

A photograph of the Humboldt State University campus. In the foreground, a large, light-colored stone wall with a red-tiled roof and a small tower on the left stands on a green lawn. The words "HUMBOLDT STATE UNIVERSITY" are inscribed on the wall. In the background, there are more campus buildings, trees, and a clear blue sky.

HUMBOLDT STATE UNIVERSITY

**CLIMATE ACTION PLAN**  
**PROGRESS**  
**REPORT**

**2019-20**

# Climate Action Plan Progress Report

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*Krissi Feibig with the Waste Reduction & Resource Awareness Program (WRRAP) collects food scraps from department break rooms using an electric vehicle. The food scraps are then turned into compost for use on campus and by students.*



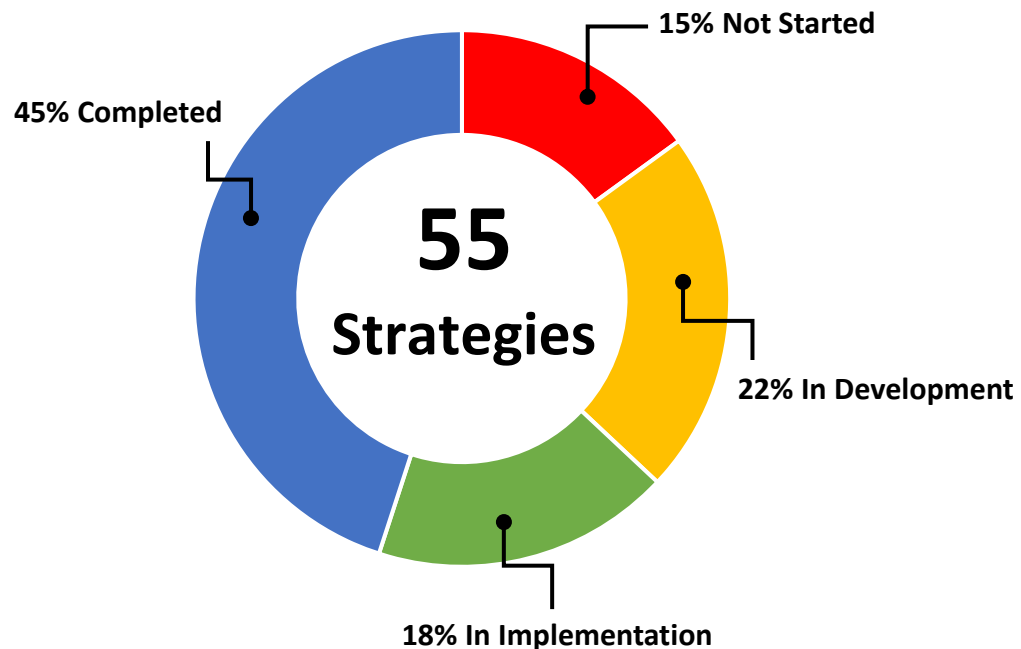


# INTRODUCTION

**HSU's Climate Action Plan (CAP) includes a total of 55 strategies** for achieving facilities and fleet greenhouse gas emissions reductions, for furthering the integration of sustainability into academics, and for engendering a culture of sustainability across the campus. HSU adopted the plan in 2017.

This Progress Report provides an update on the implementation of strategies in the plan and on achieving greenhouse gas emissions reductions. It begins with the goals and vision of the CAP, followed by an overview of campus emissions, highlights of major accomplishments, and details on the status of each strategy within the plan. The progress report concludes with an overview of the planned 2022 update to the Climate Action Plan.

## STATUS OF STRATEGIES IN THE CAP



# CLIMATE ACTION PLAN GOALS AND VISION

## THE GOALS

- HSU will reduce facility and fleet greenhouse gas (GHG) emissions to 1990 levels by 2020.
- By 2040, HSU will further reduce emissions to 80 percent below 1990 levels.
- By 2050, HSU will achieve carbon neutrality.

