FRAMING


ACADEMIC INSTRUCTION AND RESEARCH
STUDENT LIFE
BUILT ENVIRONMENT
ENERGY
WATER
CULINARY
GROUNDS AND PRESERVES
PROCUREMENT
TRANSPORTATION
WASTE
GOALS AND STRATEGIES

Framing for the draft Climate Action Plan strategies

Under the visionary leadership of Sonoma State University (SSU), President Judy Sakaki, SSU joined the University Presidents' Climate Commitment on April 5, 2019. Her signature set in motion a series of efforts to address climate change impacts affecting our education and research mission and placing our students, employees and communities at risk.

The SSU Climate Action Plan, scheduled for completion in May 2022, will lay out a path with concrete, measurable actions needed to: **(1)** reduce our carbon emissions to zero, **(2)** increase resilience to climate disruption, and **(3)** prepare our students for careers in a changing world. We hope to inspire every SSU student to apply what they learn while at SSU to contribute to a just and sustainable future.

Please review and respond to the public comment period of the Draft Climate Action Plan. Responses will be accepted from staff, faculty and students up until February 16, 2022. Respond here.

ENERGY GOALS

CARBON

A. Improve energy measurement and tracking systems

B. Reduce total energy consumption per gross square foot to 50% of 2018 baseline

C. Improve Building performance

REGIONAL RESILIENCE

D. Increase renewable energy

ACADEMICS AND STUDENT LIFE

E. Engage students and faculty in projects needed to achieve carbon neutrality

ENERGY

TIMELINE

STRATEGIES	ACTIONS
A.1 Develop electrical systems in ways that allow easy sharing of building-specific energy	**A.1.1** Evaluate what energy systems are being monitored currently. **A.1.2** Add monitoring to remaining energy systems for compliance with CSU Energy Metering Guidelines. **A.1.3** Use existing energy management software to analyze, report, and forecast energy consumption. **A.1.4** Document energy savings over time, correlated with energy efficiency improvements.
B.1 Implement energy conservation measures in existing buildings and infrastructure	**B.1.1** Conduct an ASHRAE Level 1 or Level 2 energy efficiency audit as part of the RCx program (see C.1.3 below). **B.1.2** Implement energy conservation measures (ECMs) recommended in the audit report. **B.1.3** Evaluate effectiveness of ECMs and document energy savings over time. **B.1.4** Update Facilities O&M policy with best management practices for energy efficiency.
B.2 Improve energy efficiency of newly constructed buildings	**B.2.1** Establish Basis of Design and Owner's Project Requirements to meet and exceed the CSU goal of 10% better overall than T24-2019 using the performance approach. **B.2.2** Incorporate advanced energy design features where possible and practical, including daylighting, passive solar heating and shading, natural ventilation,
B.3 Pursue campus-wide energy efficiency projects	**B.3.1** Implement a geothermal heat exchange system in Athletic Village if deemed feasible in D.4 below.
C.1 Establish a campus energy efficiency (EE) program to reduce energy demand	**C.1.1** Hire a full-time energy manager and establish an annual energy investment plan **C.1.2** Complete a campus LED lighting retrofit program **C.1.3** Establish a campus RCx / continuous commissioning program **C.1.4** Identify optimal HVAC upgrade projects (see B.1.2 above) and establish funding & financing source
C.2 Transition to an all-electric, fossil fuel free campus	**C.2.1** Implement a no-new gas policy and update campus design standards to support electrification **C.2.2** Replacae natural gas system during buildings retrofit projects and at equipment failure **C.2.3** Electrify existing heating and DHW systems, as outlined in the CESA tool
C.3 Electrify Central Plant	**C.3.1** Complete a CUP electrification study and establish a long-term implementation plan **C.3.2** Implement base heating system upgrades to reduce HW temperatures **C.3.3** Implement Phase 1 (partial electrification) **C.3.4** Implement Phase 2 (full electrification)
D.1 Complete Development of Currently Contracted Solar + Storage Project with SunPower	**D.1.1** Complete contract signing **D.1.2** Implement agreed upon site improvements prior to construction **D.1.3** Monitor system construction performed by SunPower
D.2 Complete feasibility analysis, procure and install additional on-site carport and/or ground mount solar projects at 1-5 locations on the SSU campus	**D.2.1** Complete a financial and technical feasibility study, assessing multiple financing options, for each potential project included in the CESA tool **D.2.2** Engage with PG&E to gain a complete understanding of electricity export limits
D.3 Identify backup power for Lobo's Pantry	**D.3.1** Analyze the feasibility of tying into energy storage project or creating similar solution
D.4 Explore geothermal heat exchange system for Athletic Village	**D.4.1** Include a geothermal feasibility study for student team as part of Campus as a Living Lab **D.4.2** Engage a geothermal design consultant to estimate costs based on student feasibility study.

