannot be a onetime activity – it should be continually nurtured throughout a student's time on campus to ensure they are constantly reminded of UAF's efforts and given opportunities to get involved.

FOCUS AREA: SUPPORT THE CAMPUS COMMUNITY

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

- AC1-AC8: Curriculum
- EN1-EN5: Campus Engagement

MEASURES OF STRATEGY SUCCESS

- Number of sustainability-focused courses: sustainability is the main focus of the course or a course that examines an issue through the lens of sustainability
- Number of sustainability-related courses: sustainability is incorporated as a module or unit
- Enrollment in sustainability-focused or -related courses
- Student participation in sustainability-focused or -related events
- Student sustainability literacy

IMPLEMENTATION STEPS: CURRICULUM

WHAT	WHO	WHEN
Identify Faculty Champions and Convene Curriculum Working Group This core working group would regularly convene to develop learning outcomes, create minor requirements and develop assessment methodologies.	**Curriculum Working Group** **Vice Chancellor, Provost** (Provide support). **Faculty Senate, GERC, CAC, GAC**	Spring 2015
Develop Learning Outcomes for Sustainability This includes specific outcomes in terms of knowledge and professional competencies.	**Curriculum Working Group**	Spring 2015
Identify Current Courses Suitable for Sustainability Minor Refer to the inventory of UAF courses completed for AASHE STARS/review additional courses suitable for a minor.	**Curriculum Working Group**	Spring 2015
Develop an Organized Schedule of Sustainability Courses This could be a designator in the current course catalog.	**Faculty Senate, GERC**	Fall 2015
Develop a Sustainability Minor with Cafeteria of Courses Identify specific courses and requirements.	**Curriculum Working Group**	Fall 2015
Identify Incentives and Awards for Innovation in Teaching Expanded incentives such as awards, time off, course releases, salary adjustments, continued grants from the RISE Board, or other recognition can encourage faculty participation in sustainability curriculum.	**Curriculum Working Group** **Office of Human Resources**	Spring 2016
Conduct Campus Public Meetings Meetings would be convened across campus to educate faculty about this strategy and establish Provost buy-in.	**Curriculum Working Group** **Vice Chancellor, Provost** (Provide support).	Spring 2016
Develop Student Guide on Integrating Sustainability Into Skills Development This resource will help students pursuing other degrees understand how sustainability literacy can enhance career opportunities.	**Office of Sustainability**	Spring 2016
Develop an Assessment or Capstone for Sustainability Literacy Develop UAF standards and methodologies for testing student proficiency in sustainability.	**Curriculum Working Group**	Fall 2016
Integrate Coursework with Hands-on Learning Use the campus as a "living laboratory", identifying and expanding opportunities for students to earn course credit for hands-on sustainability projects across campus. Continue to coordinate with Office of Sustainability project funding opportunities.	**Office of Sustainability**	Fall 2016

IMPLEMENTATION STEPS: CO-CURRICULAR

WHAT	WHO	WHEN
Integrate Sustainability Leadership into LIVE Program	**LIVE Program**	Spring 2015
Integrate Sustainability into Student Housing Handbook Students already receive orientation materials on sustainability- this would integrate sustainability into ongoing Residence Life activities.	**Department of Residence Life** **Office of Sustainability**	Spring 2015
Further Integrate Sustainability in Student Orientation Materials Include information about this SP and its strategies.	**Office of Admissions and the Registrar** **New Student Orientation Coordinator**	Fall 2015
Create Sustainability Guidelines for Campus Events Include waste, energy and water use, as well as communication guidelines.	**UAF Events Office**	Fall 2015

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Enhancing UAF's curriculum would require dedicated faculty time to develop guidelines, standards, and assessment methodologies.
- Diversifying UAF's curriculum and co-curricular programming could increase the University's competitiveness to attract students.

ENVIRONMENTAL IMPACTS

- Students will be better equipped with skills and knowledge to practice environmental sustainability in their career and personal lives.

SOCIAL IMPACTS

- Students will be better equipped with skills and knowledge to practice sustainability in their careers and personal lives, to think in systems, and to critically reflect on linkages to and impacts on sustainability.

HELPFUL RESOURCES

- National Wildlife Federation Campus Ecology Program: http://www.nwf.org/campus-ecology.aspx
- Sustainability Curriculum in Higher education: A call to action:

http://www.aashe.org/files/A_Call_to_Action_final%282%29.pdf

- Sustainable Campuses Multi-stakeholder Guide: How to effectively engage diverse stakeholders on campus in your sustainability initiatives: http://www.syc-cjs.org/sites/default/files/Multistakeholder%20guide.pdf
- Engaging People in Sustainability: https://portals.iucn.org/library/efiles/documents/2004-055.pdf

SUSTAINABILITY CURRICULUM AT UNIVERSITY OF ALASKA FAIRBANKS ADDRESSES THE INTEGRATION OF CULTURAL, ECONOMIC, ENVIRONMENTAL, AND ENERGY COMPONENTS AND SUPPORTS PROJECTS AND PERSPECTIVES THAT HAVE POSITIVE IMPACTS ON FUTURE RESOURCES, ECOSYSTEM HEALTH, AND HUMAN WELLBEING.

7.3 Strategy: Integrate Sustainability into Planning and Design

FOCUS AREA: SUPPORT THE CAMPUS COMMUNITY

DESCRIPTION

This strategy addresses the integration of sustainability into major campus plans, as well as into building design and construction guidelines. It includes developing and implementing a comprehensive set of sustainable design guidelines for both existing buildings and new construction/renovation that reflect UAF's culture and commitment to academic excellence and social responsibility, and address energy use while reducing significant costs for operation and maintenance over the lifetime of the building. This strategy would include updating UAF's current Design Standards for opportunities to increase energy performance thresholds, as well as look beyond their current focus on energy conservation.

In new construction, there is often no significant difference in the construction cost to build a new facility designed to higher sustainable design standards than to conventional methods. For projects that do have cost impacts, the typical range is less than 5 percent of total cost. This is especially true if an integrated design process is used throughout the process. However, sustainably designed and constructed facilities can use 25 to 30 percent less energy. Evidence also exists that suggests these methods increase building value 10 to 15 percent.

The University's 2010 Campus Master Plan (CMP) already addresses sustainability in Chapter 2. It is anticipated that this Sustainability Plan will be integrated into the overall update to the CMP. There are also opportunities to further integrate sustainability into the Strategic Plan 2012-2019.

