



Foothill-De Anza Community College District



SUSTAINABILITY ACTION PLAN



FINAL DRAFT Version 0
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Produced by the
Energy and Sustainability
Advisory Committee
(ESAC)

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SECTION 1. EXECUTIVE SUMMARY

The Foothill-De Anza Community College District is committed to fostering sustainability. District Board [Policy 1200](#) states “We are driven by an equity agenda and guided by core values of excellence, inclusion, and sustainability,” and the district will use this as a guiding light for our sustainability efforts. We understand sustainability, broadly, to mean actions that reduce ecological impacts and increase social equity and well-being, while also being economically prudent. This plan focuses on sustainability efforts in college and district operations. It looks at the impacts of policies on our students’ experiences while studying with us and after they leave. And it is designed to lead others in the community to accomplish strong sustainability efforts.

The passage of the California Global Warming Solutions Act (AB-32), subsequent legislation and Executive Orders requiring carbon emissions reduction and the adoption of the 2021 California Community Colleges Board of Governors’ Climate Action and Sustainability Framework has made it imperative for California community colleges to act. Additionally, the UN Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report [Update](#) issued in April 2022 could not be more explicit about the use of fossil fuels, climate change and the narrow window to respond to this crisis. This Sustainability Action Plan (SAP) takes an organized and comprehensive approach to incorporate energy efficiency, equity, and sustainability elements, while addressing state regulations and leveraging available resources and complementary programs. It also prepares the district for significant decarbonization during the crucial 2020-2030 period.

Sustainability is integrating three important spheres: environmental stewardship¹, or the responsibility for environmental quality shared by all those whose actions affect the environment; social equity², or continually working to break down barriers to racial justice and equity for the students in our colleges and viewing sustainability through an equity lens; and economic vitality to create thriving, healthy, diverse, and resilient communities for this generation and generations to come. As illustrated by the diagram on the right, the practice of sustainability recognizes how these issues are interconnected and require a systems approach and an acknowledgment of complexity.³ This plan aims to prepare Foothill-De Anza for the environmental and regulatory challenges of the 21st century, while ensuring that policies implemented increase equity in the short term, lead to a more equitable and sustainable future and prepare students for good jobs in a green economy. It is forward-thinking and considers sustainability best practices that not only minimize negative environmental impacts but also enhance the built environment, the biosphere and its living inhabitants.



The Foothill-De Anza Community College District includes Foothill College in Los Altos Hills, De Anza College in Cupertino, and the Foothill College Sunnyvale Center. This Sustainability Action Plan encompasses the entire district’s goals and priorities and articulates the district’s sustainability mission, goals, and objectives and the

¹ [Environmental Stewardship and Sustainability - JMU](#)

² [Diversity, Equity, Inclusion, and Accessibility \(DEIA\) | California Community Colleges Chancellor's Office \(cccco.edu\)](#)

³ [UCLA - What is Sustainability?](#)

implementation strategies to meet these goals. The Foothill-De Anza Energy and Sustainability Advisory Committee (ESAC), with a membership of students, faculty members, administrators, and classified professionals, has developed the plan in coordination with campus stakeholders using a participatory governance approach to ensure that the plan meets the diverse needs of various campus communities.

Due to this document's technical nature, a glossary of terms is included in the appendix. In addition, footnotes and hyperlinks are provided throughout the text to provide more detail about concepts, measures, and programs discussed in the plan.

SECTION 2. BACKGROUND

2.1 HISTORY OF SUSTAINABILITY EFFORTS TO DATE

The Foothill-De Anza Community College District has been proactive in energy efficiency and sustainability for many years. In 2007 and 2008, Foothill College and De Anza College established sustainability committees to plan and implement various energy and sustainability programs and projects. The Board of Trustees established policies for district sustainability that were incorporated into the 2010 District Sustainability Plan, the 2016 Facilities Master Plan, the 2017-2023 District Strategic Plan, and the 2018 Foothill College Sustainability Management Plan. In addition, the district has been active in recycling efforts, encouraging public transit use for students and employees, implementing energy and water-saving projects, and pursuing efficient new construction of campus facilities, cogeneration and solar photovoltaic power generation. Students have also been very active through the De Anza Student Government (formerly the De Anza Associated Student Body) Environmental Sustainability Committee, the Foothill College Sustainability Committee, and the current districtwide Energy and Sustainability Advisory Committee. The Foothill-De Anza Foundation was one of the earliest institutions to divest from fossil fuel investments in 2013. Our district's proud history of student advocacy was crucial in conceiving the landmark Kirsch Center for Environmental Studies at De Anza, creating the pathbreaking bus pass programs, and advocating for fossil fuel divestment.

The district also took full advantage of funding provided by Proposition 39, the California Clean Energy Jobs Act of 2012, to plan and install \$2,386,191 of energy projects between 2013 and 2019. These projects save 418,726 kWh and 82,886 therms annually and provide energy cost savings to the district of \$108,444 each year. These energy savings also translate to over 1.6 million pounds of avoided CO₂ emissions annually. Proposition 39 was a very successful program for the district. Details of projects installed, Proposition 39 funding, project costs and energy savings are listed in Appendix A.

In 2021, the district developed a districtwide Energy Master Plan (EMP), which established broad goals for energy efficiency, renewable energy, and greenhouse gas (GHG) emissions reduction and articulated a plan of action to realize these goals. The EMP also integrated capital improvement projects from the 2020 Measure G \$898 million bond program into the plan. This 2022 Sustainability Action Plan has incorporated the elements of the EMP, the policy goals of the 2021 California Community Colleges Board of Governors Climate Action and Sustainability Framework, and comprehensive sustainability measures related to water, wastewater, solid waste and recycling, transportation, procurement, food systems, diversity and equity, curriculum, and forward-looking regenerative and nature positive principles to create a cutting-edge plan to address the environmental, fiscal, and social issues the district faces in the coming years. While the district has made significant progress on the path to sustainability, it is poised to accomplish much more by implementing this Sustainability Action Plan.

2.2 CREATION OF THE SUSTAINABILITY ACTION PLAN

To create this Sustainability Action Plan, the Energy and Sustainability Advisory Committee followed the California Community Colleges sustainability planning template process. The template was created by a collaboration of the state Chancellor's Office, Citrus Community College District, the California Energy Commission, and consulting firm Newcomb Anderson McCormick. It was developed in 2011, successfully used in early 2012 at Citrus College to develop a campus-specific sustainability plan, and subsequently employed by many other community college

districts. The template is designed to assist colleges with setting goals, objectives, timelines and criteria for success. It highlights the best practices of other community colleges to develop robust yet flexible plans tailored to each district and campus. Districts and campuses can use the template to prioritize their efforts based on college-specific goals and objectives, areas of interest, capabilities and available resources. In addition, the template provides tools for developing action plans to achieve sustainability and measure program implementation results. Above all, the process is intended to be inclusive and collaborative and involve college students, faculty and staff in its implementation. This flow chart illustrates the template planning process.



2.3 ENERGY AND SUSTAINABILITY ADVISORY COMMITTEE

The Energy and Sustainability Advisory Committee (ESAC) was established to share timely, relevant, and accurate local and state energy and sustainability information with constituency representatives and to provide a forum for identifying opportunities to promote an expansive approach to environmental sustainability that includes considerations of equity and social justice at its core. The committee comprises students, faculty members, classified professionals and administrators representing various district stakeholder groups. The plan was developed by ESAC using the district participatory governance process. ESAC regularly updated diverse student, faculty and facilities committees to describe progress and gain feedback during the planning process.

The acknowledgments page of the Sustainability Action Plan lists ESAC membership. The committee's co-chairs are Joel Cadiz, executive director of Facilities and Operations, and Robert Cormia, Foothill College chemistry instructor.

2.4 THE POLICY CONTEXT OF ENERGY AND SUSTAINABILITY PLANNING

Sustainability can provide environmental, economic and social benefits to campuses; however, state policies and regulations also serve as motivation for the district to pursue these practices. California has been at the forefront of efforts to establish aggressive policies and standards for environmental protection and reduce greenhouse gas (GHG) emissions that contribute to global warming, while also maintaining a focus on increasing equity in the process. In 1970, the state adopted the California Environmental Quality Act (CEQA), intending to inform governments and the public about the potential environmental impacts of projects. Since then, the state has accelerated these policies through several executive orders and legislation to decarbonize the energy system. From 2005 onward, legislation has been passed to directly regulate GHG emissions by utilizing incentive mechanisms, cap-and-trade programs, and mandatory reporting while encouraging voluntary activities such as purchasing emissions offsets and offering renewable energy certificates. Compliance with state policies and regulations regarding these issues is an essential factor for consideration by the district.

The following paragraphs describe the numerous policy and regulatory drivers that led to the creation of this plan.

2.4.1 2021 Board of Governors Climate Action and Sustainability Framework

In September of 2021, the California Community Colleges Board of Governors (BOG) adopted a Climate Action and Sustainability Framework (BOG Framework) to guide the community college system to comply with various California regulations related to environmental protection and other sustainability goals. A Climate Action and Sustainability Steering Committee, made up of volunteers from community colleges, the Student Senate for California Community Colleges, the California Community Colleges Chancellor's Office, and the Foundation for California Community Colleges, developed the BOG Framework. The BOG Framework sets goals for reducing GHG emissions, renewable energy, zero-emissions vehicles, Zero Net Energy (ZNE) buildings, green building standards, sustainable purchasing practices, solid waste reduction, water and wastewater, food systems, curriculum development, and environmental justice and diversity. The framework was used as an essential document in ESAC's planning process, and many of the policies and programs have been included in the Sustainability Action Plan. The BOG Framework can be viewed in Appendix B.



2.4.2 California State Climate Regulations

California has been very aggressive over the past 40 years in establishing legislation and executive orders to improve energy efficiency and reduce GHG emissions. These efforts have accelerated in the past ten years as the effects of climate change have become more prevalent, resulting in the need to mitigate the impacts on future generations. The following is a summary of the most critical state actions.

2.4.2.1 Global Warming Solutions Act of 2006 (AB 32)

Assembly Bill (AB) 32, the Global Warming Solutions Act, which was adopted in 2006 by the California Legislature, established two critical requirements regarding climate change mitigation. The first caps California GHG emissions at 1990 levels by 2020. The second establishes an enforcement mechanism for the GHG emissions reduction program with monitoring and reporting implemented by the California Air Resources Board (CARB). In 2008, CARB released the AB 32 Scoping Plan, which describes measures to implement the requirements set by the legislation. In addition to partnering with local governments to encourage the establishment of regional emission reduction goals and community regulations, the scoping plan uses various mechanisms to reduce emissions statewide, including incentives, direct regulation, and compliance mechanisms.

In 2017, CARB updated the scoping plan to reflect the state policy of reducing GHG emissions by 40% below 1990 levels by 2030. In May 2022, CARB adopted a 2022 Scoping Plan Update that assesses progress toward the statutory 2030 target and lays a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing pathways for clean technology, energy deployment, natural and working lands, and others. It is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice and public health priorities. The 2022 Scoping Plan Update can be found [here](#).

2.4.2.2 Clean Energy and Pollution Reduction Act of 2015 (SB 350)

The Clean Energy and Pollution Reduction Act of 2015 requires that the annual amount of electricity generated and sold to retail customers from eligible renewable energy resources (known as the Renewable Portfolio Standard (RPS)) be increased from 33% to 50% by December 31, 2030. It also requires the California Energy Commission (CEC) to establish annual targets for statewide energy efficiency savings and demand reduction to achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas by January 1, 2030. The bill was authored by State Senator Kevin De León and enacted in 2015.

2.4.2.3 Executive Order B-18-12

Executive Order B-18-12, signed by Governor Brown on April 25, 2012, required 50% of new state buildings beginning design after 2020 to be Zero Net Energy (ZNE) and that all new buildings and major renovations beginning design after 2025 be constructed ZNE. It also requires state agencies to achieve ZNE for 50% of the square footage of the existing state-owned building area by 2025.

2.4.2.4 Executive Order B-55-18 (Carbon Neutrality by 2045)

Executive Order B-55-18, signed by Governor Jerry Brown on September 10, 2018, established new statewide goals to achieve carbon neutrality as soon as possible, but no later than 2045, and to achieve and maintain net negative emissions. The order added to previous statewide goals for reducing greenhouse gas emissions.

2.4.2.5 100% Carbon-Free Energy by 2045 (SB 100)

SB 100 set a 2045 goal of powering all retail electricity sold in California and state agency electricity needs with renewable and zero-carbon resources, such as solar and wind energy that do not emit climate-altering greenhouse gases. It updated the state's Renewables Portfolio Standard goal to ensure that by 2030 at least 60% of California's electricity is generated from renewable sources. The law also required the California Energy Commission (CEC), California Public Utilities Commission (CPUC), and CARB to use programs under existing laws to achieve 100% clean electricity and to issue a joint policy report on SB 100 by 2021 and every four years thereafter. The legislation was authored by State Senator Kevin De León and enacted in 2018.

2.4.2.6 California's Short-Lived Climate Pollutant Reduction Strategy (SB 1383)

SB 1383 is a new state law designed to keep food and other compostable materials out of landfills to reduce methane emissions contributing to climate change. Under the law, edible food currently thrown away must be recovered and donated for people to eat. The remaining organics must be collected for composting, and



recyclables must also be kept out of landfills. County waste management agencies began implementing the regulations in January 2022. Businesses, multi-family properties, residences, schools and other institutions are required to implement the law by subscribing to curbside compost and recycling collection services and garbage service.

2.4.2.7 The Inflation Reduction Act of 2022

The Inflation Reduction Act of 2022 (IRA) is a federal law that aims to curb inflation by reducing the deficit, lowering prescription drug prices, and investing in domestic energy production while promoting clean energy. It was passed by Congress and signed into law by President Joe Biden on August 16, 2022. The law, which will raise \$737 billion and authorize \$369 billion in spending on energy and climate change, represents the largest investment in addressing climate change in U.S. history. According to several independent analyses, the law is projected to bring the U.S. significantly closer to President Biden's goal of reducing greenhouse gas emissions to 50% below 2005 levels by 2030. The district should explore avenues to obtain funding authorized by the bill for the implementation of measures in the Sustainability Action Plan. This will include consulting with the state Chancellor's Office and the statewide Association of Chief Business Officers (ACBO) Facilities Task Force, which advises community college districts on facilities, energy and sustainability issues.

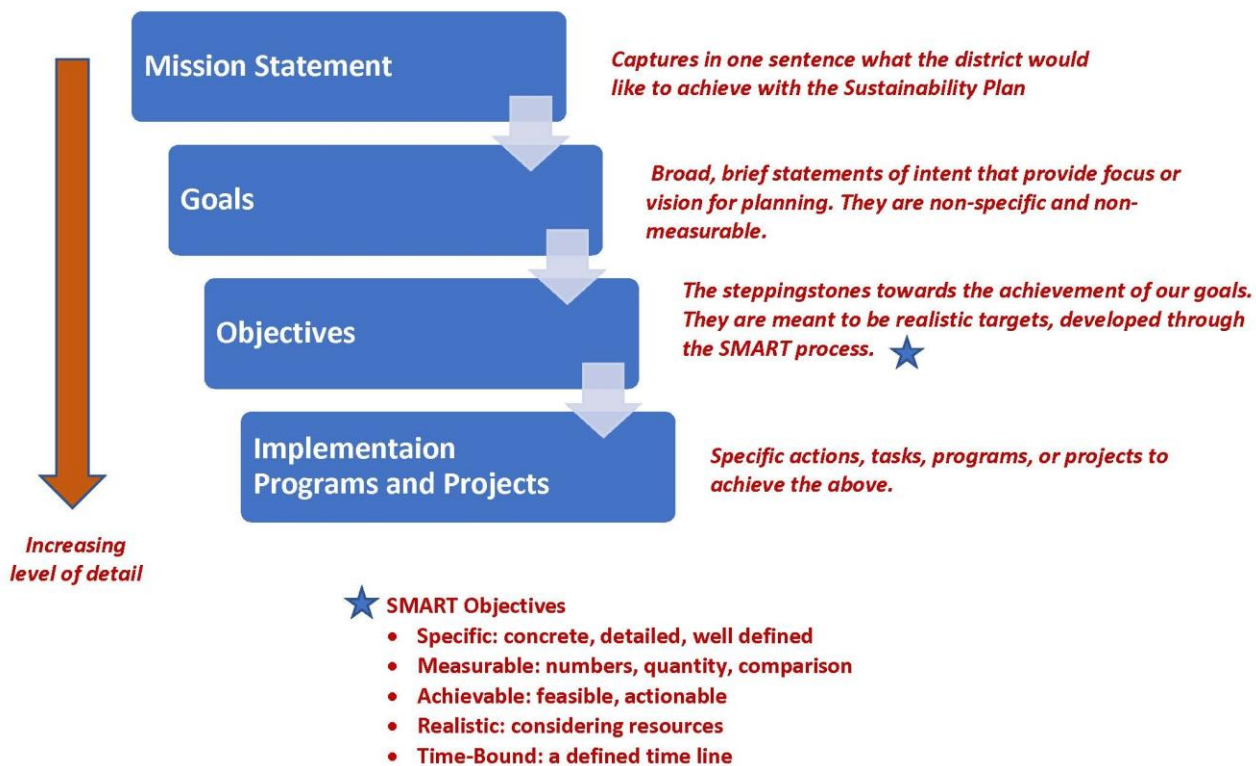
While not legislation, the United Nations [Sustainable Development Goals](#) (SDGs), adopted by all United Nations Member States in 2015, provide a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 SDGs, which are an urgent call for action by all countries — developed and developing — in a global partnership. The UN recognizes that ending poverty and other deprivations must be linked with strategies that improve health and education, reduce inequality, and spur economic growth while tackling climate change and working to preserve our oceans and forests. The district will use these goals as inspiration and guidance when implementing the Sustainability Action Plan.

SECTION 3. MISSION STATEMENT, GOALS, AND OBJECTIVES

The Foothill-De Anza Community College District Energy and Sustainability Advisory Committee, utilizing the California Community Colleges sustainability planning template process, established the sustainability action plan's mission, goals and objectives through facilitated committee workshops and participatory governance presentations that maximized stakeholder input. After adoption, ESAC identified implementation programs and projects to make the mission, goals and objectives a reality and to ensure that they were aligned with the district's educational and equity goals.

3.1 SUSTAINABILITY ACTION PLAN PLANNING STRUCTURE

ESAC developed a planning structure designed as an inclusive, logical, comprehensive and streamlined approach for creating the Sustainability Action Plan (SAP). The illustration below details this process.



The planning structure starts with a broad mission statement that captures in one sentence what the district would like to achieve with the Sustainability Action Plan. The next level of planning articulates goals in broad, brief statements of intent that provide a focus for planning. Next, objectives were identified as “steppingstones” toward achieving the goals using the SMART process: Specific, Measurable, Achievable, Realistic, and Time-Bound. Finally, detailed implementation programs and projects were developed as specific actions to implement the plan.

3.2 MISSION STATEMENT

ESAC developed the following mission statement to guide the district’s sustainability action planning efforts.

The Foothill-De Anza Community College District Sustainability Action Plan guides our policies, goals and objectives for environmental stewardship, social equity, and financial responsibility. It encompasses the impacts of the actions of students, faculty, staff, and administrators on our district and our communities.