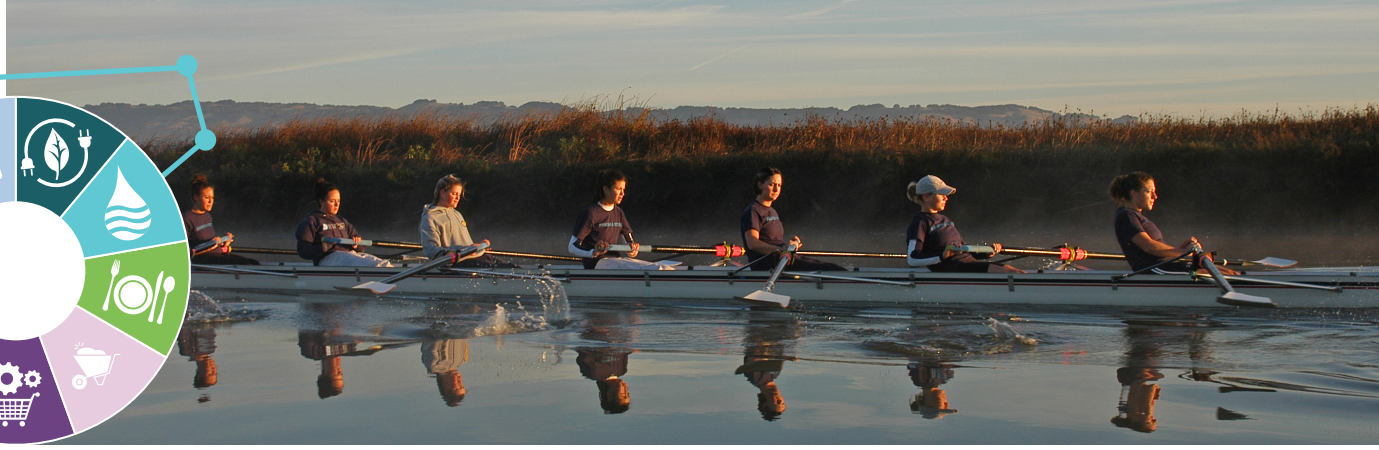
ENERGY

STRATEGIES	ACTIONS
E.1 Create a funded annual research challenge that focuses on carbon neutrality goals.	**E.1.1** Conceptualize research projects based on goals in the Carbon Neutrality Roadmap and Climate Action Plan. Consider past research projects, current priorities for energy upgrades and future projects being planned. **E.1.2** Prioritize entrepreneurship in environmental challenges. **E.1.3** Advertise challenge including list of concepts to faculty **E.1.4** Review applications and select finalists **E.1.5** Solicit sponsors to fund finalists **E.1.6** Award research funding based on sponsorship received
E.2 Engage classes across disciplines in service-learning projects related to energy	**E.2.1** Conceptualize service learning projects based on goals in the Carbon Neutrality Roadmap and Climate Action Plan. Consider past service learning projects, current priorities for energy upgrades, and future projects being planned. **E.2.2** Distribute list to faculty with service learning courses each semester and encourage participation. Request a presentation of students' findings when projects are complete.
E.3 Organize and support a student-led energy-use training and monitoring program	**E.3.1** Include presenting a summary report of campus and building-specific energy use in the list of responsibilities for the Facilities Department Student Intern. See Strategy F.1 in the Built Environment section. **E.3.2** Advertise the presentation to student groups including sustainability-oriented clubs and courses. **E.3.3** Recruit the next Facilities Department Student Intern at the presentation.

TIMELINE

Sidebars or links to appendices on geothermal feasibility study, NREL Geothermal Collegiate Competition, and sample Basis of Design and Owner's Project Requirements documents.

See also Appendix E for an Energy Monitoring Strategy



WATER GOALS

CARBON

A. Reduce water use to 5% of 2019 baselines levels by 2023

B. Pilot novel water conservation strategies through regional partnerships

C. Develop water systems in ways that allow easy sharing of building-specific data

REGIONAL RESILIENCE

D. Protect and conserve water resources

E. Align campus goals and reporting with regional water resource management strategies

F. Collaborate on regional initiatives that decrease risk of flooding and enhance groundwater replenishment

ACADEMICS AND STUDENT LIFE

G. Infuse examples of local water challenges into curriculum across disciplines

H. Engage students and faculty in research, creative inquiry, and monitoring programs surrounding water

WATER

STRATEGIES	ACTIONS
A.1 Expand low flow infrastructure in all campus buildings	**A.1.1** Research cost and implementation **A.1.2** Specify maximum flow rates of fixtures and fittings based on LEED O+M **A.1.3** Update campus Facilities O&M policy with maximum flow rates
A.2 Reduce carbon needed for irrigation on campus (See also Grounds & Preserves)	**A.2.1** Remove water intensive landscaping where possible and replace with native and drought tolerant plants
A.3 Update policy and technical standards for Low Impact Development	**A.3.1** Create water efficiency guidelines for small projects that do not fall within the scope of the CSU policy
B.1 Partner with Applied Solutions to test sustainable water and energy technology	**B.1.1** Assess effectiveness of condensate capture from air handlers and estimate the daily volume generated
B.2 Assess viability of rainwater capture for irrigation use	**B.2.1** Identify site locations and distribution network
C.1 Improve water measurement, tracking and enforcement systems	**C.1.1** Partner with Sonoma Water to update metering infrastructure **C.1.2** Track total annual volume of wastewater generated in partnership with Sonoma Valley County Sanitation District
D.1 Expand recycled water distribution to buildings	**D.1.1** Conduct a feasibility study for retrofitting existing buildings with recycled water for toilet flushing **D.1.2** Update Basis of Design and Owners Project Requirement documents for new construction project to specify separate plumbing for recycled water. **D.2.3** Include recycled water distribution in plans for updated infrastructure.
D.2 Improve biodiversity and water quality while preserving flood capacity of Copeland Creek	**D.2.1** Draft an integrated stormwater management plan for campus **D.2.2** Draft comprehensive Copeland Creek Restoration Plan
E.1 Align SSU water goals with regional plans	**E.1.1** Actively participate in Sonoma Water's Regional Integrated Water Resource Management Strategy **E.1.2** Actively participate in Santa Rosa Plain Groundwater Management Plan and Santa Rosa Plain Groundwater Sustainability Plans
F.1 Collaborate on the Copeland Creek Watershed Enhancement and Restoration with Sonoma Water, City of Rohnert Park, and others	**F.1.1** Contact project partners and actively participate in planning efforts.
G.1. Support faculty to bring examples of regional water challenges into the course curriculum	**G.1.1** Make disciplinary-specific information on Russian River Watershed (especially Copeland Creek) easily available to all faculty and provide field trip tours to these issue on campus and Osborn Preserve portions of Copeland Creek
H.1. Engage students and faculty in inquiry with community partners into water-related challenges	**H.1.1** Increase support for Rising Waters to expand annual water research challenge that engages faculty and students with campus and cross-sector community leaders **H.1.2** Prioritize entrepreneurship in environmental challenges. **H.1.3** Build on WATERS Collaborative to increase funding for faculty and student research and creative inquiry on water-related challenges **H.1.4** Engage classes across disciplines in service-learning projects surrounding water challenges
H.2 Engage students and faculty in monitoring and training to reduce water use on campus	**H.2.1** Organize and support a student-led water training and monitoring program that includes an annual electricity reduction competitions in the dorms

