



Foothill–De Anza Community College District
Energy Master Plan Project
Energy and Sustainability Advisory Committee (ESAC)
Agenda
May 20, 2021
10:30 AM – 12:00 PM

Via Zoom:

1. Action Items and Schedule Review
2. Review and Finalize Mission Statement and Goals
3. Review and Finalize Objectives
4. Review Preliminary Implementation Programs and Projects
 - Measure G Bond Energy Projects
 - Other projects as suggested by ESAC members
5. Next Steps
 - Finalize Implementation Programs and Projects
 - Create Action Plan (Sustainability Template Section 8 – review as homework for 6/4 meeting)
 - Prepare for June 14 BOT Meeting

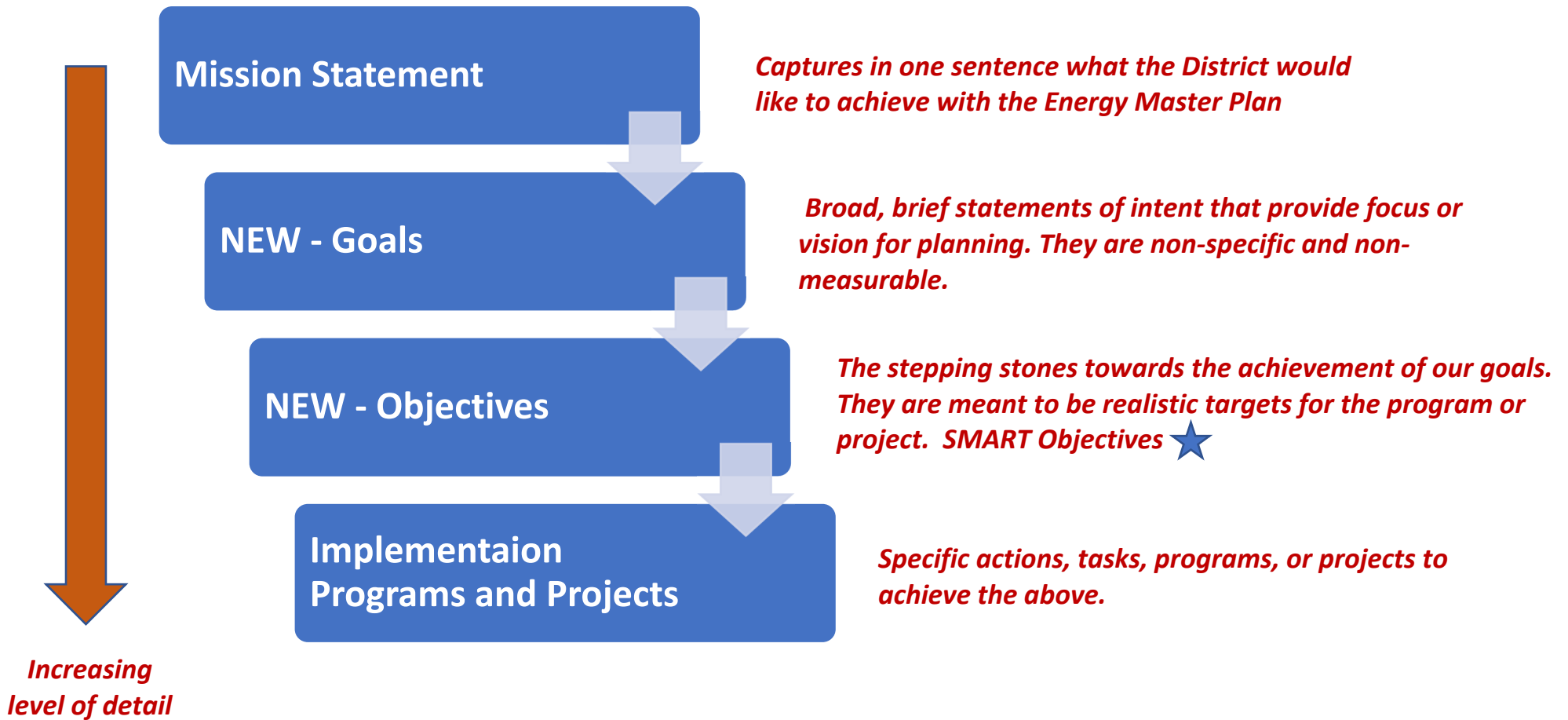
Next Meetings: June 4, June 17, July 1

FHDA Energy Master Plan Project**Action Item List**

Updated: 5/17/2021

Action Item No.	Description	Responsibility	Due Date	Status	Notes
3	Team will brainstorm and develop Mission Statement ideas as homework for the next meeting.	Team	16-Apr	In Progress	Finalize at 5/20 ESAC meeting.
19	Matt to reconcile preliminary Bond Project List with assistance from Joel and Tom.	Matt, Joel, Tom	28-Apr	Complete	Will review with ESAC at 5/20 meeting.
21	Matt to make updates to Mission Statement and Goals based on 5/6/21 ESAC meeting and redistribute to the team.	Matt	6-May	In Progress	Will finalize at 5/20 meeting.
22	Matt to send Objectives to the team for review, comments, and edits.	Team	20-May	In Progress	Will finalize at 5/20 meeting.
23	Matt to distribute Preliminary Implementation Programs and Projects list to the team and review at 5/20 ESAC meeting.	Matt	20-May	In Progress	Will review with ESAC at 5/20 meeting.

Proposed Revised Process



★ SMART Objectives

- **Specific:** concrete, detailed, well defined
- **Measurable:** numbers, quantity, comparison
- **Achievable:** feasible, actionable
- **Realistic:** considering resources
- **Time-Bound:** a defined time line

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Mission Statement

The Mission of the Energy and Sustainability Advisory Committee (ESAC) is to ~~promote~~ encourage energy efficiency, reduce greenhouse gas (GHG) emissions, and collaboratively advance sustainability across the Foothill-De Anza Community College District (FHDA-CCD), with a commitment for educational opportunities and inclusion of students, staff, and faculty in our solutions for environmental, ~~fiscal~~ economic, and social sustainability.