3.3 SUSTAINABILITY ACTION PLAN GOALS

To realize the mission statement, ESAC defined the following energy and sustainability goals.

Table 1 – Sustainability Action Plan Goals

Goal No.	Description
1	Develop a Sustainability Action Plan to identify measures to reduce resource use impacts, improve sustainability, and strengthen campus resilience by employing all appropriate funding sources.
2	Establish an inclusionary process where students, faculty, and staff play a meaningful role in district sustainability efforts and understand the environmental, societal, and economic impacts of resource use while integrating these activities as learning opportunities to fulfill our responsibility as a higher education institution.
3	Advocate for social equity, inclusion, intersectionality ⁴ , and environmental justice in curriculum and college programs.
4	Establish objectives, criteria, and implementation plans to achieve carbon neutrality and monitor progress over time to ensure they are achieved.

⁴ [A lens, a prism, for seeing the way in which various forms of inequality often operate together and exacerbate each other.](#)

Goal No.	Description
5	Explore restorative and regenerative design principles ⁵ that contribute positive impacts.
6	Support state and federal energy policies and greenhouse gas (GHG) reduction goals, including the most up-to-date California Community Colleges Board of Governors Climate Action and Sustainability Framework.
7	Establish the Foothill-De Anza Community College District as a model for a broad environmental justice approach to sustainability to face the challenges of the 21 st century.

3.4 OBJECTIVES

Based on the mission and goals, ESAC developed the following Sustainability Action Plan SMART objectives providing specific, measurable, achievable, realistic, and time-bound priorities for completing the Sustainability Action Plan. The table also references the associated plan goals to provide a link to better illustrate program structure.

Table 2 – Sustainability Action Plan Objectives

No.	Objective	Timeline	Associated Goal
Leadership and Management			
1	Investigate the most effective ways to institutionalize energy and sustainability management in district operations. (FDACCD EMP) ⁶	Ongoing	1,7
2	Ensure activities consider broader social, economic, and environmental impacts. (FDACCD EMP)	Ongoing	2, 3

⁵ <https://www.hdrinc.com/insights/6-things-know-about-regenerative-design>

⁶ Objective Source Reference Legend

BOG = CCC Board of Governors 2021 Climate Action and Sustainability Framework

FDACCD EMP = Foothill-De Anza CCD 2021 Energy Master Plan

No.	Objective	Timeline	Associated Goal
Energy and GHG Emissions			
3	Strive to reduce GHG emissions by 75% by 2030. (BOG) ⁷	2030	4,6
4	Strive to reduce GHG emissions by 100% by 2035. (BOG)	2035	4,6
5	Strive to decrease Energy Use Intensity (EUI or energy usage per square feet) by 25% compared to the campus benchmark and annually produce or procure 75% of site electrical consumption using renewable energy by 2030. (BOG)	2030	4,6
6	Strive to decrease EUI by 40% compared to the campus benchmark and accomplish Net Zero Energy ⁸ Campus by 2035. (BOG)	2030	4,6
7	Evaluate campus resiliency opportunities (PV, BES, Microgrid). (FDACCD EMP)	2023-2028	1
Green Building			
8	Strive for all new buildings and major renovations to be constructed as ZNE ready, to be LEED or WELL Platinum with a minimum LEED Silver (self-certified), and evaluate and strive for existing buildings to be LEED Operations and Maintenance (O&M) Gold or WELL Gold equivalent, and strive to reduce the use of natural gas in buildings by 100% by 2035. (BOG)	2035	6
9	Investigate restorative and regenerative design principals for inclusion into district building standards by 2024 which focus on decreased energy usage, increased student learning, and increased ecosystem outcomes such as positive habitat impacts.	2024	5
Water and Wastewater			
10	Reduce potable water consumption by 15% from 2019 ⁹ and monitor and comply with future county water usage restrictions.	2023	1

⁷ [Scope 1 and 2 Emissions Only - Definition](#)

⁸ [DGS ZNE Definition](#)

⁹ [Santa Clara County Water Agency Mandatory Reduction Goals](#)

No.	Objective	Timeline	Associated Goal
11	Strive to reduce potable water usage by 25% from the baseline level. (BOG)	2024	1,6
12	Strive to reduce potable water usage from baseline level by 50% by 2035; limit stormwater runoff and discharge to predevelopment levels for temperature, rate, volume and duration of flow (BOG)	2035	1,6
Transportation			
13	Deploy EV charging infrastructure consistent with the state of California goals and timelines for electrification of transportation. (FDACCD EMP)	2025-2030	4,6
14	Reduce Vehicle Miles Traveled (VMT) for students, faculty, and staff by 25-50% by 2035 by coordinating with other ongoing district programs. (FDACCD EMP) ¹⁰	2035	4
15	Strive to have 50% of new fleet vehicles that are zero-emission vehicles and 50% of rolling stock that are zero emissions by 2030. (BOG)	2030	4,6
16	Strive to have 100% of new fleet vehicles that are zero-emission vehicles and 100% of rolling stock that are zero emissions by 2035. (BOG)	2035	4,6
Solid Waste			
17	Strive to achieve zero waste to the landfill, and reduce total material consumption compared to the benchmark of 10% by 2030. (BOG)	2030	4,6
18	Strive to increase material circularity by 25% and decrease consumption of materials by 25% by 2035. (BOG)	2035	1,6

¹⁰ [Scope 3 Emissions Definition from US EPA](#)

No.	Objective	Timeline	Associated Goal
Sustainable Procurement			
19	Increase procurement of sustainable products and services by 25% compared to benchmark levels by 2030. (BOG)	2030	1,6
20	Strive to increase procurement of sustainable products and services by 50% compared to benchmark levels by 2035. (BOG)	2035	1,6
Food Systems			
21	Strive to increase district sustainable food purchases to 20% of the total food budget by 2030 and to have 80% of the food served on campus meeting the goals of the Real Food Challenge ¹¹ or equivalent by 2035, while attending to the equity impacts of food prices and health impacts for students. (BOG)	2035	1,6
Diversity, Equity, and Environmental Justice			
22	Consistent with the Vision for Success, the district will create connections between plans, projects, and committees (including those specific to diversity, equity, and inclusion efforts) and include them in the Sustainability Action Plan. (BOG)	2025	3,6
Campus and Community Engagement			
23	Develop processes to communicate and engage students, faculty, and staff in energy and sustainability activities in meaningful ways. (FDACCD EMP)	2023	2
24	Enhance campus and community education and engagement. (FDACCD EMP)	Ongoing	2
Curriculum			
25	Encourage and facilitate student learning activities related to sustainability and carbon reduction and increase career pathways to green jobs. (FDACCD EMP)	2023	2,3,7

¹¹ As defined by the [Real Food Challenge](#)

The draft mission, goals, and objectives were reviewed with the De Anza College Academic Senate, the De Anza Facilities team, and the Foothill College Classified Senate for feedback and input. The objectives were used to guide the development and adoption of the implementation programs and projects described in the next section of the Sustainability Action Plan. The objectives will apply to all district facilities, including Foothill College, De Anza College, the Sunnyvale Center, and the district offices. ESAC should monitor progress toward achieving the objectives during plan implementation as described in Section 5, “Measure and Report Performance.”

SECTION 4. PROGRAMS AND PROJECTS FOR IMPLEMENTATION

Based on the goals and objectives described in the previous section, the Energy and Sustainability Advisory Committee has identified the following programs and projects to improve campus sustainability, increase equity, and reduce GHG emissions. These programs and projects are also reflected in the Implementation Programs and Plans Checklist, located in Appendix C, which outlines program details, priorities, responsibility for implementation and the timeline for completion. The ESAC will use the checklist as an action plan to manage the implementation process.

4.1 MANAGEMENT AND ORGANIZATIONAL STRUCTURE

To effectively implement the Sustainability Action Plan, it will be necessary for the district to have a policy mandate for energy efficiency and environmental and social sustainability, the institutional structure required to manage the process, financial resources, and programmatic expertise to accomplish plan goals. The district has plans to implement the following programs to meet these needs.

4.1.1 Adopt a District Sustainability Policy

As described earlier, the Foothill-De Anza Community College District has been proactive in sustainability policy for many years. The Board of Trustees established policies for district sustainability that have been incorporated into the 2010 District Sustainability Plan, 2016 Facilities Master Plan, 2017-2023 District Strategic Plan, and 2018 Foothill College Sustainability Management Plan. In addition, the board adopted the Energy Master Plan in 2021 and endorsed the creation of this Sustainability Action Plan, which addresses districtwide and site-specific needs for each college regarding energy and sustainability.

4.1.2 Appoint a Sustainability Coordinator and Establish an Office of Sustainability

Recognizing the necessity for a coordinated effort and human resources to manage a large and complex program, the district approved the Energy and Sustainability Manager position in early 2022 to coordinate the implementation of the Sustainability Action Plan. It is anticipated that the position will be filled by the end of 2022 or early 2023.

Programs and projects are also listed in the Implementation Programs and Plans Checklist (Appendix C), which outlines program details, priorities, responsibility for implementation, and the timeline for completion. The checklist will be used as an Action Plan to manage the implementation process.

4.1.3 *Appoint a District Energy and Sustainability Committee*

The district established the Energy and Sustainability Advisory Committee (ESAC) to share timely, relevant, and accurate local and state energy and sustainability information with constituency representatives and to provide a forum for participation in defining opportunities to promote environmental sustainability. ESAC is an advisory body and part of the district's participatory governance process. The role and responsibilities of ESAC include:

- Review and make recommendations to promote environmental and social sustainability
- Review and make recommendations on energy use and GHG emissions reduction
- Look outward/forward on strategic planning to promote environmental and social sustainability
- Communicate and disseminate reports and updates to respective constituency groups and the community

In addition, ESAC has been tasked with managing the Sustainability Action Plan development and implementation.

4.1.4 *Explore Funding and Resources to Support Sustainability Activities*

A critical activity for this Sustainability Action Plan is identifying funding and resources for its implementation. The district will develop a funding plan and schedule to implement prioritized sustainability activities and projects. Funding sources could include the Measure G bond program, district and campus general funds, grants, utility incentives, state construction funds or other sources. The funding plan should be one of the first steps taken after adoption of the plan.

4.1.5 *Employ Sustainability Professionals, As Required*

Many of the projects identified in this plan require technical or programmatic expertise not available among district personnel. When appropriate, specialists should be engaged to assist in designing and implementing energy projects to ensure project success. The district will ensure that the individual or company being hired has experience relevant to the project for which they are being hired. Experience working with other California community colleges is also a plus.



Plans already established include the development of a request for qualifications/request for proposals (RFQ/RFP) to conduct an Electrification and Utility Upgrade Feasibility Study, which would quantify measures and costs to eliminate natural gas usage at college facilities to achieve GHG reduction goals. The RFQ/RFP has an anticipated release date to qualified engineers or architects in late 2022 or early 2023.

4.1.6 Evaluate Tracking and Reporting Sustainability Performance Using the AASHE Sustainability Tracking, Assessment & Rating System (STARS)

The district should evaluate the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System™ (STARS®) to measure sustainability performance annually and report the results to the Board of Trustees. STARS is a transparent, self-reporting framework for colleges and universities to measure sustainability performance. The framework encompasses long-term sustainability goals for high-achieving institutions and entry points of recognition for institutions taking the first steps toward sustainability. More than 1,000 colleges and universities use STARS to measure sustainability progress. Basic access to STARS for self-reporting is free, and a paid subscription provides peer-reviewed progress reports and recognition on the AASHE website and other publications. STARS takes an expansive approach to sustainability and includes issues of equity and environmental justice at the core of its metrics. For example, institutions are given credit for having bathrooms appropriate for transgender students, access to affordable systems of transportation, and programs accessible to low-income students.

The state Chancellor's Office has embraced this program for district sustainability tracking, and ESAC should coordinate activities with Chancellor's Office staff to ensure best practices implementation. For more information about STARS and AASHE, go [here](#).

4.1.7 Integrate Sustainability Planning into Educational and Facilities Master Plans

District and campus master plans and sustainability planning go hand in hand. Foothill-De Anza has a history of coordinated planning and has incorporated sustainability into the 2010 District Sustainability Plan, the 2016 Facilities Master Plan, the 2017-2023 District Strategic Plan, and the 2018 Foothill College Sustainability Management Plan. The district should integrate the mission, goals, objectives and measures identified in this Sustainability Action Plan into existing and future master plans.

4.1.8 Investigate the Most Effective Ways to Institutionalize Energy and Sustainability Management

The district recognizes that it is essential to institutionalize energy and sustainability into planning activities and everyday operations. Temporary, one-off efforts to manage sustainability activities result in short-term solutions that make it difficult to maintain progress into the future. To avoid these common pitfalls, ESAC should investigate the most effective ways and best practices to incorporate a broad approach to sustainability into the organization and foster a culture of sustainability in district operations. This will require districtwide operational and community training about new systems and processes at all levels. The first step in this process will be establishing and filling the previously described position of district Energy and Sustainability Manager.

4.1.9 Participate in California Community Colleges Systemwide Energy and Sustainability Committees

The California Community Colleges system, led by the state Chancellor's Office, has established several shared governance committees to develop and implement best practice energy and sustainability policies and programs and integrate them into local district operations statewide. These committees generally consist of Chancellor's Office and district personnel who participate in regular meetings and workshops that focus on college facility and finance issues, including energy efficiency and a broad approach to sustainability. These committees include the Chancellor's Office Climate Policy Steering Committee, the Association of Chief Business Officers (ACBO) Facilities

Task Force, and the Community Colleges Facilities Coalition (CCFC). In addition, regional committees consisting of personnel from local districts meet on a regular basis to discuss these issues as well.

Foothill-De Anza already participates in the ACBO Facilities Task Force but should broaden its activities and membership to the other statewide committees to help evaluate and implement policy, share experiences and expertise, and help influence future energy and sustainability efforts at the systemwide level.



4.2 CARBON REDUCTION PROGRAMS

One of the district's highest priorities is reducing greenhouse gas (GHG) emissions and achieving carbon neutrality to mitigate climate change. The district should undertake the following activities to achieve its carbon reduction goals. These efforts will support California's policy goals for GHG reduction and establish Foothill-De Anza Community College District as a leader in energy efficiency and sustainability among community colleges statewide.



4.2.1 Implement Measure G Bond Projects

On March 3, 2020, voters in the Foothill-De Anza Community College District approved an \$898 million general obligation bond measure (Measure G) to upgrade facilities preparing students for university transfer and careers in fields such as health care, nursing, technology, engineering and sciences; to upgrade and repair aging classrooms as well as labs for science, technology, engineering and math-related fields of instruction; and to acquire, construct, repair facilities, equipment and sites. The Measure G implementation plan includes many energy-saving and GHG reduction projects at each district location, including new construction, major renovations, and energy-saving retrofits for existing lighting, HVAC, and central plant systems. The bond projects will significantly improve energy performance in the district and be an essential element in achieving carbon neutrality goals. The complete list of Measure G energy-saving projects is included in Appendix D of the Sustainability Action Plan.

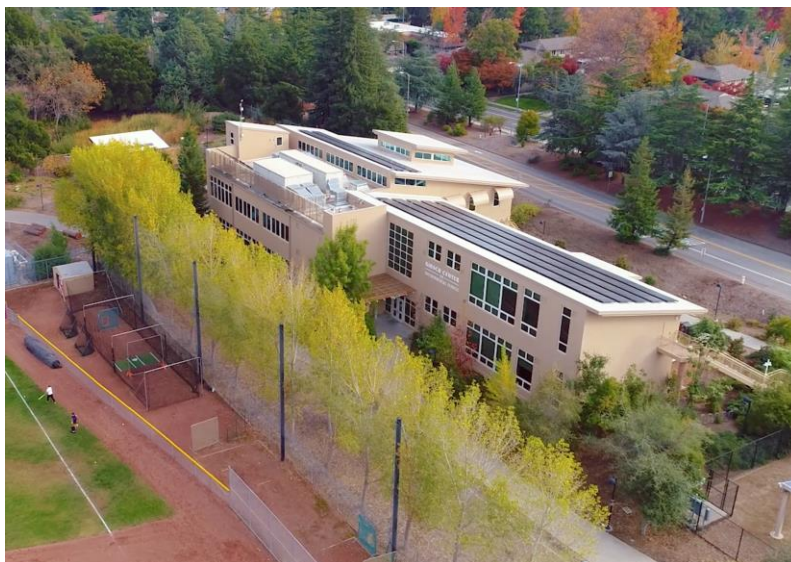
4.2.2 Perform a Feasibility Study for District Electrification

As described previously, one of its first steps in implementing the SAP should be to engage a qualified energy consultant to conduct a feasibility study to electrify facilities operations and eliminate natural gas systems, such

as HVAC and hot water equipment, to achieve carbon neutrality. This study will evaluate the most effective technologies to replace existing natural gas equipment with electrically powered equipment, such as electric heat pumps and thermal energy storage. The study would also assess the necessary campus electric utility upgrades to support electrification and any PG&E service changes needed. An analysis of electrification costs, potential funding sources (including Measure G funds), energy savings, emissions reductions, and return on district investment with recommendations would be prepared as a road map for the district to achieve carbon neutrality.

4.2.3 Develop an Energy Data Foundation for a Usage Analysis at All Three Campuses to Support GHG Reduction Goals.

To meet district GHG reduction goals, the district should quantify electricity and natural gas usage pre-and post-COVID as a baseline for planning. The Energy Benchmarking Study prepared in 2021 provided an analysis of electric and gas usage in the calendar years 2018 and 2019 to understand pre-COVID usage. This study documented energy use at the campus master meters. More detailed analysis will be required at a building and system level to better understand usage patterns and opportunities to reduce excess use. In addition, data should be collected based on 2022 use and forecasts for post-COVID as students, faculty and staff return to campus. This data will be employed for the Electrification Feasibility Study described previously.



Specific tasks that should be accomplished for this project include the following.

- Work with an energy consultant or a mechanical contractor to specify and install electric, natural gas, and BTU meters on individual buildings and central plant systems — especially pool boilers and microturbine systems — to develop a thermal energy model for natural gas efficiency and HVAC electrification.
- Continue working with utility Électricité de France (EDF) Innovation Labs in Los Altos, California, and San Francisco State University to evaluate the replacement of natural gas hot water boilers with a thermal microgrid (electric heat pumps and heat recovery systems) at the Central Energy Facility on the Foothill campus. This analysis, using the Tool for Optimization of Thermal and Electric Microgrids (TOTEM), will model the campus's combined electric (power and energy) and thermal (HVAC) system to understand and evaluate thermal microgrid replacement of the natural gas uses.
- One of the BOG Framework goals is for campuses to establish GHG emissions inventories and develop Climate Action Plans (CAP) by 2025. The energy data captured by this task should be used to create the CAP, identifying GHG reduction measures that will go together with implementing the Sustainability Action Plan.

4.3 ENERGY EFFICIENCY

Energy efficiency is the most cost-effective way to reduce campus energy use and its carbon footprint. When appropriately implemented, efficiency measures can decrease energy use without compromising comfort, improve indoor air quality, and enhance student, faculty and staff performance. Energy efficiency should be a higher priority than renewable or other on-site energy generation due to more favorable economics and the need to avoid oversizing renewable energy systems.

