Cal State East Bay

Climate Action Plan Progress Report
May 2018 - May 2019

Climate Action Plan Approved by President Leroy Morishita April 30th, 2018

CAL STATE
EAST BAY

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Introduction

Cal State East Bay (CSUEB) adopted its Climate Action Plan (CAP) on April 30th, 2018. The CAP contains 8 Umbrella Policies and 52 Action Steps intended to guide greenhouse gas (GHG) emissions reduction efforts to reach carbon neutrality by 2040 (UMB1)[1]. The Umbrella Policies guide implementation of the Action Steps. The Action Steps themselves focus on key areas where campus emissions are the most prevalent: Energy; Transportation; Buildings; Housing; Procurement; and Landscaping. Education is also included, as CSUEB is an institution of higher education, and the Carbon Commitment (signed in 2015) specifically requires the integration of climate neutrality into the campus curriculum. Additional areas for action include "Finance," which outlines finance policies essential for implementation of the Plan, and "Offsets," used to neutralize emissions that cannot be eliminated through efficiency improvements, conservation, or technology switching.[2]

In accordance with the CAP (UMB5), this report summarizes the status and annual progress toward implementation goals related to the CAP Umbrella Policies and Action Steps. The University's Climate Action Plan Implementation Task Force (CAP-IT)[3], in collaboration with the Office of Sustainability, gathers the relevant data from the responsible campus stakeholders (UMB2). The data reported herein was provided by CAP-IT members, unless otherwise noted. This first Climate Action Plan Progress Report tracks progress from May 2018 - May 2019 and the status at the end of that period. This Progress Report is organized by the Umbrella Policies and Action Steps outlined in the CAP, in the same order as the CAP chapters (see Table I):

[1] UMB1 = Umbrella Policy 1. Refer to the Appendix for a full description and status of the CAP Umbrella Policies, which are ordered in sequence (UBM2, UBM3, etc.). A complete table of the CAP Umbrella Policies, Action Steps and progress made from May 2018 - May 2019 can be found here.
[2] CSUEB Climate Action Plan, 2018, pg. 17.
[3] See the Acknowledgements section at the end of this report for recognition of CSUEB's CAP-IT members.

Table I: Umbrella Policies & CAP Action Step Categories	
Umbrella Policies (UMB)	Procurement (PROC)
Energy (ENG)	Landscaping (LAND)
Transportation (TRAN)	Education (EDU)
Buildings (BLDG)	Finance (FIN)
Housing (HOUS)	Offsets (OFF)

CAP Progress Highlights

The Umbrella Policies are the overarching guidance for the CAP and its Action Steps.[4] These directives ensure that CSUEB will meet the requirements of the Carbon Commitment and keep the University on track for documenting progress towards climate neutrality.[5] Since the CAP has been in force (May 1, 2018), CSUEB has successfully met the requirements of 25% of the 8 Umbrella Policies (see Table II & Figure I).

Color key for "Status" columns:

Meeting Requirements: Required Action Steps have been completed, and/or are ongoing.
In Progress: Action Steps are actively being implemented.
Yet to be Addressed: Implementation has not proceeded due to later implementation timeline or a barrier to implementation has been encountered.

Table II: Umbrella Policies in which CSUEB is Meeting the Requirements Prescribed by the CAP

Umbrella Policy	Umbrella Policy Description	Status
UMB2 	**Responsible parties will report annually on progress to meet carbon neutrality goals**	Meeting Requirements
UMB5 	**Annually the University will complete an evaluation of progress and submit to Second Nature**	Meeting Requirements

[4] Umbrella Policies are not assigned a specific timeline since they are the overarching guidelines of the CAP and its Action Steps.
[5] CSUEB Climate Action Plan, 2018, pg. 15.

In addition to the Umbrella Policies, since the adoption of the CAP, CSUEB has successfully met the requirements of 10% of the total 52 Action Steps and 31% of the 16 Immediate (2018) / Immediate to Long Term (by 2040) Action Steps (see Table III & Figure II).

Table III: Action Steps in which CSUEB is Meeting Requirements Prescribed by the CAP

Action Step	Action Step Description (Abbreviated)	Status	Estimated Impact	Leadership	Timeline
ENG6	**Institute on-going energy management training of building technicians**	Meeting Requirements	Significant operational cost savings and GHG reduction potential	Facilities	Immediate (2018)
TRAN7	**No net increase in the number of parking spaces for fossil-fueled vehicles**	Meeting Requirements	Moderate GHG emissions reduction potential	Facilities	Immediate (2018)
PROC1	**Adopt Electronics and Appliance Procurement Policy that requires: Bronze EPEAT® or higher for EPEAT®-rated products, ENERGY STAR® for everything else if available**	Meeting Requirements	Moderate GHG reduction potential, moderate operational cost savings	Procurement	Immediate (2018)
PROC4	**Establish 100% Recycled Copy/Print Paper Policy**	Meeting Requirements	Low GHG reduction potential; increased cost of paper	Procurement	Immediate (2018)
EDU3	**Include recognition of work on University ILOs in the RTP process**	Meeting Requirements	Moderate	Academic Senate	Immediate (2018)

CAP Progress Summary

Outlined below is a summary of the status of the Umbrella Policies.