TIMELINE

CULINARY GOALS

CARBON

A. Reduce carbon footprint of foods sold on campus

REGIONAL RESILIENCE

B. Increase sustainable choices across all culinary amenities

C. Reduce food insecurity on and off campus

ACADEMICS AND STUDENT LIFE

D. Infuse understanding of food systems on and off campus throughout the curriculum

E. Increase inquiry and training surrounding sustainable food systems

CULINARY

STRATEGIES	ACTIONS
A.1 Increase percentage of plant-based meals	**A.1.1** Launch a culinary carbon challenge - food served in the cafeteria is assigned a carbon ranking and students and employees compete for the lowest number. **A.1.2** Prioritize entrepreneurship in environmental challenges.
A.2 Increase percentage of locally-grown foods purchased	**A.2.1** Build on collaborations with FEED and expand to other local food growers.
A.3 Estimate and track carbon footprint of foods purchased	**A.3.1** Reinstate food tracking via the Inventory and Purchasing Management Program, and add carbon footprint (and other sustainability attributes)
B.1 Provide certified compostable single-use items in cafeteria and catering for all items available	**B.1.1** Identify the most-easily compostable products for all single-use items **B.1.2** Expand campus plastics bans, such as those for straws and water bottles. Reference CSU policy on Single Use Plastics.
B.2 Increase number of Fair-Trade products purchased each year	**B.2.1** Identify foods and items offered that are sustainable, compostable, etc. *See sidebar on food attributes.* **B.2.2** Create a Sustainable Purchasing Policy that includes foods and beverages. Reference the draft policy linked here.
C.1 Expand free food services to students and employees with food insecurity	**C.1.1** Increase support for Lobos' Pantry and explore other options such as food vouchers (also see Health and Safety)
C.2 Make information about off-campus free food services readily available on campus	**C.2.1** Partner with community organizations to raise awareness
D.1 Incentivize integration of regional food challenges into the course curriculum	**D.1.1** Make disciplinary-specific information about regional food challenges easily available to faculty and provide curriculum revision stipend support **D.1.2** Provide presentations and invited speakers from local food initiatives to interested faculty **D.1.3** Develop the Garden Classroom, Copeland Creek and Native Plant gardens as outdoor classrooms for learning about agricultural and natural systems
E.1 Support student and faculty research and creative inquiry on food-related challenges	**E.1.1** Leverage on-going speaker series (e.g., North Bay Forward) to build faculty-community service-learning collaborations on food-related issues **E.1.2** Launch annual research challenge that provides funding for faculty and students to study sustainable food practices **E.1.3** Prioritize entrepreneurship in environmental challenges. **E.1.4** Engage classes across disciplines in service-learning projects surrounding food challenges on and off campus
E.2 Engage students and faculty in monitoring and training to achieve sustainable food goals	**E.2.1** Create a student-run "No Food Left Behind" program - possibly through JUMP - to reduce food insecurity

GROUNDS AND PRESERVES

GOALS

CARBON

A. Reduce carbon used to maintain campus landscapes

B. Develop carbon sequestration initiatives for campus and SSU preserves

REGIONAL RESILIENCE

C. Transition to climate-smart goals for SSU lands

D. Increase abundance and diversity of native species

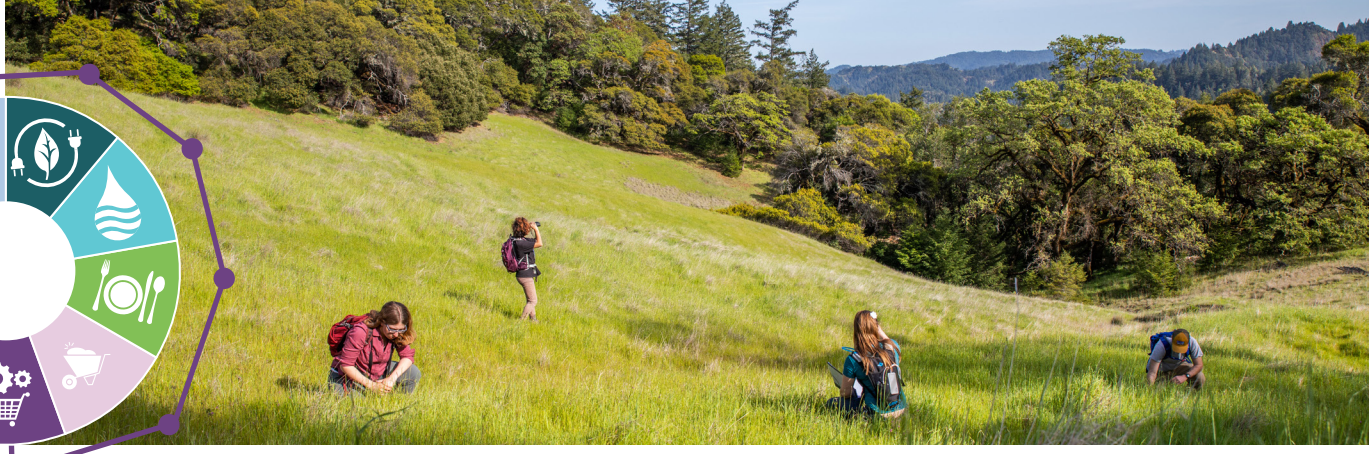
ACADEMICS AND STUDENT LIFE

E. Infuse understanding of natural landscapes (on and off campuses) throughout the curriculum

F. Increase inquiry and training on natural and sustainable agriculture systems

GROUNDSANDPRESERVES

STRATEGIES	ACTIONS
A.1 Transition to landscaping that does not require irrigation	**A.1.1** Draft and implement a landscaping plan that transitions campus from water-dependent to drought-tolerant. See Policy & Plan Recommendations table in Appendix C.
B.1 Adopt practices that increase carbon sequestration	**B.1.1** Incorporate carbon sequestration goals into a Forestry Management Plan for SSU preserves **B.1.2** Incorporate carbon sequestration goals into Campus Landscaping Plan. See Policy & Plan Recommendations table in Appendix C. **B.1.3** Adopt and demonstrate best practices in carbon sequestration as part of the Garden Classroom
C.1 Reduce impacts of increasing drought and flood and impacts to water quality	**C.1.1** Assess and implement landscaping and restoration approaches (e.g., Copeland Creek) that improve rates of water infiltration, water capture and storage on campus and preserve lands. **C.1.2** Reduce risk of campus lakes contamination of Copeland Creek during floods
C.2 Reduce impacts of increasing fire risk	**C.2.1** Apply best practices in buffer zones near structures on campus and preserves
C.3 Reduce impacts of increasing heat	**C.3.1** Adopt urban forestry goals on campus that minimize illness, extreme heat and poor air quality
D.1 Protect native species vulnerable to declines on campus and at SSU preserves	**D.1.1** Map location of native species and their habitats on campus and preserves
D.2 Expand native vegetation on campus	**D.2.1** Adopt campus-wide landscaping policies that increase native species on campus. *See draft policy linked here.* **D.2.2** Create an agricultural-ecological corridor on campus (includes Copeland Creek, native, butterfly, garden classroom and campus lakes)
D.3 Control invasive species and other threats to biodiversity	**D.3.1** "Restore" Copeland Creek riparian corridor **D.3.2** Draft invasive species control plans for SSU Preserves
E.1 Incentivize faculty to integrate ecosystem services and challenges into course curriculum *(See Curricular and Co-curricular Section for more actions)*	**E.1.2** Provide regular field trips, tours and information for faculty and their classes to campus (e.g., such as Copeland Creek, campus gardens, and landscaped areas) and preserves
F.1 Increase support for student and faculty research and creative inquiry on ecosystem services challenges. *(See Curricular and Co-curricular Section for more actions)*	**F.1.2** Leverage on-going speaker series (e.g., North Bay Forward) to build faculty-community collaborations that lead to service-learning opportunities **F.1.2** Continue to grow on-campus funding (e.g., Norwick, WATERS, Fire Up and Rising Waters) grants for faculty and students to research regional challenges