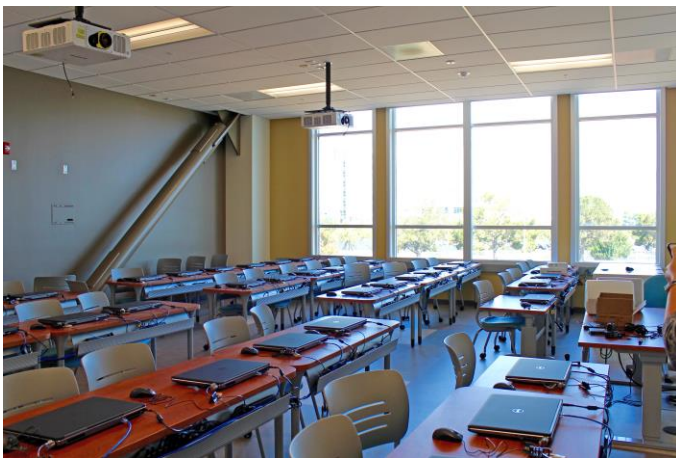
The following energy efficiency programs and projects should be implemented in the district. This would include the energy efficiency projects projected for Measure G funding.

4.3.1 *Set Energy Efficiency Goals*

Planning for energy conservation is a district priority. It is essential to set goals for reducing any resource to define success. The district performed an Energy Benchmarking Study in 2021, employing the U.S. Environmental Protection Agency (EPA) Portfolio Manager software to establish energy usage and GHG emission baselines. Using this data, the district can develop annual energy use and GHG emission reduction goals and plan appropriate energy efficiency, demand reduction, or clean self-generation measures to achieve these goals. In addition, the BOG Framework has established both Energy Use Intensity (EUI) — electricity and natural gas use per gross square foot per year — reduction goals and a goal to accomplish a zero net Energy (ZNE) campus, which the district should strive to achieve by 2035.

4.3.2 *Evaluate Mechanisms for the Implementation of Energy Efficiency Projects*

The district can evaluate various mechanisms for identifying and implementing energy efficiency projects and programs, including in-house staff, engineering consultants, design-build contractors and energy service companies (ESCOs). The district has extensive experience with these various mechanisms for energy project delivery and can leverage this knowledge to implement the Sustainability Action Plan. In addition, the district should evaluate best practices provided by other California community college districts for delivering energy projects.



4.3.3 *Conduct Facility Prioritization Surveys*

Conducting a facility prioritization survey to identify and prioritize buildings for efficiency measures is a suggested first step. Priorities are typically based on energy use intensity with buildings with the highest EUI given the highest priority. The district is planning on installing meters at the building level, which can be used to benchmark energy use. Where metered data does not exist, those buildings that are determined to be high-energy users based on experience of college/district staff should be targeted first.

4.3.4 Conduct Comprehensive Facility Energy Audits

Based on the facility prioritization survey, the committee suggests the district engage an energy consultant to conduct ASHRAE Level 2 Energy Audits to identify energy-saving projects, project costs, energy savings and return on investment. The consultant would develop an audit report with recommendations for projects that best meet the district's goals. Energy audits can also be enhanced by using computer energy models that forecast the energy performance of retrofitted or renovated facilities to provide more certainty of project outcomes.

4.3.5 Implement Energy Audit Recommendations

Based on the audits and available resources, the district should implement the audit recommendations. Priorities should be determined by potential energy savings, return on investment and available resources. Ongoing audits should be conducted as technologies change and building systems become obsolete.

4.3.6 Participate in Demand Response Programs

The district should evaluate participating in utility demand response programs to that provide incentives for voluntarily reducing campus loads during high usage peak periods. The district should meet with PG&E to explore the program to determine if participating is in the colleges' best interest.

4.3.7 Install Energy Efficient Equipment

All equipment replacements identified in the SAP should be energy-efficient and be included as performance specifications in procurement documents. This includes lighting, HVAC (including electrification measures), pumping, motors and other equipment and systems. Appliances and office equipment should be EPA Energy Star rated.

4.3.8 Manage Plug Loads

Plug loads refer to energy used by equipment plugged into an electrical outlet. A typical office's plug loads include computers, monitors, printers and copiers. Plug loads can average approximately 30% of electricity use in office settings, much of which can be attributed to parasitic loads (or the power draw of a plug-load that is not performing useful work). Reducing or managing plug loads is often overlooked when planning energy efficiency measures in facilities. The district should evaluate plug load management strategies, including manual control, automatic controllers, timers, occupancy sensors, load sensing controllers and other measures.

4.3.9 Evaluate and Apply Best Practices Energy Efficiency Measures

The district should evaluate practices from other community colleges, the UC and CSU systems, and other institutions that have successfully implemented energy efficiency measures and adopt as appropriate. The California community colleges have organized committees at the systemwide and regional levels that share best practice facilities, energy, and sustainability initiatives that are extremely valuable for this purpose. Conferences, corporate and non-profit Zoom webinars, and state and federal agencies, such as the California Energy Commission (CEC) or the U.S. EPA, involved with energy efficiency and sustainability programs are good sources of best practices. The district should leverage these sources to better plan energy and sustainability.

4.4 FACILITIES OPERATION

In addition to installing energy-efficient equipment, the district should strive to operate high-performing facilities, buildings, and energy infrastructure systems optimized for comfort, productivity, and energy and resource efficiency. The following programs and projects should be evaluated for implementation.

4.4.1 *Encourage and Support Energy Efficiency Training of Staff*

The engineering, maintenance, and operations staff at Foothill and De Anza colleges have been trained to operate energy-consuming equipment and systems efficiently. Ongoing training programs should be developed and implemented to ensure that the staff is up-to-date on equipment, mechanical and electrical systems, and facility operational changes. This will be especially important as the district transitions to a carbon-free operating environment with the associated sophisticated systems.

4.4.2 *Upgrade Building and Energy Management Systems*

The district has installed the Gridium Snapmeter Energy Information System (EIS) at both college campuses and the Sunnyvale Center to monitor and track energy usage, evaluate trends in use over time, and develop analytic metrics to assist in managing and reducing energy usage. Currently, the system monitors electricity and natural gas use, solar photovoltaic generation, pool cogeneration systems and a few distinct buildings on the campuses. One of the district's goals is to install whole-building meters at all campus facilities to benchmark individual buildings and troubleshoot high-energy users for mitigation strategies to reduce usage. In addition, many of the existing meters are currently nonfunctional and should be repaired or replaced to provide accurate data for analysis. As of this writing, the district has started this process at Foothill and will be followed by De Anza.

The district employs Pordis Consulting and Design Services to analyze energy usage data obtained through utility and solar generation meters. Pordis monitors energy consumption and provides recommendations for changes in operations and equipment to improve energy performance and reduce costs. This has been a helpful service to the district and should be evaluated for future needs.

The district has installed several different building management systems (BMS) over the years. These systems are Novar, Tridium Niagara, and Siemens. The systems are installed at various campus buildings and do not communicate with each other or the Gridium or Pordis systems. As of this writing, the district has engaged a controls consultant to troubleshoot and improve the performance of the BMS.

4.4.3 *Adjust Temperature Set Points and Schedule Operating Times*

The district can avoid overcooling and overheating by raising cooling temperature set points and lowering heating temperature set points. Implementing hot water reset controls with setpoint changes for the campus central plants would help avoid wasting energy during milder weather.

A good guideline is to heat buildings at or below 68 F and cool buildings at or above 72 F to avoid excessive heating and cooling. To avoid unnecessary heat loss, domestic hot water temperatures should not be set above 120 F. These limits will not apply in areas where other temperature settings are required by law, specialized equipment, or scientific experimentation needs.

4.4.4 Evaluate Opportunities to Optimize Building Occupancy Scheduling

Scheduling of building and facility usage should be optimized to reduce the number of buildings operating at partial or low occupancy. To the extent possible, academic and nonacademic programs should be consolidated to achieve the highest building utilization. Campus and district staff should make all attempts to change or update building operating schedules to match the changes in academic programs. Making significant changes in this area will require a concerted education process for building users by district facilities staff.

4.4.5 Optimize HVAC Equipment Scheduling

All air conditioning equipment, including supply and return air fans, should be shut off on weekends, holidays, and for varying periods each night, except where it would adversely affect instruction, electronic data processing installations, or other scientifically critical or 24-hour operations. The district should avoid cooling and heating spaces when unnecessary. This would be accomplished by scheduling HVAC systems off during unoccupied times while implementing a pre-cooling strategy to cool the building in the early morning before outside temperatures warm up. For central plant systems, scheduling lockouts for chillers and boilers could be employed to avoid running this equipment when unneeded. It's important to note that some facilities are used late into the evening and on weekends, and accommodations should be made to ensure these operational needs are supported.

4.4.6 Install Meters and Benchmark at the Building and System Level

As described above, in March and April 2021, the district performed a benchmarking study of energy usage at the master metered campus level for Foothill College, De Anza College, and the Sunnyvale Center. The results established Energy Use Intensity (EUI) for each site in [kBtu](#)/square feet, which were compared to other similar uses and community college campuses as a starting point for energy planning.

Benchmarking energy use at the campus level is an essential first step in identifying high energy use facilities. However, to better isolate excess usage and investigate mitigation measures, the district should install electric, natural gas, and BTU meters (to measure central plant hot water energy) at every building and central plant system on the campuses. The district could then connect the individual building meters to the Gridium EIS and EPA Portfolio Manager to understand usage trends, benchmark them to similar higher education uses, and target measures to improve energy performance at the building level.

4.4.7 Pursue Monitoring-Based Commissioning (MBCx)/Retro-commissioning (RCx)

For buildings or central plant systems determined to be high energy users through the benchmarking process, the district should implement a Monitoring-Based Commissioning (MBCx) or Retro-Commissioning (RCx) process to reduce energy usage at those facilities. MBCx is a process that optimizes building performance for comfort and energy use by using meters and analyzing system

U.S. Department of ENERGY
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Best Practices for Enhancing Performance Contracts with Monitoring-Based Commissioning

The Federal Energy Management Program (FEMP) promotes best practices for impactful utilization of Energy Management Information Systems (EMIS) at federal facilities. This fact sheet highlights best practices for incorporating monitoring-based commissioning (MBCx), a type of EMIS, in performance contracts. It draws from the FEMP report, *Enhancing Performance Contracts Using Monitoring-based Commissioning*.¹

Primary Benefits
The primary benefits of utilizing MBCx in performance contracts are:

- Increased energy savings:** Implementing MBCx accesses additional savings realizable left on the table in performance contracts.
- Energy conservation measures (ECM) and whole-building commissioning (CB):** MBCx can enhance the normal ECM/Cx process for new equipment, as well as providing a more thorough and fruitful means to conduct whole-building recommissioning (RCx) as a separate, quick-payback ECM.

MBCx Provides Ongoing Commissioning for Buildings and Energy Systems
Effective energy system Cx is critical to ensuring that system performance meets its design intent. MBCx is traditionally defined as the continuous application of the Cx process to a building or energy system. It is an effective method to keep

Types of Facility Commissioning
Cx Commissioning is the process of planning, documenting, scheduling, testing, adjusting, verifying, and training to provide a facility that operates as a fully functional system per the owner's design requirements. Commissioning is applied to new equipment installed in a performance contract or to an entire facility after construction and prior to project acceptance.
MBCx: Monitoring-based commissioning is the continuous application of the commissioning process to a building or energy system and is an effective method to keep energy costs low and minimize system problems that may be caused over time by building performance deterioration and changes to building operations.
RCx: Recommissioning is the application of the commissioning process to projects that were previously commissioned. RCx can also mean retro-commissioning, or the application of the commissioning process to buildings or systems not previously commissioned.

Figure 1: Integrating monitoring-based commissioning into energy performance contracts can increase project savings and improve the long-term performance of building systems. Photo by Dennis Lawrence, NREL, 2016.

¹Federal Energy Management Program (FEMP), *Enhancing Performance Contracts Using Monitoring-based Commissioning* (MBCx), <https://www.energy.gov/femp/enhancing-performance-contracts-using-monitoring-based-commissioning>.

performance. RCx is a process that identifies individual energy efficiency projects to improve the control of the system to reduce energy use. For more information about MBCx and RCx, go to the [U.S. Department of Energy Best Practices for MBCx](#).

The district has employed the MBCx/RCx process in recent years as part of the Proposition 39 program. In 2016, two MBCx projects were completed successfully at the De Anza pool cogeneration system and the S-Quad building complex. These projects save 18,000 kWh and 8,000 therms annually with an avoided energy cost of \$9,812 each year. The district should also employ the strategies of Continuous Commissioning of facilities, which is an ongoing process to resolve operating problems, improve comfort and optimize energy use.

4.4.8 Perform Regular Maintenance on Equipment

Effective preventive and regular maintenance programs keep equipment and systems operating optimally and reduce excess energy use. The district should continue routine maintenance schedules to ensure proper maintenance and revise practices necessary to optimize energy performance. Good maintenance planning includes understanding the life cycle of equipment and when it is better to replace rather than repair, which can also provide excellent opportunities for energy-efficient upgrades.

4.4.9 Prepare a Climate Adaptation and Resiliency Plan

As the effects of climate change become more evident, it will be important for the district to consider development of a Climate Adaptation and Resiliency Plan to prepare the campuses for current and future emergencies, wildfires and drought. Due to the instability of the electric grid and ongoing [PG&E Public Safety Power Shutoffs \(PSPS\)](#), the district should evaluate [energy supply resiliency](#) options. These could include solar photovoltaic (PV)/battery energy storage [microgrid](#) systems, which consist of solar PV generation, battery energy storage, and sophisticated controls that permit the “islanded” operation of certain campus facilities and systems in the event of a utility power outage. These facilities could serve as emergency community gathering spots or cooling centers during extreme heat events.

4.5 SUSTAINABLE BUILDING PRACTICES

Construction and renovation of new and existing facilities provide a significant opportunity to reduce the environmental impacts of the built environment through sustainable building practices, which also can lead to increased well-being of building users. The district should continue to evaluate energy-and resource-efficient green building practices in the design and construction of all new and renovated facilities.

4.5.1 Establish a Green Building Standard

It is highly recommended that the district adopt appropriate green building standards for new construction and major renovation projects to implement the Measure G bond program. This will ensure that projects will be energy-efficient and help the district achieve its carbon reduction goals. Minimum standards are mandated by state building codes such as CALGreen. CALGreen is California’s first green building code and the first in the nation state-mandated green building code. It is formally known as the [California Green Building Standards Code](#), Title 24, Part 11, of the California Code of Regulations. CALGreen aims to improve public health, safety and general welfare through enhanced design and construction of buildings using concepts that reduce negative impacts,

promote those principles with a positive environmental impact and encourage sustainable construction practices. The CALGreen code is roughly equivalent to LEED Silver.

While state building codes provide high levels of construction energy efficiency, the path to decarbonization will require advanced strategies beyond state codes. The California Community Colleges Board of Governors has recommended standards that include requirements for [Zero Net Energy](#) (ZNE)-ready new construction, LEED and WELL Gold, and LEED Operations and Maintenance strategies for existing buildings.

ESAC has adopted a modified version of the BOG Framework as follows: ***Strive for all new buildings and major renovations to be constructed as ZNE ready, to be [LEED](#) or [WELL](#) Platinum with a minimum LEED Silver (self-certified), strive for all existing buildings to be LEED [Operations and Maintenance](#) (O&M) Gold or WELL Gold equivalent, and strive to reduce the use of natural gas in buildings by 100% by 2035.*** ESAC recommends that the Board of Trustees adopt this standard for all new construction and major renovation projects.

4.5.2 Implement Sustainable Design Practices

New green building standards will require that construction, renovation, maintenance and repair projects be designed to consider optimum energy utilization, low life cycle operating costs, and compliance with the district's goals and applicable energy codes and regulations. The district should address energy-efficient and sustainable design early in the project planning and design phases to maximize cost-effectiveness.

The following elements should be considered in the design of all buildings for the district:



- Siting and design considerations that optimize local geographic features to improve the sustainability of the project, such as proximity to public transportation, consideration of microclimates, and passive or active solar energy opportunities
- Durable systems and finishes with long life cycles that minimize maintenance and replacement
- Optimization of layout and design of spaces to accommodate reconfiguration, with the expectation that the facility should be renovated and reused (versus demolished)
- Optimization of indoor environmental quality for occupants
- Utilization of environmentally preferable products and processes, such as recycled content materials and recyclable materials
- Systems that monitor, trend and report operational performance
- An active program for recycling and reuse of materials in each building
- Outdoor spaces designed to use permeable pavement and provide shade through tree planting to prevent the heat island effect
- Sustainable landscaping practices

- ENERGY STAR® rated equipment in new or renovated buildings
- Construction and demolition recycling program for all new construction and major renovations
- Repurpose buildings for new uses rather than demolition and reconstruction

4.5.3 Use an Integrated Systems Approach in Building Design



Sustainable building strategies should be evaluated to identify economic and environmental performance criteria, evaluate life cycle savings, and adopt an integrated systems approach. Such an approach treats the entire building as one system. It recognizes that individual building features, such as lighting, windows, heating and cooling systems, should be evaluated and designed as interactive systems.

4.5.4 Hire Sustainable Building Design Professionals

The district has historically utilized architectural firms, LEED consultants and energy engineers experienced in all phases of the building design process to construct energy and resource-efficient buildings. The district should also take advantage of the utility-provided energy efficiency new construction design programs, such as the CPUC-funded [California Energy Design Assistance Program](#) (formerly known as Savings by Design) and the Silicon Valley Clean Energy [Building Electrification Technical Assistance program](#).

The district has historically utilized architectural firms, LEED consultants

4.5.5 Commission New Buildings

All new buildings should be commissioned after construction or major renovations to ensure that systems are installed and operating as designed. Individual systems should also be commissioned to ensure that they run as efficiently as possible. This will be especially important based on the significant construction and renovations from the Measure G bond program. At a minimum, the district should comply with the State of California [Non-Residential Commissioning Requirements](#) in the 2019 Energy Code.

4.5.6 Develop Regenerative Design and Nature Positive Principles

The district should evaluate [regenerative design](#) practices and [nature positive](#) principles in building construction and major renovation projects. These would go further than the recommended green building standard described above. They will not only limit environmental damage but also enhance and actively regenerate or contribute positive impacts to the people who use them and the local ecology surrounding them. This is the next wave of the sustainability movement, and the district will be establishing itself as a true leader among community colleges in implementing these programs.

4.5.7 Set Net-Positive Goals and Plans

Regenerative and nature positive planning require setting net positive goals related to material circularity, climate positive measures, collaborative action, community success, food reconnection, optimizing water use, personal action and climate resilience in sustainability planning. [Arizona State University](#) is a leader in this area, and the district should examine their work and others to evaluate these strategies.

4.6 ON-SITE GENERATION AND RENEWABLE ENERGY

The district has implemented many on-site solar PV and cogeneration projects on both the Foothill and De Anza campuses. In addition, the district has taken advantage of utility programs to purchase renewable and carbon-free offsite grid energy. Despite these renewable energy accomplishments, more should be done to achieve the carbon reduction goals of the district, especially electrification of HVAC and hot water systems.



4.6.1 Evaluate Load Shifting Technologies

A prerequisite for installing renewable energy systems is to maximize energy efficiency at facilities and reduce peak loads to prevent oversizing generation equipment and the resulting unnecessary costs. Section 4.3 of the Sustainability Action Plan addresses the energy efficiency component of this equation. Reducing peak electricity loads and utility demand charges can be accomplished by participating in [utility demand response programs](#). In addition, battery energy storage (BES) technologies charged by solar generation can supply loads in the afternoon and evening peak periods (4 p.m. to 9 p.m.). Thermal energy storage systems can provide chilled and hot water during the same period to offset electric usage.