Table IV: Status of CAP Umbrella Policies			
Yet to be Addressed	In Progress	Meeting Requirements	Total
3	3	2	8

A summary of the status of the Action Steps based on the timeline prescribed by the CAP is as follows[6,7]:

Immediate (2018) / Immediate (2018) to Long Term (by 2040)

Near Term (by 2025) / Near Term (by 2025) to Medium Term (by 2030) / Near Term (by 2025) to Long Term (by 2040)

Medium Term (by 2030) / Medium Term (by 2030) to Long Term (by 2040)

Table V: Status of Action Steps by Timeline Prescribed by the CAP				
	Status			
CAP Action Step Timeline	Yet to be Addressed	In Progress	Meeting Requirements	Total
Immediate (2018)	4	3	5	12
Immediate to Long Term (by 2040)	3	1	-	4
Near Term (by 2025)	16	12	-	28
Near Term to Medium Term (by 2030)	1	1	-	2
Near Term to Long Term (by 2040)	-	1	-	1
Medium Term (by 2030)	-	2	-	2
Medium to Long Term (by 2040)	-	1	-	1
Long Term (by 2040)	2	-	-	2
Total	26	21	5	52

[6] Long Term (by 2040) Action Steps are listed in the Appendix.
[7] Refer to the Appendix for the full description of the of the CAP Action Steps, status, estimated impact, leadership and timeline.