PROCUREMENT GOALS

CARBON

A. Adopt carbon footprint as a criteria for purchasing decisions

REGIONAL RESILIENCE

B. Adopt sustainability as a criteria for purchasing decisions

C. Support diversification of local economy

D. Support regional partnerships through North Bay Forward to launch a Buy Local campaign

ACADEMICS AND STUDENT LIFE

E. Engage students and faculty in monitoring and training to reduce water use on campus

F. Increase inquiry and training on natural and sustainable agriculture systems

PROCUREMENT

TIMELINE

STRATEGIES	ACTIONS
A.1/B.1 Adopt campus-wide policy to make sustainability a criteria for purchasing decisions at all levels	**A.1.1/B.1.1** Ensure that all paperwork (from vendor contracts to student organization permits) for purchasing reflects consideration of carbon, social (e.g. fair trade sources) and environmental factors. *See the draft Sustainable Procurement Policy linked here.* **A.1.2/B.1.2** Establish policy to give additional points to all minority or locally-owned businesses in the proposal/purchase review process. Ensure policy meets the requirements of State Agency Buy Recycled Campaign (SABRC, website)
A.2/B.2 Identify and transition to sustainable purchases	**A.2.1/B.2.1** Identify alternatives for high-impact common purchases (e.g., two products per year) **A.2.2/B.2.2** Reduce or eliminate non-recyclable packaging materials used in shipments **A.2.3/B.2.3** Increase percentage of green cleaning supplies purchased to 100% by 2025
A.3/B.3 Streamline communication around sustainable procurement	**A.3.1/B.3.1** Identify procurement officer to attend a sustainable procurement conference and then provide lunch and learn sessions to staff
A.3/B.3 Track transition to sustainable purchases	**A.3/B.3** Identify and adopt software or other tracking system that tracks sustainable supply chains
C.1 Buy local across a range of economic sectors	**C.1.1** See Action A.1.2/B.1.2
D.1 Incentivize faculty to infuse understanding of product life-cycles throughout the curriculum *(See Curricular and Co-curricular Section for more actions)*	**D.1.1** Provide informational resources on Life Cycle Cost Analysis (LCCA) at the SSU Center for Teaching and Educational Technology **D.1.2** Document student research and projects involving LCCA as part of Campus as a Living Lab
E.1 Raise awareness on campus of impacts of buying locally and sustainably	**E.1.1** Host events, or partner with existing events, to connect and educate the campus community on the impacts of buying local (e.g., host a local vendor market)
E.2 Increase research and creative inquiry *(See Curricular and Co-curricular Section for more actions)*	**E.2.1** Leverage on-going speaker series (e.g., North Bay Forward) to build faculty-community collaborations that lead to service-learning **E.2.2** Launch annual research challenge that provides funding for faculty and students to study and report to procurement on product life-cycles

TRANSPORTATION

GOALS

CARBON

A. Increase vehicle fuel efficiency and fuel switching

B. Reduce Vehicle Miles Traveled (VMT) by x% from 2019 baseline by 2043

C. Incentivize telecommuting by faculty, students and staff where possible

REGIONAL RESILIENCE

D. Align affordable well-connected public transportation options (paths, bike trails, buses, trains) with critical needs (food, work, health care) and healthy lifestyles (parks, recreation)