## THE VISION

- Campus leadership will evaluate planning, investments, policy development and decision-making processes through a social and environmental sustainability lens.
- Natural gas and electricity consumption will decline with the implementation of energy efficiency measures, building metering, fuel-switching and occupant education campaigns.
- More of our purchased electricity will come from eligible renewables, and more solar will be installed on campus.
- Students, faculty and staff will have greater access to smart transportation alternatives, including public transit, bike share, ride share, and other programs.
- HSU will reduce waste generation while increasing diversion of food waste, construction debris, and other recoverable and recyclable materials, from the landfill.
- More of our campus fleet vehicles will be powered by low-carbon fuels, including electricity and biofuels.
- We will be renowned for the interdisciplinary study of the social, economic and environmental dimensions of sustainability.
- Sustainability will be incorporated into the institutional learning outcomes for all students.
- More classes, within all disciplines, will offer sustainability-related or sustainability-focused content.
- More students will engage with sustainability outside of the classroom, via service learning and internships with local sustainability practitioners.
- More faculty and staff will practice sustainability behaviors in their classrooms and workspaces.

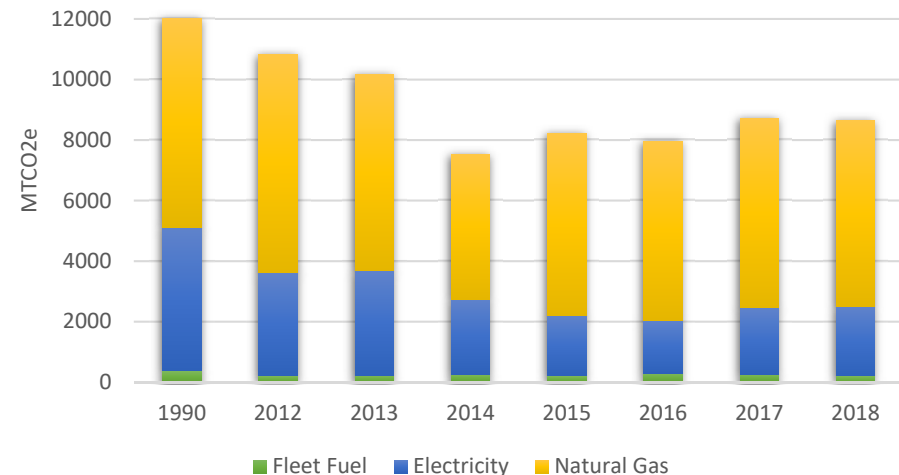
# CAMPUS CARBON EMISSIONS

HSU is steadily cutting its facilities and fleet carbon emissions below 1990 levels.

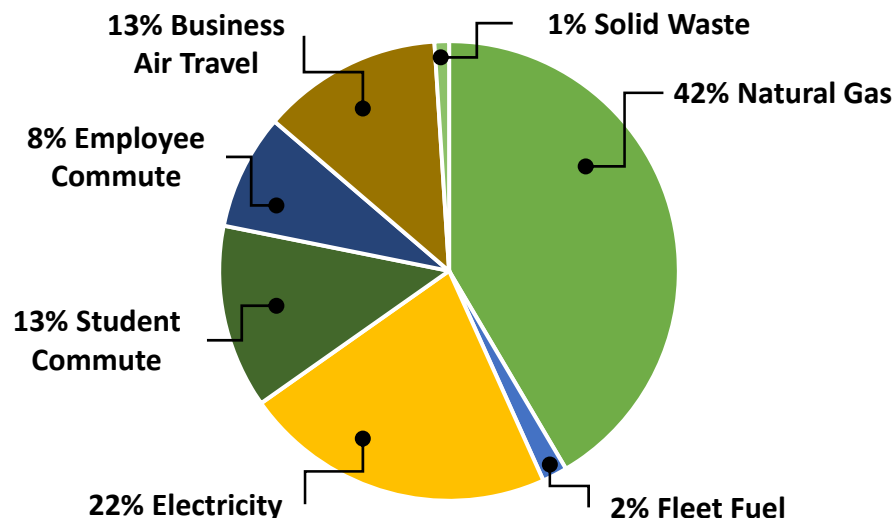
Among other factors, these reductions are due to a combination of:

