



CAMPUS SUSTAINABILITY COMMITTEE

MINUTES

Nov. 15, 2019

10:00 a.m., SSC-122

Committee Members Present: Carter, Chastain, Clyde, Daley, DeCarlo, Geiser, Goodsell, Lepore, Matiasek, Millard, Miller, Myers, Rodriguez, Ross, Simmons, Sistrunk, Teves, Trechter

Committee Members Absent: Guzzi, Kitchell, (IRES rep vacant)

Others Present: McNairn, Whiteley

Minutes

1. Agenda Approved.
2. Minutes from 10/25/2019 Approved.
3. Information: Update EM Revisions (Goodsell/Chastain/Sistrunk/Teves)
Approval process is progressing and is currently in the President's office, moving toward final approval.
 - Trechter offered follow-up with the President's office to help expedite final approval.
4. Procurement Subcommittee Lead, Jamie Clyde, was introduced, voted on and approved as chair.
5. Information: Subcommittee Updates
 - Each subcommittee lead provided verbal updates, detailed notes to be found on attached Subcommittee Update summary document.
 - Committee voted unanimously for Curriculum Committee lead, Tim Sistrunk, to move forward with plans for the Green Leaf designation.
 - Due to the volume of material to be covered at each meeting, it was recommended that a format for communicating streamlined subcommittee reports be created.
 - It was recommended that a process be determined for this committee to decide whether voting subcommittee actions is necessary.

1. Curriculum - Tim Sistrunk
2. Research – Sandrine Matiasek
3. Student Engagement – Kendall Ross
4. Transportation – Cheri Chastain
5. Zero Waste – Ryan Rodrigues
6. Procurement – Jamie Clyde
7. Natural Environment – Eli Goodsell
8. Water – Nani Teves
9. Agriculture – Cindy Daley
10. Energy – Mike Guzzi
11. Built Environment – DeCarlo

Subcommittee Work Plan

NOV 2019	Inventory existing efforts
DEC 2019	Develop 2-4 goals <ul style="list-style-type: none"> • 12-18 month timeline w/milestones • Impact on campus goals • Resources needed
FEB – MAR 2020	Progress report on goal milestones
APR 2020	Final progress report on AY goals to CSC

6. Announcements:

- The CSU, Chico Humanities Center's theme for 2019/20 is *The Environmental Humanities*, centering on the issues of rapid environmental and social change.
<https://www.csuchico.edu/humanitiescenter/>
- Dept. of Geography & Planning is conducting a Bike Path Survey and members were urged to participate. See signs along pathway and follow QR code to survey or see
<https://docs.google.com/forms/d/e/1FAIpQLSffZa5n1Dlc5qbnJFv22cHKxnbVRchNZ7Osy8KIbsJTdXuyg/viewform>
- Three committee members (Chastain/Goodsell/Kitchell) will be attending the Resilience In Sustainable rEconstruction Conference (RISE) Conference in Albany, NY next week. The focus is *Transforming University Engagement in Pre-and Post-Disaster Environments*.
- Committee members, starting with students, will be emailed and asked to check schedules for best time for next semester's meetings.

