



The Board of Governors of the California Community Colleges

Date: May 20, 2019

Item Number: X
Attachments: Yes

Subject	Category	Type of Board Consideration
Resolution on Climate Change and Sustainability Goals and Policy	College Finance and Facilities Planning	Action

RECOMMENDED BY

Christian Osmeña, Vice Chancellor

APPROVED FOR CONSIDERATION

Eloy Ortiz Oakley, Chancellor

ISSUE

This item presents, for adoption, a resolution to take actions as a system to address climate change and improve environmental sustainability specifically through reductions in greenhouse gas emissions. The resolution adopts goals and a new Climate Change and Sustainability Policy to align with the vision and goals of various state policies.

BACKGROUND

This item seeks to align policies of the California Community Colleges with the California Climate Change Scoping Plan, which would build on efforts being undertaken already at the colleges. The Climate Change and Sustainability Policy proposed in this item aligns with the vision and pillars included in the state's scoping plan.

RECOMMENDATION

It is recommended that the Board of Governors adopt Resolution 2019-02 and the new California Community Colleges Board of Governors Climate Change and Sustainability Policy.

ANALYSIS

Consistent with California's broader climate change efforts, the Chancellor's Office has developed a proposed set of goals and policies consistent with the Climate Change Strategy Pillars identified in the California Climate Change Scoping Plan. In doing so, the intent is to guide the California Community Colleges' climate change strategy and environmental sustainability efforts by creating goals that can guide system actions and future alignment of other system policies.

Specifically, this resolution adopts goals (to be achieved by 2025 and 2030) and a new Climate Change and Sustainability Policy to align with those goals. The policy updates and reaffirms a previous policy from 2008. This work is guided by several existing state laws and directives related to energy conservation, reduction of greenhouse gas emissions, and environmental sustainability, including the California Global Warming Solutions Act of 2006 (Assembly Bill 32), the California Climate Change Scoping Plan, and Governor Brown's Executive Order B-30-15. Additionally, the resolution requests that the governing board of each community college district also adopt a local resolution.

Notably, the vision of the California Climate Change Scoping Plan is to reduce greenhouse gas emission to 40 percent below 1990 levels by 2030. To achieve this vision, the plan describes a set of pillars:

- Reducing current petroleum use in cars and trucks by up to 50 percent (as of 2017).
- Increasing from one-third to 50 percent electricity derived from renewable sources.
- Doubling the efficiency savings achieved at existing buildings and making heating fuels cleaner.
- Reducing the release of methane, black carbon, and other short-lived climate pollutants.
- Managing farm and rangelands, forests, and wetlands so they can store carbon.

To align the efforts of the California Community Colleges with these pillars, the resolution and the Climate Change and Sustainability Policy establishes eight goals for 2030, with incremental progress expected by 2025. As one lever to encourage progress toward the goals, all capital projects starting design in 2019 would need, at a minimum, to outperform by at least 15 percent the current energy standards for new construction, and all major renovation projects would need, at a minimum, to outperform the current standards by at least 10 percent.

Table 1. California Community Colleges Goals for Addressing Climate Change and Furthering Environmental Sustainability.

Goals by 2025	Goals by 2030
1. Reduce greenhouse gas emission to 30 percent below 1990 levels.	Reduce greenhouse gas emission to 40 percent below 1990 levels.
2. Increase renewable energy consumption to 25 percent.	Increase renewable energy consumption to 50 percent.
3. 25 percent of fleet vehicles are zero-emission vehicles.	50 percent of fleet vehicles are zero-emission vehicles.
4. 50 percent of all new buildings and major renovations will be constructed as Zero Net Energy.	100 percent of all new buildings and major renovations will be constructed as Zero Net Energy.
5. 50 percent of all new buildings and major renovations will achieve at least a Leadership in Energy and Environmental Design (LEED) “Silver” or equivalent rating.	100 percent of all new buildings and major renovations will achieve at least a Leadership in Energy and Environmental Design (LEED) “Silver” or equivalent rating.
6. Increase procurement of sustainable products and services by 20 percent compared to current levels.	Increase procurement of sustainable products and services by 25 percent compared to current levels.
7. Reduce municipal solid waste by 25 percent compared to current levels.	Reduce municipal solid waste by 50 percent compared to current levels.