- Energy efficiency measures leading to declines in gross electricity and natural gas consumption;
- Increasing percentage of purchased electricity from eligible renewables and natural gas;
- Localized warming trend leading to steady decline in artificial heating requirements;
- Use of B20 biodiesel in fleet vehicles and buses, and
- Outreach campaigns to engage the campus community in energy conservation.

## 2018 EMISSIONS WERE 28% BELOW 1990's



## 2018 CARBON FOOTPRINT



Other campus activities, besides operating our facilities and fleet, contribute to the campus carbon footprint.

We also track emissions released from certain related activities. These indirect emissions are from sources not owned or directly controlled by HSU, but nonetheless are critical to the operations of the campus:

- Student, faculty and staff commuting;
- University business air travel, and
- Solid waste disposal.

Although our emissions reduction goals focus on our facilities and fleet, this plan includes strategies to curb these indirect emissions.



### SCORING ENERGY SAVINGS WITH LIGHTING UPGRADES

Facilities Management implemented a process to install Light Emitting Diode (LED) lighting with smart controls as part of any interior remodel project. Facilities also retrofitted the Lumberjack Arena, campus streetlights and other significant interior and exterior locations with LED technologies.



### INTEGRATING GREEN BUILDING TECHNOLOGIES

The Schatz Energy Research Center (SERC) hosts a west wing (built in 2017) with cutting-edge technologies, including smart LED lighting, EV charging and a heat pump. The main SERC building (built to LEED Gold standards) received a 20 kW solar PV system in 2018.



### SHARING BIKES

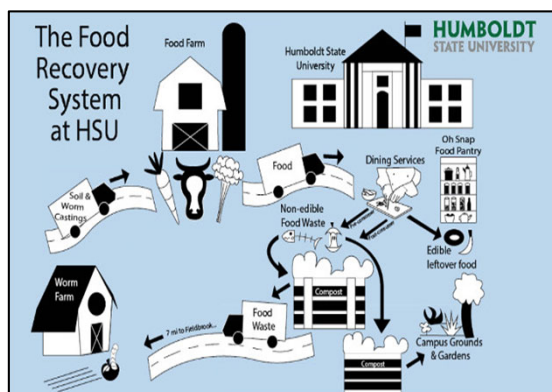
HSU, in conjunction with the City of Arcata, launched the Zagster bike share service in 2017 to help students, faculty and staff get around campus and town while reducing their carbon footprint. The program is a cost-effective and convenient approach to relieving parking constraints while having positive benefits to health and the environment. There are now over 1,200 members in the bike share program.





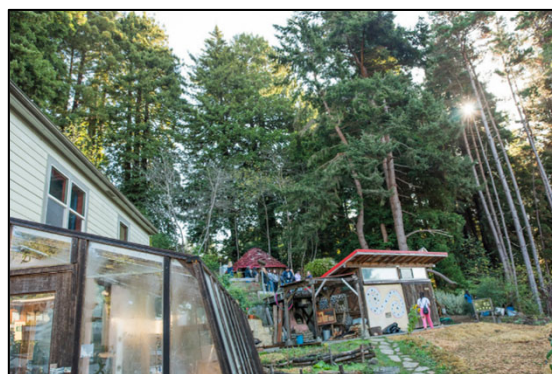
## ELIMINATING SINGLE USE DISPOSABLES

HSU and the CSU system enacted efforts to eliminate single-use disposable items or switch to locally compostable products. HSU's Catering Services went zero waste by donating/composting leftovers and using only durable tableware. The OZZI program provides reusable containers for to-go items that can be returned for a clean container. At the campus cafes and market, everyone is encouraged to bring their own reusable cups or pay a little extra to get their coffee or tea in a mason jar. HSU stopped selling water bottles in 2012, the first public university in California to do so.



