Energy Policy Handbook

Policy Recommendations

for

California

and

the Community College System

Presented by the Statewide Energy Management Program (SEMP)
a partnership with the California Energy Commission and the
Chancellor's Office of the California Community Colleges

Energy Policy Handbook

The purpose of this handbook is:

- **To share recommendations on State and local (District) energy policies for the California Community College system**
- **To adopt a District Energy Policy**
- **To participate in the implementation of State energy policy**
- **To encourage your District to institute energy efficiency and resource conservation as core values**

Developed through a partnership between the California Energy Commission and the California Community Colleges

WELCOME

Welcome to the **Energy Policy Handbook** for the California Community College (CCC) Districts. This Handbook explains why your district should have an Energy Policy, how you can create an effective Energy Policy and implement it effectively through training.

The California Energy Commission (CEC) has long understood that the CCC System is the largest institution of higher learning in the world and has a significant impact on energy consumption in the State. Some of the key statistics of our system:

- **Size** – Consider the shear size and influence within the State of California. The CCC system consists of 72 semi-autonomous districts made up of 108 full service campuses, 54 approved off-campus centers and 20 district offices
- **Facility Assets** – The CCC assets include approximately 20,489 acres of land, 4,699 buildings and 52.2 million gross square feet of space that includes 40 million assignable square feet of space
- **Alternate Sites** – The system has over 2,000 off-campus outreach centers at various facilities
- **Funding** – The system is funded annually by the State of California in excess of $6 billion
- **Enrollment** – The CCC system serves over 2.5 million students annually and was expected to increase by 6% by Fall 2001; it is projected that a total of 46.7 million assignable square feet is needed to accommodate the enrollment projected over the next five years
- **Projected Growth** – According to the California Postsecondary Education Commission (CPEC), the CCC is projected to experience enrollment growth of 528,918 students in years 1998 - 2010

With this in mind, based on the past 10 years of work on promoting energy savings through training and policy, Statewide Energy Management Program (SEMP) is convinced that the CCC system can become a model for the entire country. The CCC system has potential influence on and the ability to move in a sustainable direction in support of other State efforts.

SEMP is also convinced that the CCC currently has the expertise within each district to make this happen! Resources are available, including college administrators, faculty, staff and energy technicians, to begin the process of long term energy planning and realize savings. The leadership exists among the Board members throughout the State to adopt energy policy which promotes energy efficiency, resource conservation and sustainability.

It is hoped that this Handbook will facilitate long-term strategies for achieving enhanced energy efficiency and resource conservation in the CCC system. The contribution to this Handbook by the California Energy Commission staff, De Anza College (DAC) staff, faculty, administrators and students, CCC Chancellor's Office staff, personnel from various community colleges throughout California and the many consultants to the project has been an essential part of this initiative. Each person brought his or her expertise and knowledge to this effort and

that commitment is very much appreciated.

In an effort to keep the focus on energy efficiency, resource conservation and training, any input by the readers of this document is important and continuing to build more partnerships is essential. We hope this is the foundation for realizing this long-term vision.

State Policy Impacting Energy Efficiency

S T A T E P O L I C Y

The following are Statewide energy policies that directly affect the institutions of higher learning in California.

STATEWIDE ENERGY MANAGEMENT PROGRAM (SEMP) for CALIFORNIA'S COMMUNITY COLLEGES

BILL NUMBER AB 29X Chaptered 04/12/01

AB 29X. as signed by Governor Gray Davis, on April 11, 2001, establishes the Statewide Energy Management Program (SEMP) to assist community college districts to achieve energy independence through the development of energy management plans, the construction of sustainable green buildings, the use of renewable or other distributed energy systems, and the expansion of statewide energy education programs and services, as prescribed. The bill requires the Board of Governors of the California Community Colleges, in consultation with the California Energy Commission, to develop guidelines for this program.

This bill requires the chancellor to establish an advisory committee to provide recommendations regarding overall program development, resource development and deployment, and strategies for imp lementation and coordination of the program.