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

- OP 4: Building Design and Construction
- PA 2: Sustainability Coordination

MEASURES OF STRATEGY SUCCESS

- Energy (kBtu) and water use (kgal) per square foot of new construction and major renovation
- Number of third party-certified buildings
- Percentage of sustainable materials used by total project cost

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Create a Sustainable Design Guideline Development Team This team would develop a proposed mission and goals for sustainability performance of new buildings and major renovations.	**Facilities Services**	Spring 2015
Review Existing Building Design and Construction Best Management Practices In addition to reviewing current guidelines, also review design and construction practices that may not be documented.	**Facilities Services**	Spring 2015
Review Third-party Certification Standards as Performance Thresholds This may include recommending formal certification to a standard (e.g., LEED), or simply integrating elements of performance without requiring certification.	**Facilities Services**	Spring 2015
Develop and Adopt Sustainable Design Guidelines Amend current guidelines to incorporate sustainability into design and construction practices. Include renewable energy and amend specific energy performance targets.	**Facilities Services**	Spring 2016
Integrate Sustainability into CMP Update It is anticipated this Plan will become part of the updated CMP.	**CMP Steering Committee**	As CMP is updated
Integrate Sustainability into Strategic Plan 2012-2019 Update This includes opportunities to align this Plan's vision, mission, and goals with those of the Strategic Plan.	**Office of the Provost**	As Strategic Plan is updated

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Cost to implement: $100,000
- Cost savings (Utilities and Operations/Maintenance): $153,000
- Annual Operations/Maintenance: $80,500
- Payback: 2.3 years

ENVIRONMENTAL IMPACTS

- Reduced electricity: 50,000 kWh
- Reduced steam: 10,000 klb
- Reduced water: 100 kgal
- Reduced GHG emissions: 1,500 MTCO2e

SOCIAL IMPACTS

- High performance buildings can lead to improved indoor air quality, thermal comfort and associated occupant productivity.

HELPFUL RESOURCES

- US Green Building Council: www.usgbc.org
- University of Minnesota Sustainable Design Guide: www.sustainabledesignguide.umn.edu/
- University of Connecticut Sustainable Design Guide: www.masterplan.uconn.edu/images/SDG.pdf
- Oregon State University Sustainability in Construction Standards: http://oregonstate.edu/sustainability/green-building
- Harvard Green Building Standards and Checklist Tool: http://www.energyandfacilities.harvard.edu/green-building-resource/green-building-tools-resources/harvard-green-building-standards
- Penn State University Strategic Plan (references environmental sustainability): http://strategicplan.psu.edu/StrategicPlancomplete.pdf
- Green Building at University of Manitoba: http://umanitoba.ca/campus/physical_plant/sustainability/operations/422.html

7.4 Strategy: Increase Transparency in Investment

FOCUS AREA: SUPPORT THE CAMPUS COMMUNITY

RELATED STARS SCORECARD ITEMS TO THIS STRATEGY

- PA 13: Committee on Investor Responsibility
- PA 14: Sustainable Investment
- PA 15: Investment Disclosure

MEASURES OF STRATEGY SUCCESS

- Percentage of endowment with negative investment screens (e.g., weapons, tobacco, etc.)
- Percentage of endowment that is transparently shared with the campus community

DESCRIPTION

This strategy focuses on increasing the transparency of the University of Alaska system endowments. These endowments are currently managed and invested by the University of Alaska Foundation, a private non-profit corporation operated as a public foundation. The Foundation Board of Trustees sets investment policy for the UA system's Consolidated Endowment Fund.

The University's Land Grant Endowments consist of the Endowment Trust Fund, which is codified in Alaska Statute 14.40.400, and its companion Inflation Proofing Fund. The source of the funding consists of income from the sale or lease of land granted to the university by an Act of Congress approved January 21, 1929, other gifts, bequests and funds dedicated to the purposes of the Endowment Trust Fund by the Board of Regents. The Foundation Pooled Endowment Fund includes endowment and similar funds contributed to the foundation that do not have specific investment restrictions. Earnings from the Pooled Endowment Fund are primarily for the support of the UA system, subject to donor imposed restrictions.

The University of Alaska Foundation makes a list of all holdings available to trustees and senior administrators on a password-protected website. A list of asset allocation and external managers is available to the public and is sent upon request.

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Create a UA system-wide Coalition Identify and bring together stakeholders from UAS, UAA and UAF to identify institutional goals for sustainable investments.	**Office of Sustainability** **Development Office**	Fall 2014
Establish Committee on Investor Responsibility Foster dialogue on investment decisions. Include faculty, staff, students, alumni, trustees, other parties.	**Office of Sustainability** **Development Office** **UA Foundation Office**	Fall 2015
Develop Sustainable Investment Recommendations • Increased transparency in fund holdings (e.g., campus web site) • Investments in sustainable industries • Sustainability performance of funds • Investment manager consideration of sustainability factors • Guidelines for donors who want to invest in sustainability-related options • Shareholder resolutions and proxy voting	**Office of Sustainability** **UA Foundation Office**	Spring 2016
Present Recommendations to Foundation Trustees Include recommendations and draft policy statement.	**Office of Sustainability** **UA Foundation Office**	Winter 2016

HELPFUL RESOURCES

- Sustainable Endowments Institute: http://www.endowmentinstitute.org/
- Principles for Responsible Investment: http://www.unpri.org/
- University of Wisconsin Trust and Investment Policies: http://www.uwsa.edu/bor/policies/rpd/rpd31-13.htm
- Stanford University Statement on Investment Responsibility: http://apir.stanford.edu/stanford_statement
- Endowment Ethics: http://www.endowmentethics.org/

7.5 Strategy: Develop Sustained Funding for Sustainability

FOCUS AREA: SUPPORT THE CAMPUS COMMUNITY

RELATED STARS SCORECARD ITEMS TO THIS STRATEGY

- N/A

MEASURES OF STRATEGY SUCCESS

- Dollars of sustained annual funding

DESCRIPTION

With the pending future expiration of the sustainability fee, UAF has many options available to fund its sustainability initiatives – in addition to renewing this fee. Some of these sources can be used as one-time alternative sources for funding projects (such as federal grants), while others could be used to seed a revolving loan fund – a mechanism for providing sustained funding for campus sustainability projects. Some of these major funding tools are summarized below and range from government grants and revolving funds to loans, leases and tax credits.

A helpful resource for funding campus sustainability is the National Association of College and University Business Officers (NACUBO's) Financing Sustainability on Campus[7], the first comprehensive report for business officers who are seeking a clear explanation of a wide variety of financial tools and programs that can be used to promote sustainability on campus.

Revolving Loan Funds: These funds have become frequently used tools for funding campus sustainability projects. They offer flexibility and the benefit of supporting student engagement in sustainability. Essentially, these funds are self-replenishing pools that use interest and principal payments of outstanding loans to issue new loans. Some issues to address include how the fund will be seeded, how the fund and loan recipient will split returns, composition of the administering authority, rules governing administration, and the fund's legal status.