E. Design infrastructure in ways that encourage walking and biking

F. Ensure students and employees can continue regular activities during power safety shutdowns and emergencies

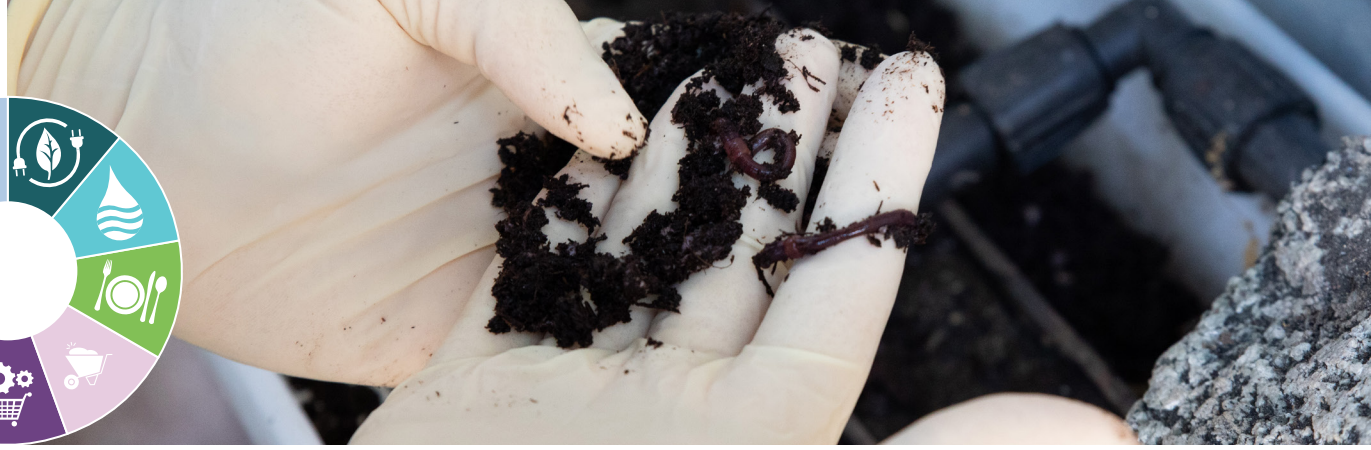
ACADEMICS AND STUDENT LIFE

G. Infuse understanding of transportation mitigation throughout the curriculum

H. Increase inquiry and training surrounding transportation challenges

TRANSPORTATION

STRATEGIES	ACTIONS
A.1 Transition to electric vehicles	**A.1.1** Replace all 36 fleet passenger vehicles with electric vehicles by 2035, averaging 3 per year **A.1.2** Implement "EV-first" vehicle purchasing policy to ensure that EVs are considered as the primary replacement option for every vehicle
A.2 Increase number of EV charging station ports on campus	**A.2.1** Assess the best locations to meet the needs of on-campus residents and those who need to park in more centralized parking lots on campus **A.2.2** Follow the installation schedule outlined in the CESA tool (cater to housing)
B.1 Incentivize carpooling and public transport such as SMART train and buses	**B.1.1** Include an annual bus/SMART train pass to all new employees who express interest **B.1.2** Distribute commuting survey to all staff, faculty and students annually **B.1.3** Promote SMART train, bus, EV and carpool resources
B.2 Incentivize bike share and e-bike use	**B.2.1** Explore potential partnership opportunities surrounding subsidized fare for students and employees with public transportation agencies: Sonoma-Marin Area Rail Transit EcoPass Program, Sonoma County Transit – Subsidized Fare Program
C.1 Develop options for remote work for students and employees	**C.1.1** Implement a telecommuting policy and flexible hybrid work model
D.1 Make alternative transportation information readily available to students and employees	**D.1.1** Share clearly identified walking and biking routes to campus and from campus to outdoor destinations: Copeland Creek trail, trail to Crane Creek
E.1 Reduce logistic challenges to using bikes to commute to campus	**E.1.1** Promote e-bike incentive from Sonoma Clean Power **E.1.2** Evaluate feasibility of installing bike lockers with e-bike chargers **E.1.3** Construct spaces for secure bicycle parking along with showers and lockers to make active commuting a viable option
F.1 Improve access to internet off-campus	**F.1.1** Develop portable internet access check out systems for students
G.1 Raise awareness about carpooling, bike and public transportation	**G.2.1** Create a student-run program that creates annual commuter challenge
H.1 Write a Transportation Plan for entire campus	**H.1.1** Establish Sonoma State University Alternative Transportation Committee **H.1.2** Create a Transportation Demand Management Plan (TDM Plan) per CSU policy **H.1.2** Identify local challenge and provide $10K for faculty-student research or creative inquiry teams to support community partner working on a transportation challenge **H.1.3** Prioritize entrepreneurship in environmental challenges. **H.1.3** Engage classes across disciplines in service-learning projects surrounding transportation challenges on campus



WASTE GOALS

CARBON

A. Reduce landfill contributions

B. Pilot innovative technology to create a local composting program

REGIONAL RESILIENCE

C. Reduce use of plastics and non-sustainable materials

ACADEMICS AND STUDENT LIFE

D. Infuse understanding of waste systems (on and off campus) throughout the curriculum

E. Engage students and faculty in research and creative inquiry with community and campus partners into waste challenges

F. Engage students and faculty in monitoring and training to reduce waste on campus

WASTE

STRATEGIES	ACTIONS
A.1 Draft and implement a plan to achieve 90% waste diversion from campus	**A.1.1** Focus on improving construction and demolition (C&D) materials **A.1.2** Capture a list of non recyclable items that need to be replaced with a more sustainable option. Reference waste audit results (see E.2.1 below) **A.1.3** Track monthly diversion with Recology **A.1.4** Share monthly diversion figures with students and staff. Consider LEED tracking using the Arc Platform.
A.2 Continue to expand the three-stream recycling across campus	**A.2.1** Partner with Recology to provide pre- waste audit services. See also the audit process described in E.2.1 below
A.3 Initiate Go Paperless campaign	**A.3.1** Use Risk Management Solutions training/conferences to gather information and skills needed to move administrative processes online **A.3.2** Centralize printers throughout campus
A.4 Build programs around Move In– Move out Day	**A.4.1** Partner with local food bank and reuse store
A.5 Launch a "Supply Share" item lending library	**A.5.1** Communicate central storage area to be able to stage equipment for people to shop from **A.5.2** Set up a textbook exchange
B.1 Collaborate with local community to install an anaerobic digester to capture food waste and green waste from campus landscaping	**B.1.1** Track green waste tonnage **B.1.2** Apply compost on local Preserves as part of a carbon farming project **B.1.3** Research implementation and cost
C.1 Adopt and support applicable Zero Waste Sonoma goals	**C.1.1** Expand food recovery programs on and off campus by creating a service learning opportunity around SB1383
C.2 Ensure all single-use items provided at cafeteria and catering areas are certified compostable post-Covid	**C.2.1** Consider replacing chip bags in the cafeteria or ,partner with Terracycle to recycle chips bags **C.2.2** Document compliance with CSU Single Use Plastics policy requirements
C.3 Identify build out and implement a plan for hydration stations across campus	**C.3.1** Research cost and implementation schedule **C.3.2** Document phase out of plastic water bottles on campus by 1/1/23 per CSU policy requirements
C.4 Eliminate SWAG items that are not sustainable	**C.4.1** Find alternative recognition programs
C.5 Include eco-friendly packaging as a purchasing criteria	**C.5.1** Use waste audit *(ref.E.2.1)* to identify sources of plastics and other landfill-bound packaging material **C.5.2** Contact vendors and encourage them to change packaging material to reusable (start a take-back program), biodegradable, or recyclable
D.1 Make discipline-specific information on local waste systems and their connection to climate easily available to faculty for integration into curriculum	**D.1.1** Informational resources include Recology (waste hauler, website), Zero Waste Sonoma County (public agency, website), CalRecycle State Agency Buy Recycled Campaign (SABRC, website)

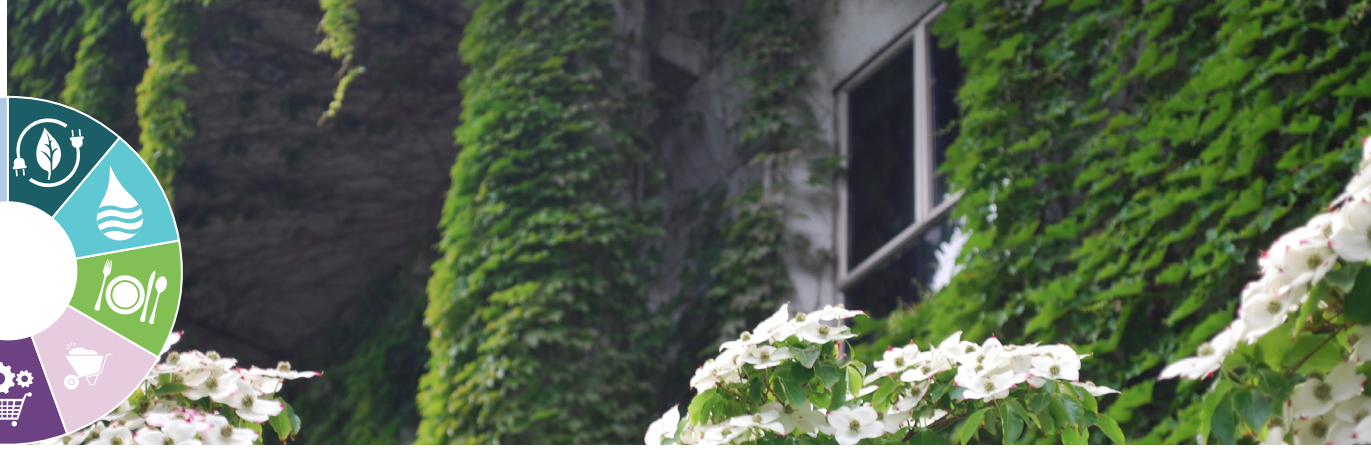
TIMELINE

WASTE

STRATEGIES	ACTIONS
E.1 Create an annual research challenge with campus or community partners in reducing waste and impacts of waste systems (e.g., circular economy)	**E.1.1** Use results of waste audit (see E.2.1 below) to identify opportunities to reduce waste and/or improve diversion **E.1.2** Post research challenge to recommend innovative solutions to reduce waste or improve diversion **E.1.3** Prioritize entrepreneurship in environmental challenges **E.1.4** Submit responses for grant funding
E.2 Engage classes across disciplines in service-learning projects surrounding waste and life cycle assessment	**E.2.1** Incorporate waste auditing in curriculum for GEP 396.4 Waste Management, Recycling, and Policy course. LEED-compliant waste audit guidelines are linked here.