4.6.2 Minimize Greenhouse Gas Intensity of Purchased Electricity

Another way to increase renewable or carbon-free energy at district facilities is through utility-purchased offsite green grid energy. The Sunnyvale Center already receives 100% renewable electricity through Silicon Valley Clean Energy. Both Foothill and De Anza colleges purchase grid electricity through Constellation New Energy, delivered through PG&E transmission and distribution networks, with a renewable power content of 27%.

The district should explore opportunities to improve the renewable content of purchased electricity for Foothill and De Anza through PG&E or third-party programs. In addition, the district should evaluate the feasibility and potential benefits of investing in offsite renewable generation through project ownership or power purchase agreements (PPAs) with a goal of 100% renewable energy at the campuses. The district will not pursue renewable energy by purchasing renewable energy credits.

4.6.3 *Perform a Feasibility Study for Additional Solar PV at Campuses*

The district has already installed significant solar PV systems at the Foothill and De Anza campuses. Additional solar capability will likely need to be installed to achieve the district carbon reduction goals. A feasibility study should be prepared to determine if additional solar power can be installed at the campuses and determine the optimal sizing of these systems. This study would be incorporated into the proposed Electrification Feasibility Study (described in Section 4.2.2) to determine if campus loads will accommodate additional solar PV installations. Solar thermal hot water heating should also be evaluated for pool heating loads.

4.7 TRANSPORTATION, COMMUTING, CAMPUS FLEET AND TRAVEL

The district should strive to reduce vehicle miles traveled (VMT) for students and employees commuting to the campus to reduce greenhouse gas emissions and minimize the infrastructure costs related to parking. The district should also evaluate the expansion of existing electric vehicle (EV) charging infrastructure to meet the state of California CALGreen standards and the Division of the State Architect (DSA) requirements for accommodating EV chargers on the campuses.

4.7.1 *Participate in District Transportation Surveys and Analysis*

The district is conducting post-COVID transportation surveys for students and employees to better understand VMT to and from campuses, commuting patterns, EV charger usage and carpooling behaviors as a baseline for improvement. In addition, an analysis of continued remote learning and working is being evaluated as a means of VMT reduction. ESAC should engage with students to participate in this project as both a learning opportunity and foundation for solutions.

4.7.2 *Encourage and Enhance Public Transportation and Ridesharing Options*

Public transportation and ridesharing are options to reduce VMTs and greenhouse gases. The district should work with Santa Clara Valley Transportation Authority (VTA) to improve routes, increase campus bus service, reduce costs, and explore programs and best practices to help encourage and enhance public transportation ridership and facilitate carpooling and ridesharing. Other strategies that should be considered will be a continuation of SmartPass discounts for students and employees or other incentives to increase ridership, preferred campus parking for carpools, networking resources for carpools and vanpools, and engagement of car-sharing services. The district should also work with VTA to improve connections from De Anza College to Caltrain.



4.7.3 Encourage and Enhance Bicycling Options

The campuses should work with local municipalities to improve student and employee bicycle and pedestrian commuting options. Bicycle master plans adopted by local municipalities include the Cupertino [Bicycle Transportation Plan](#), the Town of Los Altos Hills [Pathways Project](#), and the city of Santa Clara [Bicycle Master Plan](#). The colleges should also review existing bicycling routes, bike racks, free or low-cost access to bikes, and public showering facilities to accommodate bicycling on campus more effectively.

4.7.4 Improve Campus Fleet and Travel

To comply with the BOG Framework, the district should adopt programs to reduce emissions from the campus vehicle fleet. This would include purchasing zero-emission fleet vehicles and other rolling stock to achieve 50% of total vehicles by 2030 and 100% by 2035.

4.7.5 Explore Student Distance Learning and Employee Remote Work

The COVID-19 pandemic was a crash course in remote learning and working in society. In a post-COVID world, there is an opportunity to improve and institutionalize these practices to benefit students and staff and reduce GHG emissions as an added benefit. The district already has many online courses but may need to improve student services in counseling, financial aid, mental health, tutoring, food resources, and tech resources and support to ensure equitable outcomes in online forms of education. [Arizona State University](#) is a leader in this area and could be a resource for program development.

4.7.6 Analyze and Install Electric Vehicle (EV) Charging Using On-Site Solar PV Electricity

The district has installed significant electric vehicle (EV) charging infrastructure in the past, including 10 Level 2 chargers on the De Anza campus and 13 at Foothill. The percentage and type of chargers required based on total parking spaces are included in the energy code and DSA requirements. The district should apply this guidance in planning for additional charging stations. In addition, the district should evaluate technologies and install autonomous vehicle fast-charging stations anticipating their future deployment.



4.7.7 Evaluate the Implementation of a Green Parking Permit program by 2030

The district should evaluate the criteria and benefits of a green parking permit program as the BOG Framework

recommends. A green parking permit could provide preferential location or free parking for low-GHG vehicles qualified through scoring criteria such as the U.S. EPA [SmartWay Vehicle](#) rating system. In addition, the equity issues surrounding such a program should be evaluated.

4.8 WATER, WASTEWATER AND SUSTAINABLE LANDSCAPING

California is experiencing a historic drought leading to unprecedented wildfires, damage to delta and other ecosystems, and challenges balancing agricultural and urban water use. Water conservation is an essential component of sustainability and should be aggressively pursued by the district. Government agencies have established water use restrictions, but efforts should be made to go beyond these limits. The district should also reduce stormwater pollution by minimizing chemical fertilizers and pesticide use in association with landscaping practices. Regenerative and nature-positive principles should be evaluated to reduce stormwater runoff.

The district should pursue the following strategies to reduce water usage, stormwater runoff and water pollution.

4.8.1 *Establish Water Conservation Goals*

Much like energy efficiency goals, the district should establish goals to reduce water consumption on campus. The Santa Clara County Water District, as of June 2022, has mandatory water use reduction requirements of 15% over 2019 levels. As the 2022 drought stretches on, newly mandated reductions will likely come from the state and local agencies. In response to the drought, the district should strive to meet the BOG Framework goal of a 20% water use reduction over the 2019 baseline.

4.8.2 *Implement Water Conservation Strategies*

The district should develop and implement water conservation strategies to meet conservation goals and minimize penalties that may come from water districts due to the drought. Strategies could include the following:

- Maximize the resources of the [Santa Clara Valley Water Agency](#) for water conservation. These include landscape programs, rebates, outdoor and indoor conservation practices, water savings devices and other resources.
- Adopt water conservation landscaping practices.
- Install irrigation submeters on landscaped areas larger than 2,500 square feet and monitor regularly.
- Perform regular surveys to ensure that landscape sprinklers and irrigation are functioning properly.
- Submeter buildings for water usage and make data available to student conservation projects.
- Ensure that low-flow devices are installed on all appropriate plumbing and that they are operating properly.
- Explore rainwater harvesting techniques and implement where practical.



4.8.3 Reduce Storm Water, Sewer Discharges and Water Pollution

Stormwater and sewer discharges are a prime source of pollutants entering the environment and place the campus at risk for fines or other regulatory penalties. Stormwater management is an area where regenerative and nature-positive strategies can be used to reduce risks. The district should employ the following methods to reduce discharges.

- Raise awareness to reduce discharges and pollutants - Ensure that staff, faculty and students are aware of the detrimental effects of contaminants in stormwater and sewer discharges. Ensure that chemicals, pharmaceuticals and other hazardous substances do not enter the sewage system. Use signage, and work to educate the campus community that only rainwater should enter storm drains. Follow all regulations regarding sewer and storm drain discharges.
- Reduce stormwater runoff - Utilize permeable paving, drainage swales and other methods as appropriate to minimize stormwater discharges and soil erosion. Nature-positive and regenerative strategies would include green roofs that capture stormwater and detention ponds which help recharge local aquifers.
- Utilize the California Community Colleges Storm Water Management Program [template](#).
- As recommended by the BOG Framework, follow the U.S. EPA Municipal Separate Storm Sewer Systems ([MS4](#)) requirements.

4.8.4 Adopt Sustainable Landscaping Practices

Sustainable landscaping practices conserve water and can contribute to achieving many other goals for sustainability. The district should evaluate adopting the [Bay-Friendly Landscape Guidelines](#) or other sustainable landscaping practices. The Bay-Friendly Landscape Guidelines were developed by the Alameda County Waste Management Authority (www.stopwaste.org) for the professional landscape industry to offer an integrated, regenerative, and nature-positive approach to landscape management. The guidelines are organized around seven principles for the protection of the environment:

- Landscape locally
- Landscape for less to the landfill
- Nurture the soil
- Conserve water
- Conserve energy
- Protect water and air quality
- Create and protect wildlife habitat

The guidelines consist of 55 practices to fulfill these principles, applicable throughout the state. The program is comprehensive and may be used in total or selectively by the district to meet specific goals. Many jurisdictions in the San Francisco Bay Area have adopted the Bay-Friendly Landscape Guidelines and have found them to be effective. The district should engage Foothill's horticultural department in implementing this program.



4.9 SOLID WASTE REDUCTION AND RECYCLING

The district should strive to minimize solid waste to reduce greenhouse gas emissions and landfill deposits. Each campus receives waste disposal services from different municipally contracted companies that handle waste and recycling slightly differently. Below is a summary of the providers and services offered.

[Recology South Bay](#) serves both Foothill and De Anza. Recology offers a three-bin service to their customers, including trash, mixed recyclables and organic waste (green and food waste). However, the three-bin service has not been implemented at either campus, and all waste is removed as a single stream. The combined waste is transported to a material recovery facility (MRF), where it is sorted to remove recyclables. The Sunnyvale Center is served by [Specialty Solid Waste and Recycling](#). This is also a single-stream service. This district would like to improve recycling and composting options and should take several steps to achieve this, as described below.

4.9.1 Create Waste Reduction Goals

The district should develop goals to reduce the waste stream and increase the waste diversion of readily recyclable and compostable materials. The goals should be based on the BOG Framework recommendation to progress toward zero waste in the landfill and reduce total material consumption by 10% by 2030. While these goals are very challenging, the district should strive to achieve them by implementing aggressive plans to minimize waste.

4.9.2 Maximize Programs Offered by Contracted Waste Hauler

As previously described, while Recology offers a three-bin service to its customers, it has not been implemented at Foothill or De Anza. Based on discussions with the City of Santa Clara, it does not appear that Specialty offers this program. The district should schedule meetings with its waste haulers to explore how the waste management, recycling and composting programs can be improved so that a source-separated program can be implemented.

4.9.3 Reduce Waste Stream to the Landfill

There are many strategies that the district should evaluate to reduce the waste stream to the landfill, including the following:

- As recommended in the BOG Framework, conduct a [Material Circularity Analysis](#) and implement end-of-life management strategies for waste.
- Raise awareness of waste reduction and the proper disposal of materials.
- Minimize unnecessary waste, such as reducing junk mail and faxes, eliminating printed documents when electronic documents will suffice, avoiding purchase of products with unnecessary packaging, and avoiding use of new edition textbooks in courses where the textbook content has changed very little.
- Reduce paper use by setting printers to print double-sided, sending electronic publications and announcements rather than printing paper copies, limiting class handouts by distributing handouts online, and encouraging the use of electronic and used textbooks as well as online homework and electronic testing.
- Minimize disposable items by encouraging the use of reusable items through incentives such as discounts for those who use reusable bags and coffee mugs and by discouraging the use of bottled water by

- providing adequate public drinking fountains and “hydration stations” with filtered water.
- Use recycled and locally sourced and manufactured materials.
- Implement source reduction programs in custodial practices.
- Purchase 100% recycled garbage bags for custodial and landscaping purposes.

4.9.4 *Improve Existing Recycling Programs*

Education is key to improvement of waste reduction and successful recycling. The best programs will have limited results if people do not understand how to use them or are not motivated to comply. The district should evaluate different strategies to improve recycling, as follows:

- Implement a source-separated program to reduce contamination of recyclables and compostables to increase waste diversion rates.
- Employ the educational, training and signage resources from Recology and agencies such as Stopwaste.org to help raise awareness and to educate students, faculty and staff on proper disposal practices.
- Consider sorting recyclables on-site to improve recycling rates.
- Encourage faculty, administration, staff and facilities operations to lead by example by properly disposing of trash, recyclables, organics, electronic waste and hazardous waste.
- Perform annual waste audits to track compliance and contamination and adjust programs for improved performance.
- Evaluate the number and placement of bins on campus, both indoor and outdoor, to maximize recycling.
- Educate students and staff by including information on the climate and health impacts of bottled water versus tap water.
- Address the [behavioral issues](#) associated with poor recycling practices to avoid contamination and placement of materials into the incorrect containers. The district should focus on this crucial human component and continue aggressively pursuing waste reduction and recycling efforts in all aspects of campus operations. The need to educate users on waste separation should be ongoing. A successful program may require modifications to waste containers and more informative signage to increase participation and reduce contamination.

4.9.5 *Collect and Sell or Donate Recyclable Material*

Recyclable material can be a source of revenue for the district. The sale of recyclable material can be used to fund other sustainability programs on campus. The district should explore options to implement flea markets or thrift shops selling recyclable items such as furniture, classroom projectors or computers. Other resources for [donating](#) recyclables should also be explored.

4.9.6 *Green Waste and Food Waste Composting*

Landfilling food and yard waste results in methane gas releases exacerbating climate change. The California Legislature passed [SB 1386, the Short-lived Climate Pollutants \(SLCP\) Organic Waste Reductions program](#) to implement statewide organic waste composting and surplus food recovery. This legislation became effective on January 1, 2022, and the district must comply with the program. Contract waste haulers are required to offer these services to their customers. The district should work to ensure that the SB 1383 requirements are fully met

for all three campus sites.

4.9.7 Construction and Demolition Recycling

[Construction and demolition \(C&D\) recycling](#) is mandatory by state law and is managed by the municipality where each campus is located. Common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard or green waste related to land development. Many of these materials can be reused or recycled, thus prolonging the supply of natural resources, and potentially saving money in the process. Of these, metals are the most recycled material, while lumber makes up most debris that still goes to a landfill. According to the [2014 Disposal-Facility-Based Characterization of Solid Waste in California](#), construction and demolition materials account for between 21.7% to 25.5% of the disposal waste stream. Previous study estimates have ranged from 29% in 2008 to 24% in 2004. Construction contractors for new building and major renovation projects implement C&D recycling based on contract requirements by the district and ensure that debris is collected on-site and delivered to an approved C&D recycling facility. The district should continue this practice to reduce sending as much construction debris to the landfill as possible.

4.9.8 Conduct a Waste Category Assessment

As recommended by the BOG Framework, the district should conduct an annual [waste category assessment](#) to determine what makes up the waste stream for each college. Records examinations, facility walk-throughs and waste sorting are three common approaches to conducting a waste assessment. Benchmarking the actual waste stream provides a starting point for improvement.

4.10 SUSTAINABLE PROCUREMENT

The district should establish purchasing policies to meet the goals of environmental, economic, and social equity sustainability and use its market power to influence suppliers to be more sustainable. The district has developed several strategies for sustainable procurement, and the BOG Framework has established goals and targets to implement sustainability in procurement. The district should evaluate and implement programs as described below.



4.10.1 Develop Sustainable Purchasing Practices and Procedure

The district should develop and adopt a sustainable procurement policy and administrative procedure as recommended in the BOG Framework. The district should strive to increase procurement of sustainable products and services by 25% compared to benchmark levels by 2030 and 50% by 2035 to comply with BOG Framework

goals. In addition, the district should strive to increase material circularity by 25% and decrease the consumption of materials by 25% by 2035.

Sustainable purchasing of products and materials should include such items as appliance and information technology hardware, cleaning and janitorial supplies, flooring, furniture, lighting, office supplies, water appliances and fixtures, chemicals, packaging, plastic foam, recycled and recyclable materials, green construction materials, and low VOC carpet, paint and finishes. The district should evaluate guidance and best practices for sustainable procurement, such as the University of California [Sustainable Procurement Guidelines](#), to develop the procedure.

4.10.2 Evaluate and Implement Socially Responsible Purchasing

Socially responsible purchasing is the acquisition of goods and services that meet the needs of the district and colleges while also being environmentally friendly, socially responsible, and ethically sourced. As an example, Drexel University has developed a [Socially Responsible Purchasing Policy](#) that includes the following goals:

- Advocating for the inclusion of qualified diverse suppliers.
- Ensuring that diverse suppliers are considered in requests for proposals.
- Communicating our purchasing plans to local suppliers and organizations.
- Participating in local supplier fairs.
- Requiring top suppliers to report their Tier 2 spend (dollars spent by these partners with diverse suppliers on behalf of Drexel).

The district should evaluate this and other models to develop a socially responsible purchasing policy as recommended by the BOG Framework.

4.11 STUDENT AND CURRICULUM DEVELOPMENT

The purpose of the California Community Colleges system is to educate students and foster their success by preparing them to be engaged members of society and to be ready for the careers of tomorrow. As economic, environmental and social sustainability becomes increasingly important in all facets of society, the California Community College system has a responsibility for moving the current and future generations toward a sustainable future.

Greening educational curriculum — using campuswide infrastructure as a pedagogical tool to inform students about systems thinking and develop a holistic view of education for sustainable development — is a priority in achieving this goal. By embedding social responsibility and sustainable development strategies into existing courses and encouraging new curricula with an environmental and sustainability focus, the community college system can play a crucial role in developing an environmentally sustainable future.

The district should strive to create opportunities for student involvement, so that on-campus sustainability initiatives are transparent, accessible, and have a visible focus. Through this process, students, faculty, staff and administrators would be able to work together to become effective agents for positive change.

4.11.1 Provide Professional Development and Create a Faculty Forum

Since much of the change in the curriculum will be driven by faculty, providing opportunities for professional growth for individual faculty members will increase the success of sustainability integration. Flex hours can be used to hold workshops on sustainability in the curriculum and start the discussion among faculty. In addition, forums and seminars could be held throughout the year for faculty to learn more about sustainability and to create conversations and partnerships between departments to foster the development of sustainability in the curriculum. The district should also provide recognition for faculty that take leadership in integrating sustainability into the curriculum.

4.11.2 Highlight Climate Action and Sustainability in Various Venues

The BOG Framework recommends that districts highlight climate action and sustainability in various venues such as convocation, student orientation and professional development. ESAC should explore ways to introduce sustainability issues into these and other campus venues, which can serve student education and outreach to the larger community.

4.11.3 Establish Climate Change and Sustainability Education as an Immersive Experience



Another BOG Framework recommendation is for districts to explore partnerships that allow climate change and sustainability education to be an immersive experience for students, such as community-engaged learning and continued learning. Students could engage in immersive learning strategies through the use of campus landscapes, buildings and systems, food service, waste and recycling, energy, water and wastewater and other campus operations. The district should explore adopting [Campus as a Living Lab](#) initiatives to help test, accelerate and scale sustainability solutions as well as other immersive sustainability educational strategies.