At colleges and universities with such funds, sources of funding have included:

- General operating budget
- Alumni donations
- Efficiency/conservation
- Student green fees
- Utility budgets
- Utility rebates
- Donation from an

[7] http://www.nacubo.org/Products/Publications/Sustainability/Financing_Sustainability_on_Campus.html

savings
- Cash reserves
- Capital budget
- Endowment investments
- Student government funding
- outside foundation/organization
- Funding from a campus environmental committee
- As an award from state energy-efficiency program

Endowments: College and University endowment funds can be used to fund sustainability on campus and can be repaid through project income or savings. UAF may be able to explore options for setting aside a portion of annual endowment spending specifically for sustainability to provide a stable and predictable budget for carrying out sustainability projects.

Energy Performance Contracting: Energy performance contracting is a valuable financing tool for campuses whereby the energy services company performing the on-campus energy assessments and identifying efficiency and conservation opportunities is compensated through shared cost savings from identified projects.

Gifts: Alumni, corporate, and/or student gifts can be earmarked for specific sustainability projects on campus.

Federal Grants, Loans, Cooperative Agreements, and Partnership Programs: While federal funding opportunities change from year to year and between administrations, there are typically several opportunities for funding higher education sustainability initiatives. The U.S. Department of Energy and Environmental Protection Agency both offer several funding opportunities in the form of grants, loans, cooperative agreements, and partnership programs that address energy efficiency, renewable energy, pollution prevention, and other topics. The U.S. Department of Agriculture provides grants to colleges and universities pursuing research or education programs focused on agricultural projects related to sustainability. Both the Higher Education Opportunity Act and the Energy Independence and Security Act provide funding support for higher education institutions, although funding has varied based on congressional appropriation actions. The web site www.grants.gov is a helpful tool in researching federal grant funding opportunities from year to year.

National Science Foundation (NSF): The NSF's Science, Engineering, and Education for Sustainability (SEES) initiative supports interdisciplinary research and education related to sustainability. With a wide range of grants and assistance programs, SEES aims to: 1) support interdisciplinary research and education that can facilitate the move toward global sustainability, 2) build linkages among existing projects and partners and add new participants in the sustainability research enterprise, and 3) develop a workforce trained in the interdisciplinary scholarship needed to understand and address the complex issues of sustainability. Sustainability Research Networks, one of the programs under SEES, engages and explores fundamental theoretical issues and empirical questions in sustainability science, engineering, and education that will increase understanding of maintaining and improving the quality of life for the nation within a healthy earth system. The goal of the Sustainability Research Networks competition is to link scientists, engineers, and educators at existing institutions, centers, and networks and also develop new research efforts and collaborations. Finally, Sustainable Energy Pathways calls for innovative, interdisciplinary basic research in science, engineering, and education by teams of researchers for developing systems approaches to sustainable energy pathways based on a comprehensive understanding of the scientific, technical, environmental, economic, and societal issues.

Power Purchase and Lease Agreements: A PPA is an agreement between the owner of a power generating facility ("power provider") and a power consumer ("power purchaser") whereby the power purchaser agrees to purchase energy and/or capacity at a specified price for a specified term. PPAs are a common and important component of renewable energy projects on college and university campuses that generate power to be consumed by end users other than the project's owner. In Alaska, the Regulatory Commission of Alaska must approve PPAs.

Lease arrangements are similar to PPA arrangements in that the owner and operator of the system is not the end user of the electricity. The difference between leases and PPAs is that the lease contract involves the actual equipment and not the sale of electricity. The same advantages exist (i.e., eliminating the upfront cost barrier and attracting companies to the state with significant buying power).

Private Foundations: The Foundation Center (http://foundationcenter.org) provides an online research tool to identify private foundation funding sources suitable for campus sustainability initiatives. Some of the larger foundations include Gordon and Betty Moore, David and Lucile Packard, William and Flora Hewlett, Ford, and the Energy Foundation. The Environmental Grantmakers association (http://ega.org/) is another helpful resource for researching potential grants.

STATE OF ALASKA FUNDING OPPORTUNITIES

Renewable Energy Fund Grant: In May 2008, Alaska's governor enacted legislation authorizing the creation of a renewable energy grant fund. The legislation recommended that the program be administered by the Alaska Energy Authority (AEA). The grant program is intended to provide assistance to utilities, independent power producers, local governments, and tribal governments for feasibility studies, reconnaissance studies, energy resource monitoring, and work related to the design and construction of eligible facilities. In order to be eligible for a grant, a project must be located within Alaska. The list of eligible technologies includes solar, wind, geothermal, hydrothermal, certain types of biomass, biogas, wave, tidal, waste heat utilization, river in-stream power, and hydropower. Also eligible are fuel cells that use hydrogen generated from an eligible renewable resource or natural gas; certain natural gas projects located in small communities; and, electricity or natural gas transmission and distribution infrastructure projects that link an eligible project to related infrastructure.

Energy Efficiency Revolving Loan Program: In June 2010, the Alaska governor enacted SB 220, an omnibus energy bill, which created several renewable energy and energy efficiency programs, including the Alaska Energy Efficiency Revolving Loan Fund Program. This program is administered by the Alaska Housing Finance Corporation (AHFC) and offers loans to schools, the University of Alaska, state government, and municipal governments for energy efficiency improvements.

In order to participate in this program, the entity requesting the loan must assess existing energy use by participating in the Retrofit Energy Assessment for Loan (REAL) process. This ensures that energy efficiency measures funded by the loan will provide savings greater than the loan payments. An investment grade audit is also required and the energy efficiency measures eligible for a loan will be determined by this audit. There is a maximum

term length of 15 years and no maximum loan amount. However, loans in excess of $1.5 million require special approval.

Tax Incentives: As a tax exempt entity, UAF cannot benefit directly from tax incentives. But they can benefit from them indirectly by attracting investors willing to contribute equity in return for tax benefits. One example is the Business Energy Investment Tax Credit, providing incentives for taxpaying entities to invest in certain renewable energy technologies. This includes a 30 percent credit for solar, fuel cells and small wind; and 10 percent for geothermal, micro-turbines and combined heat and power (CHP).