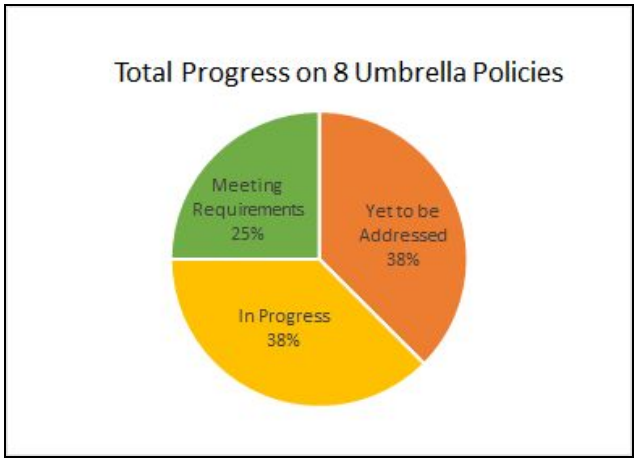


Figure I: Summary of the Status of the 8 Umbrella Policies

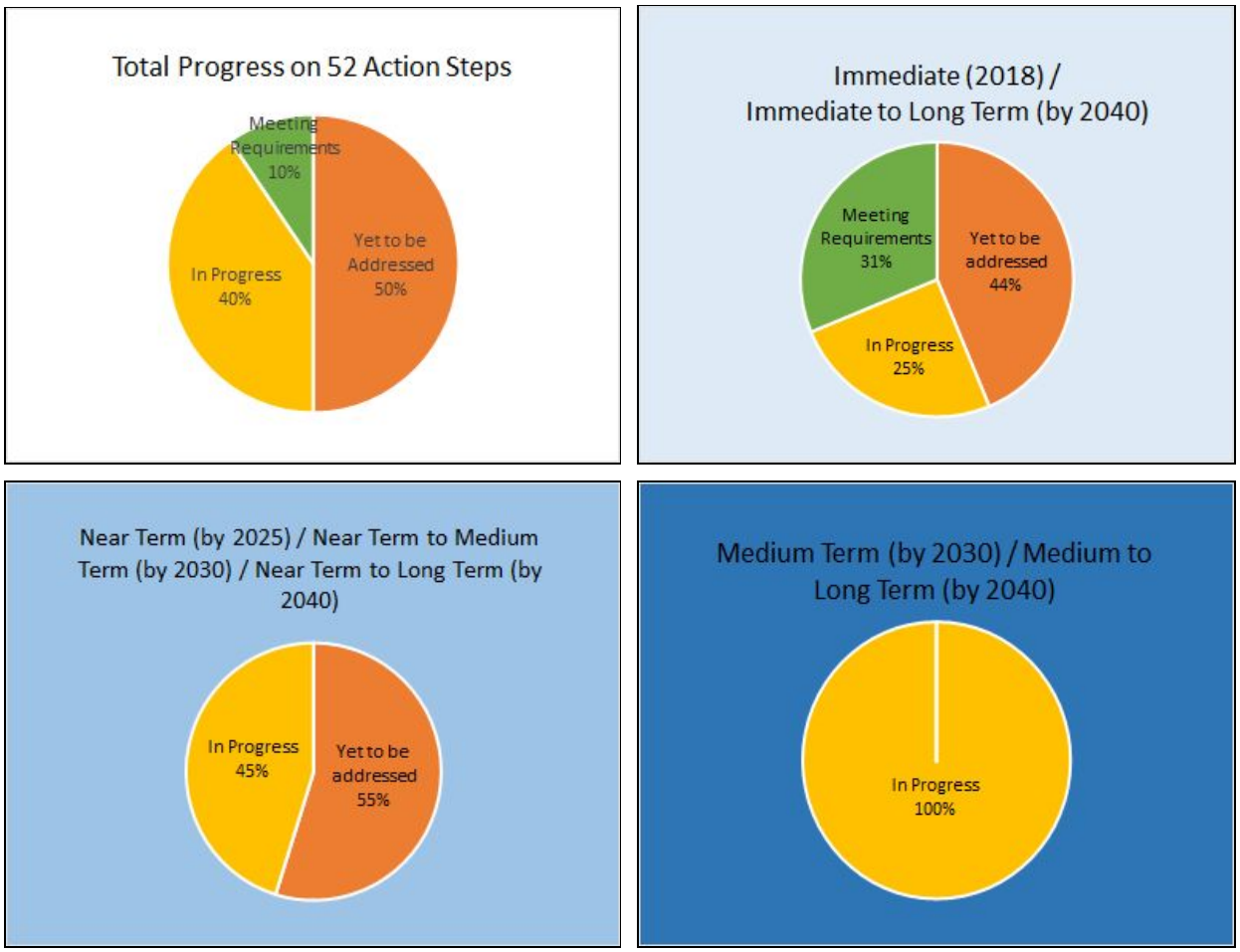


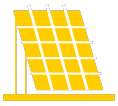
Figure II (Left to Right, top): Overall Status Summary of the Total 52 CAP Action Steps. Status of the 16 Immediate / Immediate to Long Term CAP Action Steps, (Left to Right, bottom): 31 Near Term / Near Term to Medium Term / Near Term to Long Term CAP Action Steps,and 3 Medium Term / Medium Term to Long Term CAP Action Steps.

“In Progress” Umbrella Policies & Action Steps

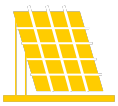
The following is a summary describing the CAP Umbrella Policies that are “In Progress” and what progress has been made.

Table VI: CAP Umbrella Policies and Progress	
Umbrella Policy	**Umbrella Policy Description**
UMB1	**Target: Carbon neutrality by 2040**
UMB1 Progress: Overall, 10% of the CAP Action Steps have been completed and 40% are in progress. Meeting the requirements of these Action Steps contribute to CSUEB meeting its goal to reach carbon neutrality by 2040.	
UMB3	**Carbon Management Hierarchy: Consistent with Second Nature's guidance for the development and implementation of climate action plans, the priority order for emissions is (1) reduce emissions with energy efficiency and conservation, (2) replace carbon energy sources with renewable energy, (3) neutralize emissions with offsets**
UMB3 Progress: Facilities Development & Operations is working within the Division of Administration and Finance to complete a Request for Proposals (RFP) to select a vendor to conduct an energy efficiency assessment for CSUEB (see ENG1, below) and implement “Solar IV,” the Chancellor's Office System-Wide Solar Photovoltaic Program Master Enabling Agreement (see ENG2, below).	
UMB8	**Leverage partnership opportunities to reduce GHG emissions at least cost and greatest benefit (e.g. with the CSU, the City of Hayward, the County of Alameda)**
UMB8 Progress: CSUEB works in collaboration with the City of Hayward on the Campus Sustainability Committee (CSC), as the City’s Environmental Services Manager is an ex-officio member of the CSC. Pioneer Heights has switched its energy provider from PG&E to East Bay Community Energy (EBCE), a Community Choice Aggregation (CCA), which sources a cleaner grid mix (see ENG5, below).	

The following is a summary describing the CAP Action Steps that are “In Progress” and what progress has been made.

TABLE VII: Progress Made on Immediate (2018) / Immediate (2018) to Long Term (by 2040) CAP Action Steps, Estimated Impact & Leadership			
Action Step	**Description**	**Estimated Impact**	**Leadership**
ENG2 	**Install 680 kW of new PV, or other renewable energy capacity annually (or acquire 1.2 million kWh more of RE from the power grid each year, or some combination of the two).**	**Significant GHG reduction potential; potentially cost neutral.**	**Facilities**
ENG2 Progress: Facilities Development & Operations is working within the Division of Administration & Finance and the Chancellor's Office to implement the Solar IV: System-Wide Solar Photovoltaic Program Master Enabling Agreement (MEA) at CSUEB.			
TRAN2 	**Enhance and encourage the use of alternative transportation modes.**	**Significant GHG reduction potential.**	**Transportation Planning**
TRAN2 Progress: A Request for Proposals (RFP) for a new shuttle contract was issued in March 2019. The new shuttle contract allows the opportunity to add additional shuttles to meet higher ridership demands, as needed. Bids received from the RFP will allow for better decision making on whether or not to continue using shuttles or switching service to AC Transit. Parking and Transportation Services has plans to increase collaboration with Associated Students, Inc. (ASI). In order to promote alternative transportation programs at CSUEB, Transportation will table more often during U-hour (T/TH 12:15 - 1:15). At tabling events, students will have the opportunity to sign up for alternative transportation programs in exchange for CSUEB swag.			
BLDG1 	**Design all new buildings to be Zero Net Energy (ZNE)**	**Significant operational cost savings and GHG reduction potential over lifetime of building**	**Facilities**
BLDG1 Progress: In April 2019, CSUEB celebrated the groundbreaking of the CORE Building, which is being designed as a Zero Net Energy ready building. Construction is slated for Summer 2019 - Summer 2021.			