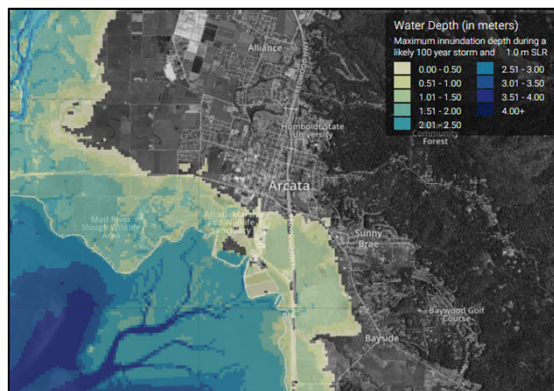
## RECOVERING FOOD TO REDUCE LANDFILL WASTE

The U.S. EPA awarded HSU a 2017 Food Recovery Challenge Certificate of Achievement. HSU reduced food waste sent to landfills by more than 66 percent from 2015 to 2016. And in 2016, food recovery activities reduced 52 metric tons of CO<sub>2</sub> equivalent, which is comparable to seven homes worth of electricity use per year. The California Higher Education Sustainability Conference (CHESC) named the University a 2017 Best Practice Award Winner in the field of Innovative Waste Reduction. The Office of Sustainability, Oh SNAP! Food Pantry and HSU Dining have worked together to develop a distribution system of leftover food to students in need.



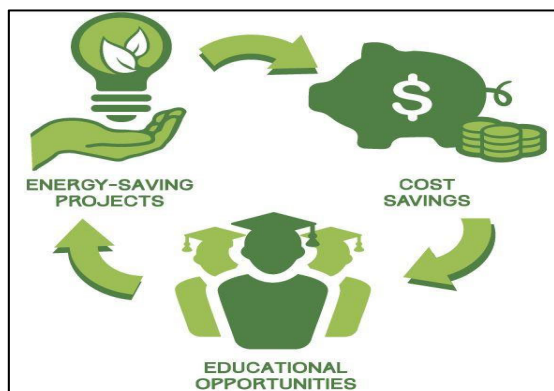
## BUILDING SUSTAINABILITY LITERACY

Faculty and the Office of Sustainability continue to develop pathways for integrating sustainability into the curriculum. The new Sustainability and Environmental Awareness Institutional Learning Outcome states that all students graduating from HSU will acquire the competence to be able to explain how the functions of the natural world, society, and the economy depend on the resilience, sustainability, and conservation of ecological systems. 79% of academic departments now offer courses with sustainability content. A sustainability literacy assessment is conducted each semester to track student learning and engagement with sustainability issues and topics.



## BUILDING COMMUNITY RESILIENCE TO CLIMATE CHANGE

Sea level rise, storm surge, flooding and wildfire are some of the impacts of climate change on the Humboldt Bay region. In 2018 the Office of Sustainability worked with the City of Arcata and other regional and campus stakeholders to develop an Initial Assessment of Campus-Community Resilience. This assessment has provided the basis for ongoing workshops and public forums to identify campus-community strengths and vulnerabilities to climate change, as well as actions to mitigate those impacts. Staff and faculty are now engaged with integrating climate resilience into the curriculum and developing a resilience plan for the campus.



## INVESTING IN A GREENER FUTURE

In 2019 HSU increased its investments in socially and environmentally responsible institutional mutual funds to 26 percent, building off of HSU's divestment from direct investments in fossil fuels. The Go Green Fund was established by the HSU Advancement Foundation to pay student interns and fund improvements that enhance the energy efficiency and environmental responsibility of the campus. Each year the Humboldt Energy Independence Fund (HEIF) approves funding for student-conceived projects to improve resource conservation and student engagement, including LED lighting retrofits, pump replacements, and compost bins.