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Assess Current Portfolio Assemble a team to conduct a review of and asses the current portfolio for sustainability.	**Office of Sustainability**	Spring 2015
Convene Working Group Evaluate opportunities to establish a revolving loan fund or other sustained funding source (continued/modified fees, alumni donations, operating budget).	**Office of Sustainability**	Fall 2015
Create Feasibility Study Recommend options for sustaining up to $1 million in annual sustainability program funding.	**Office of Sustainability**	Spring 2016 – Fall 2017
Apply for/Establish Funding Source Actions could include seeding revolving loan fund by applying for grants, putting the sustainability fee up for renewal or requesting funding from the general operating fund.	**Office of Sustainability**	2019 (In place when Student Sustainability Fee expires)

HELPFUL RESOURCES

- Financing Sustainability on Campus: http://www.nacubo.org/Products/Publications/Sustainability/Financing_Sustainability_on_Campus.html
- Green Revolving Funds: An introductory guide to implementation and management: http://www.aashe.org/files/documents/resources/grf_intro_guide.pdf

- Greening the Bottom Line – Green Revolving Funds: http://www.aashe.org/files/documents/resources/greening-the-bottom-line-2012.pdf
- Sustainable Endowments Institute: http://www.endowmentinstitute.org

8.0 CLOSE LOOPS AND CONSERVE MATERIALS

THE **CLOSE LOOPS AND CONSERVE MATERIALS** FOCUS AREA FOCUSES ON MANAGING THE UNIVERSITY'S WASTE STREAM AND FOOD SUSTAINABILITY THROUGH RESPONSIBLE PURCHASING AND SOURCING, SOURCE REDUCTION AND DECREASING THE OVERALL VOLUME OF MATERIALS IT SENDS TO THE LANDFILL.

RELATED STARS CATEGORIES:

- OPERATIONS :
  - DINING SERVICES
  - PURCHASING
  - WASTE

CLOSE LOOPS AND CONSERVE MATERIALS GOALS

Source annually 3% of food (by dollars) locally for a total achievement of 30% by 2025.

Reduce packaging for delivered goods by 15% annually to achieve 90% packaging diversion by 2022 (including packaging take back, other strategies).

Become a net-zero waste (90% diversion) campus by 2035.

FOCUS AREA: CLOSE LOOPS AND CONSERVE MATERIALS

RELATED STARS SCORECARD ITEMS TO THIS STRATEGY

- OP 17: Waste Reduction
- OP 18: Waste Diversion

MEASURES OF STRATEGY SUCCESS

- Percent by cost of all purchases for goods that include sustainability features (e.g. made from post-consumer content, recyclable, etc.)
- Metrics for specific products (e.g., percent of paper consumed with 100 percent recycled content, percent of electronics equipment certified to a certain EPEAT level, etc.)
- Decreased total volume of purchased materials

8.1 Strategy: Reduce Materials and Purchase Responsibly - Packaging, Promotion, Purchasing

DESCRIPTION

This strategy addresses materials introduced into UAF's waste stream and contributes to the larger goal of increasing diversion rates to 90% by 2035. Specific actions UAF can take to integrate into procurement decisions are outlined including the consideration of recycled content and waste minimization in the purchasing decision-making process – along with total life cycle impacts, cost and durability.

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Conduct Procurement and Packaging Inventory Develop tracking system to record and analyze incoming materials with an eye towards pinpointing unnecessary materials/packaging. Analyze procurement records to identify long-term purchasing trends at UAF.	**Office of Sustainability** (Develop draft tracking tool and mobilize Procurement and Central Receiving). **Procurement and Central Receiving** (Track and record incoming materials. Identify long-term trends and opportunities).	Spring 2015 (ongoing)
Develop Detailed Environmentally Preferable Purchasing (EPP) Guidelines and Tools Expand EPP procurement guidelines beyond Section 7 of the UA Purchasing Policy and integrate EPP guidelines into department-specific purchasing. Develop a decision making tool including guidelines and criteria for selecting green products. Incorporate guidelines into the procurement process and connect the developed decision making tool with an associated tracking/accountability method for determining progress.	**Office of Sustainability** (Lead development of guidelines and tools). **Procurement** (Support development and enforce implementation). **Auxiliary, Recharge and Contract Operations** (Provide input and support for developing guidelines). **Materials Management Working Group** (Provide input and support for EPP guidelines and tools development. Coordinate across departments during implementation).	Spring 2015

WHAT	WHO	WHEN
Identify and Train Building-level Procurement Champions Work with building coordinators and department heads to identify volunteer, building-level procurement champions. Champions will be responsible for building-level implementation, education and tracking progress.	**Office of Sustainability** (Lead procurement champion program). **Facilities Services** (Provide input and coordinate with members of their building captain program). **Key Departments and Building Coordinators** (Attend meetings, implement projects, report to Office of Sustainability).	Spring 2015
Develop UAF Environmentally Preferable Policy and Labeling Develop standards for environmentally preferable products and design a reusable label to be used in campus dining & retail that communicates to consumers which products are more environmentally friendly than their equivalents.	**Office of Sustainability** (Lead development of product guidelines and design the label). **Procurement** (Lead development of product guidelines). **Dining Contractor** (Provide input for product guidelines). **Campus Retail Contractor** (Provide input for product guidelines).	Fall 2015
Integrate Responsible Material Management Practices Across Campus and into Promotional Materials and Campaigns Develop University-wide materials management guidelines. This includes material reduction initiatives for all campus promotional materials, shifting from print media to electronic campaigns, and leveraging UAF's Office of Sustainability website and social media outlets for promotional purposes. Swap out printed content for digital files distributed on flash drives that students, faculty, employees and visitors can reuse.	**Office of Sustainability** (Lead development of University-wide materials management guidelines). **Marketing and Communications** (Assist with development and dissemination of materials management guidelines). **Materials Management Working Group** (Provide input, support and suggestions for materials management guidelines). **Key Departments/Building Coordinators** (Attend meetings, building-wide education and guidelines implementation, report progress to Office of Sustainability).	Ongoing

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Upfront investment costs $13,000
- Annual cost-savings due to waste minimization (not based on purchased recyclable materials) $13,000
- Payback: 1.3 years

ENVIRONMENTAL IMPACTS

- Annual reduction of 100 MTCO2e
- Waste reduction of 100 tons

SOCIAL IMPACTS

- Enhanced leadership, engagement and interest in waste reduction

Helpful Resources

- U.S. Environmental Protection Agency Waste Reduction Resources: http://www.epa.gov/epaoswer/non-hw/muncpl/reduce.htm
- National Waste Prevention Council: dnr.metrokc.gov/swd/nwpc/index.htm
- Landscape Waste Reduction Outreach Partnership: wastediversion.org/landscaper/index.html
- Pacific Northwest Pollution Prevention Resource Center's (PPRC) Product Stewardship for Manufacturers Tool: http://www.pprc.org/pubs/epr/takeback.cfm
- Responsible Purchasing Network: http://www.responsiblepurchasing.org
- ENERGY STAR: http://www.energystar.gov
- Electronics Purchasing Environmental Assessment Tool: http://www.epeat.net
- WasteSpec: http://www.tjcog.dst.nc.us/regplan/wastspec.shtml
- Conservatree: http://www.conservatree.com

8.2 Strategy: Increase Diversion Rate

DESCRIPTION

With the SP goal of 90% waste diversion by 2035, this strategy builds on the University's existing recycling, reuse and composting practices, and feedback from the SP Steering Committee during goal-setting exercises. It creates a comprehensive waste management plan that integrates responsible disposal practices into the University's daily operations.