Article 2.5 Statewide Energy Management Program

81620. This article shall be known, and may be cited, as the Statewide Energy Management Program.

81621. The definitions set forth in this section govern the construction of the article:

(a) "Commission" means the State Energy Resources Conservation and Development Commission.

(b) "Energy independence" means the utilization of existing and developing technologies to meet energy needs on site, including, but not necessarily limited to, the utilization of solar, fuel cells, and other renewable and clean onsite energy sources, optimization of the use of daylighting, the use of passive solar orientation, and the use of construction techniques that minimize energy loss, such as appropriate insulation and lighting fixtures.

(c) "Energy management plans" means the plans that community colleges develop with guidance from the Statewide Energy Management Program to implement energy efficiency projects such as sustainable green buildings, renovations, and wind or solar farms that will move the community colleges toward energy independence.

(d) "Program" means the Statewide Energy Management Program, established under this article, which is a state program modeled after the Federal Energy Management Program.

(e) "Renewable or other distributed energy systems" means alternative efficient sources of energy such as daylighting, photovoltaic panels (rooftops or solar farms), passive solar heating, fuel cells, and steam. Diesel-fueled electric generating systems are not included in this definition.

(f) "Sustainable green building" means a building that has been designed to reduce both direct and indirect environmental

consequences associated with construction, occupancy, operation, maintenance, and eventual decommissioning, whose design is evaluated for cost, quality of life, future flexibility, ease of maintenance, energy and resource efficiency, and overall environmental impact, with an emphasis on life-cycle cost analysis.

81622.

(a) (1) In Executive Order D-16-00, issued August 2, 2000, Governor Davis directed state agencies to design and construct buildings that incorporate energy efficiency, resource conservation, and renewable technologies. In his State of the State Address delivered on January 8, 2001 Governor Davis expressed his support for the goal of moving the California Community Colleges toward energy independence.

(2) The Federal Energy Management Program, upon which the State Energy Management Program is modeled, has resulted in approximately four dollars ($4) in savings for every one dollar ($1) spent. The federal investment of two billion dollars ($2,000,000,000) in energy efficiency has resulted in savings of six billion three hundred million dollars ($6,300,000,000) on energy bills.

(b) In consultation with the commission, the Board of Governors of the California Community Colleges shall further develop and refine certain guidelines under an ongoing joint effort of the commission and De Anza College. This statewide effort shall allow community college districts to achieve energy independence through the development of energy management plans, the construction of sustainable green buildings, the use of renewable or other distributed energy systems, and the expansion of statewide energy educations and services.

(c) By 2010, the program shall, at a minimum, facilitate the completion of 20 district energy management plans, 15 renewable or other distributed energy systems, and three sustainable green buildings on community college campuses statewide.

(d) In consultation with the commission, the board of governors shall accomplish all of the following;

(1) Review and comment on academic, occupational, and vocational education materials developed by the commission, the Electric Power Research Institute, public utilities, and the community colleges to improve energy education programs and services.

(2) Review and recommend actions regarding successful energy education programs and services that can be identified for replication, personnel exchanges, or implementation of successful practices.

(3) Review and recommend actions regarding programs resources for use by the community colleges or state agencies in improving energy education programs and services.

(4) Review exemplary programs and facilities, and recommend activities for adoption, replication, or policy advice.

(5) Review, comment, and recommend actions regarding services that will effect energy conservation.

(6) Review and comment on funding requests received to improve or enhance energy education.

(7) Review and comment on occupational and vocational training programs and services to meet current employment standards in energy occupations.

81623. The board of governors shall encourage the construction of community college sustainable green buildings that implement energy efficiency, sustainable building concepts, and solar electric, fuel cell, and other technologies. On the effective date of this article, the board of governors shall immediately seek a prototype sustainable green community college instructional building that can be a model for all new construction and retrofit projects statewide.