ATTACHMENTS:

- Attachment 1: Resolution of the Board of Governors California Community Colleges
- Attachment 2: California Community Colleges Board of Governors Climate Change and Sustainability Policy

**RESOLUTION OF THE BOARD OF GOVERNORS
CALIFORNIA COMMUNITY COLLEGES
NO. 2019-11**

WHEREAS, California Community Colleges are the backbone of the state's public higher education, offering more than 2.1 million students opportunities to pursue their educational goals; and

WHEREAS, the Board of Governors of the California Community Colleges sets policy and provides guidance for the 73 community college districts and 115 community colleges in the state; and

WHEREAS, each California community college district is governed by a board of trustees that consist of leaders who offer their time and expertise to respond to needs in the district and to ensure its institutions are resourced to fulfill the mission assigned to the California Community Colleges in state laws; and

WHEREAS, the global average temperature has increased by more than 1.5°F between 1880 and today¹, and is projected to increase in the United States by an additional 2° to 4° by 2050²; climate warming is driven largely by human-made emissions and use of well-mixed greenhouse gases that have been released into the atmosphere over the last 50 years³; California and the Southwest region of the United States will continue to experience increased heat, drought, insect outbreaks, wildfires, declining water supplies, reduced agricultural yields, health impacts in cities due to heat, flooding, rising sea levels, and erosion in coastal areas due to the effects of climate change⁴; and

WHEREAS, Executive Order S-12-04 requests active participation of the California Community Colleges in statewide energy conservation and reduced electrical demand; and

WHEREAS, the California Global Warming Solutions Act of 2006 (Assembly Bill 32), requires a significant reduction of greenhouse gas emissions, transitions California to a sustainable future, and establishes a long-term approach to addressing climate change; and

WHEREAS, in 2008, the Board of Governors of the California Community Colleges had established an Energy and Sustainability Policy that provides goals and guidance for California Community Colleges to achieve energy conservation, sustainable building, and best practices in physical plant management necessary to reduce energy consumption; and

WHEREAS, the 2015 California Climate Change Scoping Plan identified Climate Change and Sustainability Pillars to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030; and

WHEREAS, the Climate Change and Sustainability Pillars include (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests and wetlands so they can store carbon; and (6) safeguarding California; and therefore be it

RESOLVED that the Board of Governor of the California Community Colleges adopt the key Climate Change Strategy Pillars identified in California Climate Change Scoping Plan; and be it further

RESOLVED that the Board of Governor of the California Community Colleges adopt the following climate change and sustainability goals for the California Community Colleges to be achieved by 2025: (1) reduce greenhouse gas emission to 30 percent below 1990 levels; (2) increase renewable energy consumption to 25 percent; (3) 25 percent of fleet vehicles are zero-emission vehicles; (4) 50 percent of all new buildings and major renovations will be constructed as Zero Net Energy; (5) 50 percent of all new buildings and major renovations will achieve at least a Leadership in Energy and Environmental Design (LEED) “Silver” or equivalent rating; (6) increase procurement of sustainable products and services by 20 percent compared to current levels ; and (7) reduce municipal solid waste by 25 percent compared to current levels; and be it further

RESOLVED that that the Board of Governor of the California Community Colleges adopt the following climate change and sustainability goals for the California Community Colleges to be achieved by 2030: (1) reduce greenhouse gas emission to 40 percent below 1990 level; (2) increase renewable energy consumption to 50 percent; (3) 50 percent of fleet vehicles are zero-emission vehicles; (4) 100 percent of all new buildings and major renovations will be constructed as Zero Net Energy; (5) 100 percent of all new buildings and major renovations will achieve at least a Leadership in Energy and Environmental Design (LEED) “Silver” or equivalent rating; (6) increase procurement of sustainable products and services by 25 percent compared to current levels; and (7) reduce municipal solid waste by 50 percent compared to current levels; and be it further

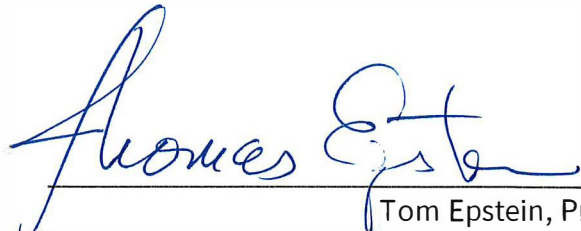
RESOLVED that the Board of Governor of the California Community Colleges adopt the Climate Change and Sustainability Policy; and be it further

RESOLVED that the Board of Governors encourages each board of trustees to adopt a local resolution to align with the key Climate Change and Sustainability Pillars identified in California Climate Change Scoping Plan and the goals provided in the Climate Change and Sustainability Policy of the Board of Governors; and therefore be it further

RESOLVED that the Board of Governor of the California Community Colleges encourages community college districts to collaborate with its students, faculty, and staff to advance local climate change and sustainability resolutions through activities such as designating persons and bodies primarily responsible for actions to address climate change and sustainability, raise awareness of climate change and sustainability issues, and establish instructional programs that focus on environmental sciences and climate change.