EXAMPLE OF VENDOR PACKAGING TAKE-BACK PROGRAMS

TIMELINE



BUILT ENVIRONMENT

GOALS

CARBON

A. Increase the number of small projects that incorporate green building strategies

B. Increase the number of certified green buildings

C. Improve the use of sustainable materials in construction

REGIONAL RESILIENCE

D. Incorporate sustainability into planning

E. Improve backup power systems

ACADEMICS AND STUDENT LIFE

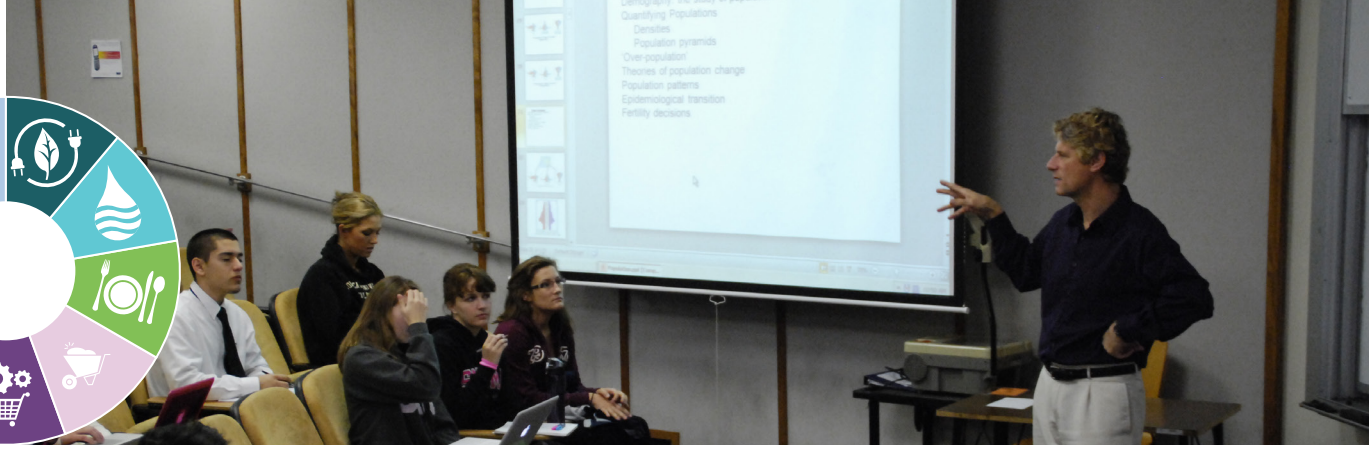
F. Increase student involvement in sustainable construction on campus

G. Improve awareness of green buildings and sustainable construction principles and practices

H. Increase outdoor teaching facilities

BUILT ENVIRONMENT

STRATEGIES	ACTIONS
A.1 Create sustainable construction and operations guidelines for small projects and existing buildings that do not fall within the scope of the CSU Sustainability policy	**A.1.1** Create energy efficiency guidelines **A.1.2** Create sustainable materials purchasing guidelines **A.1.3** Create water efficiency guidelines
B.1 Use the CSU Sustainability Policy as a platform for increasing the number of certified green buildings on the SSU campus	**B.1.1** Attempt LEED certification on more newly constructed buildings **B.1.2** Attempt LEED certification on an existing building **B.1.3** Enter all campus buildings into ENERGY STAR Portfolio Manager **B.1.4** Pilot the Living Community Challenge on Academic 3. It is recommended that the University pursue new building designs taking into account the Living Community Challenge Standards as a pilot project. **B.1.5** Certify the campus for LEED to facilitate LEED certification/equivalent of future buildings
C.1 Identify sources of sustainable materials	**C.1.1** Review Environmental Product Declarations (EPDs) for frequently used construction materials **C.1.2** Utilize consultants and contractors that are local and source a high percentage of materials locally
D.1 Collect information about building performance (energy and water savings, indoor environmental quality, etc.) over long term	**D.1.1** Extend budget cycle to look at long term economics of buildings that incorporate sustainable features
E.1 Ensure essential services are supported by backup power systems during outages	**E.1.1** Verify internet service at campus housing buildings and water pumps to ensure water pressure stays above 20 psi to avoid 3-day boil notice
F.1 Recruit a student intern from the Construction Management Certificate program or sustainability courses	**F.1.1** Create a paid internship for students to assist with LEED certification/ documentation, ENERGY STAR tracking, and learn about sustainable construction, 15-20 hours per week. See sample job description in Appendix C.
G.1 Educate students, staff and faculty about sustainable buildings	**G.1.1** Add signage on existing buildings highlighting sustainable features **G.1.2** Educate students, staff and faculty about sustainable buildings and campus ecology. Tree species could have signs with QR code to allow students to learn, also for facilities managers to know if they are research trees. Identify native plants also. **G.1.3** Capture information about stormwater management and educate students about the volume that runs off parking lots and how it's managed **G.1.4** Incorporate sustainability in training for maintenance staff
H.1 Build additional outdoor seating areas on campus and at preserves that can be reserved for class use	**H.1.1** Construct permanent outdoor classroom on campus with roof and comfortable seating that can be reserved by faculty and complies with Copeland Creek Master Plan **H.1.2** Build facilities identified in Galbreath Wildlands Preserve Facilities Master Plan that increase immersive experiences for students surrounding ecosystem services



ACADEMIC INSTRUCTION & RESEARCH

GOALS

CARBON

A. Provide telecommuting options for faculty and students

B. Enhance learning in ways that increase health, wellness and academic success of students

REGIONAL RESILIENCE

C. Improve wifi on campus and access to internet off-campus

D. Expand sustainability offerings in the curriculum

ACADEMICS

E. Develop innovative, interdisciplinary academic sustainability programs

F. Incentivize and support faculty to make curriculum changes

G. Promote sustainability classes to students

H. Increase Student Awareness of Sustainability

I. Infuse campus, preserve and North Bay sustainability and resilience challenges into teaching, research and events

J. Engage students and faculty in research and creative inquiry into local sustainability and resilience challenges with campus, preserves and community partners