~~Add "Collaborate"? — With a commitment to Collaborate~~

Goals

1. Develop an Energy and Sustainability Master Plan to identify measures to improve energy performance, facilitate a path to reduce greenhouse gas (GHG) ~~GHG~~ emissions, and strengthen campus resilience employing all appropriate~~aligned with~~ funding sources and integrating projects from the ~~infrastructure improvements of the~~ Measure G Bond program.
2. Establish an inclusionary process where students, faculty, and staff play a meaningful role in District sustainability efforts and understand the environmental, societal, and ~~fiscal~~ economic impacts of energy use while integrating these activities as learning opportunities to fulfill our responsibility as a Higher Education institution.
3. Establish objectives, criteria, and implementation plans to achieve Carbon Neutrality and monitor progress over time to ensure they are achieved.
4. -Support state and federal energy policies and greenhouse gas (GHG) ~~GHG~~ reduction goals, including the 2019 CCC Board of Governors Climate Change and Sustainability Policy.
5. Establish the Foothill-De Anza Community College District as a Model of Sustainability to face the challenges of the 21st century.

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FHDA Energy Master Plan Objectives
May 17, 2021 with edits V4

Objectives	Description	Timeline	Source	Supports Goal No.	Comments/Implementation Examples
1	<p>District Carbon Reduction Goals:</p> <ul style="list-style-type: none"> Reduce GHG emissions 50 percent from 2005 levels by 2030 (Biden) 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) 	2035	Susan, Robert, Biden	1, 3, 4	<p>1, 2, and 3 combined into a single goal for carbon/GHG reduction.</p> <p>May include Solar PPA</p>
2	Support State of California goals of carbon neutrality by 2045	2045	Susan Executive Order B-55-18		
3	Reduce GHG emissions 50 percent from 2005 levels by 2030	2030	President Biden		
4	Employ energy and emissions data to better understand energy usage and to drive decision-making for reduction strategies	2021	Robert		Combined with 8

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**FHDA Energy Master Plan Objectives
May 17, 2021 with edits V4**