81624. The Chancellor of the California Community Colleges shall establish an advisory committee for the Statewide Energy Management Program, and determine the membership of that committee. The advisory committee, with technical assistance from the commission, shall make recommendations to the chancellor regarding overall strategies for implementation and coordination of the program. A leadership role on this committee shall initially be provided by the staffs of the commission, Chancellor's Office and De Anza College who have been involved since 1992 in a joint effort to promote training, energy efficiency, and energy independence in the California Co mmunity Colleges. This leadership role shall rotate to other community colleges as they complete their own district energy management plans.

The State of California has established an Executive Order concerning Energy Use and the State Assembly has passed the following Energy Bills which serve as guidelines:

Executive Order D-16-00 (Sustainable Buildings)
Establish a state sustainable building goal to site, design, deconstruct, construct, renovate, operate, and maintain state buildings that are models of energy, water, and materials efficiency, while providing healthy, productive and comfortable indoor environments and long-term benefits to Californians.
Orders the facilitation of incorporating sustainable building practices into the planning, operations, policymaking, and regulatory functions of State entities.
Orders a report within six months of the date of this order, containing a recommended strategy for incorporating sustainable building practices into development of State facilities including leased property.
Orders all State entities under the Governor's jurisdiction to cooperate fully with the implementation of this policy and to provide assistance and information as needed. The Regents of the University of California, **Board of Governors of Community College Districts**, Trustees of the California State Universities, the State Legislature, and all Constitutional Officers are encouraged to comply with the Executive Order.

AB 970. (California Energy Security and Reliability Act of 2000)
Notes that in the past decade, efforts to construct and operate new, environmentally superior and efficient generation facilities and to promote cost-effective energy conservation and demand-side management have seriously lagged.
The purpose of this act is to provide a balanced response to the electricity problems facing the state that will result in significant new investments in new, environmentally superior electricity generation, while also making significant new investments in conservation and demand-side management programs in order to meet the energy needs of the state for the next several years.

AB 995. Would extend the production incentives for renewable electricity to January 1, 2007.
Would also require the Public Utilities Commission and the Energy Commission to continue to administer energy efficiency programs, as defined, following prescribed guidelines. This bill would extend the collection of the non-by-passable system benefit charge to support these programs through January 1, 2012.
Would require the commission to allocate funds collected, and any interest earned on collected funds, to programs which enhance system reliability and which provide in-state benefits.

Since Energy continues to be a central issue in California, we recognize that there are on-going executive and legislative decisions and this document is not meant to be a comprehensive list. We encourage each district to work with its representatives for the most current information.

A Task Force was selected to oversee the task of the model board policy development for the community college districts. This effort resulted in board policy, to ensure energy savings and resource conservation for CCC districts and support long-term energy training for CCC personnel and others.

The result of a partnership between the CEC and CCC is the following 3 Tier approach for adopting energy policy for the CCC districts

Model Board Policy for California Community College Districts
(Draft language was developed by the State Energy Team consisting of Administrators, Faculty, Technical staff and outside Energy experts)

California's Community Colleges Model Board Policy
3-Tier Approach to Adopting Energy Policy:
Recommendations for California Community Colleges

Adopt Energy Policy at the district or college level through the following 3 step approach: (Tier 1) The Board of Trustees within a CCC District would develop a broad energy policy statement; (Tier 2) The Board of Trustees within a CCC District would develop the Administrative Guidelines which establish specific goals and objectives for district employees to achieve said policy; and (Tier 3) The Board of Trustees and Chancellor's Office will work with the CCC Chancellor's Office to implement, as appropriate, guidelines set forth in Article 2.5 entitled "Statewide Energy Management Program (SEMP)" statute commencing with Section 81620 through Section 81624 of Assembly Bill AB 29X approved by Governor Davis on April 11, 2001 (pages 2-5).