LAND6 	**Continue turf conversion project using Bay Friendly Landscaping policies.**	**Operational cost savings from energy, water, and labor savings; environmental benefits.**	**Facilities**
LAND6 Progress: As areas need replanting, native plant species are used.[8]			

TABLE VIII: Progress Made on Near Term (by 2025) / Near Term (by 2025) to Medium Term (by 2030) / Near Term (by 2025) to Long Term (by 2040) CAP Action Steps, Estimated Impact & Leadership			
Action Step	**Description**	**Estimated Impact**	**Leadership**
ENG1 	**Develop and maintain an operation and maintenance plan to reduce energy use, maximize equipment efficiency, and most effectively utilize deferred maintenance funds. (The campus will prioritize facilities upgrades that reduce operating costs and replace equipment at end of life. The campus energy team will engage in an ongoing process to seek opportunities to improve energy efficiency using energy monitoring data, periodic energy audits, continuous commissioning).**	**Significant GHG reduction potential; significant operational cost savings.**	**Facilities**
ENG1 Progress: Facilities Development & Operations is working within the Division of Administration and Finance to complete a Request for Proposals (RFP) to select a vendor to conduct an energy efficiency assessment for CSUEB. An energy assessment will provide a baseline of energy use and may be used to assess savings for Solar IV.			

[8] Reported by Robert Andrews, CSUEB Director of Facilities Operations.

ENG5	**Prioritize purchase of high renewable power content, low unspecified power content, grid power. Pursue possibility of aggregated group purchase of off-site renewable energy with other CSU Campuses, the City of Hayward, or the County of Alameda.**	**Significant GHG reduction potential; cost of power may be higher than current contract in the near term.**	**Facilities, Admin**
ENG5 Progress: CSUEB Student Housing and Residence Life has changed energy providers from PG&E to East Bay Community Energy (EBCE), a Community Choice Aggregation (CCA) electricity provider that procures electricity from clean, renewable sources such as solar and wind. In addition, "EBCE reinvests earnings back into the community to create local green energy jobs, local programs, and clean power projects."[9]			
ENG7	**The campus information technology team will maintain all campus-owned computers, displays, and related technology to always operate in energy saver mode, unless needed for a documented exception.**	**Low to moderate operational cost savings and GHG reduction potential.**	**IT**
ENG7 Progress: When computer monitors are configured they will typically go into energy saver mode after a period of non-usage. TV monitors used in classrooms and conference rooms are controlled by a single platform that will turn them off at night. Projectors in classrooms are turned off if not in use.[10]			
TRAN3	**Pursue subsidized transit passes for students, staff, and faculty (including AC transit and BART).**	**Moderate to significant GHG reduction potential.**	**Transportation Planning**
TRAN3 Progress: Procurement is currently in discussions with AC Transit about AC Transit providing exclusive service to the Hayward Campus. This service would be free for students, faculty, and staff on all AC transit routes, including Transbay, 7 days per week. An RFP was issued for Shuttle Services (in the event that an agreement with AC Transit does not materialize). Responses are due back at the end of April 2019, and will be evaluated. It is expected that by July 2019 CSUEB shall be able make the determination which one of the following three options are best for the campus: (i) Contracting with AC Transit, (ii) Awarding a contract for a shuttle provider, or (iii) Piggybacking off of a University of California Merced contract award and use the hourly rates established under that contract for CSU East Bay.			

[9] Source: East Bay Community Energy, https://ebce.org/
[10] Reported by Eric Neumann, CSUEB Director of Education Technology Services.

TRAN6	**All state-funded travel will be carbon neutral or 100% offset by 2022.**	**Low GHG reduction potential; but more predictable outcome than most transportation measures and high education value for the university community.**	**Finance, Admin**
TRAN6 Progress: CSUEB's AY18/19 Climate Corps AmeriCorps Fellow has been researching and developing methods of offsetting GHG emissions resulting from Directly Financed Air Travel. In order to develop a policy recommendation for CSUEB, the Climate Corps Fellow has used Second Nature's Carbon Pricing Toolkit and researched programs that other Higher Ed Institutions are piloting where a cost of carbon is added to their business travel to offset the resulting emissions. The recommendation proposes a CSUEB Carbon Neutral State Funded Air Travel Policy, which includes assessing a minimal cost of carbon to all directly financed air travel and using the funds to either purchase verified carbon offsets, or reinvest the funds in on-campus projects that provide measurable reductions in GHG emissions. The research and proposal ideas were presented at the Campus Sustainability Committee meeting in April. Based on the positive feedback received, a policy recommendation is being drafted.			
TRAN8	**Maintain at least 50% greater electric vehicle (EV) charging station capacity (relative to total number of parking spaces) than the statewide EV vehicle proportion as reported by the state. So, for example, if 10% of the state's onroad fleet is EVs, then 15% or our parking spaces will be for EVs.**	**Low to moderate GHG reduction potential; potential educational value.**	**Parking**
TRAN8 Progress: Hayward Campus currently has 25 EV charging stations, which can accommodate 50 EVs, 50 EV parking spaces, and 10 EV waiting spaces. Hayward Campus is expecting to convert 5 parking spaces to EV waiting spaces on Lot A. On Concord Campus, 4 EV charging stations are expected to be installed in Summer 2019.			
BLDG2	**No new natural-gas consuming equipment for space and water conditioning starting in 2022. For example, solar thermal systems, PV-driven heat pump systems, or off-set.**	**Significant GHG reduction potential.**	**Procurement, Facilities**
BLDG2 Progress: The Chancellor's Office is discussing and developing guidance on eliminating natural gas use on campuses. We are awaiting guidance.			