K. Infuse key resilience workforce needs into certification courses and skill-development programs, including leadership programs and Construction Management certification program

L. Engage students and faculty in research and creative inquiry into local sustainability and resilience challenges with campus, preserve and community partners

M. Work with entrepreneurship program support projects addressing sustainability and resilience challenges

ACADEMIC INSTRUCTION & RESEARCH

STRATEGIES	ACTIONS
A.1 Identify which courses could be taught online	**A.1.1** Facilitate online courses where pedagogically appropriate **A.1.2** Track Scope 3 carbon emissions savings associated with telecommuting
B.1 Encourage and support outdoor instruction by faculty in all disciplines	**B.1.1** Identify existing areas where outdoor teaching has been provided in the past and additional locations suitable for outdoor teaching. Ensure areas may be reserved through Academic Affairs **B.1.2** Inventory existing infrastructure and teaching aids for outdoor learning (mobile white boards, shade structures, seating, etc.) **B.1.3** Procure additional infrastructure and teaching aids as needed **B.1.4** Promote outdoor teaching as an option through email, CTET, and other outreach options
C.1 Provide hotspot devices for students to check out	**C.1.1** Determine the inventory of existing hotspots **C.1.2** Work with appropriate lender (IT, Library, etc.) to set up a loan system **C.1.3** Notify students
D.1 Create new courses related to climate change, resilience, environmental justice, carbon neutrality, etc.	**D.1.1** Identify specific pathways that a student could follow to participate in Sustainability Sea Lane. Include an immersive, sustainability-focused educational study program. Include metrics of diversity and social justice in establishing and reviewing programs. **D.1.2** Use list of courses that include sustainability or are sustainability courses and identify those that would apply to Sea Lane or Minor.
D.2 Incorporate sustainability in Construction Management certificate program	**D.2.1** Add LEED AP accreditation to Construction Management Certificate program
E.1 Create a Sustainability Sea Lane or Minor	**E.1.1** Identify host department (GEP if appropriate) **E.1.2** Find funding
F.1 Apply for Grants, RTP credit, create a Sustainability Faculty Learning Community	**F.1.1** Identify grants pertaining to sustainability and inform faculty
F.2 Further research into funding	**F.2.1** Highlight areas where giving is needed (Sustainability in the Classroom, Campus as a Living Lab, Preserves, Collaboratives, more). **F.2.2** Consider funding via CEI channels
G.1 Incorporate information on sustainability programs into student orientation on an annual basis	**G.1.1** Administer the Sustainability Literacy Assessment every 3 years to track student knowledge and understanding of sustainability **G.1.2** Review and improve orientation content each year
H.1 Infuse high-impact educational practices in sustainability into existing course work in all disciplines: outdoor learning (e.g., SSU preserves, outdoor classrooms), service-learning, entrepreneur programs, problem-solving activities (e.g., Maker Space), cross-disciplinary courses	**H.1.1** Conduct a diversity assessment on ethnicity and course curriculum **H.1.2** Infuse campus, preserve and North Bay sustainability and resilience challenges into teaching, research and events **H.1.3** Engage students and faculty in research and creative inquiry into local sustainability and resilience challenges with campus, preserve and community partners