Vote Count: 15:0

Dated: May 20, 2019



Tom Epstein, President
Board of Governors California Community Colleges

Selected References

- 1.** Karl, T. R., et al., 2009: Global Climate Change Impacts in the United States. T.R. Karl, J.T. Melillo, and T.C. Peterson, Eds. Cambridge University Press, 189 pp.
- 2.** United States Global Change Research Program, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC.
- 3.** Santer, B. D. et al., 2013: Identifying human influences on atmospheric temperature. Proceedings of the National Academy of Sciences, 110, 26-33, doi:10.1073/pnas.1210514109.
- 4.** United States Global Change Research Program, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC.

CALIFORNIA COMMUNITY COLLEGES BOARD OF GOVERNORS CLIMATE CHANGE AND SUSTAINABILITY

INTRODUCTION

The California Community College Board of Governors (Board of Governors) Climate Change and Sustainability Policy provides goals and guidance for community college districts to align with the key climate change strategy pillars identified in California Climate Change Scoping Plan, achieve energy conservation goals, build capital project sustainably, and integrate physical plant management practices to reduce energy consumption to improve local environmental sustainability measures. This policy is consistent with California legislation, California Code of regulations, and Gubernatorial Executive Orders that detail statewide energy conservation, greenhouse gas reduction, de-carbonization, sustainability, and climate change mitigation measures.

Government Code section 15814.30 states that “All new public buildings for which construction begins after January 1, 1993, shall be models of energy efficiency and shall be designed, constructed, and equipped with all energy efficiency measures, materials and devices that are feasible and cost-effective.” Section 15814.31 requires that “All public buildings, when renovated or remodeled, shall be retrofitted to meet...Title 24 of the California Code of Regulations,” including Part 6; California Energy Code (CCR Title 24, California Energy Code). Additionally, consistent with Executive Order S-12-04, which requests the community colleges active participation in statewide energy conservation and reduced electrical demand.

ALIGN WITH CALIFORNIA’S CLIMATE CHANGE SCOPING PLAN

An outgrowth of the California Global Warming Solutions Act of 2006 (Assembly Bill 32) and Governor Brown’s Executive Order B-30-15, the California Climate Change Scoping Plan’s environmental sustainability efforts includes a vision to reduce greenhouse gas emission to 40 percent below 1990 levels by 2030. To achieve this vision, the plan specified key Climate Change Strategy Pillars:

- Increase renewable electricity production to 50 percent
- Reduce petroleum use by 50 percent in vehicles.
- Double energy efficiency savings at existing buildings.
- Reduce greenhouse gas emissions from natural and working lands.
- Reduce short-lived climate pollutants.
- Safeguard California.

In a continued effort to align with California’s Climate Change Strategy Pillars, the Board of Governors developed a resolution to align with the vision and goals of the California Climate Change Scoping Plan, and requests that each district in the California Community Colleges (CCC) also adopt a local resolution. District resolutions may also include commitments to implement the Climate Change and Sustainability Policy goals and guidance, offer environmental sciences degrees and certificates with an emphasis on climate change, and other significant local climate change strategies and environmental sustainability measures.

CLIMATE CHANGE AND SUSTAINABILITY POLICY GOALS 2025 AND 2030

To achieve the Climate Change Pillars of the California Climate Change Scoping Plan by 2030, this section outlines climate change and sustainability targets for 2025 and 2030. Also, all capital projects starting design in 2019 need at a minimum to outperform by at least 15 percent the current CCR Title 24, California Energy Code for new construction, and all major renovation projects should at a minimum outperform the current CCR Title 24 standards by at least 10 percent.

GOALS 2025

- Reduce greenhouse gas emission to 30 percent below 1990 levels.
- Increase renewable energy consumption to 25 percent.
- 25 percent of fleet vehicles are zero-emission vehicles.
- 50 percent of all new buildings and major renovations will be constructed as Zero NetEnergy.
- 50 percent of all new buildings and major renovations will achieve at least a Leadership in Energy and Environmental Design (LEED) “Silver” or equivalent rating.
- Increase procurement of sustainable products and services by 20 percent compared to current levels.
- Reduce municipal solid waste by 25 percent compared to current levels.