4.11.4 Training Opportunities for Students

By engaging and recruiting students for participation in energy and sustainability projects, the district can provide a critical training opportunity. For example, students could assist in data gathering, analysis, project scoping, and following projects through design, installation, startup and commissioning. Students could augment their classroom learning with hands-on experience by applying what they have learned to the real world. Career pathways that lead to

good jobs in the emerging green economy should be supported, and students should be given opportunities to learn about those career pathways.

4.11.5 Curriculum Development

ESAC should reach out to the college academic senates to explore learning opportunities related to energy and sustainability activities for students. One option could be to invite a member of each college academic senate to participate in ESAC meetings and then report back to the full senate for consideration. This strategy and possibly others should be evaluated and will require leadership from the faculty for adoption.

4.11.6 Research True Economic, Social and Environmental Impacts of Energy and Sustainability Activities

Many energy efficiency and sustainability projects have some negative impacts that are often overlooked when making plans and decisions designed to improve sustainability. While these technologies' life cycle environmental benefits may outweigh the status quo fossil fuel energy system, the tradeoffs should be understood so informed decisions can be made.

The district should work to ensure energy and sustainability activities consider economic constraints, actual environmental and social impacts (including material, manufacturing, and disposal impacts), equipment maintenance considerations and lifecycle analysis. This should be an evaluated, quality control process, using data and information as a basis for decisions. Students should be engaged as a resource for research and reporting findings to ESAC and district administration.

4.12 CAMPUS AND COMMUNITY OUTREACH & AWARENESS

The sustainability of a college campus is highly dependent on individual members of the student body, faculty and staff. While having energy-efficient equipment, installing low-flow water devices, and providing separate bins for source separation of waste can make a district more sustainable, behavioral changes can significantly impact the effectiveness of these activities. Additionally, it is essential to maintain transparency and keep the campus and local community informed of the district's progress with sustainability planning and actions.

One of the priorities for the implementation of this plan will be to effectively communicate the goals and programs to the campus communities and to engage them in the process. This will involve strategies, such as those described below, and will be a focus of ESAC as the Sustainability Action Plan is rolled out.

4.12.1 Enhance ESAC Website

ESAC has established a website to communicate energy and sustainability planning and activities to students, faculty, staff, and the larger community. While the existing webpage fulfills the primary goals of communicating sustainability activities, ESAC should improve and enhance the site to provide a more detailed, comprehensive, and up-to-date picture of energy and sustainability programs and projects for all campus stakeholders. The website can serve as a publicity tool for sustainability events and student groups and as a coordination tool for conveying information to the local community. The website should be managed by the Energy and Sustainability Manager or a designated member of ESAC. It should be updated with the latest district and campus developments and provide links to any public reports about sustainability efforts described in Section 5 of the Sustainability Action Plan. The existing website can be found [here](#). ESAC should encourage the campuses to develop web sites that help students better access public transportation and other low carbon ways to get to campus; direct students

to classes and careers in the emerging green economy, and help them understand what they can do to contribute to campus sustainability efforts.

4.12.2 Hold Workshops, Presentations, and Sustainability Events

ESAC should develop and conduct open workshops or presentations to allow campus and community members to stay informed about sustainability activities, ask questions, and participate in decisions. Workshops and presentations should be well-publicized and open to all. They should be led by individuals who can knowledgeably field questions from the audience and effectively facilitate the workshop process. Events could include new student orientation on district sustainability programs, raising awareness and education on recycling practices, Earth Day workshops and presentations, and e-waste collection at events. Bulletin boards throughout the campuses could be used to advertise events and activities.

4.12.3 Campus Specific Outreach and Awareness

In addition to sustainability events, the district should implement other campus-focused outreach strategies designed to inform, engage and encourage participation in sustainability activities from the campus community. These could include:

- Post behavioral reminders to conserve energy and water, reduce and sort waste properly, turn off automobile engines to prevent idling, and encourage other sustainable habits.
- Develop new student orientation to introduce students to the district's sustainability plans, goals, and commitments. Encourage students to become active members of the college and community during their time as a student and beyond. A similar program should be developed for new employees so they can be educated in the district's sustainability culture.
- Establish a campus newspaper or newsletter to include articles about local and campus sustainability events and efforts. The Energy and Sustainability Manager or a member of ESAC should coordinate with the campus newspaper or newsletter to submit regular editorials or articles to keep the campus informed about ongoing efforts.



4.12.4 Community Outreach and Partnerships

As the BOG Framework recommends, the district should explore community partnerships to support and promote sustainability activities and programs, including partnerships with local municipalities, non-profits, and private philanthropic organizations. Other forms of community collaboration could include working with K-12 schools, community volunteers and service organizations. Community outreach should be an essential element of the Sustainability Action Plan.

4.12.5 Inter-Campus Collaboration

It is vitally important that both Foothill and De Anza cooperate and collaborate on energy and sustainability programs and activities to ensure the best possible chance that common district goals are achieved. Unfortunately, many multi-college districts operate in silos where each campus works independently on energy and sustainability, resulting in duplication of efforts, inefficient resource utilization, and little sharing of lessons learned and best practices. As a districtwide committee, ESAC should provide the opportunity for collaboration and allow a consistent approach for both campuses to meet their operational needs. The new Energy and Sustainability Manager will be a district position and can provide this coordination as well.

4.13 FOOD SYSTEMS

The district should be committed to providing sustainable food that considers producers, consumers, communities and the earth in its food services operations. The BOG Framework defines specific goals for sustainable food that the district should evaluate for implementation. The district should pursue the following initiatives to improve sustainability in food service.

4.13.1 Develop and Implement Sustainable Food Purchasing Goals and Programs



As recommended in the BOG Framework, the district should strive to increase sustainable food purchases to 20% of the total food budget by 2030 and to ensure 80% of the food served meets the Real Food Challenge goals or equivalent by 2035. The Real Food Challenge is an organization focused on students that has defined [real food](#) with standards encompassing the many distinct sectors that make up the food system. Students lead the charge to encourage colleges to commit to buying and serving more food that meets the Real Food Challenge's values-based criteria with the intent of creating change in the food chain for farmers, workers, eaters and the planet. These efforts need to consider the health impacts,

cultural appropriateness, and prices of food available to our students.

4.13.2 Require Food Service Organizations to Track Their Food Purchases by the Real Food Challenge Guidelines

Foothill College contracts with [Pacific Dining Services](#) for food service operations for the main cafeteria and with KJ's Café Espresso Bar for two café locations. [De Anza's](#) Dining Services is a not-for-profit, community college-managed auxiliary service. At the time of contract or agreement renewal for both services, the district should develop a food service request for proposal based on the Real Food Guidelines and negotiate and award a contract to the company that best meets the campus goals for sustainable food.

4.14 DIVERSITY, EQUITY, AND ENVIRONMENTAL JUSTICE

The California Community College system is committed to promoting diversity, equity, and environmental justice from the state Chancellor's Office to the individual districts and colleges. As the country's largest and most diverse higher education system, California community colleges have a tremendous opportunity to break down existing barriers to equity. By building a faculty and staff that look like the students and communities they work in and committing to diversity, equity, inclusion and accessibility ([DEIA](#)), the community college system can take a giant leap toward being an organization that works for all students. The state Chancellors' Office recognizes the importance of environmental justice in its sustainability policies, which should be addressed in the Sustainability Action Plan as described below.

4.14.1 *Create Connections Specific to Diversity, Equity, and Inclusion Efforts to District Sustainability Planning and Implementation*

The district should embrace the connection between sustainability and equity in planning and implementing campus sustainability activities. As the BOG Framework recommends, this work should be consistent with the California Community Colleges [Vision for Success](#) and the diversity and equity programs articulated in vision.

4.14.2 *Explore Changes to Local Policies and Procedures with the District Board of Trustees to Bolster Climate and Environmental Justice*



Working in collaboration with the colleges' offices of equity, ESAC should explore changes to district policies and procedures to improve the connection between sustainability and diversity, equity, inclusion and accessibility. For those initiatives that require institutional and districtwide policy changes, ESAC should propose changes through the established participatory governance process to the Board of Trustees for review at a regularly scheduled meeting to allow public input and comment.

4.14.3 *Educational Programs and Events Underscoring the Intersectional Relationship of Environment, Climate, and Social Equity Issues*

The U.S. EPA defines [environmental justice](#) as the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, concerning the development, implementation, and enforcement of environmental laws, regulations and policies. This goal will be achieved when everyone enjoys:

- The same degree of protection from environmental and health hazards, and
- Equal decision-making access to a healthy environment to live, learn and work.

Environmental *injustice* is the intersection between social justice and environmentalism regarding the inequalities someone experiences in both categories. ESAC should work with students and faculty to develop programs and

events underscoring the intersectional relationship between environment, climate and social equity issues. This is also a crucial goal of the BOG Framework.

4.14.4 Work With Each College Office of Equity to Integrate Sustainability Planning With Campus Equity Plans

Both Foothill and De Anza colleges have established offices of equity and have developed student equity plans. Foothill College's equity plan is available [here](#), and De Anza's plan can be viewed at [this link](#). ESAC should work with the offices of equity to integrate diversity, inclusion, and environmental justice into sustainability at the campuses.

SECTION 5. MEASURE AND REPORT PERFORMANCE

As with any successful program, the ongoing progress and performance of Sustainability Action Plan activities should be monitored and compared to goals, objectives and criteria. This will require continuous participation of ESAC, the Energy and Sustainability Manager, college staff, and other participants. Sustainability Action Plan activities should be communicated regularly to the larger campus community to ensure transparency and accountability. The following section describes the recommended process for measuring and reporting sustainability activities and achievements.

5.1 MEASURING PERFORMANCE



To monitor the district's progress toward reaching its sustainability goals, ESAC should collect information on critical metrics associated with Sustainability Action Plan objectives at regular intervals. This will provide a benchmark for progress over time and identify when corrective action is needed to ensure success. Metrics should be performance based and reflect the outcomes of energy and sustainability projects, such as reduced GHG emissions or VMTs, rather than the number of projects implemented. However, a description of implemented projects should be included as part of an annual report to show the district's actions to meet the goals.

5.2 REPORTING PERFORMANCE

Measuring and reporting performance and progress is essential in maintaining transparency in energy and sustainability activities and assessing progress toward goals. The target audience of the reports should be the Board of Trustees, participatory governance committees, and the district community at large.

Progress reports should include the following information:

- Recap of SAP mission, goals, and objectives
- Summary of the district's performance compared to the goals and objectives
- Accomplishments
- Next steps and planned activities
- Key contributor acknowledgments and contact information

ESAC recommends that the reports be made annually. The details of the performance metrics and reporting protocols are described in Table 3.

Table 3 – Performance Measurement and Reporting Protocols

SAP Objective	Performance Metric	Measurement Frequency	Reporting Protocol	Responsibility
1	Investigate the most effective ways to institutionalize energy and sustainability management in district operations.	Annual	Annual report to participatory governance committees (PGC)/Board of Trustees (BOT) in November; Posted on ESAC website.	Energy and Sustainability Manager
2	Ensure activities consider broader economic and environmental impacts.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
3	<p>District Carbon Reduction Goals</p> <ul style="list-style-type: none"> Reduce Scope 1 and 2 GHG emissions by 50% from 2005 levels by 2030 Transition to natural gas-free by 2035 Purchased electricity will be 100% renewable by 2045 (SB 100) Carbon Neutrality by 2045 (EO B-55-18) 	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
4	Strive to reduce GHG emissions by 75% by 2030.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
5	Strive to reduce GHG emissions by 100% by 2035.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
6	Strive to decrease EUI by 25% compared to the campus benchmark and annually produce or procure 75% of site electrical consumption using renewable energy by 2030.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
7	Strive to decrease EUI by 40% compared to the campus benchmark and accomplish Net Zero Energy Campus by 2030.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
8	Evaluate campus resiliency opportunities (PV, BES, microgrid).	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager

SAP Objective	Performance Metric	Measurement Frequency	Reporting Protocol	Responsibility
9	Strive for all new buildings and major renovations to be constructed as ZNE ready, to be LEED or WELL Platinum with a minimum LEED Silver (self-certified), and evaluate and strive for existing buildings to be LEED Operations and Maintenance (O&M) Gold or WELL Gold equivalent, and strive to reduce the use of natural gas in buildings by 100% by 2035.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
10	Investigate restorative and regenerative design principals for inclusion into district building standards by 2024.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
11	Reduce potable water consumption by 15% by 2023 compared to 2019 and monitor and comply with future county water usage restrictions.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
12	Strive to reduce potable water usage by 25% from the baseline level.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
13	Strive to reduce potable water usage from baseline level by 50% by 2035; limit stormwater runoff and discharge to predevelopment levels for temperature, rate, volume, and duration of flow by 2035.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
14	Deploy EV charging infrastructure consistent with California goals and timelines for electrification of transportation by 2025-2030.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
15	Reduce vehicle miles traveled (VMT) for students, faculty and staff by 25-50% by 2035 by coordinating with other ongoing district programs.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
16	Strive to have 50% of new fleet vehicles that are zero-emission vehicles and 50% of rolling stock that are zero emissions by 2030.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager

SAP Objective	Performance Metric	Measurement Frequency	Reporting Protocol	Responsibility
17	Strive to have 100% of new fleet vehicles that are zero-emission vehicles and 100% of rolling stock that are zero emissions by 2035.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
18	Strive to achieve zero waste to landfill, and reduce total material consumption compared to the benchmark of 10% by 2030.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
19	Strive to increase material circularity by 25% and decrease consumption of materials by 25% by 2035.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
20	Increase procurement of sustainable products and services by 25% compared to benchmark levels by 2025.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
21	Strive to increase procurement of sustainable products and services by 50% compared to benchmark levels by 2035.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
22	Strive to increase district sustainable food purchases to 20% of the total food budget by 2030 and to have 80% of the food served on campus meeting the goals of the Real Food Challenge or equivalent by 2035.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
23	Consistent with the Vision for Success, the district will create connections between plans, projects, and committees (including those specific to diversity, equity, and inclusion efforts) and include them in the Sustainability Action Plan by 2025.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
24	Develop processes to engage students, faculty and staff in energy and sustainability activities in a meaningful way by 2023.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager

SAP Objective	Performance Metric	Measurement Frequency	Reporting Protocol	Responsibility
25	Develop processes to communicate and engage students, faculty and staff in energy and sustainability activities in a meaningful way by 2023.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
26	Enhance campus and community education and engagement in an ongoing basis.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager
27	Encourage and facilitate student learning activities related to sustainability and carbon reduction by 2023.	Annual	Annual report to PGC/BOT in November; Posted on ESAC website.	Energy and Sustainability Manager

SECTION 6. APPENDICES

APPENDIX A – District Proposition 39 Projects, 2013-2019

**APPENDIX B – 2021 California Community Colleges Board of Governors Climate Action
and Sustainability Framework**

APPENDIX C – Implementation Programs and Plans Checklist

APPENDIX D – Measure G Bond Energy-Saving Projects

APPENDIX E – Glossary of Terms

PROPOSITION 39 PROJECTS

Attached is the listing of Proposition 39 projects completed from 2013-2019 at the district. This data was obtained through the California Energy Commission Proposition 39 searchable database.



Local Education Agency (LEA) Name:	Foothill-DeAnza Community College District
Site Name:	Foothill College
Address:	12345 El Monte Rd
City:	Los Altos Hills
Zip Code:	94022

Application Number: FOOTHI-1314-001

Estimated Annual Savings



0 (kWh)
Electric



0 (therms)
Natural Gas



\$0
Energy Cost

Estimated Prop. 39 Funds Allocated: \$100,000

Estimated Project Cost \$100,000

Energy Measures Installed:

- ASHRAE Level 2 Energy Audit



Local Education Agency (LEA) Name:	Foothill-DeAnza Community College District
Site Name:	Foothill College
Address:	12345 El Monte Rd
City:	Los Altos Hills
Zip Code:	94022

Application Number: FOOTHI-1314-007

Estimated Annual Savings



16,371 (kWh)
Electric



0 (therms)
Natural Gas



\$2,030
Energy Cost

Estimated Prop. 39 Funds Allocated: \$91,586

Estimated Project Cost \$104,592

Energy Measures Installed:

- B2500 Gym Lighting LEDs



Local Education Agency (LEA) Name:	Foothill-DeAnza Community College District
Site Name:	Foothill College
Address:	12345 El Monte Rd
City:	Los Altos Hills
Zip Code:	94022

Application Number: FOOTHI-1415-001

Estimated Annual Savings



112,614 (kWh)
Electric



1,916 (therms)
Natural Gas



\$15,344
Energy Cost

Estimated Prop. 39 Funds Allocated: \$327,945

Estimated Project Cost \$356,888

Energy Measures Installed:

- Foothill Library Boiler Replacement and Pump Upgrade with VFD
- B2600 Gym Lighting LEDs



Local Education Agency (LEA) Name:	Foothill-DeAnza Community College District
Site Name:	Foothill College
Address:	12345 El Monte Rd
City:	Los Altos Hills
Zip Code:	94022

Application Number: FOO THI-1516-001

Estimated Annual Savings



25,000 (kWh)
Electric



0 (therms)
Natural Gas



\$7,550
Energy Cost

Estimated Prop. 39 Funds Allocated: \$60,636

Estimated Project Cost \$66,636

Energy Measures Installed:

- Foothill B7400 MBCx



Local Education Agency (LEA) Name:	Foothill-DeAnza Community College District
Site Name:	DeAnza College
Address:	21250 Stevens Creek Blvd
City:	Cupertino
Zip Code:	95014

Application Number: FOOTHI-1314-001

Estimated Annual Savings



0 (kWh)
Electric



0 (therms)
Natural Gas



\$0
Energy Cost

Estimated Prop. 39 Funds Allocated: \$100,000

Estimated Project Cost: \$100,000

Energy Measures Installed:

- ASHRAE Level 2 Energy Audit



Local Education Agency (LEA) Name:	Foothill-DeAnza Community College District
Site Name:	DeAnza College
Address:	21250 Stevens Creek Blvd
City:	Cupertino
Zip Code:	95014

Application Number: FOOTHI-1314-005

Estimated Annual Savings



140,944 (kWh)
Electric



54,064 (therms)
Natural Gas



\$56,403
Energy Cost

Estimated Prop. 39 Funds Allocated: \$713,853

Estimated Project Cost \$770,000

Energy Measures Installed:

- HHW Pump VFD Retrofit, 2 x 15 hp
- Pool Boiler and Distribution Retrofit



Local Education Agency (LEA) Name:	Foothill-DeAnza Community College District
Site Name:	DeAnza College
Address:	21250 Stevens Creek Blvd
City:	Cupertino
Zip Code:	95014

Application Number: FOOTHI-1415-001

Estimated Annual Savings



63,061 (kWh)
Electric



13,778 (therms)
Natural Gas



\$17,305
Energy Cost

Estimated Prop. 39 Funds Allocated: \$32,609

Estimated Project Cost \$59,733

Energy Measures Installed:

- Library AHUs Premium Efficiency Motors
- De Anza Library AHU-2, 4, 9, 10 VAV Upgrade



Local Education Agency (LEA) Name:	Foothill-DeAnza Community College District
Site Name:	DeAnza College
Address:	21250 Stevens Creek Blvd
City:	Cupertino
Zip Code:	95014

Application Number: FOOTHI-1415-005

Estimated Annual Savings



42,736 (kWh)
Electric



0 (therms)
Natural Gas



\$5,128
Energy Cost

Estimated Prop. 39 Funds Allocated: \$405,001

Estimated Project Cost \$735,816

Energy Measures Installed:

- Science Building Chiller



Local Education Agency (LEA) Name:	Foothill-DeAnza Community College District
Site Name:	DeAnza College
Address:	21250 Stevens Creek Blvd
City:	Cupertino
Zip Code:	95014

Application Number: FOOTHI-1516-001

Estimated Annual Savings



18,000 (kWh)
Electric



8,000 (therms)
Natural Gas



\$9,812
Energy Cost

Estimated Prop. 39 Funds Allocated: \$280,206

Estimated Project Cost \$292,526

Energy Measures Installed:

- DeAnza Cogen MBCx
- DeAnza S-Quad MBCx

2021 CCC BOARD OF GOVERNORS CLIMATE ACTION AND SUSTAINABILITY FRAMEWORK

APPENDIX B

California Community Colleges Board of Governors Climate Action and Sustainability Framework

INTRODUCTION

In 2019, the California Community College Board of Governors (Board of Governors) adopted the Climate Change and Sustainability Policy. Building off this important work, the updated *Climate Action and Sustainability Framework* provides revised goals and recommendations for community college districts. This updated framework is more comprehensive and inclusive of all areas of the campus community. The *Climate Action and Sustainability Framework* aims to create environmental, social, and educational benefits for the communities we serve. The framework is designed to serve as a tool to prompt local discussion around ways California Community Colleges can leverage their expansive footprint by incorporating sustainability principles and climate science in their local practices.