## ACHIEVING GOLD

In 2017 HSU earned a STARS Gold rating in recognition of its sustainability efforts and achievements from the Association for the Advancement of Sustainability in Higher Education (AASHE). STARS – the Sustainability Tracking, Assessment & Rating System – includes a wide range of sustainability measures and is used by hundreds of colleges and universities. With close to 900 participating institutions on six continents, the STARS program is the most widely recognized framework in the world for publicly reporting comprehensive information related to college or university sustainability performance.

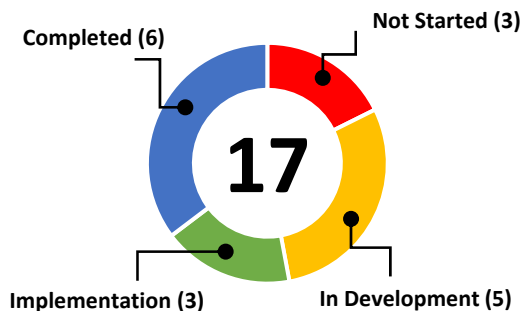


# IMPLEMENTATION SUMMARY FOR ALL STRATEGIES




This section summarizes progress made to date in implementing the strategies contained in the 2017 Climate Action Plan. Status of each strategy is identified by the following marker:

	<b>BLUE:</b> The strategy is <b>completed</b>
	<b>GREEN:</b> The strategy is in <b>implementation</b>
	<b>YELLOW:</b> The strategy in in <b>development</b>
	<b>RED:</b> The strategy has <b>not started</b> or will not be implemented














## ENERGY & UTILITIES STRATEGIES



Energy & Utilities strategies are designed to curb emissions associated with the operations of our facilities and our fleet vehicles. As of 2019, 35% of the strategies in this section had been completed. However, strategies with potentially the largest impact on emissions (i.e., installing commercial scale solar and purchasing 100% renewably generated electricity) have yet to be started or are in development.

STATUS	STRATEGY	UPDATE
	Implement pool efficiency measures as per Pool Energy Management Group Recommendations	High efficiency lighting, pump, filtration and control system installed.
	Enforce CSU Executive Order (EO) 987 and remove unnecessary devices like personal refrigerators, heaters, and decorative lighting	No mandate for enforcement, although Green Workplace Assessments educate employees on energy savings
	Reduce energy consumption from campus computing through server virtualization, desktop power management and other efforts	ITS turned off legacy file storage system, retired hard drives and turned off servers