Tier 1: Board Policy Statement *(Short document 1 - 2 pages)*

- Broad policy statement with recommendations regarding energy conservation/management practices and training in community colleges to promote these practices
- Best if kept generic and simple - much like what is in place now, but targeted more specifically for energy management practices
- Should include a mission statement, goals/objectives, and energy management performance criteria

Tier 2: Administrative Guidelines for Implementing Board Policy Statement
(More comprehensive 5 - 7 pages)

- Set clear and realistic energy management, environmental protection, and pollution prevention goals and objectives
- Establish organizational structure and energy management strategies and tools to promote community college leadership in energy management
- Define college performance guidelines as they relate to management, measurement, rewards and education/training
- Focus on performance-oriented, voluntary, non-punitive approaches

Tier 3: State Policy Recommendations

- Set energy performance goals for community college districts in accordance with administrative guidelines for implementing board policy (i.e. 30-40% above Title 24 for new construction and 10-20% above Title 24 for renovation; to be accomplished by an agreed upon date, on a case-by-case basis , etc.) and in accordance with guidelines set forth in Article 2.5 entitled Statewide Energy Management Program (SEMP) statute commencing with Section 81620 through Section 81624 of Assembly Bill AB 29X approved by Governor Davis on April 11, 2001.
- Provide overall support in the form of incentives and awards to community colleges which:

1) adopt the policy
2) begin to implement administrative guidelines
3) embrace training efforts
   NOTE: incentives and awards (to be determined) would automatically kick in for each of the above.

- Direct legislature/CEC or other organization to provide a fund which provides monetary and possibly technical support for community colleges that:
  1) set energy performance and emissions reductions goals (targets and timetables), and
  2) achieve targets at prescribed times, etc.

Tier 1: Board Policy Statement

MISSION STATEMENT

- Our district **commits to environmental protection** through efficient energy management as a fundamental operational objective and integral to the strategy of fulfilling our educational mission.
- We **recognize our responsibilities** as a good community citizen and that our operations and facilities impact the environment.
- Therefore our **operational and planning decisions will incorporate** the following: prudent use of energy resources, prevention and/or minimization of energy-related pollution and wastes, fostering a sense of personal responsibility for energy management, emphasize water conservation and environmental protection in all of our team members, continuous improvement in our energy management performance, and internal deployment of resources to reflect our commitment to environmental protection through efficient energy management.

GOALS

Energy Efficiency Improvement.

- We will develop and implement a program with the intent of reducing energy consumption to the extent that these measures are life-cycle cost-effective.
- Our implementation program will be designed to speed the introduction of cost-effective, energy-efficient technologies into our facilities, and to meet the goals and requirements of Executive Orders D-15-00 and D-16-00, Statewide Energy Management Program (SEMP) statute commencing with Section 81620 through Section 81624 of Assembly Bill AB 29X and other California State Energy Policy.

Reduction of Greenhouse Gases and Other Air Pollutants.

- Through life-cycle cost-effective energy measures, we will reduce our greenhouse gas emissions attributed to facility energy use.

Reduction of Fossil Fuel Use.

- Through life-cycle cost-effective measures, we will reduce the use of fossil fuels within our facilities.

Expansion of Renewable Energy and Distributed Generation.

- We will strive to expand the use of renewable energy (passive solar, solar thermal, solar electric, wind, geothermal, biomass) and other distributed generation technologies (fuel cells) within our facilities and in our activities by implementing alternative energy projects and by purchasing electricity from renewable energy sources.

Improved Transportation Efficiency.

- We will strive to reduce petroleum consumption through improvements in fleet fuel efficiency and the use of alternative fuel vehicles (AFVs) and alternative fuels.
- We will promote and strive to improve access to alternative modes of transportation, including public transportation (buses, light rail, etc.), carpooling, bicycling, and walking.

Water Conservation.

- Through life-cycle cost-effective measures, we will reduce water consumption and associated energy use in our facilities to reach goals to be determined.