The Board of Governors has been a bold proponent of climate action, energy conservation, and other sustainability measures and has had established policies since 2013. Over that time, the California Community Colleges Chancellor's Office has made minor policy adjustments until 2019, when the Chancellor's Office updated and the Board of Governors adopted the Climate Change and Sustainability Policy. The 2019 policy provided goals and guidance for community college districts to align with the key climate change strategy pillars, achieve energy conservation goals, build capital projects sustainably, and integrate physical plant management practices to reduce energy consumption to improve local environmental sustainability measures. Approaches have been consistent with state policy goals and efforts, including 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.

Climate change is one of the most pressing issues of our time. It requires our collective attention to explore actions and solutions that avoid the most catastrophic of modeled scenarios. Since 2019, the Board of Governors has charged community college districts with developing local climate action and sustainability resolutions. For this work and efforts to advance, it was important for a revised climate change and sustainability policy to reflect the needs of colleges and the perspective of a diverse set of stakeholders. As a result, Chancellor Oakley formed a Climate Action and Sustainability Steering Committee to help guide the Board of Governors policy and framework. The committee comprised volunteers from the ten community colleges, the Student Senate of California Community Colleges (SSCCC), the Chancellor's Office, and the Foundation for California Community Colleges. Specifically, the expertise of colleges representatives encompasses environmental science, sustainability, facilities management, academics, business operations. To date, the committee provides advice to the California Community Colleges Chancellor's Office and community colleges around climate crisis and sustainability policies and programs. Please see Appendix A for the list of steering committee members.

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The steering committee has revised the 2019 Climate Change and Sustainability Policy under a new framework which establishes systemwide goals and targets. Further, the new framework integrates a comprehensive approach to leverage both colleges' physical and social impact footprint. Most importantly, this proposed revision compels bold action to protect our future.

CLIMATE ACTION AND SUSTAINABILITY FRAMEWORK

Examples of the impacts of climate change are abound. One heartbreaking illustration is California's fire season, which for the fifth year in a row has devastated entire communities and left lasting impacts for many California Community Colleges. The record-breaking losses of the past several years have also shown the increasing destruction of fire disasters, and have highlighted the need for longer-term strategies for climate emergency mitigation and resilience. We have our clarion call for action.

The 2019 Climate Change and Sustainability Policy was an important first step for community colleges to align with California's 2017 Climate Change Scoping Plan (as adopted by the California Air Resources Board in 2017). The new *Climate Action and Sustainability Framework* aims to inspire and empower institutions to act on bold climate commitments and to create innovative climate solutions. It also recognizes district-level progress is achieved at different stages. As such, the Framework first asks California's community colleges to establish benchmarks. Next, the *Climate Action and Sustainability Framework* asks districts and colleges to tracking progress towards the goals for 2025, 2030, and ultimately 2035, the target year for the state of California to reduce greenhouse gas emissions by 100% below the baseline.

RESOURCES AND TOOLS FOR CAMPUS SUSTAINABILITY

To support districts and colleges in striving for bold climate action and sustainability goals, the California Community Colleges Chancellor's Office will continue to develop key supports for districts and explore resources that enable progress towards these goals. Specifically, the Chancellor's Office is exploring and advancing the following focus areas:

- **Analysis of Climate Change Impacts.** In the face of compounding emergencies, it is critical to think about the long-term effects and impacts to California's community colleges. More importantly, it is our imperative to think about our future resiliency. A comprehensive analysis of the potential climate change and environmental risks facing each district can present the Chancellor's Office with strategies to prepare and respond.
- **Advocacy.** California Community Colleges can integrate within its advocacy agenda requests for resources focused on Climate Action and Sustainability, specifically as it related to facilities and scheduled maintenance.
- **Climate Action Data.** Explore the adoption of the Sustainability Tracking, Rating and Assessment System (STARS) as a tool for measuring campus sustainability progress for California community colleges to use. STARS is a self-reporting tool that measures sustainability performance.

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- **Sustainability Toolkit.** Through the Facilities Planning Unit, create an online climate action and sustainability toolkit which include resources, templates, and promising practices to assist campuses in advancing climate action and sustainability efforts in areas such as facilities operations, design and construction, procurement, information technology, among other key services and supports.
- **District Goals.** Recommend each campus to submit to the Chancellor's Office measurable sustainability objectives, including:
 - District commitments to address climate and environmental justice in the communities they serve.
 - District carbon emissions baselines, carbon emissions inventories and local Climate Action Plans to reduce emissions by at least 75% by 2030.
 - District sustainability plans that meet or exceed the Climate Action and Sustainability Framework goals.

CLIMATE ACTION AND SUSTAINABILITY GOALS

Campuses physical footprint and facilities present an important asset districts can leverage to meet the Climate Action and Sustainability Framework goals. To help coordinate climate and sustainability activities, each California community college district is encouraged to designate a sustainability officer responsible for carrying out and/or coordinating its campus sustainability program efforts.

Greenhouse Gas Emissions Reduction

1. The California community colleges can conduct an emissions inventory baseline and create a climate action plan by 2025.
2. In alignment with statewide goals adopted by the California Air Resources Board (CARB), California Community Colleges can strive to eliminate greenhouse gas (GHG) emissions by 2035. To achieve this, it is recommended to reduce campus/district GHG emissions by at least 75% by 2030 and 100% by 2035 to align with the state's goals. Emissions will include both state and auxiliary organization purchases of electricity and natural gas; fleet and marine vessel usage; and other emissions over which the college or self-support entity has direct control.
3. Districts and colleges can track and report of their greenhouse gas inventory in alignment with the [American College and University President's Climate Commitment](https://secondnature.org/webinars/getting-started-on-your-acupcc-climate-action-plan-2/) (secondnature.org/webinars/getting-started-on-your-acupcc-climate-action-plan-2/) guidelines. Possible metrics to measure include GHG emissions per FTES.
4. The California community colleges are encouraged to promote the use of alternative transportation and/or alternative fuels to reduce GHG emissions related to college-associated transportation, including commuter and business travel.

As districts leaders develop new plans, important emphasis should be placed on designing new construction, remodeling, renovation, and repair projects with

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consideration of optimum energy utilization, low life cycle operating costs, and compliance with all applicable energy codes (enhanced Title 24 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 campuses should ensure these facilities are designed to consider energy efficiency and maximize resources to subsidize energy efficiency. Moving forward, energy efficient and sustainable design features in project plans encouraged.

The Chancellor's Office will monitor building sustainability/energy performance and maintain information on design best practices to support the energy efficiency goals and guidelines of this policy. The sustainability performance will be based on Leadership in Energy and Environmental Design (LEED) principles with consideration to the physical diversity across the campuses.

Green Buildings

1. California community colleges are encouraged to benchmark their energy usage intensity for each building. Districts and colleges may develop a zero net energy (ZNE) and campus electrification strategy. They also have the option to conduct Leadership in Energy and Environmental Design (LEED) or WELL assessment of existing buildings.
2. Districts and colleges are encouraged to strive for all new buildings and major renovations to be constructed as ZNE ready, all new buildings to be certified LEED or WELL Gold, and strive to reduce the use of natural gas in buildings by 30% by 2030.
3. Districts and colleges are encouraged to strive for all new buildings and major renovations to be constructed as ZNE and certified Zero Carbon, all existing buildings to be LEED Operations and Maintenance (O&M) Gold or WELL Gold equivalent, and for the use of natural gas in buildings to be reduced by at least 75% by 2035.

Energy

1. California's local community colleges should consider establish a campus Energy Use Intensity (EUI) score and conduct Effective Useful Life (EUL) analysis of all gas-using appliances and systems; plan for electrification of systems with EUL of less than 10 years.
2. Districts and colleges should strive to decrease EUI by 25% compared to the campus benchmark and annually produce or procure 75% of site electrical consumption using renewable energy by 2030.
3. Districts and colleges should strive to decrease EUI by 40% compared to the campus benchmark and accomplish Net Zero Energy Campus by 2035.

Water

1. Districts and colleges should consider local benchmarks for potable water usage. Districts can also identify potential non-potable water resources, create a landscape zoning map and irrigation metering strategy and adopt best practices such as the

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California Community College Model Stormwater Management Program. For more information on Municipal Separate Storm Sewer Systems, please visit the [California State Water Boards website](https://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.html) for requirements.
(https://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.html)

2. Districts and colleges are encouraged to reduce potable water usage by 25%. To achieve this goal, districts and colleges can ensure that landscape irrigation systems of 2500 square feet or greater are separately metered (unless using local or municipal reclaimed water system); ensure that landscape planting materials are 90% native species to the climate and geographical area of the college; ensure that irrigated turf grass does not exceed 50% of the landscaped areas on campus; and are recommended to follow Municipal Separate Storm Sewer Systems (MS4) requirements by 2030.
3. By 2035, California community colleges are encouraged to reduce potable water usage from baseline level by 50%; limit stormwater runoff and discharge to predevelopment levels for temperature, rate, volume and duration of flow through the use of green infrastructure and low impact development for the campus; and limit stormwater runoff and discharge to predevelopment levels for temperature, rate, volume and duration of flow through the use of green infrastructure and low impact development for new buildings and major modifications.

Waste

1. Districts and colleges are encouraged to conduct a waste categorization assessment; benchmark and comply with [Title 14, Division 2, Chapter 5](http://www.calrecycle.ca.gov/Laws/Regulations/Title14/#Div2Chap5) (www.calrecycle.ca.gov/Laws/Regulations/Title14/#Div2Chap5) (Beverage Container Recycling and Litter Reduction Act); benchmark and comply with [Title 14, CCR Division 7](http://www.calrecycle.ca.gov/Laws/Regulations/Title14/#Div7) (www.calrecycle.ca.gov/Laws/Regulations/Title14/#Div7); develop a total material consumption benchmark; conduct an [AB 341](http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120AB341) (leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120AB341) compliance assessment; and centralize reporting for waste and resource recovery by 2025.
2. Districts and colleges should strive to achieve zero waste to landfill, conduct a circularity analysis, and reduce total material consumption compared to the benchmark by 10% by 2030.
3. Districts and colleges are encouraged to strive to increase material circularity by 25%, and decrease consumption of materials by 25% by 2035.

Purchasing and Procurement

1. California's local community colleges are encouraged to benchmark sustainability characteristics of existing products and services, adopt a sustainable procurement policy and administrative procedure, and purchase environmentally preferable electronic products by 2025.

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2. Districts and colleges should strive to increase procurement of sustainable products and services by 25% compared to benchmark levels by 2030.
3. Districts and colleges should strive to increase procurement of sustainable products and services by 50% compared to benchmark levels by 2035.

In order for the California community colleges to reach these goals, campuses can promote use of suppliers and/or vendors who reduce waste, re-purpose recycled material, or support other environmentally friendly practices in the provision of goods or services to the colleges under contract. This may include additional evaluation points in solicitation evaluations for suppliers integrating sustainable practices.

In order to move to zero waste, campus practices can: (1) encourage use of products that minimize the volume of trash sent to landfills or incinerators; (2) participate in the CalRecycle Buy-Recycled program or equivalent; and (3) increase recycled content purchases in all Buy- Recycled program product categories.

Districts and colleges should strive to continue to report on all recycled content product categories, consistent with [PCC § 12153-12217](#) (leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=12153.&nodeTreePath=3.2.12.1&lawCode=PCC) and shall implement improved tracking and reporting procedures for their recycled content purchases.

Transportation

1. The California community colleges can conduct accounting and conditions assessment of fleet vehicles; assess remainder rolling stock for potential electrification; develop Electric Vehicle (EV) charging infrastructure to encourage faculty, staff and students to use EVs; promote accessible shared transport methods; and make pedestrian and bicycle access improvements by 2025.
2. Districts and colleges should strive to have 50% of new fleet vehicles that are zero emission vehicles, 50% of rolling stock that are zero emissions, and can consider implementing green parking permits by 2030.
3. Districts and colleges should strive to have 100% of new fleet vehicles that are zero emission vehicles, and 100% of rolling stock that are zero emissions by 2035.

Food Systems

1. Districts and colleges should strive to have campus food service organizations track their sustainable food purchases. Such tracking and reporting can be grounded in the [Real Food Challenge](http://www.realfoodchallenge.org/resources/real-food-resources/) (www.realfoodchallenge.org/resources/real-food-resources/) guidelines, or equivalent, with consideration to campus-requested improvements.
2. Campuses are encouraged to strive to increase their sustainable food purchases to 20% of total food budget by 2030, and to have 80% of food served on campus meeting the goals of the Real Food Challenge or equivalent by 2035.

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LOOKING TO THE FUTURE

Consideration for Advancing the Climate Action and Sustainability Framework

Considerations for the Future

As climate change remains an increasing threat to Californians' health, safety, and economic well-being—wildfires, and widespread drought throughout the State being some of the most recent reminders of the changing environment's impact on our community – it's important to consider the impact California Community Colleges can make if they look beyond just their facilities footprint and leverage the role they play in increasing knowledge and education about the challenges we face. The following section invites our broader academic community to consider ways they can support the advancement of the Climate Action and Sustainability Framework.

Building Alignment to Campus Operations and Teaching & Learning

Environmental Justice: Aligning to Diversity, Equity, and Inclusion Strategy

1. Consistent with the *Vision for Success*, the California Community Colleges can create connections between plans, projects and committees (including those specific to Diversity, Equity, and Inclusion efforts) and the Climate Action and Sustainability Plan.
2. Districts and colleges can explore how to improve connections between environmental and social justice initiatives and program on campus and foster a more diverse and inclusive engagement in climate action and sustainability initiatives. In addition, the campuses can measure engagement of diverse audiences in climate action and sustainability initiatives to assess equitable participation.
3. Districts and colleges can explore changes their local policies and administrative procedures with their elected board to bolster climate/environmental justice efforts.
4. Districts and colleges can develop educational programs or hold annual event underscoring the intersectional relationship of environment, climate and social equity issues.

Planning and Administration: Coordination and Planning

1. The California Community Colleges can form sustainability committee or offices to advise and implement sustainability initiatives on campus. The campuses can publish a plan that includes measurable sustainability objectives and/or include the integrated concept of sustainability in the institution's master plan.
2. Districts and colleges can update their local plan and complete peer or independent STARS Reporting Assurance.

Advancing Climate Action Education & Engagement

1. Identify and develop community partnerships, including private philanthropy, to support and promote sustainability activities and programs.

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- 2.** Districts and colleges can consider developing an inventory of courses focused on climate change, sustainability and action to engage current and future students. This can also encourage collaboration and for interdisciplinary pathways.
- 3.** Districts and colleges can explore partnership which allow climate change and sustainability education to be an immersive experience for students such as community engaged learning, continued learning, and campus as a living lab initiatives.
- 4.** California's community colleges can highlight climate action and sustainability in various venues such as convocation, student orientation, professional development.

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APPENDIX A: STEERING COMMITTEE MEMBERS

- 1.** Karen Groppi, Instructor, Engineering Department, Environmental Sustainability Specialist, Cabrillo College
- 2.** Farrah Farzaneh, Director of Facilities Planning and Construction, San Bernardino CCD
- 3.** Joseph Fullerton, Energy and Sustainability Manager, San Mateo County CCD
- 4.** Aris Hovasapian, Utility Program Manager, LACCD
- 5.** Ferris Kwar, Sustainability Project Manager, Santa Monica College
- 6.** Jennifer Keiper, Foundation for California Community Colleges
- 7.** Owen Letcher, Vice Chancellor of Facilities and Bond Program, Chabot-Las Positas CCD
- 8.** Nat Martin, Director of Sustainability, Los Rios CCD
- 9.** Hoang Nguyen, Director of Facilities Planning and Utilization, California Community Colleges Chancellor's Office
- 10.** Don Reid, Supervisor, American River College
- 11.** Sophia Ruiz, Student Senate for California Community Colleges, Mt. San Antonio College (graduated)
- 12.** Brian Turner, Program Assistant II, California Community Colleges Chancellor's Office
- 13.** Chay Yang, Specialist, California Community Colleges Chancellor's Office
- 14.** John White, Executive Director of Bond Program and Facilities Planning, College of the Desert

IMPLEMENTATION PROGRAMS AND PLANS CHECKLIST

A hard copy of the Implementation Programs and Plans Checklist is attached for reference. The electronic copy saved on the ESAC server should be used for managing Sustainability Action Plan implementation.