## ENERGY & UTILITIES STRATEGIES (Cont.)

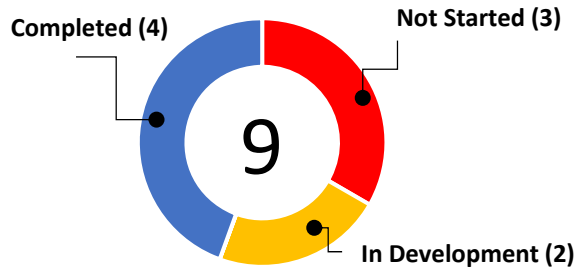
STATUS	STRATEGY	UPDATE
	Use renewable diesel fuel in diesel fleet vehicles	Diesel vehicles in fleet now using B20 biodiesel fuel
	Implement building HVAC and water heating upgrades with controls	Funding approved, in design phase for Natural Resources and SBS buildings
	Develop building scheduling system to consolidate off-hour and summer classes into select buildings as per EO 987	Academic Affairs conducted initial feasibility study, but has not moved forward
	Implement high efficiency interior lighting guidelines for all renovation and new construction projects	All renovation, refresh and new construction projects
	Increase energy awareness and action through better signage and outreach campaigns	Ongoing resident energy/water competitions, Green Campus Power Down campaign and outreach
	Upgrade exterior lighting systems to LED with appropriate controls	LEDs installed in streetlights and other exterior fixtures
	Install rooftop solar PV on campus buildings through a power purchase agreement (PPA)	SunPower did initial analysis, CSU Phase 4 Solar Master Enabling Agreement released, but campus has not pursued
	Encourage all divisions participate in the Green Workplace Assessment and Certification Program	In 2017 required by all departments in Administrative Affairs, now core project of Green Campus student team
	Begin planning and advocating for switch to an electrical provider with a climate friendly power content label	Current contract in place through 2023, CSU Chancellor's Office negotiating for 100% renewable option for campuses
	Eliminate hot water option in residence hall washing machines and conduct outreach to educate residents on cold water laundry	Laundry machines in resident laundry rooms converted to cold water wash only, outreach campaign in progress
	Investigate opportunities to improve waste heat/electricity utilization of Housing co-generation plant	Co-generation plant was taken off-line due to malfunction, cost-benefit analysis underway to determine next steps
	Install individual meters with automated controls and real-time feedback on primary campus buildings	Funding was approved and meters and software were selected, with expected installation completion in 2020
	Apply carbon neutrality building standards to new construction projects and major renovations when appropriate	HSU follows CA Title 24 building standards, which requires green design, energy and water conservation measures

## ENERGY & UTILITIES STRATEGIES (Cont.)

STATUS	STRATEGY	UPDATE
●	Apply heat pump technology in campus buildings to reduce natural gas used for space and water heating	Heat pump installed in Schatz Energy Research Center expansion, heat pump scheduled for install at CCAT



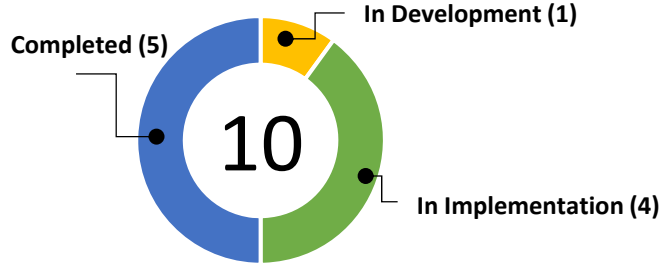
## TRANSPORTATION STRATEGIES



Transportation strategies are designed to curb indirect emissions associated with campus business travel and student/employee commute, expand alternative transportation programs, and educate the campus community about smart transportation options. As of 2019, 44% of the strategies in this section had been completed, 22% were in development, and the remaining 33% had not started.

STATUS	STRATEGY	UPDATE
	Expand Bicycle Learning Center (BLC) to host bike repair instruction, bike tours, and other events and workshops	The BLC transitioned from a volunteer club to a funded program, with paid instructors and expanded offerings
	Develop Transportation Demand Management plan to improve bike/pedestrian infrastructure and accessibility to/from campus	Parking Market Demand Study completed, CSU Policy now requires campuses to develop a TDM plan
	Develop a bike share and/or bike rental program	Launched the Zagster bike share program in partnership with the City of Arcata
	Establish dedicated parking/charging for electric vehicles	EV charger installed with SERC expansion, campus seeking funding for additional chargers
	Establish carpool program	Carpool-only parking spaces now available during peak parking times
	Encourage limits to business travel by expanding use of video/teleconferencing technologies	Although video teleconferencing technology is in place, current travel restrictions are only based on budgets
	Expand marketing of Zip Car, Zim Ride and Jack Pass to first year students	Annual Alternative Transportation Fair during new student orientation, transportation options included in outreach
	Establish incentive for voluntary car-free commuter commitment: parking permit buy-back program	To date no activity to develop voluntary program, but other parking demand management strategies are being pursued
	Better align local bus schedules with class schedules to increase bus ridership, and offer Jack Pass for summer sessions	Consultant for City of Arcata conducted transit study and made recommendations to increase bus service