7. Next Meeting: December 13, 2019, 10:00 am, SSC-122 (*subcommittee goals due*)

8. Adjourned.



CAMPUS SUSTAINABILITY COMMITTEE

2019-2020

Subcommittee Updates – November 15, 2019

Subcommittee	Sub-committee members	Inventory existing efforts
1. Curriculum Tim Sistrunk	Tim Sistrunk (Chair – History) Cynthia Daley (Chair – Agriculture) Eli Goodsell (BCCER) Angela Casler (Buss) Lee Altier (Agriculture) Sandrine Matiasek (Geological & Environmental Sciences) Al Schademan (Education) Nate Millard (First Year Experience) Don Miller (Biology)	Widespread use of Green Leaf Designation across campus (Valuable for Chico distinctions and national reputation) -unclear process to attain this -instructors have changed -courses discontinued -some departments have merely claimed the symbol -it is an inaccurate measure of our curriculum now
2. Research Sandrine Matiasek	Sandrine Matiasek (Chair – Geological and Environmental Sciences) Mandy Banet (Biology) Pablo Cornejo-Warner (Civil Engineering) Jeff Davids (Civil Engineering and Agriculture) Kristen Kaczynski (Geological and Environmental Sciences) Jenn Rotnem (Managing Director of the Center for Water and the Environment)	<ul style="list-style-type: none"> - Request a list of awarded grants that relate to sustainability research from CSE - Reach out to Center for Water and the Environment (CWE), Center for Regenerative Agriculture and Resilient Systems (CRA), and other Centers (26 Centers at Chico, https://www2.calstate.edu/impact-of-the-csu/research/Pages/research-centers.aspx) - Reach out to Institutional Research - Potentially survey department Chairs to identify faculty involved in sustainability research Need to define sustainability research: environmental, social, economic, include creative activities
3. Student Engagement Kendall Ross	Staff: Sarah Wood (admissions), Katie Peterson (AS/GAC), Mariana Apraiz-Pauls (Star Center), Kendall Ross Students: Haley Coffman, Jabari Jenkins	
4. Transportation Cheri Chastain	Cheri Chastain (FMS Sustainability) Wyatt West (City of Chico)	City of Chico Bicycle Plan 2018 Update Chico State Bike Parking Utilization Study

Subcommittee	Sub-committee members	Inventory existing efforts
	LaDona Knigge (Dept. Geog & Planning) Megan Berg (student) Thomas McNairn (student) Dale Glander (UPD) Bikram Kahlon (City of Chico) Ivan Garcia (BCAG) Heather Mccafferty (Dept. Anthropology) Jeff Schwein (Green DOT)	Chico State Climate Action Plan (2011)
5. Zero Waste Ryan Rodrigues	Ryan Rodriguez (Chair – A.S. Recycling Coordinator) Mike Alonso (FMS – Grounds and Landscape Manager) Megan Berg (Student – Environmental Science Major) Cheri Chastain (FMS - Sustainability Programs Manager) Kelly Engle (UHFS – Programing Coordinator) Becky Holden (Recology - Zero Waste Specialist) Tom Rider (A.S. - Dining Services Director) Durbin Sayers (FMS - Manager of Custodial and Moving Services) Randy Southall (FMS – Asst. Manager of Custodial)	-A.S. Recycling (recycle: food waste, paper, cardboard, cans & bottles, hard to recycle items: ink/printer cartridges, wood, scrap metal) -A.S. Sustainability (used office supply reuse/donation center, hydration station rentals, reusable dining ware for catering) -Straw-free campus initiative -Periodic sustainability themed events (trinity commons) -80% CSU-system wide mandated landfill diversion rate -Saturday public recycling drop-off service (A.S. Recycling warehouse) -Plus many others
6. Procurement Jamie Clyde	Cheri Chastain (Sustainability Programs Manager, FMS) MacKenzie Deeter (Sustainable Consultation of Office Practices) Kenny Wahl (Hazardous Materials Manager – EHS)	
7. Natural Environment Eli Goodsell	Eli Goodsell (Chair – Ecological Reserves) Holly M Swan (Environmental Health and Safety) Don Hankins (Faculty, Geography) Steve Feher (Faculty, Butte College) Alyssa Myers (Students, Green Campus) Jackson Webster (Faculty, Civil Engineering)	
8. Water Nani Teves	Nani Teves (Chair - AS Sustainability Coordinator) Mike Alonzo (Supervisor of Grounds & Landscape Services)	See attached

Subcommittee	Sub-committee members	Inventory existing efforts
	Michael Spiess (Agriculture Professor) David Kehn (Cal Water Superintendent) Michal Hanson (Environmental Science Student) Brittany Van Es (Hydrology Student)	
9. Agriculture Cindy Daley	Cynthia Daley (Chair – Agriculture) Noelle Ferdon (Political Science & Criminal Justice) Jamal Javanmardi (PSSC - COA) Scott Grist (OVP – University Farm) Sheila McQuaid (CHC) Matt Housley (OH – University Farm) Tom Rider (AS Dining Services) Jake Brimlow (AGBS – COA) Lee Altier (PSSC – COA) Garrett Liles (PSSC – COA) AS Student Representative AGR Student Representative Priya Tuvell (Program Manager CRARS)	<ol style="list-style-type: none"> 1. Collected soils on campus, University Farm, Meridian Road Ranch for soil carbon inventory 2. C:N ratios are underway for soil carbon inventory 3. SFAC proposal for a team of students to help with soil carbon inventory, and carbon sequestration estimates through COMET software assessments. 4. Planning session for Carbon Farm Planning set for January 16th for training with Carbon Cycle Institute, Resource Conservation Districts and Natural Resource Conservation Service at the University Farm. The UF will serve as the model for CFP. 5. Pulling together our team for the "Sustainable Food Systems" gathering that we hope will take place on the 28th of March (Saturday after the conference). This will be all the stakeholders from AS Real Food Challenge; Organic Veg Project Manager; AS Dining Service; AS Sustainability; AS Procurement; CRARS; North Valley Food Hub co-creators; local restaurants and businesses with an interest in local food; EcoTrust Food Hub in Portland OR; other successful food hubs that could provide input.
10. Energy Mike Guzzi	Mike Guzzi (FMS) Jason Whiteley (FMS – Energy Manager) Marie Patterson (Construction Management)	Campus Energy Conservation Recommendations (2013) Contract has been signed between Marie Patterson and FMS to write a Strategic Energy Master Plan for campus