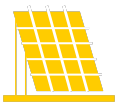
BLDG5 	**Track building energy performance with computerized monitoring systems (building energy-use monitoring) to enable more effective building energy management and GHG emissions reductions tracking.**	**Moderate GHG reduction potential, moderate operational cost savings from more effective energy use.**	**Facilities**
BLDG5 Progress: Facilities Development & Operations has developed data tracking spreadsheets, using the baseline year of 2013, to evaluate progress made on eliminating GHG emissions on campus. Facilities Development & Operations has continued to refine energy information received from the energy and building management systems to inform efficient building operations to meet the campus's GHG emissions reduction goals.			
PROC3 	**Investigate policy for locally sourcing materials to reduce transportation energy use associated with procurement. E.g. Purchase majority of construction materials within 250 miles.**	**Moderate GHG reduction potential, potential for higher cost of goods.**	**Procurement**
PROC3 Progress: Procurement has been incorporating a sustainability “blurb” in the P-card Policy. The sustainability “blurb” is a broad statement that covers multiple sustainable procurement sectors, including a section that states the selection of vendors should consider distance and minimization of number of deliveries.			
PROC5 	**Continue to move away from the use of paper-based processes with digital processes.**	**Low GHG reduction potential; moderate monetary cost savings potential.**	**Procurement**
PROC5 Progress: CSUEB is in the process of implementing the fully electronic Certify Reimbursement System, which moves the reimbursement process completely away from paper processes. A pilot program launched in April 2019 beginning with the Division of Administration & Finance. If successful, this program will launch campus wide. CSUEB has adopted the Adobe Sign program, removing the need for wet signatures on certain paper forms.			
LAND7 	**Increase tree cover in parking lots and other locations on campus. Use high albedo paving surfaces (permeable where possible).**	**Moderate GHG reduction potential; significant co-benefits including mitigation of heat island effect, positive aesthetic impact; significant environmental comfort and health benefits.**	**Facilities**
LAND7 Progress: In the process of doing this on various locations on campus.[11]			

[11] Reported by Robert Andrews, CSUEB Director of Facilities Operations.

LAND9 	**Continue to investigate the potential for on-campus composting program consisting of food waste and landscape debris with finished product for reuse as compost, landscape materials on campus.**	**Low GHG reduction resulting from decreased transport of materials to waste facility and decrease in need for synthetic fertilizer; operational cost savings as finished compost used in place of purchased fertilizer.**	**Facilities**
LAND9 Progress: Office of Sustainability's Student Sustainability Ambassador Program is actively researching, developing and gaining support for an on campus composting program. A budget and proposal has been drafted, and is expected to be presented within the next Academic Year.			
EDU2 	**Facilitate student learning on climate neutrality issues through involvement in research, hands-on-learning, campus-as-a-living-laboratory, community engagement on issues of climate mitigation and adaptation, carbon-neutrality internship placements, and freshman learning communities.**	**Significant educational impact, especially for diverse student population, as underrepresented minorities benefit most from high impact learning practices such as theses. Significant GHG reduction potential from campus-as-living-laboratory projects.**	**Center for Community Engagement, Office of Sustainability, Faculty**
EDU2 Progress: The CSU Campus as a Living Lab Grant was awarded to Prof. Patty Oikawa in AY17/18 to be used for offsetting CSUEB's GHG emissions with reforestation on Concord Campus. "*We plan to use stipend funds to develop new courses, one focused on spatial analysis of data and reforestation design and one focused on biogeochemical measurements and modeling. In the first class, we will map existing trees on Concord Campus using field trips and Google Earth Engine. The second class of students will take the date from the previous group and design a reforestation project. All following students will be involved in implementing and monitoring the reforestation project. Each year, the students will provide and estimate of the amount of carbon sequestered by the project which CSUEB can use to offset annual greenhouse gas emissions.*" -Oikawa[12] CSUEB was awarded a grant by the State of California's Strategic Growth Council Climate Change Research Program to be invested in carbon sequestration activities in 'working lands'. Patty Oikawa and her students' research will be focused on rangeland on the Concord Campus' Galindo Creek Field Station, where they will study the land's uptake and release of various gases. The research will center around placing compost on rangeland soils to sequester carbon out of the atmosphere in the form of carbon dioxide. According to Oikawa, "*There has been research in this area, but we are the first to do it at the ecosystem scale*."[13] CSUEB has hired alumni to fulfill an annual Climate Corps AmeriCorps position on campus for AY 17/18 and AY18/19. Through their work on campus, the fellows gain experience learning about climate protection practices and develop professional skills and understanding for future work in the sustainability and climate action field.			

[12 & 13] "Working Lands: Cal State East Bay students, faculty part of consortium study on greenhouse gases", *EastBay Today*, 2019, https://www.ebtoday.com/stories/working-lands

Student Sustainability Ambassadors conduct reporting for Sustainability Tracking, Assessment & Rating System™ (STARS®) and GHG inventories.			
EDU4 	**Pursue an interdisciplinary sustainability minor that includes education on carbon neutrality.**	**Moderate but important stepping stone.**	**Academic Senate**
EDU4 Progress: The Senate's Ad Hoc Committee on Sustainability has been working with Academic Programs and Services (APS) to develop an interdisciplinary Sustainability track GE Minor, to be housed in APS. A charter has been drafted to allow the Sustainability Minor to act as a GE pathway. SLOs have been developed for all relevant course categories.			