GOALS 2030

- Reduce greenhouse gas emission to 40 percent below 1990 levels.
- Increase renewable energy consumption to 50 percent.
- 50 percent of fleet vehicles are zero-emission vehicles.
- 100 percent of all new buildings and major renovations will be constructed as Zero NetEnergy.
- 100 percent of all new buildings and major renovations will achieve at least a Leadership in Energy and Environmental Design (LEED) “Silver” or equivalent rating.
- Increase procurement of sustainable products and services by 25 percent compared to current levels.
- Reduce municipal solid waste by 50 percent compared to current levels.

To help achieve these goals, the Community Colleges Chancellor’s Office (Chancellor’s Office) offers incentives of 2% for new construction and 3% for modernization projects to be applied to the construction cost of the project budget. District needs to provide the following two items to the Chancellor’s Office to be eligible for the incentive:

1. Energy Usage Calculator

Submit an Energy Usage Calculator (EUC) report annually, which demonstrate the districts’ energy savings by campus for the previous fiscal year. The EUC report is submitted at the same time each year as Space Inventory district submissions.

2. Energy Savings

An energy saving document is submitted for projects seeking state-approved funding. This document is normally prepared by your architect and submitted to the California Division of the State Architect (DSA) as part of that plan review process.

ENERGY INDEPENDENCE GOAL

Districts are encouraged to develop a strategic plan for energy procurement and production to reduce energy capacity requirements from the electricity grid, and to promote energy independence using available economically feasible technology (e.g., biomass, small hydro, geothermal, wind, solar) for on-site generation. Districts are also encouraged to purchase natural gas through non-utility consortiums or co-operative arrangements for its campuses.

Colleges should develop their self-generated energy capacity. To help accomplish this goal, each district should:

- Consider installing and operating clean co-generation plants and proven renewable energy generation technologies to reduce greenhouse gas emissions, and to improve campus energy efficiency, utility reliability, and service diversity.
- Pursue cost effective renewable generation in order to increase on-site production.
- Participate in all utility offered Demand Response programs. Pursue all possible incentives offered by these programs.

In place of self-generating technologies, colleges may consider procuring their electricity needs to reach the 50 percent renewable energy source by 2030. Energy independence is subject to the constraints of program needs and standard budget parameters to meet or exceed the State of California and California Public Utilities Commission Renewable Portfolio Standard.

POLICY ON ENERGY CONSERVATION, SUSTAINABLE BUILDING, AND PHYSICAL PLANT MANAGEMENT BEST PRACTICES

1. Energy Conservation

All CCC facilities, regardless of the source of funding for their operation, should be operated in the most energy efficient manner without endangering public health and safety and diminishing the quality of education. All districts should continue to identify energy efficiency improvement measures to the greatest extent possible at its campuses, undertake all necessary steps to seek funding for their implementation and, upon securing availability of funds, expeditiously implement the measures.

Districts should promote the use of cost effective renewable non-depleting energy sources wherever possible at its campuses, both in new construction projects and in existing buildings and facilities. Districts should consider implementing load shifting technologies, such as thermal energy storage and natural gas fired, on-site generation with heat recovery capabilities.

Districts should actively seek all available resources to implement energy efficiency improvement and utilities infrastructure renewal projects at its campuses. These resources may include federal and state budget appropriations as well as federal, state, and private sector grant opportunities, including and other unique public/private sector financing arrangements made available through legislative actions in California and the United States Congress.

Districts should cooperate with federal, state, and local governments and other appropriate organizations to accomplish energy conservation and utilities management objectives throughout the state. Additionally, colleges should inform students, faculty, staff and the general public of the need for and methods of energy conservation and utilities management. Each district should also establish appropriate guidelines, rules, and standards to assure effective energy management practices.

Each district should designate a sustainability manager with the responsibility and authority to carry out energy conservation and utilities management programs, among other local sustainability efforts. The Chancellor's Office may coordinate with the sustainability managers and assess local sustainability programs to inform and improve systemwide environmental sustainability measures, like Zero Net Energy.

Sustainability manager should solicit and evaluate feedback from faculty, staff, and students and community organizations to monitor the effects of sustainability and energy conservation efforts on instructional programs and the environment. Sustainability managers may also facilitate trainings on new sustainability and energy management concepts and programs as part of staff development for physical plant staff at district campuses.