Subcommittee	Sub-committee members	Inventory existing efforts
	Cheri Chastain (FMS Sustainability) Ashley Manning (Green Campus Fellowship) Mackenzie Deeter (Green Campus)	Chico State Climate Action Plan (2011)
11. Built Environment DeCarlo	Joe DeCarlo (Chair, University Housing Associate Director) Marie Patterson (Assistant Professor, Construction Management) Kaylee Biedermann (VP of Facilities and Services, Associated Students) Zachary Smith (FMS, Director of Planning, Design, & Construction) Jason Whitely (FMS, Assistant Chief Engineer)	



CAMPUS SUSTAINABILITY COMMITTEE Curriculum Subcommittee Work Plan

COMMITTEE MEMBERS

Tim Sistrunk (Chair – History)
Cynthia Daley (Chair – Agriculture)
Eli Goodsell (BCCER)
Angela Casler (Buss)
Lee Altier (Agriculture)

Sandrine Matiasek (Geological & Environmental Sciences)
Al Schademan (Education)
Nate Millard (First Year Experience)
Don Miller (Biology)

GOALS

The overall goal of this subcommittee is to promote socially, environmentally and economically responsible learning through curriculum to understand and accomplish the sustainability goals of the university.

Specific goals for the subcommittee include:

GOAL	MEASUREMENT	RESOURCES NEEDED	TIMELINE
1. Develop a program to refresh the Green Leaf system to designate courses as meeting requirements for a sustainability designation.	Obtain confirmation of approval process (Jason Nice – CAB; Kate McCarthy, Dean of Undergrad Ed.; Chiara Ferrari – Chair of Academic Senate). Monitor progress of meeting goals 2 & 3.	Information and outreach to educate faculty about Sustainability PLOs. Schedule Open Forum for feedback and discussion of revised GL Program.	Completed by Fall 2020 with the program full implementation in Spring 2020
2. Establish firm criteria for Green Leaf eligibility.	Each course needs to cover three SLOs. Demonstrate with high impact practices that the three SLOs will be covered. Establish a rubric to assess Green Leaf eligibility. Create standards.	SLOs for GE Sustainability & Climate Change pathway. UN Sustainable Development goals.	
3. Create an application process.	All courses need to reapply. Submit syllabi and answer key questions in the Green Leaf application.	Blind, peer-reviewed process OR Subcommittee to review applications.	
4. Approval of goals 1, 2 & 3 through proper university channels.	Submit to Senate.		

11/14/2019

Water Subcommittee

Existing efforts, projects and requirements identified

Current water on campus

- Potable water provided by CalWater
 - The water we use and drink is groundwater (in Chico 150 gallons/person/day)
 - The quality and quantity is good
 - Some areas are subject to plumes of various contaminants
 - ~30Ft. drop in water table levels over time
- Landscaping water utilizes one (1) unmetered well on campus
- Water is supplied to the Farm by (10) wells. Nine of the ten wells have turbine pumps ranging from 50 to 125 Hp. One well has a small submersible pump and two are monitored.