Table IX: Progress Made on Medium Term (by 2030) / Medium Term (by 2030) to Long Term (by 2040) CAP Action Steps, Estimated Impact & Leadership			
Action Step	**Description**	**Estimated Impact**	**Leadership**
ENG9 	**Investigate the potential for Cal State East Bay wind-power facilities.**	**Low to moderate GHG reduction potential; moderate educational value.**	**Facilities**
ENG9 Progress: As part of Physics 3999 in Spring 2017 led by Dr. Ryan Smith, a wind monitoring study was done on North Science Building by students Michael Norcross & Michael Kronic which suggested average wind speeds did not meet the required wind speed to move a typical low wind speed turbine. Based on their collected data, they recommended the installation of solar panels be perused on Hayward Campus instead of wind turbines. Wind energy generation may be more feasible on Concord Campus.			
LAND5 	**Carbon sequestration: Restore native woodland to maximum extent possible on non-landscaped areas of the Hayward and Concord Campuses.**	**Significant ecological benefits, moderate GHG reductions; Cost implications need to be studied (possible cost benefits if offsets from sequestration are certified).**	**Facilities**
LAND5 Progress: Projects supporting this Action Step are being conducted on the Concord Campus (See progress reported on Action Step EDU2).			

EDU1	**Pursue fulfillment of commitment to educate all students on carbon neutrality (per the 2007 Senate Sustainability Resolution and the President's Carbon Commitment).**	**Highly significant educational impact. Moderate direct GHG reduction potential, but possibly large indirect GHG reductions through changing students behaviors and attitudes over their lifetime.**	**Academic Senate**
EDU1 Progress: The Senate Sustainability Committee has adopted this charge. The Committee has recommended that the University require all students to take a Carbon Neutrality Overlay course. The Executive Committee tasked the Senate Committee on Instruction and Curriculum to identify the best means to comply with that commitment. The Task remains to be completed in the next Academic Year. Climate change curriculum has expanded. Notably, Health Sciences have embedded climate change into core curriculum. Multiple co-curricular events around carbon neutrality issues occur throughout the academic year. Since the semester conversion, 7 courses with carbon neutral content have been introduced.			

Appendix I: Overview of CAP Umbrella Policies & Action Steps Status

This Appendix summarizes the status of each CAP Umbrella Policy and Action Step. The Umbrella Policies and Actions Steps are organized in the same order as outlined in the CAP.

CSUEB CAP Umbrella Policies & Status		
Umbrella Policy	**Umbrella Policy Description**	**Status**
UMB1	Target: Carbon neutrality by 2040 (This would amend the 2009 Master Plan carbon neutrality target date of 2030, which is infeasible given the fact that the Plan was never implemented given its almost immediate suspension and the fact that the Plan did not include commute emissions)	In Progress
UMB2	Responsible parties will report annually on progress to meet carbon neutrality goals	Meeting Requirements
UMB3	Carbon Management Hierarchy: Consistent with Second Nature's guidance for the development and implementation of climate action plans, the priority order for emissions is (1) reduce emissions with energy efficiency and conservation, (2) replace carbon energy sources with renewable energy, (3) neutralize emissions with offsets	In Progress
UMB4	The University will review, revise if necessary, and submit the climate action plan to Second Nature no less frequently than every five years	Yet to be Addressed
UMB5	Annually the University will complete an evaluation of progress and submit to Second Nature	Meeting Requirements
UMB6	Integrate Climate Action Planning into other campus policies: e.g. Master Plan	Yet to be Addressed
UMB7	The University will take a life-cycle planning approach to major projects.	Yet to be Addressed
UMB8	Leverage partnership opportunities to reduce GHG emissions at least cost and greatest benefit (e.g. with the CSU, the City of Hayward, the County of Alameda)	In Progress

CSUEB CAP Action Steps & Status					
Action Step	**Action Step Description (Abbreviated)**	**Status**	**Estimated Impact**	**Leadership**	**Timeline**
ENG1	Develop and maintain an operation and maintenance plan to reduce energy use, maximize equipment efficiency, and most effectively utilize deferred maintenance funds	In Progress	Significant GHG reduction potential; significant operational cost savings	Facilities	Near Term (by 2025)
ENG2	Install 680 kW of new PV, or other renewable energy capacity annually	In Progress	Significant GHG reduction potential; potentially cost neutral	Facilities	Immediate (2018) to Long Term (by 2040)
ENG3	Prioritize PV installations to: displace all Concord Campus Energy use (~630kW), on Hayward Campus parking lots (~8MW long term)	Yet to be addressed	Significant GHG reduction potential	Facilities	Immediate (2018) to Long Term (by 2040)
ENG4	Install PV system of a size necessary to displace annual electricity use of the Concord Campus	Yet to be addressed	Very significant GHG reduction potential; low to moderate equipment cost with potential for RECs; significant educational opportunity	Facilities, Admin	Near Term (by 2025)
ENG5	Prioritize purchase of high renewable power-content, low unspecified power content, grid power	In Progress	Significant GHG reduction potential; cost of power may be higher than current contract in the near term	Facilities, Admin	Near Term (by 2025)
ENG6	Institute on-going energy management training of building technicians	Meeting Requirements	Significant operational cost savings and GHG reduction potential	Facilities	Immediate (2018)
ENG7	The campus information technology team will maintain all campus-owned computers	In Progress	Low to moderate operational cost	IT	NearTerm (by 2025)