Objectives	Description	Timeline	Source	Supports Goal No.	Comments/Implementation Examples
5	Deploy EV charging infrastructure consistent with State of California goals and timelines for electrification of transportation	2025-2030	Robert, Susan Executive Order B-48-18 BOG Policy	1, 3, 4	Include Fleet Vehicles
6	Reduce Vehicle Miles Traveled (VMT) for Students, Faculty and Staff by 25-50% by 2035 including developing programs to make public and low-cost transportation accessible to enhance social equity.	2035	ESAC	1, 3, 4	EV, Public Transit (Smart Pass), Surveys, Carpooling, Bicycling. Reduce student VMT via Smart classrooms, Zoom, video recording and other strategies.
7	Evaluate Feasibility of Additional Renewable or Carbon-free Power (on-site and/offsite)	2022	Mission Statement	1, 3, 4	Purchase 100% Renewable Grid Energy for Foothill and De Anza, Feasibility Study for additional Solar PV
8	Evaluate Feasibility of additional Energy Efficiency measures to Support Carbon Reduction Goals and Reduce Environmental Impacts	2022	Mission Statement	1, 3, 4	Set Goals, Benchmarking, Facility Energy Audits, Install Energy Efficient Equipment, whole building metering, usage trend analysis, EMS, data-driven decision making. Combined with 4.
9	Optimize Energy Efficient Operations of Facilities	2023	Matt	1, 3, 4	Benchmarking, Retro-Commissioning, Monitoring Based Commissioning, EMS, Train Facilities and Procurement Staff in EMP goals and sustainability practices.
10	Evaluate Campus Resiliency Opportunities	2022	Matt, Jennifer	1	Solar/Battery/Microgrid, Emergency Preparedness Plans. Combined with 11.

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FHDA Energy Master Plan Objectives
May 17, 2021 with edits V4

Objectives	Description	Timeline	Source	Supports Goal No.	Comments/Implementation Examples
11	Establish Emergency Preparedness Strategies and Procedures	2022	Jennifer		Earthquake, Wildfire, PG&E PSPS. Could be combined with 10.
12	Establish and Implement Green Building Standards	2021	BOG Climate Policy	1	LEED or other. Establish prior to execution of Measure G projects and ensure projects comply with new policy and standards.
13	Establish purchasing policies to meet the goals of environmental, economic, and social equity sustainability	2025	Mission Statement	2	EE Equipment Standards, Local/Sustainable Food, Minimum Recycled Content, Socially Responsible Purchasing
14	Institutionalize Energy and Sustainability Management in District Operations	2022	Matt	2, 5	Energy and Sustainability Manager, provide sufficient resources to implement Energy and Sustainability Goals
15	Develop Processes to Engage Students, Faculty, and Staff in Energy and Sustainability Activities in a Meaningful Way	2021	Mission Statement	2	Training, inclusive processes and procedures. Combine with 16?
16	Encourage Programs to Integrate Sustainability Activities into Student Learning and Educational Process	2022	Mission Statement	2	Curriculum. Combine with 15?
17	Enhance Campus and Community Engagement	2025	Matt	2, 5	Enhance ESAC Website, Hold Campus-wide Sustainability Events, Workshops and Presentations, Campus/District Outreach, Larger Community Outreach

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FHDA Energy Master Plan Objectives
May 17, 2021 with edits V4

Objectives	Description	Timeline	Source	Supports Goal No.	Comments/Implementation Examples
18	Develop Programs to Enhance District Fiscal Sustainability	2023	Mission Statement		Outside ESAC Purview. Incorporate into 20.
19	Develop Programs to Enhance Social Equity	2022	Mission Statement	2	Intersection of social equity in sustainability and student equity as a FHDA-CCD goal
20	Ensure Activities Consider Broader Economic Fiscal and Environmental Impacts District Fiscal Constraints and Equipment Maintenance Considerations	2021	Jennifer	2, 5	Ensure activities consider economic constraints, true Environmental Impacts (including material, manufacturing, and disposal impacts), equipment maintenance considerations, and Life-Cycle Analysis.
21	Ensure Activities consider true Environmental Impacts (including material, manufacturing, and disposal impacts) and Life Cycle Analysis	2021	Jennifer		Combined with 20.