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Convene a Waste Reduction Committee The committee should be comprised of administrators, staff and students working across campus to build and improve UAF's diversion rate. The committee will create goals and objectives, prioritize actions and monitor progress.	**Office of Sustainability** (Lead outreach and organization of committee meetings). **Building Coordinators** (Participate as members of the Waste Reduction Committee). **Facilities Services** (Support Office of Sustainability in organization and implementation). **Design and Construction** (Participate on Waste Reduction Committee). **Marketing and Communications** (Assist with disseminating information about the goals, objectives and actions identified)	Fall 2014/ Spring 2015

FOCUS AREA: CLOSE LOOPS AND CONSERVE MATERIALS

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

OP 17: Waste Reduction

OP 18: Waste Diversion

OP 20: Electronic Waste Recycling Program

MEASURES OF STRATEGY SUCCESS

- Annual solid waste generation (tons) and cost
- Annual diversion to recycling (tons) and cost
- Annual diversion to compost (tons) and cost

WHAT	WHO	WHEN
Create Waste/Recycling/Compost Tracking Tools and Continue to Monitor Progress Build on current RecycleMania efforts, and track all materials (waste, recycling, and compost) that are disposed of in order to gain a solid understanding of waste flow and to benchmark progress as the University implements projects to increase diversion rates.	**Office of Sustainability** (Lead tool development). **Facilities Services** (Support development and lead tracking and analysis). **Building Coordinators** (Building-level tracking).	Fall 2014/ Spring 2015
Consolidate Waste and Recycling Collection Services and Collection Points When ABM's contract expires in 2016, seek a service provider (ABM or other) that will collect all materials (waste, paper and recycling) on a building level. Restructure waste and recycling collection points in buildings to centralized locations with bins for waste and all recyclable materials that are clearly labeled with contents that can and cannot be placed in respective bins.	**Office of Sustainability** (Lead implementation). **Facilities Services** (Assist with coordinating and implementation). **Vice Chancellor of Admin Services** **Building Coordinators** (Support Office of Sustainability in implementation).	Fall 2014
Expand Composting Practices Expand composting in phases. Initial composting expansion should include post-consumer food in dining facilities. Leveraging knowledge from the Murie building zero waste pilot, expand program to include composting bins in academic and administrative buildings. Integrate compostable materials such as bioplastics into purchasing guidelines.	**Office of Sustainability** (Lead implementation). **Dining Services** (Assist with developing and implementing expansion). **Department of Facilities** (Build Department capacity to handle increased compost).	Fall 2014

WHAT	WHO	WHEN
Educate Campus Community about Increased Diversion Initiatives and Practices Increase awareness of both the importance of increased diversion rate and proper disposal practices. Reinforce the message with clear signage at points of disposal and include responsible purchasing reminders at on-campus points of sale.	**Office of Sustainability** (Work with Marketing to develop campaigns). **Marketing and Communications** (Assist with development of materials and disseminating information). **Building Coordinators** (Promote educational materials and media).	Ongoing
Create University Competitions Build off of diversion rate tracking system to create building or department-level diversion rate competitions. Offer financial incentives based on tipping fee cost savings.	**Office of Sustainability** (Develop competitions). **Student Activites Office** (Assist with promoting and implementing competitions). **ASUAF** (Assist with promoting and implementing competitions). **Residence Life** (Assist with promoting and implementing competitions). **Building coordinators** (Engage building occupants in participation).	Spring 2015 (Ongoing)

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Upfront investment in collection point consolidation, educational signage, and expanded composting $76,000
- Annual cost savings $1,700
- Extended payback

ENVIRONMENTAL IMPACTS

- Annual reduction in GHG emission by 10 MT CO2e
- Annual solid waste reduction 20 tons

SOCIAL IMPACTS

- Enhanced leadership, engagement and interest in waste reduction

HELPFUL RESOURCES

- Standardized waste and recycling bin labeling: http://www.recycleacrossamerica.org/
- ASHEE waste resources: http://www.aashe.org/resources/resources-waste-minimization-and-recycling-campus/
- U.S. Environmental Protection Agency waste-related best management practices: http://www.epa.gov/region1/assistance/univ/bmpcatalog.html#WasteManagement

8.3 Strategy: Integrate Sustainability into Food Services

FOCUS AREA: CLOSE LOOPS AND CONSERVE MATERIALS

RELATED STARS SCORECARD ITEMS FOR THIS STRATEGY

- OP 6: Food Purchasing

MEASURES OF STRATEGY SUCCESS

- Percentage of food purchased regionally
- Pounds of food produced on UAF land holdings
- Percentage of organic food purchased
- Percentage of Dining Service locations offering discounts for reusable containers
- Food donation program developed
- Percentage of Zero Waste catering events

DESCRIPTION

This strategy will build off of UAF's existing efforts to purchase locally and grow food on campus, and to help move UAF toward a more sustainable food system with local, organically grown and responsibly sourced ingredients. Working toward more sustainable food services involves addressing product liability related to local producers, establishing a commitment toward sustainable food systems and developing cooperative relationships with other institutions (local farms, etc.) to spur the supply and dependability of local foods and encourage surplus processing in local economies.

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
Convene Dining Services Committee This committee will spearhead efforts to seek local partnerships (beyond coffee, ice cream, etc.) and avenues for increasing the use of responsibly produced, organic, low carbon and regional foods. It will also foster conditions to increase the use and availability of such foods.	**Office of Sustainability** (Lead committee organization and meetings) **RISE Board** (Participate in meetings) **Chancellor's Student Food Committee** (Participate in meetings) **Dining Services** (Support research and identification of opportunities)	Fall 2014/Spring 2015

WHAT	WHO	WHEN
Inventory Ingredients Used in Dining Services Explore local, organic, low carbon and/or sustainably produced ingredients that could replace current ingredients used by UAF that are not sustainably produced (e.g. dairy, meat, fish, seasonal produce).	**Dining Services Committee** (Lead exploration and recommendation efforts) **Office of Sustainability** (Provide assistance to the Dining Services Committee with coordination and implementation) **Dining Services Contractor** (Discuss findings and implementation avenues with parent company) **Cooperative Extension** (Provide assistance with developing relationships with local producers)	Spring 2015
Develop Local Supply Network and Purchasing Cooperative Identify and collaborate with other local institutions to leverage larger purchasing influence on suppliers and producers. Invite local growers and processors to submit product information.	**Office of Sustainability** (Coordinate with local partners and Dining Services) **Dining Services Committee** (Review applications and select feasible partners)	Spring 2015
Create a Zero Waste Catering Option Work to make catering zero waste at UAF. Use sustainable cleaning products, washable table lines, reusable cutlery and ensure that all packaging is made from materials that can be recycled in Fairbanks. Offer composting and recycling of all items that are not able to be reused. Publicize the zero waste catering option to individuals and departments looking to have events catered.	**Dining Services** **Office of Sustainability** **Dining Services Contractor**	Spring 2015