Requirements and policies

- State of California, SB X7-7 20% reduction in per capita water use by 2020
- State, EO B-37-16, Making Water Conservation a California Way of Life – A Framework.
- 2016/2018 California Plumbing Code
- CSU, Chancellors Office 20% by 2020 goal

Additional commitments

- The Presidents' Climate Leadership Commitments / Increase Resilience
 - Human Health and Wellness – Improve Water System Management and increasing access to potable water.
 - Increased access to cooling – improve access to Hydration Stations

2018 STARS Reporting

- Water Category: 3.18 out of 7
 - Water Use: 2.18 out of 5
 - Rainwater Management: 1 out of 2
- Achieved a 19% reduction in potable water use per weighted campus user from baseline

Our more recent efforts

- Grounds
 - Main goals are to address plant make up and encourage stormwater infiltration
 - 2015 SSC Bioswale replanted and updated with drip. Now very little water is needed for the native plants.
 - 2018 Gateway Science Museum field replaced with natives on drip and an Eco-mat under the turf. Drip emitters and Eco-mat are 97% efficient.
 - Yolo field replaced with Eco-mat.
 - Rose garden irrigation switched from surface 'flooding' to drip and mulch, resulting in less disease and less pesticide use.

- Upgraded hardware with a booster pump for the sports field
- Evapotranspiration is monitored on the soccer field using Calsense
- University Farm
 - The Farm is a teaching facility and has many different irrigation systems and crops. This represents some unique challenges when compared to production farms
 - Moving forward on conservation projects as funds become available
 - The Farm has made a number of improvements to the irrigations systems in the past few years. These include replacement of aging pumps with new pumps and Variable Frequency Drives (VFD). These upgrades increased the efficiency of pumping allowing the pump flow to be adjusted to the water needs. The surface irrigation systems are primarily concrete lines. These are quite old and leak. The Farm has been replacing these with PVC.
 - Climate Minder weather station, which reports ETo and soil moisture sensors is used at the farm.
- Within buildings when toilets, sinks, showerheads, kitchen faucets fail they are replaced with water conserving models as required by code.

Things to consider moving forward

- Regional groundwater management is currently underway and will have a Chico State representative on the Vina subbasin group.
- CalWater requires a water supply assessment for new developments
- Monitoring of ground water wells is on the horizon
- A dropping groundwater table reduces pump flow out at the farm
- Between 2016 and 2017 water use in Chico increased by 3%
- Based on the Chico Climate Vulnerability Assessment we will see:
 - Increased average temperature
 - Increased frequency, intensity and duration of heat days/waves, increased flooding
 - Changes in annual precipitation



CAMPUS SUSTAINABILITY COMMITTEE Energy Subcommittee Work Plan

COMMITTEE MEMBERS

Mike Guzzi, AVP Facilities and Capital Projects (Chair)
Cheri Chastain, Campus Sustainability Manager
Jason Whiteley, Assistant Chief Engineer/Energy Manager
Marie Patterson, Faculty Construction Management
Ashley Manning, Strategic Energy Innovations Fellow
Student interns TBD

GOALS

The overall goal of this subcommittee is to reduce campus scope 1 and 2 greenhouse gas emissions resulting from natural gas combustion and electricity use.

Specific goal for the subcommittee:

GOAL	MEASUREMENT	RESOURCES NEEDED	TIMELINE
Write and publish a campus Strategic Energy Master Plan outlining steps to be taken to reduce emissions from natural gas combustion and electricity use as well as associated costs for each recommendation. The plan will outline not only a path to carbon neutrality, but will address prioritization for working on deferred maintenance and will align with the larger Campus Master Plan.	Completed plan	Funding for contract services for Marie Patterson (already secured)	Adopted by Fall 2020

IMPACT

Natural gas combustion and electricity use are the second and third (respectively) largest sources of greenhouse gas emissions for our campus. This plan will outline the path our campus must take to achieve carbon neutrality and will be the guiding document for the next 10 years of work on our campus.

CAMPUS SUSTAINABILITY COMMITTEE

Sub-Committee: Built Environment

COMMITTEE MEMBERS

- Joe DeCarlo (Chair, University Housing Associate Director)
- Marie Patterson (Assistant Professor, Construction Management)
- Kaylee Biedermann (VP of Facilities and Services, Associated Students)
- Zachary Smith (FMS, Director of Planning, Design, & Construction)
- Jason Whitely (FMS, Assistant Chief Engineer)

Specific goals for the subcommittee include:

GOAL	MEASUREMENT	RESOURCES NEEDED	TIMELINE
Adopt campus-wide O Scope procurement policy			
Incorporate topic of Warner Street pedestrian Crossings into the University Master Plan			
Incorporate an assessment of occupancy sensors, solar, and accessible stairways in all future remodels and new construction			