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FHDA Energy Master Plan Objectives
May 17, 2021
FINAL

Objectives	Description	Timeline	Source	Supports Goal No.	Comments/Implementation Examples
1	District Carbon Reduction Goals: <ul style="list-style-type: none"> Reduce GHG emissions 50 percent from 2005 levels by 2030 (Biden) 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) 	2035	Susan, Robert, Biden	1, 3, 4	1, 2, and 3 combined into a single goal for carbon/GHG reduction
2	Deploy EV charging infrastructure consistent with State of California goals and timelines for electrification of transportation	2025-2030	Robert, Susan Executive Order B-48-18 BOG Policy	1, 3, 4	Include Fleet Vehicles
3	Reduce Vehicle Miles Traveled (VMT) for Faculty and Staff by 25-50% by 2035 including developing programs to make public and low-cost transportation accessible to enhance social equity.	2035	ESAC	1, 3, 4	EV, Public Transit (Smart Pass), Surveys, Carpooling, Bicycling. Reduce student VMT via Smart classrooms, Zoom, video recording and other strategies.
4	Evaluate Feasibility of Additional Renewable or Carbon-free Power (on-site and/offsite)	2022	Mission Statement	1, 3, 4	Purchase 100% Renewable Grid Energy for Foothill and De Anza, Feasibility Study for additional Solar PV

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FHDA Energy Master Plan Objectives
May 17, 2021
FINAL

Objectives	Description	Timeline	Source	Supports Goal No.	Comments/Implementation Examples
5	Evaluate Feasibility of additional Energy Efficiency measures to Support Carbon Reduction Goals and Reduce Environmental Impacts	2022	Mission Statement	1, 3, 4	Set Goals, Benchmarking, Facility Energy Audits, Install Energy Efficient Equipment, whole building metering, usage trend analysis, EMS, data-driven decision making.
6	Optimize Energy Efficient Operations of Facilities	2023	Matt	1, 3, 4	Benchmarking, Retro-Commissioning, Monitoring Based Commissioning, EMS, Train Staff
7	Evaluate Campus Resiliency Opportunities	2022	Matt, Jennifer	1	Solar/Battery/Microgrid, Emergency Preparedness Plans.
8	Establish and Implement Green Building Standards	2021	BOG Climate Policy	1	LEED or other. Establish prior to execution of Measure G projects and ensure projects comply with new policy and standards.
9	Establish purchasing policies to meet the goals of environmental, economic, and social equity sustainability	2025	Mission Statement	2	EE Equipment Standards, Local/Sustainable Food, Minimum Recycled Content, Socially Responsible Purchasing
10	Institutionalize Energy and Sustainability Management in District Operations	2022	Matt	2, 5	Energy and Sustainability Manager, provide sufficient resources to implement Energy and Sustainability Goals

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FHDA Energy Master Plan Objectives
May 17, 2021
FINAL

Objectives	Description	Timeline	Source	Supports Goal No.	Comments/Implementation Examples
11	Develop Processes to Engage Students, Faculty, and Staff in Energy and Sustainability Activities in a Meaningful Way	2021	Mission Statement	2	Training, inclusive processes and procedures
12	Encourage Programs to Integrate Sustainability Activities into Student Learning and Educational Process	2022	Mission Statement	2	Curriculum.
13	Enhance Campus and Community Engagement	2025	Matt	2, 5	Enhance ESAC Website, Hold Campus-wide Sustainability Events, Workshops and Presentations, Campus/District Outreach, Larger Community Outreach
14	Develop Programs to Enhance Social Equity	2022	Mission Statement	2	Intersection of social equity in sustainability and student equity as a FHDA-CCD goal.
15	Ensure Activities Consider Broader Economic and Environmental Impacts	2021	Jennifer	2, 5	Ensure activities consider economic constraints, true Environmental Impacts (including material, manufacturing, and disposal impacts), equipment maintenance considerations, and Life-Cycle Analysis.

FHDA Measure G Bond Energy-Saving Projects
Foothill College

ID	Project Description	Budget	Energy Component	Notes
FH-002	Heating, Ventilation and Air Conditioning Equipment and System Components and Physical Plants Upgrades	\$44,740,700	Y	All new heating and cooling systems, distribution, etc
FH-003	Building Exterior, Roofing and Waterproofing Campus-wide Renovations	\$27,532,700	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	\$17,208,000	Y	All new heating and cooling system infrastructure/s, distribution, etc
FH-005	Restroom Facilities Upgrades and Improvements	\$688,300	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	\$2,753,300	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	\$1,652,000	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	\$16,519,600	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	\$2,753,300	Y	Interior campus lighting replacement with LEDs will save energy
FH-014	Natural Gas Service and Distribution Electrification	\$5,506,600	Y	Limiting gas service and optimizing electrical systems for energy saving
FH-015	Electrical Systems Renovations and Upgrades Campus-wide	\$13,766,500	Y	Replacing electrical systems will save energy
FH-016	Building Management System Upgrades System-wide	\$2,064,900	Y	Replacing BMS will help save energy