2. Sustainable Building Practices

All capital project new construction, remodeling, renovation, and repair projects should be designed with consideration of optimum energy utilization, including low life-cycle operating costs and compliance with all applicable energy codes and regulations. In the areas of specialized construction that are not regulated through the current energy codes, such as historical buildings, museums, and auditoriums, the districts should ensure that these facilities are designed to maximize energy efficiency. Energy efficient and sustainable design features in the project plans and specifications need to be considered in balance with the academic program needs of the project within the available project budget.

In an effort to reduce the creation of greenhouse gases, capital planning for college facilities and infrastructure should consider features of a sustainable and durable design to achieve a low life-cycle cost. Principles and best practices established by leading industry standards or professional organizations should be implemented to the greatest extent possible. All construction and remodeling projects should be designed to achieve at least a United States Green Building Council Leadership in Energy and Environmental Design (LEED) “Silver” or equivalent rating.

The following elements should be considered in the design of all CCC facilities:

- Site development and design considerations that optimize local geographic features to improve sustainability of the project, such as proximity to public transportation and maximizing use of vistas, microclimate, and prevailing winds.
- Durable systems and finishes with long life cycles that minimize maintenance and replacement.
- Optimization of facility plans so that they can be reconfigured with the expectation that the facility could be renovated and re-used, instead of demolished.
- Systems designed for optimization of energy, water, and other natural resources.
- Optimization of indoor environmental quality for occupants.
- Utilization of environmentally preferable products and processes, such as recycled-content materials and recyclable materials.
- Procedures that monitor, trend, and report operational performance as compared to the optimal design and operating parameters.
- Space should be provided in each building to support an active program for recycling and reuse of materials.

To implement the sustainable building goal in a cost-effective manner, the process should include the following: identify economic and environmental performance measures; determine cost savings; use extended life-cycle costing; and adopt an integrated systems approach. Such an approach treats the entire building as one system and recognizes that individual facility features, such as lighting, windows, heating and cooling systems, or control systems, are not stand-alone systems.

Colleges are encouraged to use materials and systems with reduced environmental impacts. The architectural and engineering firms contracted to develop new CCC facilities should recommend building materials and methods with life cycles (i.e., manufacture, installation, maintenance, repair, and replacement) that reduce environmental impacts. Considerations should also include energy efficiency, energy required in the manufacturing process, life-cycle duration, and maintenance and replacement costs.

3. Physical Plant Management

In order to conserve purchased energy resources, districts are encouraged to establish air conditioning and water temperature standards that will support their effort to achieve the goals outlined in this policy. Each campus should consider integrating energy management and sustainability technologies that provides centralized reporting and control of the campus energy- and sustainability-related related activities. Sustainability managers should make the necessary arrangements to achieve optimum efficiency in the use of natural gas, electricity, or any other purchased energy resources to meet the heating, cooling, and lighting needs of the buildings and/or facilities. Except for areas requiring special operating conditions, such as electronic data processing facilities or other scientifically critical areas where rigid temperature controls are required, building and/or facility temperatures should be allowed to fluctuate between the temperature limits stated above.

Scheduling of building or facility usage should be optimized consistent with the approved academic, adult education, and career education programs to reduce the number of buildings operating at partial or low occupancy. To the extent possible, course and activity scheduling should be consolidated in a manner to achieve the highest building utilization in a manner to promote central plant and individual building air conditioning system shutdown to the greatest extent possible during the weekend and other holiday periods.

In an effort to reduce short-lived climate pollutants, including hydrofluorocarbon, all air conditioning equipment, including supply and return air fans, should be shut off on weekends, holidays, and for varying periods each night. Exceptions may include instances in which a lack of air conditioning would adversely affect instruction, electronic data processing installations, or other scientifically-critical or 24-hour operations.

All CCC campuses should take every necessary step to conserve water resources, including such steps as installing controls to optimize irrigation water, reducing water usage in restrooms and showers, and promoting the use of reclaimed water. The use of decorative fountains should be minimized. Additionally, districts are encouraged to integrate drought-resistant and non-water-intensive landscaping.

The districts should encourage continued energy conservation and lowest utilities operating costs on its campuses by instituting incentive plans designed to recognize and reward meritorious local achievements by campus staff, faculty, and students beyond normal expectation. These incentive plans should be designed in such a fashion that they are adaptable to changing budget constraints from year-to-year.