WHAT	WHO	WHEN
Create Sustainable Food Options • Use sustainability raised and harvested seafood • Increase UAF garden usage • Encourage on-site options for food preparation and from-scratch cooking • Investigate organic options for cost effective replacements • Include organic options at grab and go locations	**Dining Services** **Dining Services Contractor** **Cooperative Extension**	Fall 2015
Increase Visibility in Dining • Increase signage (environmental preferable labeling) for sustainable or low-carbon food options. • Sustainability efforts in Dining Services are advertised at dining locations, on the Dining Services website and on campus.	**Dining Services** **Office of Sustainability** **Dining Services Contractor** **Procurement**	Fall 2014
Integrate Sustainability Requirements Include sustainability requirements in contract negotiations with dining services company.	**Dining Services**	Fall 2015
Reduce Waste in Dining Operations • Reduce packaging and avoid the use of items not recyclable in Fairbanks • Switch to recyclable beverage containers such as aluminum • Offer discounts for using reusable containers • Switch to recyclable/compostable containers at grab and go locations • Increase composting at all dining locations and compost at UAF Ecodump • Give food produced in excess to the Food Bank or local soup kitchen • Use waste cooking oil for heating or to make biodiesel • Implement post-consumer recycling of food items and paper products contaminated with food/grease • Investigate and possibly acquire funding for an ORCA (http://www.swrl.com/images/orca_green_machine/ORCA-Sales-Presentation.pdf) • Include composting and recycling options at catering events	**Dining Services** **Office of Sustainability** **Dining Services Contractor**	Summer 2015-Fall 2015

ESTIMATED COSTS AND BENEFITS

ECONOMIC IMPACTS

- Increase support for local and sustainable food economy

ENVIRONMENTAL IMPACTS

- Reduced GHG emissions associated with food miles (decreased fossil fuel consumption, air pollution)
- Preserved genetic diversity and protection of food supply

SOCIAL IMPACTS

- Sourcing food locally raises awareness about where food comes from and how it is produced
- Studies have indicated that organic, local foods retain greater portions of nutrients
- Fostering relationships with local producers gives a stronger sense of place, relationships, trust, and pride within communities

HELPFUL RESOURCES

- Eat Local Alaska: http://akfood.weebly.com/find-alaska-foods.html
- Alaska Division of Agriculture resources for school food services professionals: http://dnr.alaska.gov/ag/ag_SchoolFood.htm

9.0 SHAPING ALASKA'S FUTURE

THE SHAPE ALASKA'S FUTURE FOCUS AREA FOCUSES ON LAYING THE GROUNDWORK FOR UAF TO MOVE INTO A SUSTAINABLE FUTURE WITH STRONG TIES TO ITS BROADER COMMUNITY.

RELATED STARS CATEGORIES:

- PLANNING ADMINISTRATION & ENGAGEMENT:
  - RESEARCH
  - PUBLIC ENGAGEMENT

SHAPE ALASKA'S FUTURE GOALS

- Establish institutional policies/incentives for sustainability by 2018.

FOCUS AREA: SHAPE ALASKA'S FUTURE

RELATED STARS SCORECARD ITEMS

- AC 9-11: Research, Support and Access
- EN 9: Community Partnerships
- EN 14: Participation in Public Policy

MEASURES OF STRATEGY SUCCESS

- The Office of Sustainability website will have a page highlighting formal partnerships and public policy development programs that advance sustainability within the community and shape Alaska's future.

9.1 Continuing Research

The University already scores well in AASHE STARS for its research dedicated to sustainability. Sustainability research at UAF addresses the integration of cultural, economic, environmental and energy components and supports projects and perspectives that have positive impacts on future resources, ecosystem health and human wellbeing. Research projects focus on climate change and adaptation; enabling communities to exist in environmentally stable ways; ecosystem management; energy efficiency and renewable energy; water quality; and food security and agricultural systems. By continuing such research, UAF is well positioned to help shape Alaska's future.

9.2 Supporting Community Partnerships

Universities with thriving sustainability programs are also actively engaging in partnerships with the communities in which they reside. UAF, for example, already has partnered with K-12 schools and with the Fairbanks Borth Star Borough (FNSB) on various projects. As shown throughout this SP, there are even more significant opportunities to collaborate with community partners, from working with federal military bases on waste reduction to coordinating on regional transportation solutions. Partnerships can be informal and short term in nature, or they may be formalized, multi-year collaborations with the aim of catalyzing local and regional sustainability.

9.3 Shaping Policy

As a prominent institution in Alaska, a thought leader and a large organization with "purchasing power", UAF is in a strong position to shape public policy with respect to sustainability. From policy that supports wise and efficient use of energy and resources to actions that help prepare the state for a changing future, UAF can continue to offer ideas and innovations to shape such future policy and legislation.

WHAT	WHO	WHEN
Identify and formally adopt policies and repository programs. This will ensure open access to all new peer-reviewed research produced by UAF faculties in a designated repository.	**Office of Sustainability** **Rasmusson Library** **Center for Research Services**	Fall 2015
Develop a campus-wide survey. This survey will be used to identify the formal partnerships and public policy development that UAF is engaged in that will advance sustainability.	**Office of Sustainability**	Fall 2015

In 2012 UAF installed its first student solar project, a 13kW solar photovoltaic system, on the Student Recreation Center.

10.0 CROSS-CUTTING THEMES

10.1 Power Plant

As noted in the GHG inventory in Chapter 2, UAF's power plant is the most significant source of emissions attributed to UAF. Power plants present great opportunities to address emissions reductions, but also great challenges. As the time of development of this SP, plans had already been initiated to upgrade UAF's power plant with continued use of coal. As a result, there were limited opportunities to address strategies directly associated with power plant emissions. This should be a topic of continued dialogue at UAF, while simultaneously addressing topics such as improved energy efficiency and deployment of renewable energy where feasible.

10.2 Communications Plan for Sustainability

Communications is a critical cross-cutting theme for sustainability at UAF. As shown in the campus survey, even with the significant efforts of the Office of Sustainability many people on campus were unaware of UAF's sustainability practices. This is not an issue specific to UAF; campuses are complex systems with faculty, staff and students all having different drivers, perspectives and motivations.

Nonetheless, effective communication is key to the success of this SP and its strategies. This will depend on developing a sustainability communications plan with multi-stakeholder focuses and channels. It should include key messages, map out stakeholders to understand their needs and perspectives and include measures of success.