ENERGY MANAGEMENT PERFORMANCE CRITERIA

BOARD POLICY STATEMENT

1. Maximize opportunities for saving energy through building orientation considerations, daylighting and lighting controls, and efficient lighting and mechanical systems.

2. Achieve increasing levels of energy performance (on a case-by-case basis) above the minimum level of energy efficiency as prescribed by State standards (Title 24).

3. Verify and ensure that fundamental building elements and systems are designed, constructed, installed and calibrated to operate as intended to achieve energy performance goals.

4. Encourage and recognize increasing levels of self-supply through renewable technologies to reduce environmental impacts associated with fossil fuel energy use.

5. Require all our suppliers and contractors to commit to similar environmental standards and work in partnership with them to ensure that facilities and operations incorporate the highest level of environmental protection through efficient energy management.

6. Ensure that all appropriate personnel that work with energy equipment or are involved in energy-related decisions will receive training for implementing this policy.

Tier 2: Administrative Guidelines for Implementing Board Policy Statement

I. MISSION STATEMENT

A. The district commits to significantly improve our energy management in order to save taxpayer dollars and reduce emissions that contribute to air pollution and global climate change.

B. As a major consumer of energy products and services we will reduce our use and cost of energy by:
   1. Purchasing "best practice" energy- and water-saving products, which reduce operating costs
   2. Promoting energy efficiency, water conservation, and the use of renewable energy products, and by helping to foster markets for emerging technologies.
   3. Participating in the existing statewide energy management training efforts.

C. The district will seek to institutionalize efficient energy management as a public value by:
   1. Providing training and technical assistance resources, which assist energy managers and facilities personnel in evaluating various energy-saving technologies.
   2. Enabling energy managers and facilities personnel to implement energy efficiency projects using innovative alternative financing strategies through public agency resources, public-private partnerships and/or utility incentive programs.
   3. Implementing outreach and communication strategies to increase awareness among our employees at all levels, not only those involved in energy or facility management.
   4. Encouraging all of our employees to integrate energy-efficient habits in the workplace on a daily basis.

D. The district will serve as a good example to other community college districts, educational institutions and the State, demonstrating the benefits of energy efficiency, water conservation, and alternative energy strategies (renewable energy and other distributed generation technologies).

II. GOALS / OBJECTIVES

To encourage the development of clear, enforceable performance goals as a new and cost-effective way for our district to make continued environmental progress in the following areas:

A. Energy Efficiency Improvement.
   1. We will develop and implement a program with the intent of reducing energy consumption to the extent that these measures are life-cycle cost-effective.
   2. Our implementation program will be designed to speed the introduction of cost-effective, energy-efficient technologies into our facilities, and to meet the goals and requirements of Executive Orders D-15-00 and D-16-00, Statewide Energy Management Program (SEMP) statute commencing with Section 81620 through Section 81624 of Assembly Bill AB 29X and other California State Energy Policy.

B. Reduction of Greenhouse Gases and Other Air Pollutants.
   1. Through life-cycle cost-effective energy measures, we will reduce our greenhouse gas emissions attributed to facility energy use.

C. Reduction of Fossil Fuel Use.
   1. Through life-cycle cost-effective measures, we will reduce the use of fossil fuels within our facilities.
   2. We will accomplish this reduction by switching to renewable

energy sources; by eliminating unnecessary fuel use; or by other appropriate methods.

3. Where alternative fuels are not practical or life-cycle cost-effective, we will strive to improve the efficiency of our facilities.

D. Expansion of Renewable Energy and Distributed Generation.

1. We will strive to expand the use of renewable energy (passive solar, solar thermal, solar electric, wind, geothermal, biomass) and other distributed generation technologies (fuel cells) within our facilities and in our activities by implementing alternative energy projects and by purchasing electricity from renewable energy sources.

E. Improved Transportation Efficiency.

1. We will strive to reduce petroleum consumption through improvements in fleet fuel efficiency and the use of alternative fuel vehicles (AFVs) and alternative fuels.
2. We will promote and strive to improve access to alternative modes of transportation, including public transportation (buses, light rail, etc.), carpooling, bicycling, and walking.