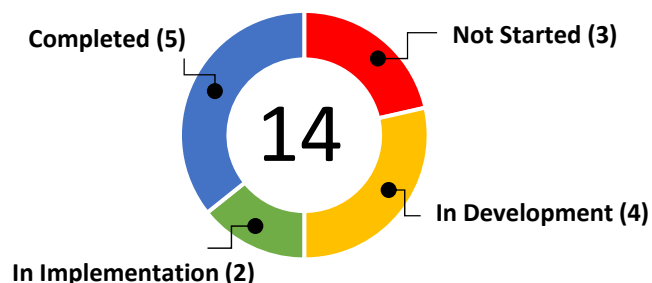
## WASTE, PURCHASING & FOOD STRATEGIES



Waste, purchasing and food strategies are designed to curb indirect emissions associated with the hauling and landfiling of solid waste. These strategies focus on reducing waste generation, improving recovery and recycling activities, and engaging the campus community in actively participating in waste reduction. As of 2019, 50% of the strategies in this section had been completed, 10% were in development, and the remaining 40% were in implementation.

STATUS	STRATEGY	UPDATE
●	Require and enforce increased construction & demolition debris recycling	C&D diversion rate requirement increased from 50% to 65% and codified in Construction Management Guidelines
●	Require double sided, black & white printing default set on all networked printer/copiers	Instructional Technology Support enabled default setting on all printer/copiers across campus
●	Write single use water container ban into formal policy that requires compliance from all State and non-State campus entities	Adoption of CSU Single Use Plastics policy requires complete phase out of water bottles and other plastics
●	Encourage online posting systems for surplus and inter-departmental and campus re-use of durable goods	Launched CampusWall secure online marketplace for the campus, Oh SNAP! launched its pop-up thrift store
●	Standardize recycling, compost and landfill bins, colors and signage across campus	Design and installation of interpretive signs over recycling, compost and landfill bin sets in peak traffic areas
●	Require paper towel composting while phasing out paper towels for hand dryers	Funding approved for additional electric hand dryers, pilot project ongoing to collect paper towels for compost
●	Require events held on campus be zero waste when feasible and practical	Catering Services switched to durable tableware only, voluntary Zero Waste Events certification for larger events
●	Food Recovery: Divert non-perishable food to the Food Pantry and/or local charities	Food Recovery Challenge participant, awarded Cal Recycle grant to expand food recovery operations
●	Convene Zero Waste Purchasing group to minimize packaging waste of purchases across campus	Participated in CSU working group to develop sustainable purchasing policy to be released in 2020
●	HSU Dining & Catering to donate, when feasible, any perishable food left over at end of event, or end of day	Training and system in place for Oh SNAP! food pantry to recover and redistribute food from Dining Services

## CURRICULUM & RESEARCH STRATEGIES








Curriculum & Research strategies are designed to prepare our students with the skills and knowledge to be sustainability leaders in their communities, to foster campus engagement with sustainable behaviors, and to expand teaching and research into sustainability challenges and solutions. As of 2019, 36% of the strategies in this section had been completed, 29% were in development, 14% were in implementation, and the remaining 21% had not started.