Total \$135,185,900

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

ID	Project Description	Budget	Energy Component	Notes
DA-003	Perimeter Campus Roadway, Pathway, and Traffic Improvements	\$6,883,400	Y	Likely energy saving components, needs to be included for traffic impacts in CEQA documentation
DA-005	Replacement of the Creative Arts Quad Buildings	\$55,066,900	Y	All new heating and cooling system infrastructure/s, distribution, etc
DA-007	Building Exterior, Roofing and Waterproofing Campus-wide Renovations	\$20,650,100	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	\$13,766,800	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	\$20,650,100	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	\$9,636,700	Y	All new heating and cooling system infrastructure/s, distribution, etc
DA-012	Student Health Services Renovation	\$2,065,000	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	\$5,506,700	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	\$1,376,600	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	\$8,260,100	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	\$1,032,500	Y	Added space and repairs or replacement includes insulation, more efficient equipment or systems for energy saving, etc

Total \$144,894,900

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

ID	Project Description	Budget	Energy Component	Notes
CS-001	Equipment and Vehicles Acquisitions	\$3,000,000	Y	State-mandated EVs required as fleet vehicles
CS-003	ETS Storage Facilities	\$3,000,000	Y	All new heating and cooling system, connect to existing or new infrastructure/s, distribution, etc

Total \$6,000,000

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

ID	Project Description	Budget	Energy Component	Notes
ETS-001	Learning Space Technology Upgrades and Enhancements	\$27,896,700	Y	Likely replacement of aged equipment with new, possible energy savings
ETS-002	Academic and Business Computer Refresh	\$26,389,200	Y	Likely replacement of aged equipment with new, possible energy savings
ETS-003	Servers and Disk Storage Equipment for Remote Desktop Support	\$2,262,000	Y	Likely replacement of aged equipment with new, possible energy savings
ETS-006	Building-based Network Service Room Upgrades	\$11,309,700	Y	Likely replacement of aged equipment with new, possible energy savings

Total \$67,857,600

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

ID	Project Description	Budget	Energy Component	Notes
DW-001	De Anza Event Center	\$90,154,400	Y	All new facility
DW-002	Relocation of Utilities for De Anza Event Center Facility	\$11,574,400	Y	All new heating and cooling systems, distribution, etc
DW-003	Griffin House Renovations	\$5,444,200	Y	All new heating and cooling systems in building, connections to existing or new utilities
DW-004	Carriage House	\$1,827,100	Y	Updated heating and cooling systems in building, connections to existing or new utilities
DW-005	District-wide Energy and Sustainability Projects	\$12,718,300	Y	New or updated infrastructure requires energy efficiency component/s

Total \$121,718,400

FHDA Energy Master Plan
 Implementation Programs and Projects - Preliminary
 5/11/2021 v2 MS Edits Revised Objectives

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Associated Objective	Template Section 7 Category	Notes
G-1	Implement Measure G Bond Projects	Measure G Plan				1	7.2	
M-45	Perform Feasibility Study for District Electrification	2022				1	Other	
R-3	Modeling energy data for decarbonization efforts	2022				1	7.2 7.3 7.4 7.5	
R-5	Support for Electric Vehicle (EV) charging using (integrated with) onsite solar PV electricity	2025-2030				2	7.6	
M-30	Understand Commute and Travel Patterns (Survey)	2035				3	7.6	
M-31	Encourage and Enhance Public Transportation and Ridesharing Options	2035				3	7.6	
M-32	Encourage and Enhance Bicycling Options	2035				3	7.6	
M-33	Improve Campus Fleet & Travel (EV)	2035				3	7.6	
M-27	Minimize Greenhouse Gas Intensity of Purchased Electricity (Green Power)	2022				4	7.5	
M-29	Perform Feasibility Study for additional PV at Campuses	2022				4	7.5	

FHDA Energy Master Plan
 Implementation Programs and Projects - Preliminary
 5/11/2021 v2 MS Edits Revised Objectives

