

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.

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: <ul style="list-style-type: none"> 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) CCHRC (Work with Facilities Services to identify improvements)	2015 - 2025

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)

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

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.

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

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

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

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 as 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.

IMPLEMENTATION STEPS

WHAT	WHO	WHEN
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 Host a school-wide challenge for developing a stormwater management plan.	Office of Sustainability	2015

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 as 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

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 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: <ul style="list-style-type: none"> • 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 (Lead Master Plan development)	Begin as early as 2015 but no later than 2017

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

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	UAF Transportation Services and Facility 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.	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 Committee (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).	City of Fairbanks Public Works Department and FNSB Transportation Department (Lead engineering and construction) UAF Transportation Services and Facility 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).	City of Fairbanks Public Works Department and FNSB Transportation Department (Lead engineering and construction) UAF Transportation Services and Facility 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

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 Facility 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

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

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. Carma carpooling, 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 Communications, Staff Alliance and Associated Students (Help create and disseminate information)	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 Facility Services, City of Fairbanks Public Works Department, 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 SMP. 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 (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 Support from Vice Chancellor, Provost	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 Staff	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 Residence Life Coordinator	Spring 2015
Further Integrate Sustainability in Student Orientation Materials Include information about this SMP 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



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 Master 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.

FOCUS AREA: SUPPORT THE CAMPUS COMMUNITY

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 (e.g., LEED)
- 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 CCHRC (Participate on Guideline Development Team)	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 CCHRC (Assist with Building Design Review)	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 <ul style="list-style-type: none"> • 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

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 Campus⁷, 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
- Student green fees
- Alumni donations
- Utility budgets
- Utility rebates

FOCUS AREA: SUPPORT THE CAMPUS COMMUNITY

RELATED STARS SCORECARD ITEMS TO THIS STRATEGY

- N/A

MEASURES OF STRATEGY SUCCESS

- Dollars of sustained annual funding

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

- Efficiency/conservation savings
- Cash reserves
- Capital budget
- Endowment investments
- Student government funding
- Donation from an 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 assess 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 (to be 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.





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

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

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/wastespec.shtml>
- Conservatree: <http://www.conservatree.com>

8.2 Strategy: Increase Diversion Rate



DESCRIPTION

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

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

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

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 Activities 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>



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

8.3 Strategy: Integrate Sustainability into Food Services

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
<p>Inventory Ingredients Used in Dining Services</p> <p>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).</p>	<p>Dining Services Committee (Lead exploration and recommendation efforts)</p> <p>Office of Sustainability (Provide assistance to the Dining Services Committee with coordination and implementation)</p> <p>Dining Services Contractor (Discuss findings and implementation avenues with parent company)</p> <p>Cooperative Extension (Provide assistance with developing relationships with local producers)</p>	Spring 2015
<p>Develop Local Supply Network and Purchasing Cooperative</p> <p>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.</p>	<p>Office of Sustainability (Coordinate with local partners and Dining Services)</p> <p>Dining Services Committee (Review applications and select feasible partners)</p>	Spring 2015
<p>Create a Zero Waste Catering Option</p> <p>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.</p>	<p>Dining Services</p> <p>Office of Sustainability</p> <p>Dining Services Contractor</p>	Spring 2015
WHAT	WHO	WHEN

WHAT	WHO	WHEN
Create Sustainable Food Options <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 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 SHAPE ALASKA'S FUTURE



SHAPE ALASKA'S FUTURE GOALS

- Establish institutional policies/incentives for sustainability by 2018.

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





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 North Star Borough (FNSB) on various projects. As shown throughout this SMP, 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 formal partnerships and public policy development UAF is engaged in that 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 SMP, 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 SMP 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 SMP on track from year to year. The Office of Sustainability will play a vital role in the implementation of the SMP 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 SMP. Ideally, the UAF SMP Steering Committee convened to support the initial development of this SMP could continue in some form to meet to support implementation and to guide the continued evolution of the SMP. As well, the UAF community is rich with sustainability expertise and resources that should be tapped in implementing the various strategies of this SMP.

11.2 Implementation Timeline

In total, the above sections of the SMP 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 SMP, especially as implementation across the different strategies continues to grow and mature in years to come. With the baseline GHG inventory established in the SMP, 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 SMP. 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 SMP

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 SMP itself. These updates may include new goals, strategies, potential partners and resources and additional areas of focus beyond the SMP'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 SMP 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 Sustainability Master Plan 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