CHANNELS FOR SUSTAINABILITY COMMUNICATION

- Electronic newsletters and digital signage
- Web sites and email
- Videos and radio
- Events
- Posters and flyers
- Tours
- Student leadership
- Social media
- Peer-to-peer networks and discussion groups
- Press releases
- Campaigns
- Conferences
- Trainings and orientations
- Annual reports

WHAT	WHO	WHEN
Develop Best Practice List Develop a best practices list for sustainable marketing and disseminate information via web and Cornerstone.	**Office of Sustainability** **Marketing and Communications** **CTC Marketing**	Fall 2014
Integrate Sustainability into Communications Planning Integrate sustainability into UAF's Integrated Marketing and Communication Plan as appropriate.	**Marketing and Communications**	Spring 2015
Develop Communications Plan Work with Marketing and Communications to develop a communication plan that identifies target audiences and key messages. Promote programs once the plan is finalized.	**Office of Sustainability** **Marketing and Communications**	Spring 2015
Develop Ongoing Annual Review Process and Report Create a template for an annual report that highlights successes and identifies gaps and future priorities.	**Office of Sustainability**	Spring 2015
Evaluate Progress Evaluate marketing and communications annually using methods such as surveys.	**Office of Sustainability** **Marketing and Communications**	Spring 2016

HELPFUL RESOURCES

The University of California's Talking Louder About Sustainability is a good example of a broad and holistic communications plan and campaign for sustainability:

http://tgif.berkeley.edu/index.php/about/program-history/60-talkinglouder

11.0 IMPLEMENTATION AND MEASURING PROGRESS

11.1 Responsible Parties

The University is fortunate to have the Office of Sustainability, a department dedicated to keeping the SP on track from year to year. The Office of Sustainability will play a vital role in the implementation of the SP and how roles and responsibilities for implementation are carried out as outlined in the strategies. This includes a charting of who is responsible for doing what parts of the Plan, who needs to be consulted or informed and ultimately who will be held accountable.

With interdepartmental support, the Office of Sustainability can be responsible for the yearly measuring of progress to goals and coordination of the implementation of the SP. Ideally, the UAF SP Steering Committee convened to support the initial development of this SP could continue in some form to meet to support implementation and to guide the continued evolution of the SP. As well, the UAF community is rich with sustainability expertise and resources that should be tapped in implementing the various strategies of this SP.

11.2 Implementation Timeline

In total, the above sections of the SP reference several different high-level strategies, each with its own set of implementation steps, costs and benefits, resources and partners and performance metrics. For the strategies to work together as a cohesive system, these distributed efforts need to be coordinated and integrated to accomplish the following:

- Ensure parts are not working at odds with each other.
- Maximize synergies between related strategies.
- Cross-pollinate lessons learned.
- Measure cumulative impacts relative to stated goals.
- Determine next meaningful paths based on progress and emerging opportunity.

11.3 Monitoring Performance and Reporting Progress

Monitoring is essential for evaluating the cumulative effect of the SP, especially as implementation across the different strategies continues to grow and mature in years to come. With the baseline GHG inventory established in the SP, a protocol and information management system has been provided to UAF to ensure ongoing measurement of the University's carbon footprint on an annual basis. The carbon footprint is aggregated from a number of supporting key metrics such as energy consumption, solid waste generation, recycling rates and transportation metrics that support short-term and long-term goals within the different focus areas of the SP. These measurements can then provide the basis for a quantitative and technically credible annual sustainability report to the community. The report would share quantitative progress toward goals while sharing success stories and communicating intentions for the upcoming year.

11.4 Future Updates to the SP

The monitoring and reporting process will not only reveal the University's progress toward its goals, it will also help identify opportunities for updates to the SP itself. These updates may include new goals, strategies, potential partners and resources and additional areas of focus beyond the SP's current focus areas. With the experience of having started to implement strategies and actions, UAF may wish to re-evaluate both the short-term and long-term goals identified in the SP and refine them based on progress and changing perceptions. For example, goals originally viewed as aggressive may be more achievable than initially thought, prompting staff to revise goals upward as progress is made.

WHAT	WHO	WHEN
Recognize the SP as an official UAF guiding document.	Master Planning Committee Chancellor	Fall 2015
Produce an annual report of sustainability activities highlighting accomplishments.	Office of Sustainability	First report in Fall 2015, update yearly

APPENDIX A: SP SURVEY RESULTS

UAF Sustainability Master Plan Survey

SurveyMonkey

1. Please indicate your affiliation with UAF. Use the blank box to indicate your specific department or school affiliation.

	Response Percent	Response Count
Student	72.8%	511
Faculty	8.5%	60
Staff	25.8%	181
Community Stakeholder	2.1%	15
List Department, School or Stakeholder Group		325
answered question		702
skipped question		0

2. Sustainability at UAF is the integration of cultural, economic, environmental, and energy components and supports projects and perspectives that have positive impacts on future resources, ecosystem health, and human wellbeing. Is this an acceptable definition?

	Response Percent	Response Count
Yes	85.2%	597
No	14.8%	104
Suggestions for modification:		129
answered question		701
skipped question		1

3. How do you think UAF is currently doing with respect to the following topic areas in terms of sustainaiblity? (If you have suggestions for improving topic areas please comment below)

	Poorly	Somewhat Poorly	Good	Very Good	Excellent	I don't know	Rating Count
Co-Curricular Education	2.7% (19)	9.9% (69)	31.0% (215)	11.8% (82)	4.8% (33)	**39.8% (276)**	694
Curriculum	3.0% (21)	12.6% (87)	**36.1% (250)**	16.9% (117)	7.5% (52)	23.8% (165)	692
Research	1.6% (11)	4.8% (33)	**27.5% (187)**	27.3% (186)	17.0% (116)	21.7% (148)	681
Building Operations	7.2% (50)	18.6% (128)	**32.9% (227)**	16.1% (111)	6.2% (43)	19.0% (131)	690
Building Design	8.4% (58)	18.9% (131)	**31.5% (218)**	16.9% (117)	7.5% (52)	16.8% (116)	692
Carbon Footprint	12.3% (85)	22.1% (153)	25.6% (177)	8.2% (57)	4.2% (29)	**27.6% (191)**	692
Dining Services	12.6% (87)	22.3% (154)	22.3% (154)	8.1% (56)	2.7% (19)	**32.1% (222)**	692
Renewable Energy	12.1% (84)	21.1% (146)	25.5% (177)	9.1% (63)	3.5% (24)	**28.7% (199)**	693
Lighting	7.3% (50)	20.1% (138)	**34.7% (238)**	13.0% (89)	7.4% (51)	17.5% (120)	686
Energy Metering	5.8% (40)	10.9% (75)	24.1% (166)	8.9% (61)	4.2% (29)	**46.2% (318)**	689
Grounds	3.9% (27)	9.8% (68)	**34.9% (241)**	17.2% (119)	9.7% (67)	24.5% (169)	691
Purchasing	5.8% (40)	11.8% (81)	24.7% (170)	7.1% (49)	3.2% (22)	**47.5% (327)**	689
Transportation	6.2% (43)	17.4% (120)	**31.2% (215)**	18.3% (126)	11.5% (79)	15.4% (106)	689
Waste and Recycling	10.0% (69)	15.7% (109)	**31.3% (217)**	19.0% (132)	10.8% (75)	13.1% (91)	693