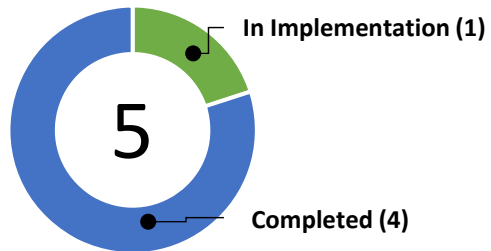
STATUS	STRATEGY	UPDATE
	Campus as a Living Lab: Expand utilization of the campus as a context for learning across all disciplines	Campus as a Living Lab grant funded program underway to increase literacy in sustainability and climate resilience
	Integrate sustainability offerings into orientation program and messaging	Sustainability gift bags to new students, mandatory attendance at alternative transportation fair, etc.
	Create an Eco-Rep (aka Sustainability Ambassadors) program in the residence halls	In 2020 the Sustainability Office will launch a student sustainability ambassadors program in the colleges
	Encourage yearly sustainability projects showcase (e.g., gallery or fair)	Sustainability integrated into annual IdeaFest research showcase and journal
	Develop directory of local sustainability practitioners that can be guest speakers	Sustainability Practitioners Directory is now utilized by faculty to connect students with experts
	Develop a sustainability pathway in general education (GE) courses	Proposed sustainability minor will provide coherent pathway for sustainability focused upper division GE
	Update/expand courses identified as sustainability-focused or related	New assessment process developed and launched in 2019 to identify sustainability-focused or –related courses
	Provide annual sustainability orientation for current and newly hired faculty	A faculty learning community on integrating sustainability into the curriculum will launch in 2020
	Annual Sustainability Champion Awards highlighting achievements of students, faculty and staff	Nominations, selections, and awards ceremony integrated into annual Earth Week events



## CURRICULUM & RESEARCH STRATEGIES (Cont.)

STATUS	STRATEGY	UPDATE
	Create designated outdoor classroom	No action taken on this strategy
	Establish an Institute for Sustainability on the academic side	No action taken on this strategy. Currently the Office of Sustainability is housed in Facilities Management
	Explore a sustainability learning outcome and assessment for seniors	Institutional learning outcome on sustainability adopted in 2019
	Develop a sustainability minor capitalizing on existing courses	Working group developing proposal for new sustainability minor, to be submitted in April 2020
	Pursue/explore a sustainability course or units requirement to graduate	Initial proposal developed and shared with the Integrated Curriculum Committee following faculty/staff workshop

## CATALYSTS



Catalysts are actions that, once implemented, can facilitate the implementation of the aforementioned strategies. To date, all but one of the catalysts has been completed.

STATUS	STRATEGY	UPDATE
	Formalize the HSU Advisory Committee on Sustainability	Committee charge adopted in 2017, committee continues to meet on a monthly basis during the academic year
	Assign a faculty Sustainability Champion	Faculty co-chair for the sustainability advisory committee
	Establish a Green Revolving Loan Fund	The Go Green Fund provides seed money to pay student interns and support sustainability projects
	Deploy individual utility meters with automated controls	Funding was approved, meters and software were selected, and installation is planned for 2020
	Student Sustainability Literacy Assessment	Longitudinal survey sent to new students in the fall and graduating students in the spring of each year

## KEY ELEMENTS OF THE 2022 CAP UPDATE

HSU is signatory to the Second Nature *President's Climate Commitment*, a pact focused on achieving carbon neutrality and building resilience to climate change impacts. The Climate Commitment calls for institutions to update their climate action plans every five years. HSU's CAP update, scheduled for release in 2022, will include the following elements:

- A goal of achieving **carbon neutrality by 2045** (five years earlier than in the current CAP), which is in line with CSU policy;
- **HSU Resilience Plan**, which identifies:
  - Campus strengths and vulnerabilities to climate change impacts
  - Actions to overcome vulnerabilities
  - Baseline measures to track performance of implemented measures;
- **Four core strategies** to move the campus towards carbon neutrality and strengthen resilience to climate change:
  - Eliminate the use of natural gas on campus by replacing boilers with electric heat pumps;
  - Procure 100 percent renewable electricity;
  - Install solar PV, battery and micro-grid technologies on campus, and
  - Manage HSU's forested holdings for sequestering carbon.



[www.secondnature.org](http://www.secondnature.org)



FOR MORE INFORMATION

To download the complete Climate Action Plan, and to learn more about HSU's climate action initiatives, go to **[facilitymgmt.humboldt.edu/climate-action-plan](https://facilitymgmt.humboldt.edu/climate-action-plan)**

Office of Sustainability

**[humboldt.edu/sustainability](https://humboldt.edu/sustainability)**



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