	related technology to always operate in energy saver mode		savings and GHG reduction potential		
ENG8	Research emerging energy technologies for carbon savings	Yet to be addressed	Possibly significant GHG reduction potential	Faculty	Near Term (by 2025)
ENG9	Investigate the potential for Cal State East Bay wind-power facilities	In Progress	Low to moderate GHG reduction potential; moderate educational value	Facilities	Medium Term (by 2030)
TRAN1	Increase online coursework and opportunities for telework	Yet to be addressed	Significant GHG reduction potential	Academic Affairs, IT	Immediate (2018) to Long Term (by 2040)
TRAN2	Enhance and encourage the use of alternative transportation modes	In Progress	Significant GHG reduction potential	Transportati on Planning	Immediate (2018)
TRAN3	Pursue subsidized transit passes for students, staff, and faculty	In Progress	Moderate to significant GHG reduction potential	Transportati on Planning	Near Term (by 2025)
TRAN4	Encourage the use of alternative transportation modes with faculty and staff by implementing an Employee Cash Out Program	Yet to be addressed	Moderate GHG reduction potential; low cost depending on the conditions of the plan; potential employee co-benefits (health, financial, job satisfaction)	Admin, Finance	Near Term (by 2025)
TRAN5	Offset carbon emissions from all study abroad and international travel by 2022	Yet to be addressed	Moderate to significant GHG reduction potential; no cost implications	Admissions, University Extension	Near Term (by 2025)
TRAN6	All state-funded travel will be carbon neutral or 100% offset by 2022	In Progress	Low GHG reduction potential; but more predictable outcome than most transportation measures and high education value for the university community	Admin, Finance	Near Term (by 2025)

TRAN7	No net increase in the number of parking spaces for fossil-fueled vehicles	Meeting Requirements	Moderate GHG emissions reduction potential	Facilities	Immediate (2018)
TRAN8	Maintain at least 50% greater EV charging station capacity (relative to total number of parking spaces) than the statewide EV vehicle proportion	In Progress	Low to moderate GHG reduction potential; potential educational value	Parking	Near Term (by 2025) to Long Term (by 2040)
TRAN9	All new-to-campus fleet vehicles must be electric, bio-fueled, or other RE-powered	Yet to be addressed	Low GHG reduction, reduced operational costs	Procurement	Immediate (2018)
TRAN1	No personal vehicle/parking passes for first year residence hall students	Yet to be addressed	Low direct GHG reduction potential but sets the habit of becoming more comfortable with relying on alternative transportation	Admin	Near Term (by 2025)
BLDG1	Design all new buildings to be Zero Net Energy (ZNE) starting immediately	In Progress	Significant operational cost savings and GHG reduction potential over lifetime of building	Facilities	Immediate (2018)
BLDG2	No new natural-gas consuming equipment for space and water conditioning starting in 2022	In Progress	Significant GHG reduction potential	Facilities, Procurement	Near Term (by 2025)
BLDG3	Replace space heating, water heating, and cooking equipment with ultra efficient fossil-fuel-free technologies	Yet to be addressed	Significant GHG reduction potential	Facilities, Procurement	Long Term (by 2040)
BLDG4	Maximize PV production on all new buildings	Yet to be addressed	Moderate GHG reduction potential, cost savings over lifetime of system	Facilities	Immediate (2018)

BLDG5	Track building energy performance with computerized monitoring systems to enable more effective building energy management and GHG emissions reductions tracking	In Progress	Moderate GHG reduction potential, moderate operational cost savings from more effective energy use	Facilities	Near Term (by 2025)
BLDG6	Post climate action educational display prominently in all main buildings	Yet to be addressed	Significant educational and motivational impact	Facilities	Near Term (by 2025)
HOUS1	Switch to Solar Water Heating in Pioneer Heights	Yet to be addressed	Significant reduction in natural gas demand in residence halls and associated GHG reductions (currently N-gas accounts for 60% of the Hayward Campus's residence hall energy use.)	Facilities	Near Term (by 2025)
HOUS2	Institute policy to increase campus housing to 5,000 student residents by 2032 and encourage first year students to live in residence halls	Yet to be addressed	Significant GHG reduction potential from both commuting and zero net energy housing, but increases the challenge of achieving carbon neutrality; potential increase in water use on campus	Admin	Long Term (by 2040)
HOUS3	Investigate potential for building low-cost faculty housing on or near campus	Yet to be addressed	Moderate GHG reduction potential from commuting and zero net energy housing, but increases the challenge of achieving carbon neutrality; potential	Admin	Near Term (by 2025)

			increase in water use on campus; potentially significant co-benefits in attracting and retaining new faculty		
PROC1	Adopt Electronics and Appliance Procurement Policy that requires: Bronze EPEAT® or higher for EPEAT®-rated products, ENERGY STAR® for everything else if available	Meeting Requirements	Moderate GHG reduction potential, moderate operational cost savings	Procurement	Immediate (2018)
PROC2	Initiate accounting of carbon emissions from procurement	Yet to be addressed	Significant GHG reduction potential	Procurement	Near Term (by 2025)
PROC3	Investigate policy for locally sourcing materials to reduce transportation energy use associated with procurement	In Progress	Moderate GHG reduction potential, potential for higher cost of goods	Procurement	Near Term (by 2025)
PROC4	Establish 100% Recycled Copy/Print Paper Policy	Meeting Requirements	Low GHG reduction potential; increased cost of paper	Procurement	Immediate (2018)
PROC5	Continue to move away from the use of paper-based processes with digital processes	In Progress	Low GHG reduction potential; moderate monetary cost savings potential	Procurement	Near Term (by 2025)
LAND1	The university will adopt SITES certification criteria in developing landscaping projects	Yet to be addressed	Moderate general environmental benefits	Facilities	Near Term (by 2025)
LAND2	The university will adopt Bay Friendly Landscaping practices	Yet to be addressed	Moderate operational cost savings from energy, water, and labor reductions; moderate GHG reduction potential; environmental benefits.	Facilities, CSC	Near Term (by 2025)
LAND3	University will discontinue use	Yet to be	Minimal GHG	Facilities	Immediate