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Associated Objective	Template Section 7 Category	Notes
R-2	Monitoring and analysis of electricity and natural gas use using monitoring and analysis tools					4	7.2 7.3	Combined in M-16
M-11	Identify and Take Advantage of Grant and Incentive Programs	2022-2025				5	7.2	
M-12	Install Energy Efficient Equipment (HVAC, Lighting, Controls, etc.)	2022-2025				5	7.2	
M-13	Manage Plug Loads	2022-2025				5	7.2	
M-4	Set Energy Efficiency Goals	2022-2025				5	7.2	
M-6	Conduct a Facility Prioritization Survey for EE Measures	2022-2025				5	7.3	
M-7	Conduct Comprehensive Facility Energy Audits	2022-2025				5	7.2	
M-8	Implement New and Existing Audit Recommendations	2022-2025				5	7.2	
M-1	Install Meters and Benchmark Facilities at the Building Level	2023				6	7.3	
M-10	Participate in Demand Response (DR) Programs	2023				6	7.2	

FHDA Energy Master Plan
 Implementation Programs and Projects - Preliminary
 5/11/2021 v2 MS Edits Revised Objectives

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Associated Objective	Template Section 7 Category	Notes
M-14	Perform Regular Maintenance on Equipment	2022				6	7.3	
M-15	Encourage and Support Energy Efficiency Training of Staff	2023				6	7.3	
M-16	Install Energy Management Systems/Monitor Energy Usage	2023				6	7.3	Combined with R-2 and M-9
M-17	Adjust Temperature Set Points and Schedule Operating Times	2023				6	7.3	
M-18	Optimize Building Occupancy Scheduling	2023				6	7.3	
M-19	Optimize HVAC Equipment Scheduling	2023				6	7.3	
M-20	Pursue Monitoring-Based Commissioning (MBCx)/Retro-commissioning (RCx)	2023				6	7.3	
M-25	Commission New Buildings	2023				6	7.4	
M-26	Evaluate Load Shifting Technologies (BES)	2023				7	7.5	
M-46	Evaluate Campus Resiliency Options (Solar/BES/Microgrid)	2023				7	Other	
M-5	Evaluate Mechanisms for the Implementation of Energy Efficiency Projects (incl. ESCO)					8	7.2	Combined with R-4

FHDA Energy Master Plan
 Implementation Programs and Projects - Preliminary
 5/11/2021 v2 MS Edits Revised Objectives

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Associated Objective	Template Section 7 Category	Notes
M-21	Establish a Green Building Standard	2021				8	7.4	LEED or other
R-4	Engagement with Energy Services Company (ESCO) to evaluate infrastructure opportunities and options for energy efficiency, decarbonization, and better building and HVAC performance					8	7.2	Combined with M-5
M-22	Implement Sustainable Design Practices	2021				8	7.4	
M-23	Use an Integrated Systems Approach in Building Design	2021				8	7.4	
M-24	Hire Sustainable Building Design Professionals	2021				8	7.4	
M-34	Green Purchasing Practices	2025				9	7.9	
M-35	Socially Responsible Purchasing	2025				9	7.9	
M-9	Implement Ongoing Energy Monitoring					9	7.2	Combine with M-16
M-2	Hire Full-time Energy and Sustainability Manager	2021				10	7.1	

FHDA Energy Master Plan
 Implementation Programs and Projects - Preliminary
 5/11/2021 v2 MS Edits Revised Objectives

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Associated Objective	Template Section 7 Category	Notes
M-3	Provide necessary resources to effectively manage energy use and reduce GHG emissions	2021				10	7.1	
M-44	Measure and Report Performance	2021				10	9	Combined with R-12. Develop a sustainability reporting index for reporting progress on sustainability projects.
R-1	Evaluating and applying best practice energy efficiency measures	2021				10	7.1	
R-10	Keep detailed records of energy use (electricity and natural gas) published on an annual basis on the District website	2021				10	7.1	
R-9	Develop a reporting mechanism for energy and emissions for the District (compliance)	2023				10	7.1	
M-37	Advocate for Change at the Statewide Level	2022				11	7.10	
M-38	Training Opportunities for Students	2021				11	7.10	Combined with R-6. Working with students to develop projects in energy efficiency, energy modeling, etc.
M-36	Utilize Different Pathways to Integrate Sustainability in the Curriculum	2022				12	7.10	
M-40	Engage Faculty and Academic Senate to develop curriculum strategies	2022				12	7.10	