APPENDIX C

Sustainability Action Plan Summary Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
Campus: District-wide
Project: Sustainability Action Plan
Date: Version 4 FINAL DRAFT - November 2022

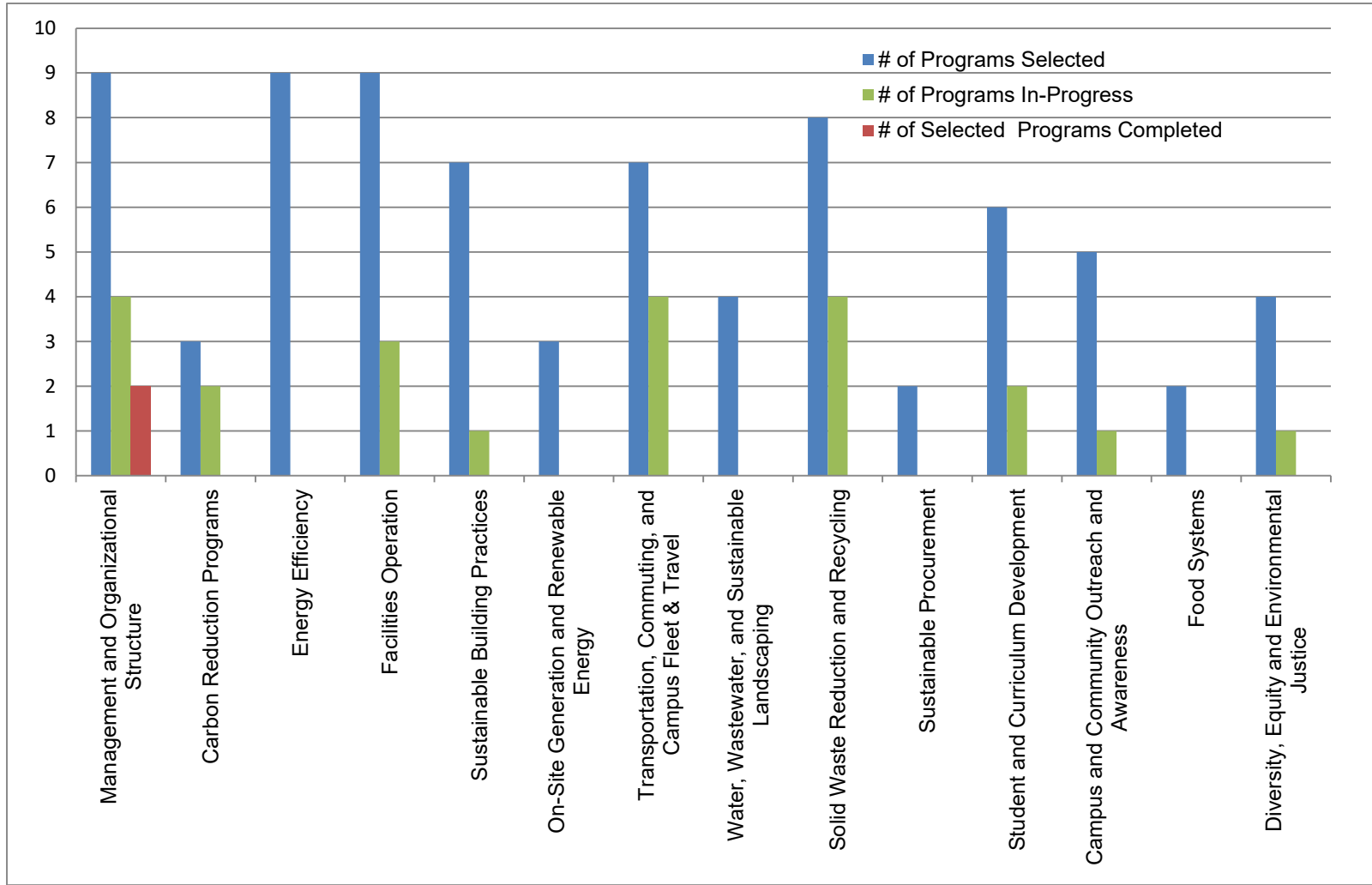
[Click Here to go to **Output Tab**](#)

Plan Section	Sustainability Action Plan Section Description	# of Programs Selected	# of Programs In-Progress	# of Selected Programs Completed
4.1	Management and Organizational Structure	9	4	2
4.2	Carbon Reduction Programs	3	2	0
4.3	Energy Efficiency	9	0	0
4.4	Facilities Operation	9	3	0
4.5	Sustainable Building Practices	7	1	0
4.6	On-Site Generation and Renewable Energy	3	0	0
4.7	Transportation, Commuting, and Campus Fleet & Travel	7	4	0
4.8	Water, Wastewater, and Sustainable Landscaping	4	0	0
4.9	Solid Waste Reduction and Recycling	8	4	0
4.10	Sustainable Procurement	2	0	0
4.11	Student and Curriculum Development	6	2	0
4.12	Campus and Community Outreach and Awareness	5	1	0
4.13	Food Systems	2	0	0
4.14	Diversity, Equity and Environmental Justice	4	1	0
Totals		78	22	2

APPENDIX C

Sustainability Programs Chart

District: Foothill-De Anza Community College District
Campus: District-wide
Project: Sustainability Action Plan
Date: Version 4 FINAL DRAFT - November 2022



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Sustainability Action Plan Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
Campus: District-wide
Project: Sustainability Action Plan
Date: Version 4 FINAL DRAFT - November 2022

Selected Programs and Projects for Implementation are Summarized Below			
Section 4.1 MANAGEMENT AND ORGANIZATIONAL STRUCTURE			Comments
<input checked="" type="checkbox"/>	4.1.1	Adopt a District Sustainability Policy	FROM EMP
<input checked="" type="checkbox"/>	4.1.2	Appoint a Sustainability Coordinator, Establish an Office of Sustainability	FROM EMP
<input checked="" type="checkbox"/>	4.1.3	Appoint a District Sustainability Committee	FROM EMP
<input checked="" type="checkbox"/>	4.1.4	Explore Funding and Resources to Support Sustainability Activities	FROM EMP
<input checked="" type="checkbox"/>	4.1.5	Employ Sustainability Professionals, as required	FROM EMP
<input checked="" type="checkbox"/>	4.1.6	Evaluate Track and Report Sustainability Performance using the AASHE Sustainability Tracking, Assessment & Rating System (STARS) system and report results to the Board of Trustees.	BOG POLICY
<input checked="" type="checkbox"/>	4.1.7	Integrate Sustainability Planning into Educational and Facilities Campus Master Plans	
<input checked="" type="checkbox"/>	4.1.8	Investigate most effective ways to institutionalize Energy and Sustainability Management	FROM EMP
<input checked="" type="checkbox"/>	4.1.9	Participate in CCC System-wide energy and Sustainability Committees	FROM EMP

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Sustainability Action Plan Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
Campus: District-wide
Project: Sustainability Action Plan
Date: Version 4 FINAL DRAFT - November 2022

Selected Programs and Projects for Implementation are Summarized Below

Section 4.2 CARBON REDUCTION PROGRAMS			Comments
<input checked="" type="checkbox"/>	4.2.1	Implement Measure G Bond Projects	FROM EMP. See "FHDA Bond Project List FINAL 052021"
<input checked="" type="checkbox"/>	4.2.2	Perform Feasibility Study for District Electrification.	FROM EMP
<input checked="" type="checkbox"/>	4.2.3	Develop an Energy Data Foundation to prepare for usage analysis at all three campuses to support GHG reduction goals.	FROM EMP

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Sustainability Action Plan Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
Campus: District-wide
Project: Sustainability Action Plan
Date: Version 4 FINAL DRAFT - November 2022

Selected Programs and Projects for Implementation are Summarized Below			
Section 4.3 ENERGY EFFICIENCY			Comments
<input checked="" type="checkbox"/>	4.3.1	Set Energy Efficiency Goals	FROM EMP
<input checked="" type="checkbox"/>	4.3.2	Evaluate Mechanisms for the Implementation of Energy Efficiency Projects	FROM EMP
<input checked="" type="checkbox"/>	4.3.3	Conduct Facility Prioritization Survey	FROM EMP
<input checked="" type="checkbox"/>	4.3.4	Conduct Comprehensive Facility Energy Audits	FROM EMP
<input checked="" type="checkbox"/>	4.3.5	Implement New and Existing Audit Recommendations	FROM EMP
<input checked="" type="checkbox"/>	4.3.6	Participate in Demand Response Programs	FROM EMP
<input checked="" type="checkbox"/>	4.3.7	Install Energy Efficient Equipment	FROM EMP
<input checked="" type="checkbox"/>	4.3.8	Manage Plug Loads	FROM EMP
<input checked="" type="checkbox"/>	4.3.9	Evaluate and apply Best Practices Energy Efficiency Measures	CCC Sustainability Template

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Sustainability Action Plan Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
Campus: District-wide
Project: Sustainability Action Plan
Date: Version 4 FINAL DRAFT - November 2022

Selected Programs and Projects for Implementation are Summarized Below			
Section 4.4 FACILITIES OPERATION			Comments
<input checked="" type="checkbox"/>	4.4.1	Encourage and Support Energy Efficiency Training of Staff	FROM EMP
<input checked="" type="checkbox"/>	4.4.2	Upgrade Building and Energy Management Systems	FROM EMP
<input checked="" type="checkbox"/>	4.4.3	Adjust Temperature Set Points and Schedule Operating Times	FROM EMP
<input checked="" type="checkbox"/>	4.4.4	Evaluate Opportunities to Optimize Building Occupancy Scheduling	FROM EMP
<input checked="" type="checkbox"/>	4.4.5	Optimize HVAC Equipment Scheduling	FROM EMP
<input checked="" type="checkbox"/>	4.4.6	Install Meters and Benchmark at the Building and System Level.	FROM EMP
<input checked="" type="checkbox"/>	4.4.7	Pursue Monitoring-Based (MBCx)/Retro-Commissioning (RCx)	FROM EMP
<input checked="" type="checkbox"/>	4.4.8	Perform Regular Maintenance on Equipment	FROM EMP
<input checked="" type="checkbox"/>	4.4.9	Prepare Climate Adaptation and Resiliency Plan	FROM EMP

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Sustainability Action Plan Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
Campus: District-wide
Project: Sustainability Action Plan
Date: Version 4 FINAL DRAFT - November 2022

Selected Programs and Projects for Implementation are Summarized Below			
Section 4.5 SUSTAINABLE BUILDING PRACTICES			Comments
<input checked="" type="checkbox"/>	4.5.1	Establish a Green Building Standard	FROM EMP
<input checked="" type="checkbox"/>	4.5.2	Implement Sustainable Design Practices	FROM EMP
<input checked="" type="checkbox"/>	4.5.3	Use an Integrated Systems Approach in Building Design	FROM EMP
<input checked="" type="checkbox"/>	4.5.4	Hire Sustainable Building Design Professionals	FROM EMP
<input checked="" type="checkbox"/>	4.5.5	Commission New Buildings	FROM EMP
<input checked="" type="checkbox"/>	4.5.6	Develop Regenerative Design and Nature Positive Principles	FROM ADOPTED OBJECTIVES
<input checked="" type="checkbox"/>	4.5.7	Set Net-Positive Goals and Plans	FROM ADOPTED OBJECTIVES

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Sustainability Action Plan Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
Campus: District-wide
Project: Sustainability Action Plan
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Selected Programs and Projects for Implementation are Summarized Below			
Section 4.6 ON-SITE GENERATION AND RENEWABLE ENERGY			Comments
<input checked="" type="checkbox"/>	4.6.1	Evaluate Load Shifting Technologies	FROM EMP
<input checked="" type="checkbox"/>	4.6.2	Minimize Greenhouse Gas Intensity of Purchased Electricity	FROM EMP
<input checked="" type="checkbox"/>	4.6.3	Perform Feasibility Study for additional Solar PV at Campuses	FROM EMP

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Selected Programs and Projects for Implementation are Summarized Below			
Section 4.7 TRANSPORTATION, COMMUTING, AND CAMPUS FLEET & TRAVEL			Comments
<input checked="" type="checkbox"/>	4.7.1	Participate in District transportation surveys and analysis	From EMP
<input checked="" type="checkbox"/>	4.7.2	Encourage and Enhance Public Transportation and Ridesharing Options	FROM OBJECTIVES
<input checked="" type="checkbox"/>	4.7.3	Encourage and Enhance Bicycling Options	FROM OBJECTIVES
<input checked="" type="checkbox"/>	4.7.4	Improve Campus Fleet & Travel	FROM OBJECTIVES BOG policy
<input checked="" type="checkbox"/>	4.7.5	Explore Student Distance Learning and Employee Remote Work	
<input checked="" type="checkbox"/>	4.7.6	Analyze and Install Electric Vehicle (EV) Charging using on-site Solar PV Electricity. Include analysis of fast-charging autonomous vehicles	FROM EMP
<input checked="" type="checkbox"/>	4.7.7	Implement a Green Parking Permit program by 2030	BOG Policy

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Sustainability Action Plan Implementation Programs and Projects Checklist

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Selected Programs and Projects for Implementation are Summarized Below			
Section 4.8 WATER, WASTEWATER, AND SUSTAINABLE LANDSCAPING			Comments
<input checked="" type="checkbox"/>	4.8.1	Establish Water Conservation Goals	FROM OBJECTIVES
<input checked="" type="checkbox"/>	4.8.2	Implement Water Conservation Strategies	FROM OBJECTIVES
<input checked="" type="checkbox"/>	4.8.3	Reduce Storm Water, Sewer Discharges, and Water Pollution	FROM OBJECTIVES
<input checked="" type="checkbox"/>	4.8.4	Adopt Sustainable Landscaping Practices	FROM OBJECTIVES
<input type="checkbox"/>	4.8.5	<i>Enter Other Program and Project 2, text will change color</i>	

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Sustainability Action Plan Implementation Programs and Projects Checklist

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Selected Programs and Projects for Implementation are Summarized Below			
Section 4.9 SOLID WASTE REDUCTION AND RECYCLING			Comments
<input checked="" type="checkbox"/>	4.9.1	Create Waste Reduction Goals	FROM OBJECTIVES
<input checked="" type="checkbox"/>	4.9.2	Maximize Programs Offered by Contracted Waste Hauler	CCC Sustainability Template
<input checked="" type="checkbox"/>	4.9.3	Reduce Waste Stream to the Landfill	FROM OBJECTIVES
<input checked="" type="checkbox"/>	4.9.4	Improve Existing Recycling Programs	CCC Sustainability Template
<input checked="" type="checkbox"/>	4.9.5	Collect and Sell All Recyclable Material	CCC Sustainability Template
<input checked="" type="checkbox"/>	4.9.6	Green Waste and Food Waste Composting	Required by State Law
<input checked="" type="checkbox"/>	4.9.7	Construction and Demolition (C&D) Recycling	FROM OBJECTIVES. Required by state law.
<input checked="" type="checkbox"/>	4.9.8	Conduct a Waste Category Assessment	BOG Policy

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Sustainability Action Plan Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
Campus: District-wide
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Selected Programs and Projects for Implementation are Summarized Below			
Section 4.10 SUSTAINABLE PROCUREMENT			Comments
<input checked="" type="checkbox"/>	4.10.1	Develop Sustainable Purchasing Practices and Procedure	FROM OBJECTIVES.
<input checked="" type="checkbox"/>	4.10.2	Evaluate and Implement Socially Responsible Purchasing	FROM OBJECTIVES
<input type="checkbox"/>	4.10.4	<i>Enter Other Program and Project 1, text will change color</i>	
<input type="checkbox"/>	4.10.5	<i>Enter Other Program and Project 2, text will change color</i>	

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Sustainability Action Plan Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
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Selected Programs and Projects for Implementation are Summarized Below			
Section 4.11 STUDENT AND CURRICULUM DEVELOPMENT			Comments
<input checked="" type="checkbox"/>	4.11.1	Provide Professional Development and Create a Faculty Forum	CCC Sustainability Template
<input checked="" type="checkbox"/>	4.11.2	Highlight climate action and sustainability in various venues such as convocation, student orientation, and professional development	BOG Policy
<input checked="" type="checkbox"/>	4.11.3	Establish Climate Change and Sustainability Education as an Immersive Experience	BOG Policy
<input checked="" type="checkbox"/>	4.11.4	Training Opportunities for Students	FROM EMP
<input checked="" type="checkbox"/>	4.11.5	Curriculum Development	CCC Sustainability Template
<input checked="" type="checkbox"/>	4.11.6	Research true economic, social, and environmental impacts of energy and sustainability projects. Include students in this program.	FROM EMP

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District: Foothill-De Anza Community College District
Campus: District-wide
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Selected Programs and Projects for Implementation are Summarized Below			
Section 4.12 CAMPUS AND COMMUNITY OUTREACH & AWARENESS			Comments
<input checked="" type="checkbox"/>	4.12.1	Enhance ESAC Website	FROM EMP
<input checked="" type="checkbox"/>	4.12.2	Hold Workshops, Presentations, and Sustainability Events	CCC Sustainability Template
<input checked="" type="checkbox"/>	4.12.3	Campus Specific Outreach & Awareness	CCC Sustainability Template
<input checked="" type="checkbox"/>	4.12.4	Community Outreach and Partnerships	CCC Sustainability Template
<input checked="" type="checkbox"/>	4.12.5	Inter-Campus Collaboration	FROM EMP

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Selected Programs and Projects for Implementation are Summarized Below			
Section 4.13 FOOD SYSTEMS			Comments
<input checked="" type="checkbox"/>	4.13.1	Develop and Implement Sustainable Food Purchasing Goals and Programs	FROM OBJECTIVES BOG Policy
<input checked="" type="checkbox"/>	4.13.2	Require food service organizations to track their sustainable food purchases in accordance with Real Food Challenge guidelines.	BOG Policy
<input type="checkbox"/>	7.12.9.1	<i>Enter Other Program and Project 1, text will change color</i>	
<input type="checkbox"/>	7.12.9.2	<i>Enter Other Program and Project 2, text will change color</i>	

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Sustainability Action Plan Implementation Programs and Projects Checklist

District: Foothill-De Anza Community College District
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Selected Programs and Projects for Implementation are Summarized Below		
Section 4.14 DIVERSITY, EQUITY, AND ENVIRONMENTAL JUSTICE		Comments
<input checked="" type="checkbox"/>	4.14.1	Create connections specific to Diversity, Equity, and Inclusion efforts to District Sustainability Planning and Implementation. FROM OBJECTIVES (BOG policy)
<input checked="" type="checkbox"/>	4.14.2	Explore changes to local policies and procedures with the Board of Trustees to bolster climate and environmental justice BOG Policy
<input checked="" type="checkbox"/>	4.14.3	Develop educational programs and events underscoring the intersectional relationship of environment, climate, and social equity issues. BOG Policy
<input checked="" type="checkbox"/>	4.14.4	Work with each college Office of Equity to integrate sustainability planning with campus Equity Plans FROM OBJECTIVES
<input type="checkbox"/>	4.14.5	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.14.6	<i>Enter Other Program and Project 2, text will change color</i>

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Sustainability Template Plan Implementation Programs and Plans Checklist

District: Foothill-De Anza Community College District
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Priority Implementation Plans Indicated Below

Section 4.1 MANAGEMENT AND ORGANIZATIONAL STRUCTURE						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.1.1	Adopt a District Sustainability Policy	High	Complete	1	Complete	ESAC
4.1.2	Appoint a Sustainability Coordinator, Establish an Office of Sustainability	High	In-Process	1	2023	Administration
4.1.3	Appoint a District Sustainability Committee	High	Complete	1	Complete	
4.1.4	Explore Funding and Resources to Support Sustainability Activities	High	Planned	1	Ongoing	Energy and Sustainability Manager
4.1.5	Employ Sustainability Professionals, as required	High	In-Process	1	Ongoing	Administration
4.1.6	Evaluate Track and Report Sustainability Performance using the AASHE Sustainability Tracking, Assessment & Rating System (STARS) system and report results to the Board of Trustees.	Med	Planned	1	2023	Energy and Sustainability Manager
4.1.7	Integrate Sustainability Planning into Educational and Facilities Campus Master Plans	Med	Planned	1	2024	Administration
4.1.8	Investigate most effective ways to institutionalize Energy and Sustainability Management	Med	In-Process	1	2023-2026	Energy and Sustainability Manager
4.1.9	Participate in CCC System-wide energy and Sustainability Committees	Med	In-Process	1	2023-2026	Energy and Sustainability Manager

Section 4.2 CARBON REDUCTION PROGRAMS						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.2.1	Implement Measure G Bond Projects	High	In-Process	4 thru 7	Bond Schedule	Bond Program/Facilities/Energy and Sustainability Manager
4.2.2	Perform Feasibility Study for District Electrification.	High	Planned	4 thru 7	2023	Facilities
4.2.3	Develop an Energy Data Foundation to prepare for usage analysis at all three campuses to support GHG reduction	High	In-Process	4 thru 7	2023	Energy and Sustainability Manager