	of synthetic fertilizers within 5 years	addressed	emissions reduction, moderate general environmental and health benefits, significant symbolic impact		(2018)
LAND4	Newly purchased equipment to be electric, battery-powered, bio-fueled, or other RE-powered when commercial grade equipment is available	Yet to be addressed	Operational cost savings from reduced equipment maintenance, low GHG reduction potential, potential health benefits	Facilities	Near Term (by 2025)
LAND5	Carbon sequestration: Restore native woodland to maximum extent possible on non-landscaped areas of the Hayward and Concord Campuses	In Progress	Significant ecological benefits, moderate GHG reductions; Cost implications need to be studied (possible cost benefits if offsets from sequestration are certified)	Facilities	Medium (by 2030) to Long Term (by 2040)
LAND6	Continue turf conversion project using Bay Friendly Landscaping policies	In Progress	Operational cost savings from energy, water, and labor savings; environmental benefits.	Facilities	Immediate (2018)
LAND7	Increase tree cover in parking lots and other locations on campus. Use high albedo paving surfaces	In Progress	Moderate GHG reduction potential; significant co-benefits including mitigation of heat island effect, positive aesthetic impact; significant environmental comfort and health benefits	Facilities	Near Term (by 2025) to Medium (by 2030)

LAND8	Pursue the development of on-campus organic food production in the form of multi-cultural heritage gardens, that serve as a foundation for the sharing of multicultural food and traditions	Yet to be addressed	Minimal GHG reduction potential; significant co-benefits	Facilities, Academic Affairs	Near Term (by 2025) to Medium (by 2030)
LAND9	Continue to investigate the potential for on-campus composting program	In Progress	Low GHG reduction resulting from decreased transport of materials to waste facility and decrease in need for synthetic fertilizer; operational cost savings as finished compost used in place of purchased fertilizer	Facilities	Near Term (by 2025)
EDU1	Pursue fulfillment of commitment to educate all students on carbon neutrality	In Progress	Highly significant educational impact. Moderate direct GHG reduction potential, but possibly large indirect GHG reductions through changing students behaviors and attitudes over their lifetime.	Academic Senate	Medium Term (by 2030)
EDU2	Facilitate student learning on climate neutrality issues through involvement in research, hands-on-learning, campus-as-a-living-laboratory, community engagement on issues of climate mitigation and adaptation, carbon-neutrality internship placements, and freshman learning communities	In Progress	Significant educational impact, especially for diverse student population, as underrepresented minorities benefit most from high impact learning practices such as theses. Significant GHG reduction	Faculty, Office of Sustainability, Center for Community Engagement	Near Term (by 2025)

			potential from campus-as-living-laboratory projects.		
EDU3	Include recognition of work on University ILOs in the RTP process	Meeting Requirements	Moderate	Academic Senate	Immediate (2018)
EDU4	Pursue an interdisciplinary sustainability minor that includes education on carbon neutrality	In Progress	Moderate but important stepping stone	Academic Senate	Near Term (by 2025)
EDU5	Pursue faculty hires to support universal education on carbon neutrality	Yet to be addressed	Significant and essential to maintain momentum	Academic Affairs	Immediate (2018) to Long Term (by 2040)
FIN1	Financial Analysis of Carbon Neutrality Plan An analysis of the most cost effective to achieve carbon neutrality	Yet to be addressed	Significant: Enabler of entire Climate Action Plan	Finance, Admin	Near Term (by 2025)
FIN2	Ensure Annual Budget & Staff Time for GHG-reduction efforts	Yet to be addressed	Significant GHG reduction impact in that this enables fulfillment of the Climate Action Plan; potentially significant energy cost savings from energy efficiency projects	Admin, Finance	Near Term (by 2025)
FIN3	Incorporate the cost of carbon, along with other project costs, in the cost-benefit analysis of new infrastructure projects	Yet to be addressed	Significant educational impact for staff because it serves as constant reminder to incorporate carbon neutrality in all project planning. Moderate GHG reduction potential	Facilities	Immediate (2018)
FIN4	Divest from fossil fuel investments	Yet to be addressed	Significant educational and ethical impact. Important PR	Cal State East Bay Education Foundation Board of	Near Term (by 2025)

			messaging impact. Moderate GHG reduction potential because of small endowment currently. Potential longer-term higher investment returns given the global shift toward alternative sustainable energy sources	Directors	
OFF1	True-up Emissions Policy	Yet to be addressed	Significant GHG reduction potential; monetary cost savings, because offsets are only used to help achieve emissions reductions targets if the offsets cost are lower than achieving those same reductions through efficiency improvements or renewable energy.	CSC, Accounting	Near Term (by 2025)

Acknowledgements

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