FHDA Energy Master Plan
 Implementation Programs and Projects - Preliminary
 5/11/2021 v2 MS Edits Revised Objectives

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Associated Objective	Template Section 7 Category	Notes
M-39	Enhance ESAC Website	2025				13	7.11	
M-50	Hold Workshops and Presentations	2025				13	7.11	
M-41	Sustainability Events	2025				13	7.11	
M-42	Campus Specific Outreach and Awareness	2025				13	7.11	
M-43	Community Specific Outreach and Awareness	2025				13	7.11	Combined with R-11. Work with local agencies on energy and emissions reporting (Los Altos Hills, Cupertino, etc.)
R-7	Communicate to the Colleges and District the priority of projects, incl. Measure G Bond projects.	2022				13	7.11	
M-48	Engage Students to identify areas of social inequity on campus and develop programs to address.	2022				14		
R-12	Develop a sustainability reporting index for reporting progress on sustainability projects					14	7.1	Combined with M-44
M-47	Research true economic, social, and environmental impacts of energy and sustainability projects. Include students in this program.	2022				15		
R-6	Working with students to develop projects in energy efficiency, energy modeling, etc.					15	7.1	Combined with M-38

FHDA Energy Master Plan
 Implementation Programs and Projects - Preliminary
 5/11/2021 v2 MS Edits Revised Objectives

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Associated Objective	Template Section 7 Category	Notes
R-11	Work with local agencies on energy and emissions reporting (Los Altos Hills, Cupertino, etc.)					17		Combined with M-42

FHDA Energy Master Plan

Implementation Programs and Projects - Preliminary

5/11/2021 v3 Sorted by Objective

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Template Section 7 Category
OBJECTIVE 1 - District Carbon Reduction Goals						
G-1	Implement Measure G Bond Projects	Measure G Plan		Y	H	7.2
M-45	Perform Feasibility Study for District Electrification	2022		Y	H	7.2
R-3	Modelling energy data for decarbonization efforts	2022		Y	H	7.2 7.3 7.4 7.5
OBJECTIVE 2 - Deploy EV charging infrastructure consistent with State of California goals and timelines for electrification of transportation						
R-5	Implement Electric Vehicle (EV) charging using (integrated with) onsite solar PV electricity	2025-2030		Y	M	7.6
OBJECTIVE 3 - Reduce Vehicle Miles Traveled (VMT) for Faculty and Staff by 25-50% by 2035 including developing programs to make public and low-cost transportation accessible to enhance social equity.						
M-33	Improve Campus Fleet & Travel	2035		Y	M	7.6

FHDA Energy Master Plan

Implementation Programs and Projects - Preliminary

5/11/2021 v3 Sorted by Objective

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Template Section 7 Category
M-30	Understand Commute and Travel Patterns (Survey)	2035		Y	M	7.6
M-31	Encourage and Enhance Public Transportation and Ridesharing Options	2035		Y	M	7.6
M-32	Encourage and Enhance Bicycling Options	2035		Y	M	7.6
OBJECTIVE 4 - Evaluate Feasibility of Additional Renewable or Carbon-free Power (on-site and/offsite)						
M-27	Minimize Greenhouse Gas Intensity of Purchased Electricity (Green Power)	2022		Y	H	7.5
M-29	Perform Feasibility Study for additional PV at Campuses	2022		Y	H	7.5
OBJECTIVE 5 - Evaluate Feasibility of additional Energy Efficiency Measures to Support Carbon Reduction Goals and Reduce Environmental Impacts						
M-11	Identify and Take Advantage of Grant and Incentive Programs	2022-2025		Y	H	7.2
M-6	Conduct a Facility Prioritization Survey for EE Measures	2022-2025		Y	H	7.3

FHDA Energy Master Plan

Implementation Programs and Projects - Preliminary

5/11/2021 v3 Sorted by Objective

Project ID	Description	Timeline	Estimated Cost	Include in Plan? (Y/N)	Priority (H,M,L)	Template Section 7 Category
M-12	Install Energy Efficient Equipment (HVAC, Lighting, Controls, etc.)	2022-2025		Y	H	7.2
M-13	Manage Plug Loads	2022-2025		Y	H	7.2
M-4	Set Energy Efficiency Goals	2022-2025		Y	H	7.2
M-7	Conduct Comprehensive Facility Energy Audits	2022-2025		Y	H	7.2
M-8	Implement New and Existing Audit Recommendations	2022-2025		Y	H	7.2
GOAL 6 - Optimize Energy Efficient Operations of Facilities						
M-1	Install Meters and Benchmark Facilities at the Building Level	2023		Y	M	7.3
M-10	Participate in Demand Response (DR) Programs	2023		Y	M	7.2