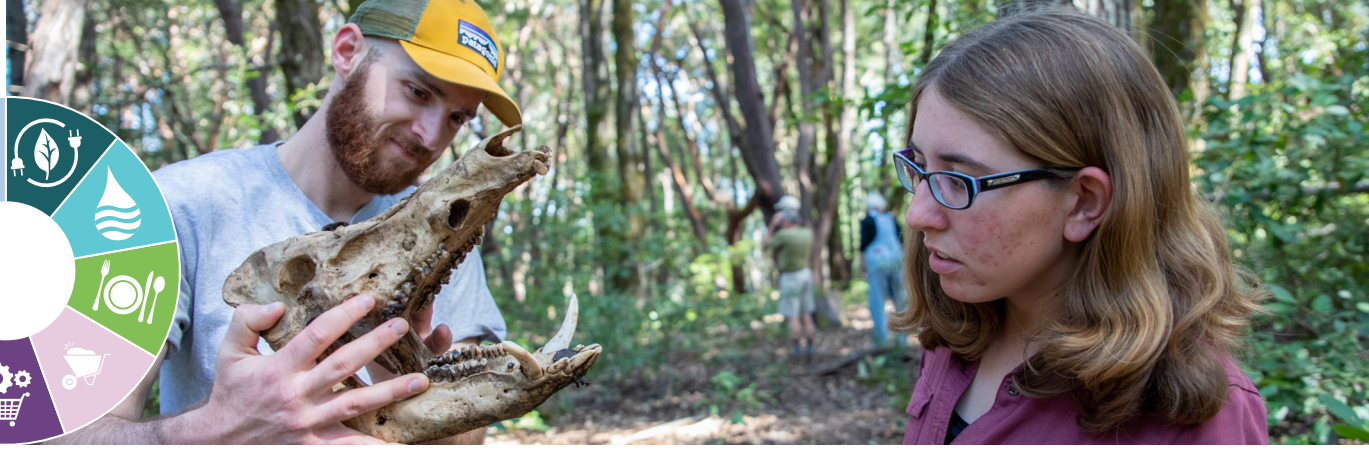
ACADEMIC INSTRUCTION & RESEARCH

STRATEGIES	ACTIONS
I.1 Incentivize and facilitate faculty to add to their courses examples of local challenges and how their discipline is needed to address those challenges	**I.1.1** Make disciplinary-specific information campus, preserve and North Bay challenges easily available to all faculty. **I.1.2** Collaborate with the Faculty Center to provide inter-disciplinary consultation for faculty who would like to incorporate sustainability into their programs. **I.1.3** Resurrect "Sustainability in the Classroom" grants to provide summer stipend for faculty integrating sustainability into course curriculum **I.1.4** Create a Sustainability Faculty Learning Community **I.1.5** Enhance support for class field trips to campus eco-ag corridor and SSU preserves for students to learn about local human-environment interactions
I.2 Create new courses related to climate change, resilience, environmental justice, carbon neutrality, etc.	**I.2.2** Find out which departments are designing new courses and whether sustainability and resilience may be appropriate content for integration in the course. **I.2.3** Incentivize and create a clear process for developing interdisciplinary courses that integrate economic, culture and environmental aspects of sustainability and resilience.
I.3 Identify and support invited speakers to speaker series and classrooms on North Bay sustainability and resilience challenges	**I.3.1** Focus speaker series, such as North Bay Forward, Dig into Nature, and Ecology Forum, on local earth and equity issues issues and make a library of recordings available **I.3.2** Make disciplinary-specific information about ecosystems services and regional challenges easily available to faculty and provide curriculum revision stipend support **I.3.3** Provide presentations and invited speakers to interested faculty
I.4 Develop interdisciplinary structures to promote learning about sustainability and resilience across all disciplines	**I.4.1** Create team-taught, cross-cutting courses and find a funding mechanism to incentivize this and overcome administrative hurdles
J.1 Support inquiry partnerships surrounding environment and inquiry	**J.1.1** Expand Education-into-Action Research Teams (e.g., Rising Waters, Fire Up model) that partner faculty and students with regional leaders on emerging challenges **J.1.2** Bring expertise of faculty to support community challenges through contracts and services, such as Center for Sustainable Communities, and Anthropological Studies Center
J.2 Engage classes across disciplines in service-learning projects	**J.2.1** Build on CCE and CEI activities to create opportunities for class research and inquiry that supports long-term, inter-disciplinary meaningful contributions to sustainability challenges in the region
J.3 Build on WATERS Collaborative to develop grants or faculty and students to address local challenges	**J.3.1** Develop donor support fund or build existing endowed funds (e.g., Stephen Norwick Memorial Fund) to generate meaningful funding that encourages faculty and students to work on sustainability and resilience projects with community members.
J.4 Present sustainability and resilience project ideas to students choosing capstone projects (e.g., Engineering Science capstone process)	**J.4.1** Develop list of current capstone courses across campus **J.4.2** Fund staff time needed to compile lists of community leaders and challenges, scale projects to meet capstone course structure, and present targeted opportunities to students in capstone courses.
K.1 Share successful models for co-curricular models that teach skills and give students practice applying skills to regional projects (e.g., Naturalist Training, Land Management Training)	**K.1.1** Package existing co-curricular opportunities (e.g., volunteer opportunities, trainings, certifications, etc.) for students interested in developing skills in sustainability and environment. **K.1.2** Explore opportunities to integrate sustainability and resilience into existing co-curricular programs

TIMELINE

ACADEMIC INSTRUCTION & RESEARCH

STRATEGIES	ACTIONS
L.1 Support inquiry partnerships surrounding environment and inquiry	**L.1.1** Expand Education-into-Action Research Teams (e.g., Rising Waters, Fire Up model) that partner faculty and students with regional leaders on emerging challenges **L.1.2** Bring expertise of faculty to support community challenges through contracts and services, such as Center for Sustainable Communities, and Anthropological Studies Center
L.2 Engage classes across disciplines in service-learning projects	**L.2.1** Build on CCE and CEI activities to create opportunities for class research and inquiry that supports long-term, inter-disciplinary meaningful contributions to sustainability challenges in the region
L.3 Build on WATERS Collaborative to develop grants or faculty and students to address local challenges	**L.3.1** Develop donor support fund or build existing endowed funds (e.g., Stephen Norwick Memorial Fund) to generate meaningful funding that encourages faculty and students to work on sustainability and resilience projects with community members.
L.4 Present sustainability and resilience project ideas to students choosing capstone projects (e.g., Engineering Science capstone process)	**L.4.1** Develop list of current capstone courses across campus **L.4.2** Fund staff time needed to compile lists of community leaders and challenges, scale projects to meet capstone course structure, and present targeted opportunities to students in capstone courses.
M.1 Incentivize and facilitate faculty to add to their courses examples of local challenges and how their discipline is needed to address those challenges	**M.1.1** Make disciplinary-specific information campus, preserve and North Bay challenges easily available to all faculty **M.1.2** Collaborate with the Faculty Center to provide inter-disciplinary consultation for faculty who would like to incorporate sustainability into their programs **M.1.3** Resurrect “Sustainability in the Classrooms” grants to provide summer stipend for faculty integrating sustainability into course curriculum. **M.1.4** Create a Sustainability Faculty Learning Community **M.1.5** Enhance support for class field trips to campus eco-ag corridor and SSU preserves for students to learn about local human-environment interactions



STUDENT LIFE

GOALS

CARBON

A. Engage students and faculty in energy and waste reduction programs in classrooms, labs and student programs

REGIONAL RESILIENCE

B. Improve student wellbeing and resilience on campus, particularly in response to wildfires, but also related to food security, cost of living, etc. (ASL 1ai)

C. Increase students' ability to continue learning during climate emergencies

D. Reduce existing stressors on vulnerable student populations

STUDENT LIFE

STRATEGIES	ACTIONS
A.1 90% of all academic departments complete the Green Office Certification Program by 2030	**A.1.1** Conduct EcoAssessment™, an easy-to-use online tool that credits campus for completed initiatives.
A.2 Provide electric vehicles for field trips	**A.1.2** Complete transition to electric fleet vehicles *(see Transportation Action A.1.1)*
B.1 Create experiences for all incoming Freshmen that connect students to each other, campus, environment, and local community members	**B.1.1** Trips to Preserves **B.1.2** Use outdoor classroom spaces for orientation activities **B.1.3** Ask students to share any experiences they have had in natural disasters and how it affected them. Follow stories with descriptions of resilience measures currently in place and those that are planned.
B.2 Infuse place into existing programs (e.g., Summer Bridge)	**B.2.1** Add an element of historical ancestry or field trips to the Preserves
C.1 Increase exposure to remote instruction technologies and accessibility	**C.1.1** Ensure instructors are aware of remote instruction technologies available at CTET **C.1.2** Communicate remote instruction process to students during orientation
C.2 Identify Cool down locations on campus	**C.2.1** Identify the buildings with high occupant capacity, have air conditioning, and standby generators. **C.2.2** Discuss designating them as cooling centers during heat emergencies with facilities staff and building administrators. The Student Center is already designated as such, although the air conditioning does not have backup power. **C.2.3** Update campus maps with cooling centers identified. **C.2.4** Plan upgrades to other buildings to be designated as cooling centers in the future.
D.1 Conduct gap analysis for Basic Needs Initiative to determine where students may be vulnerable during emergencies and recovery	**D.1.1** Merge findings into the campus Emergency Plan
D.2 Align MESA program with a research challenge focused on climate resilience	**D.2.1** Prioritize entrepreneurship in environmental challenges.
D.3 Infuse outdoor experiences into physical and mental health programs	**D.3.1** Work with SSU health programs and therapists to find appropriate opportunities to provide students, faculty and staff with information about the physical and mental benefits of outdoor experiences
D.4 Determine how SSU can increase resilience of students at risk.	**D.4.1** Assess the cumulative effects of SSU pre-school, elementary school, middle school, high-school, college readiness and retention programs that increase educational opportunities for vulnerable populations (e.g. TRIO, CAASE, Summer Bridge) **D.4.2** Identify ways that SSU can coordinate regionally for the best possible outcomes for at-risk students