Water	16.4% (113)	20.9% (144)	**23.1% (159)**	10.9% (75)	6.5% (45)	22.1% (152)	688
Diversity and Accessibility	5.7% (39)	10.3% (71)	**28.7% (197)**	19.7% (135)	11.8% (81)	23.9% (164)	687
Employee education	6.5% (45)	17.9% (123)	**27.9% (192)**	12.4% (85)	9.4% (65)	25.9% (178)	688
Public/community Engagement	5.2% (36)	13.3% (91)	**34.1% (234)**	18.7% (128)	10.8% (74)	17.9% (123)	686
Socially responsible Investments	6.5% (45)	9.0% (62)	21.0% (145)	11.3% (78)	5.6% (39)	**46.6% (322)**	691
Other(please specify below)	11.0% (23)	3.3% (7)	11.4% (24)	3.3% (7)	6.2% (13)	**64.8% (136)**	210
					Comments or Suggested Improvements for Topic Areas		165

4. What sorts of tools, incentives, programs or other ideas do you think would best motivate staff, teachers, parents, students and/or other stakeholder to participate in implementing the SMP? Multiple answers are allowed.

	Response Percent	Response Count
Competitions between schools or departments to see who can save the most energy/resources	47.7%	316
Recognition of schools, individuals and/or departments for accomplishments	56.0%	371
Building accomplishments into annual employee reviews	21.1%	140
Developing more specific inter-school or departmental green teams to implement the SMP (e.g. teachers, students, parents)	35.4%	235
Developing incentives for staff and/or students to participate	**74.5%**	**494**
Requiring it as part of their daily tasks in their job	29.7%	197
	Other (please specify)	79

5. How would you best describe how willing you would be to participate in implementing the SMP?

	Response Percent	Response Count
Not willing	7.6%	51
Occasionally willing	45.4%	304
Regularly willing	46.9%	314
Other (please specify)		47
answered question		669
skipped question		33

6. Are there any other thoughts you would like to share about the SMP?

	Response Count
	165
answered question	168
skipped question	534

7. How interested would you be in participating in a Sustainability focused or related course at UAF?

	Not at all	Not very	Not sure	Very interested	Definitely	Rating Count
Focused Class	15.7% (101)	16.9% (109)	35.3% (228)	22.2% (143)	9.9% (64)	645
Related Class	13.0% (67)	12.7% (65)	38.2% (256)	27.8% (185)	8.5% (57)	670
Why or why not?						321
answered question						699
skipped question						3

8. What Sustainability topics would you like to be covered? (Optional Question)

	Response Count
	181
answered question	181
skipped question	521

9. Do you live on or off campus?

	Response Percent	Response Count
On	20.0%	133
Off	80.8%	537
answered question		665
skipped question		37

10. If you live OFF CAMPUS Enter estimated one-way commuter distance (please see map below for estimated distances)

	Response Percent	Response Count
0-1 miles	22.6%	150
1-2 miles	12.8%	85
2-3 miles	12.0%	80
3-4 miles	9.6%	64
4+ miles	43.0%	286
Other (please specify)		102
answered question		665
skipped question		37

11. How often do you visit campus in the average week?

	1 time	2 times	3 times	4 times	5 times	6 times	7 times	8-10 times	10+ times
Personal Vehicle	18.9% (81)	10.2% (44)	5.8% (25)	7.1% (31)	31.4% (135)	10.0% (43)	5.2% (22)	3.7% (16)	4.6% (20)
Carpool	41.6% (69)	17.0% (28)	9.6% (16)	3.0% (5)	17.5% (29)	4.8% (8)	1.8% (3)	1.8% (3)	2.4% (4)
Public Transportation	47.7% (51)	15.0% (16)	14.0% (15)	2.8% (3)	10.3% (11)	1.9% (2)	1.9% (2)	1.9% (2)	4.7% (5)
Bicycling	58.3% (63)	8.3% (9)	7.4% (8)	3.7% (4)	9.3% (10)	4.6% (5)	3.7% (4)	2.8% (3)	1.9% (2)
Walking	40.4% (46)	9.6% (11)	4.4% (5)	6.1% (7)	8.8% (10)	0.9% (1)	1.8% (2)	7.8% (9)	20.2% (23)
Motorcycle/scooter	80.0% (44)	0.0% (0)	3.6% (2)	5.5% (3)	5.5% (3)	3.6% (2)	0.0% (0)	0.0% (0)	1.8% (1)
I live on campus	26.1% (39)	0.0% (0)	0.0% (0)	0.7% (1)	2.2% (3)	0.0% (0)	2.2% (3)	0.7% (1)	65.8% (88)

Other (please specify)

12. Which of these modes of transportation do you use to get to campus in the summer and w check all that apply.

	Personal vehicle	Carpool	Public transportation	Bicycling	Walking	Motorcycle/Scooter
Summer	70.5% (455)	18.6% (120)	12.4% (80)	39.4% (255)	23.8% (154)	3.4% (22)
Winter	74.7% (469)	20.8% (131)	13.6% (85)	7.0% (44)	11.3% (71)	0.5% (3)

Other (ples

answered

skipped

13. What is your PRIMARY mode of transportation to campus during the summer and winter?

	Personal vehicle	Carpool	Public transportation	Bicycling	Walking	Motorcycle/scooter
Summer	59.6% (383)	6.5% (42)	3.7% (24)	13.7% (87)	4.3% (28)	1.6% (10)
Winter	64.9% (420)	5.4% (51)	5.1% (33)	2.8% (18)	3.7% (24)	0.2% (1)

Other (plea

14. Where did you travel for your last:

	Stayed on Campus	Stayed in Fairbanks	Stayed in Alaska	Traveled out of state	Traveled overseas	Rating Count
Summer Break	3.0% (24)	37.9% (295)	32.5% (109)	21.0% (100)	6.8% (42)	820
Thanksgiving Break	9.0% (62)	56.4% (367)	26.0% (168)	7.7% (50)	2.0% (13)	651
Winter Break	2.6% (17)	36.5% (241)	25.0% (163)	29.5% (193)	6.4% (42)	880
If you left the state or country, please state your final destination.						200
					answered question	865
					skipped question	37

15. Thank you for taking the survey. Enter your email below for a chance to win one of 10 prizes including two one-day Fat Back bike rentals from Green Bikes, Gift Cards to Local Restaurants, T-shirts and More!

	Response Count
	561
answered question	561
skipped question	141

APPENDIX B: CAMPUS WASTE AUDIT

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