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Priority Implementation Plans Indicated Below

Section 4.3 ENERGY EFFICIENCY						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.3.1	Set Energy Efficiency Goals	Med	Planned	4 thru 10	2023-2026	Energy and Sustainability Manager
4.3.2	Evaluate Mechanisms for the Implementation of Energy Efficiency Projects	High	Planned	4 thru 10	2023	Bond Program/Energy and Sustainability Manager
4.3.3	Conduct Facility Prioritization Survey	High	Planned	4 thru 10	2023-2026	Bond Program/Energy and Sustainability
4.3.4	Conduct Comprehensive Facility Energy Audits	Med	Planned	4 thru 10	2023-2026	Energy and Sustainability Manager
4.3.5	Implement New and Existing Audit Recommendations	Med	Planned	4 thru 10	2023-2026	Energy and Sustainability Manager
4.3.6	Participate in Demand Response Programs	Med	Planned	4 thru 10	2023	Energy and Sustainability Manager
4.3.7	Install Energy Efficient Equipment	Med	Planned	4 thru 10	2024	Energy and Sustainability Manager
4.3.8	Manage Plug Loads	Med	Planned	4 thru 10	2023-2026	Energy and Sustainability Manager
4.3.9	Evaluate and apply Best Practices Energy Efficiency Measures	High	Planned	4 thru 10	2023-2026	Energy and Sustainability Manager

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Priority Implementation Plans Indicated Below

Section 4.4 FACILITIES OPERATION						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.4.1	Encourage and Support Energy Efficiency Training of Staff	Med	Planned	9	2023	Energy and Sustainability Manager
4.4.2	Upgrade Building and Energy Management Systems	Med	In-Process	9	2023	Bond Program/Facilities
4.4.3	Adjust Temperature Set Points and Schedule Operating Times	Med	Planned	9	2023	Facilities
4.4.4	Evaluate Opportunities to Optimize Building Occupancy Scheduling	Med	Planned	9	2023	District/Campus/Facilities
4.4.5	Optimize HVAC Equipment Scheduling	Med	Planned	9	2023	Facilities/Energy and Sustainability Manager
4.4.6	Install Meters and Benchmark at the Building and System Level.	Med	Planned	9	2023	Bond Program/Facilities
4.4.7	Pursue Monitoring-Based (MBCx)/Retro-Commissioning (RCx)	Med	In-Process	9	2023	Bond Program/Facilities
4.4.8	Perform Regular Maintenance on Equipment	High	In-Process	9	2021	Facilities
4.4.9	Prepare Climate Adaptation and Resiliency Plan	Med	Planned	8	2023-2026	ESAC/Energy and Sustainability Manager

Section 4.5 SUSTAINABLE BUILDING PRACTICES						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.5.1	Establish a Green Building Standard	High	Planned	9	2023	ESAC/ Bond Program/ Facilities/ Energy and Sustainability Manager
4.5.2	Implement Sustainable Design Practices	High	Planned	9	2022	Energy and Sustainability Manager/Bond Program
4.5.3	Use an Integrated Systems Approach in Building Design	High	Planned	9	2022	Energy and Sustainability Manager/Bond
4.5.4	Hire Sustainable Building Design Professionals	High	In-Process	9	Ongoing	Energy and Sustainability Manager/Bond
4.5.5	Commission New Buildings	Med	Planned	9	2028	Energy and Sustainability Manager/Bond Program
4.5.6	Develop Regenerative Design and Nature Positive Principles	High	Planned	10	2023	Energy and Sustainability Manager
4.5.7	Set Net-Positive Goals and Plans	High	Planned	10	2023	Energy and Sustainability Manager

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Section 4.6 ON-SITE GENERATION AND RENEWABLE ENERGY						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.6.1	Evaluate Load Shifting Technologies	Med	Planned	4 thru 7	2023-2026	Energy and Sustainability Manager
4.6.2	Minimize Greenhouse Gas Intensity of Purchased Electricity	High	Planned	4 thru 7	2022	Energy and Sustainability Manager/VC Business
4.6.3	Perform Feasibility Study for additional Solar PV at Campuses	High	Planned	4 thru 7	2023	Energy and Sustainability Manager

Section 4.7 TRANSPORTATION, COMMUTING, AND CAMPUS FLEET & TRAVEL						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.7.1	Participate in District transportation surveys and analysis	High	In-Process	14,15	2023-2025	Energy and Sustainability Manager/Colleges
4.7.2	Encourage and Enhance Public Transportation and Ridesharing Options	High	In-Process	15	2023-2025	Energy and Sustainability Manager/Colleges
4.7.3	Encourage and Enhance Bicycling Options	Med	Planned	15	2023-2025	Energy and Sustainability Manager/Colleges
4.7.4	Improve Campus Fleet & Travel	High	Planned	16,17	2023-2024	Energy and Sustainability Manager/Facilities
4.7.5	Explore Student Distance Learning and Employee Remote Work	High	In-Process	15	2023-2024	Energy and Sustainability Manager/Colleges
4.7.6	Analyze and Install Electric Vehicle (EV) Charging using on-site Solar PV Electricity. Include analysis of fast-charging autonomous vehicles	Med	In-Process	14	2024-2030	Energy and Sustainability Manager/Bond Program/Facilities
4.7.7	Implement a Green Parking Permit program by 2030	Low	Planned	14	2030	Energy and Sustainability Manager/Facilities

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Priority Implementation Plans Indicated Below

Section 4.8 WATER, WASTEWATER, AND SUSTAINABLE LANDSCAPING						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.8.1	Establish Water Conservation Goals	High	Planned	11,12	2025	Energy and Sustainability Manager/Bond Program/Facilities
4.8.2	Implement Water Conservation Strategies	High	Planned	11,12	2023-2035	Energy and Sustainability Manager/Bond Program/Facilities
4.8.3	Reduce Storm Water, Sewer Discharges, and Water Pollution	High	Planned	13	2023-2036	Energy and Sustainability Manager/Bond Program/Facilities
4.8.4	Adopt Sustainable Landscaping Practices	High	Planned	11,12,13	2025	Energy and Sustainability Manager/Bond Program/Facilities

Section 4.9 SOLID WASTE REDUCTION AND RECYCLING						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.9.1	Create Waste Reduction Goals	High	Planned	18	2023	Energy and Sustainability Manager/Facilities
4.9.2	Maximize Programs Offered by Contracted Waste Hauler	High	In-Process	18	2023	Energy and Sustainability Manager/Facilities
4.9.3	Reduce Waste Stream to the Landfill	High	Planned	19	2023	Energy and Sustainability Manager/Facilities
4.9.4	Improve Existing Recycling Programs	Med	In-Process	18	2023	Energy and Sustainability Manager/Facilities
4.9.5	Collect and Sell All Recyclable Material	Med	Planned	18	2025	Energy and Sustainability Manager/Facilities
4.9.6	Green Waste and Food Waste Composting	High	In-Process	18	2023	Energy and Sustainability Manager/Facilities
4.9.7	Construction and Demolition (C&D) Recycling	High	In-Process	18	2023	Energy and Sustainability Manager/Facilities
4.9.8	Conduct a Waste Category Assessment	Med	Planned	18	2023	Energy and Sustainability Manager/Facilities

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Section 4.10 SUSTAINABLE PROCUREMENT						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.10.1	Develop Sustainable Purchasing Practices and Procedure	High	Planned	20,21	2023-2025	Energy and Sustainability Manager/Food Systems Staff
4.10.2	Evaluate and Implement Socially Responsible Purchasing	Med	Planned	20,21	2025	Energy and Sustainability Manager/Food Systems Staff

Section 4.11 STUDENT AND CURRICULUM DEVELOPMENT						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.11.1	Provide Professional Development and Create a Faculty Forum	Med	Planned	26	2025	Deans/ Curriculum Committee
4.11.2	Highlight climate action and sustainability in various venues such as convocation, student orientation, and professional development	High	In-Process	26	2023	Deans/ Curriculum Committee/Energy and Sustainability Manager
4.11.3	Establish Climate Change and Sustainability Education as an Immersive Experience	High	Planned	26	2025	Deans/ Curriculum Committee/Energy and Sustainability Manager
4.11.4	Training Opportunities for Students	High	In-Process	26	2023-2026	Deans/ Curriculum Committee/Energy and Sustainability Manager
4.11.5	Curriculum Development	High	Planned	26	2023-2026	Campus/Senior Management/
4.11.6	Research true economic, social, and environmental impacts of energy and sustainability projects. Include students in this program.	High	Planned	2,26	2021	Energy and Sustainability Manager/ Faculty/ ESAC

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Section 4.12 CAMPUS AND COMMUNITY OUTREACH & AWARENESS						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.12.1	Enhance ESAC Website	High	Planned	24,25	Ongoing	Energy and Sustainability Manager
4.12.2	Hold Workshops, Presentations, and Sustainability Events	Med	Planned	24,25	2023	Energy and Sustainability Manager/Colleges
4.12.3	Campus Specific Outreach & Awareness	Med	Planned	24,25	2023	Energy and Sustainability Manager/Colleges
4.12.4	Community Outreach and Partnerships	Med	Planned	24,25	2023	Energy and Sustainability Manager/Colleges
4.12.5	Inter-Campus Collaboration	High	In-Process	24,25	2023	Colleges/Energy and Sustainability Manager/Facilities

Section 4.13 FOOD SYSTEMS						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.13.1	Develop and Implement Sustainable Food Purchasing Goals and Programs	High	Planned	22	2025	Energy and Sustainability Manager/Food Systems Staff/Purchasing
4.13.2	Require food service organizations to track their sustainable food purchases in accordance with Real Food Challenge guidelines.	Med	Planned	22	2030	Energy and Sustainability Manager/Food Systems Staff/Purchasing

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Priority Implementation Plans Indicated Below

Section 4.14 DIVERSITY, EQUITY, AND ENVIRONMENTAL JUSTICE						
Section	Selected Program or Project	Priority (select)	Status (select)	Associated OBJECTIVE	Target Completion Date	Assigned To
4.14.1	Create connections specific to Diversity, Equity, and Inclusion efforts to District Sustainability Planning and Implementation.	High	Planned	23	2025	Energy and Sustainability Manager/Colleges
4.14.2	Explore changes to local policies and procedures with the Board of Trustees to bolster climate and environmental justice	High	Planned	23	2025	Energy and Sustainability Manager/Administration
4.14.3	Develop educational programs and events underscoring the intersectional relationship of environment, climate, and social equity issues.	High	Planned	23,26	2025	Energy and Sustainability Manager/Deans/Faculty
4.14.4	Work with each college Office of Equity to integrate sustainability planning with campus Equity Plans	High	In-Process	23	2023	Energy and Sustainability Manager/Equity Offices

MEASURE G BOND ENERGY-SAVING PROJECTS

Attached is the listing of the Measure G Bond Energy-Saving projects. These projects will be evaluated as part of the Energy Master Plan implementation.

APPENDIX D

**FHDA Measure G Bond Energy-Saving Projects
Foothill College**

ID	Project Description	Energy Component	Notes
FH-002	Heating, Ventilation and Air Conditioning Equipment and System Components and Physical Plants Upgrades	Y	All new heating and cooling systems, distribution, etc
FH-003	Building Exterior, Roofing and Waterproofing Campus-wide Renovations	Y	Exterior shell repairs or replacement includes insulation, better windows, door and door seals, etc for energy saving, etc
FH-004	Infrastructure and Distribution Piping Improvements Heating, Ventilation and Air Conditioning Upgrades Campus-wide	Y	All new heating and cooling system infrastructure/s, distribution, etc
FH-005	Restroom Facilities Upgrades and Improvements	Y	Restroom repairs or replacement includes insulation, more efficient equipment or systems including hot water systems for energy saving, etc
FH-006	Renovate and Expand Student Success Centers	Y	Added space and repairs or replacement includes insulation, more efficient equipment or systems for energy saving, etc
FH-007	Renovate and Upgrade Existing Classroom Facilities	Y	Added classroom space and repairs or replacement includes insulation, more efficient equipment or systems for energy saving, etc
FH-008	Pool and Physical Educational Facilities Improvements	Y	Added PE area space and repairs or replacement includes insulation, more efficient equipment or systems for energy saving, etc
FH-013	Lighting Improvements Campus-wide	Y	Interior campus lighting replacement with LEDs will save energy
FH-014	Natural Gas Service and Distribution Electrification	Y	Limiting gas service and optimizing electrical systems for energy saving
FH-015	Electrical Systems Renovations and Upgrades Campus-wide	Y	Replacing electrical systems will save energy
FH-016	Building Management System Upgrades System-wide	Y	Replacing BMS will help save energy

APPENDIX D

**FHDA Measure G Bond Energy-Saving Projects
De Anza College**

ID	Project Description	Energy Component	Notes
DA-003	Perimeter Campus Roadway, Pathway, and Traffic Improvements	Y	Likely energy saving components, needs to be included for traffic impacts in CEQA documentation
DA-005	Replacement of the Creative Arts Quad Buildings	Y	All new heating and cooling system infrastructure/s, distribution, etc
DA-007	Building Exterior, Roofing and Waterproofing Campus-wide Renovations	Y	Exterior shell repairs or replacement includes insulation, better windows, door and door seals, etc for energy saving, etc
DA-008	Infrastructure and Distribution Piping Improvements Heating, Ventilation and Air Conditioning Upgrades Campus-wide	Y	All new heating and cooling system infrastructure/s, distribution, etc
DA-009	Heating, Ventilation and Air Conditioning Equipment and System Components & Physical Plant Operation Upgrades	Y	All new heating and cooling system infrastructure/s, distribution, etc
DA-010	Physical Plant replacement attached to Flint Center and Creative Arts Quad Buildings	Y	All new heating and cooling system infrastructure/s, distribution, etc
DA-012	Student Health Services Renovation	Y	Added space and repairs or replacement includes insulation, more efficient equipment or systems for energy saving, etc
DA-013	Building Interior and Exterior Improvements Campus-wide	Y	Any space with repairs or replacement includes insulation, more efficient equipment or systems for energy saving, etc
DA-014	Physical Education and Gymnasium Building Renovation	Y	Added space and repairs or replacement includes insulation, more efficient equipment or systems for energy saving, etc
DA-016	Pool and Physical Educational Quad Facilities Improvements	Y	Added space and repairs or replacement includes insulation, more efficient equipment or systems for energy saving, etc
DA-017	Automotive Technology Facilities Improvements and Modernization	Y	Added space and repairs or replacement includes insulation, more efficient equipment or systems for energy saving, etc

APPENDIX D

FHDA Measure G Bond Energy-Saving Projects Central Services Project List

ID	Project Description	Energy Component	Notes
CS-001	Equipment and Vehicles Acquisitions	Y	State-mandated EVs required as fleet vehicles
CS-003	ETS Storage Facilities	Y	All new heating and cooling system, connect to existing or new infrastructure/s, distribution, etc

APPENDIX D

FHDA Measure G Bond Energy Saving Projects Educational Technology Services (ETS) Project List

ID	Project Description	Energy Component	Notes
ETS-001	Learning Space Technology Upgrades and Enhancements	Y	Likely replacement of aged equipment with new, possible energy savings
ETS-002	Academic and Business Computer Refresh	Y	Likely replacement of aged equipment with new, possible energy savings
ETS-003	Servers and Disk Storage Equipment for Remote Desktop Support	Y	Likely replacement of aged equipment with new, possible energy savings
ETS-006	Building-based Network Service Room Upgrades	Y	Likely replacement of aged equipment with new, possible energy savings

APPENDIX D

FHDA Measure G Bond Energy Saving Projects District and District-wide Project List

ID	Project Description	Energy Component	Notes
DW-001	De Anza Event Center	Y	All new facility
DW-002	Relocation of Utilities for De Anza Event Center Facility	Y	All new heating and cooling systems, distribution, etc
DW-003	Griffin House Renovations	Y	All new heating and cooling systems in building, connections to existing or new utilities
DW-004	Carriage House	Y	Updated heating and cooling systems in building, connections to existing or new utilities
DW-005	District-wide Energy and Sustainability Projects	Y	New or updated infrastructure requires energy efficiency component/s

GLOSSARY OF TERMS

Acronyms

AASHE	Association for the Advancement of Sustainability in Higher Education
AB	Assembly Bill
ACBO	Association of Chief Business Officers
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
BES	Battery Energy Storage
BMS	Building Management System (also known as Energy Management System)
BOG	Board of Governors
BTU	British Thermal Unit, a unit of energy measurement
CAP	Climate Action Plan
CARB	California Air Resources Board
CCA	Community Choice Aggregation
CCC	California Community College
CCD	Community College District
C&D	Construction & Demolition
CCFC	Community Colleges Facilities Coalition
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH₄	Methane (a greenhouse gas)
CO₂	Carbon Dioxide (a greenhouse gas)
CO_{2e}	Carbon Dioxide equivalent
CPUC	California Public Utilities Commission
EIS	Energy Information System
EMP	Energy Master Plan
EMS	Energy Management System (also known as Building Management System)
EO	Executive Order
EPA	Environmental Protection Agency
EPC	Energy Performance Contract
ESAC	Energy and Sustainability Advisory Committee
ESCO	Energy Services Company
EUI	Energy Use Intensity
EV	Electric Vehicle
DR	Demand Response
FEMP	Federal Energy Management Program
FCCC	Foundation for California Community Colleges
FMP	Facility Master Plan
GHG	Greenhouse Gas
HFCs	Hydrofluorocarbons (a greenhouse gas)
HVAC	Heating, Ventilation, and Air Conditioning
IOU	Investor-Owned Utility
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
kWh	Kilowatt-hour

LCCA	Life Cycle Cost Analysis
LCFS	Low Carbon Fuel Standard
LEED	Leadership in Energy and Environmental Design
MBCx	Monitoring Based Commissioning
MWh	Megawatt-hour
NGOM	Net Generation Output Meter
N₂O	Nitrous Oxide (a greenhouse gas)
NPV	Net Present Value
O&M	Operations and Maintenance
OBF	On-Bill Financing
PFCs	Perfluorocarbons (a greenhouse gas)
PG&E	Pacific Gas & Electric
PPA	Power Purchase Agreement
PSPS	Public Safety Power Shutoffs
PV	Photovoltaic (Solar Panel)
RCx	Retro commissioning
REC	Renewable Energy Credit or Renewable Energy Certificate
RFP	Request for Proposal
ROI	Return on Investment
SB	Senate Bill
SESI	Stanford Energy Systems Innovation
SF₆	Sulfur Hexafluoride (a greenhouse gas)
SPB or SPP	Simple Payback Period
STARS	Sustainability Tracking Assessment and Reporting System
Therms	Natural Gas Energy Measurement
T&D	Transmission and Distribution
TES	Thermal Energy Storage
TOTEM	Tool for Optimization of Thermal and Electric Microgrids
VMT	Vehicle Miles Traveled
WRI	World Resources Institute
ZNE	Zero Net Energy

GHG Emissions Definitions

Scope 1 Emissions - all direct emissions from sources owned and controlled by the college, such as carbon dioxide released by burning natural gas on site.

Scope 2 Emissions – all indirect emissions from consumption of purchased energy utilities, such as electricity, heat, or steam.

Scope 3 Emissions - all indirect emissions not covered by Scopes 1 and 2 and includes emissions from student and staff commuting.