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M-14	Perform Regular Maintenance on Equipment	2022		Y	M	7.3
M-15	Encourage and Support Energy Efficiency Training of Staff	2023		Y	M	7.3
M-16	Install Energy Management Systems/Monitor Energy Usage	2023		Y	M	7.3
M-17	Adjust Temperature Set Points and Schedule Operating Times	2023		Y	M	7.3
M-18	Optimize Building Occupancy Scheduling	2023		Y	M	7.3
M-19	Optimize HVAC Equipment Scheduling	2023		Y	M	7.3
M-20	Pursue Monitoring-Based Commissioning (MBCx)/Retro-commissioning (RCx)	2023		Y	M	7.3
M-25	Commission New Buildings	2023		Y	M	7.4

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OBJECTIVE 7 - Evaluate Campus Resiliency Opportunities						
M-26	Evaluate Load Shifting Technologies (BES)					7.5
M-46	Solar/BES/Microgrid Feasibility Study					7.5
OBJECTIVE 8 - Establish and Implement Green Building Standards						
M-21	Establish a Green Building Standard	2021		Y	H	7.4
M-22	Implement Sustainable Design Practices	2021		Y	H	7.4
M-23	Use an Integrated Systems Approach in Building Design	2021		Y	H	7.4
M-24	Hire Sustainable Building Design Professionals	2021		Y	H	7.4

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OBJECTIVE 9 - Establish purchasing policies to meet the goals of environmental, economic, and social equity sustainability						
M-34	Green Purchasing Practices	2025		Y	M	7.9
M-35	Socially Responsible Purchasing	2025		Y	M	7.9
OBJECTIVE 10 - Institutionalize Energy and Sustainability Management in District Operations						
M-2	Hire Full-time Energy and Sustainability Manager	2021		Y	H	7.1
M-3	Provide necessary resources to effectively manage energy use and reduce GHG emissions	2021		Y	H	7.1
M-44	Measure and Report Performance	2021		Y	H	7.1
R-1	Evaluate and applying best practice energy efficiency measures	2021		Y	H	7.2

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R-9	Develop a reporting mechanism for energy and emissions for the District (compliance)	2023		Y	M	7.1
R-10	Keep detailed records of energy use (electricity and natural gas) published on an annual basis on the District website	2021		Y	H	7.1
OBJECTIVE 11 - Develop Processes to Engage Students, Faculty, and Staff in Energy and Sustainability Activities in a Meaningful Way						
M-37	Advocate for Change at the Statewide Level	2022		Y	M	7.10
M-38	Training Opportunities for Students	2021		Y	H	7.10
OBJECTIVE 12 - Encourage Programs to Integrate Sustainability Activities into Student Learning and Educational Process						
M-40	Engage Faculty and Academic Senate to develop curriculum strategies	2022		Y	H	7.10
M-36	Utilize Different Pathways to Integrate Sustainability in the Curriculum	2022		Y	H	7.10

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OBJECTIVE 13 - Enhance Campus and Community Engagement						
M-39	Enhance ESAC Website to Better Communicate Energy and Sustainability Activities	2025		Y	M	7.11
M-50	Hold Workshops and Presentations	2025		Y	M	7.11
M-41	Sustainability Events	2025		Y	M	7.11
M-42	Campus Specific Outreach and Awareness	2025		Y	M	7.11
M-43	Community Specific Outreach and Awareness	2025		Y	M	7.11
R-7	Communicate to the Colleges and District the priority of projects, incl. Measure G Bond projects.	2022		Y	M	7.11

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Objective 14 - Develop Programs to Enhance Social Equity						
M-48	Engage Students to identify areas of social inequity on campus and develop programs to address.	2022		Y	M	7.10
Objective 15 - Ensure Activities Consider Broader Economic and Environmental Impacts						
M-47	Research true economic, social, and environmental impacts of energy and sustainability projects. Include students in this program.	2022		Y	M	7.10