F. Water Conservation.

1. Through life-cycle cost-effective measures, we will reduce water consumption and associated energy use in our facilities to reach the goals set under the appropriate section of this policy.
2. Where possible, water cost savings, associated energy cost savings and alternative financing mechanisms will be encouraged in projects.

G. Buying consortium for Community Colleges

Initiate a regional purchasing consortium among community colleges for energy products/equipment as well as services such as electricity, natural gas, water, and other entities that would further enhance energy efficiency and conservation of natural resources.

III. PROMOTING COMMUNITY COLLEGE LEADERSHIP IN ENERGY MANAGEMENT AT THE DISTRICT LEVEL

A. Organization of the District Energy Team

1. *Designation of Senior District Official and Senior College Official (for those Districts with one or more colleges).*
   The district will designate a senior official (an employee of the District) to be responsible for meeting the goals and requirements of this Policy, including preparing the annual report to the Board of Trustees, which addresses all areas of Sections II, III and IV of the Policy Administrative Guidelines. In addition, if there are multiple colleges within a District, each college in the district will designate a senior official to be responsible for submitting college updates to the Senior District Official for inclusion in the annual report.
2. *Designation of College Energy Task Force.*
   Each college in the district will form a technical support team consisting of appropriate college procurement, legal, budget, instructional, management, and technical representatives as well as a public utility representative (i.e. PG&E, So Cal, Edison, etc.) to expedite and encourage the college's use of appropriations, Energy-Savings Performance Contracts, if any, and other alternative financing mechanisms necessary to meet the goals and requirements of this Policy.
3. *Designation of an Energy Management Technician*
   Each college in the District will designate a College Energy Management Technician (who is an employee of the District) to

implement, coordinate and monitor energy utilization, efficiency and savings on the District properties.

B. Life-Cycle Cost Analysis.

1. The district will use life-cycle cost analysis in making decisions about investments in products, services, construction, and other projects to lower our costs and to reduce energy and water consumption.
2. Where appropriate, we will consider the life-cycle costs of combinations of projects, particularly to encourage bundling of energy efficiency projects with renewable energy projects.
3. We will also retire inefficient equipment on an accelerated basis where replacement results in lower life-cycle costs.
4. Colleges in the district that minimize life-cycle costs with efficiency measures will be recognized in their scorecard evaluation. The scorecard evaluations are an assessment of the District's progress toward implementing sections I, II, III and IV of the Board Policy Administrative Guidelines and are included in the Annual Report to the Board of Trustees

C. Energy and Water Surveys and Audits of District Facilities.

1. *Prioritization Survey*.
   Each college in the District shall conduct a prioritization survey on each of the facilities it manages. The surveys shall be used to establish priorities for conducting comprehensive facility audits.
2. *Comprehensive Facility Audits*.
   (a) Each college in the District shall develop and begin implementing a 5-year plan to conduct or obtain comprehensive facility audits, based on prioritization surveys.
   (b) Each college in the District shall conduct energy and water audits for approximately 20 percent of their facilities each year, either independently using public agency resources or through Energy-Savings Performance Contracts, if appropriate, or utility energy-efficiency service contracts.
   (c) Comprehensive audits of facilities performed within the last 3 years may be considered current for the purposes of implementation.
   (d) "No-cost" audits shall be utilized to the extent practicable.
3. *Leased Facilities*.
   Each college in the District shall conduct surveys and audits of leased facilities to the extent practicable and to the extent that the recommendations of such surveys and audits could be implemented under the terms of the lease.

D. Implementation of Energy Efficiency and Water Conservation Projects.

1. *Implementation of New Audit Recommendations*.
   Over a five year period, each college in the District shall identify, based on preliminary recommendations from the prioritization surveys required under section IIIC of this policy, high priority facilities to audit and shall complete the first 20 percent of the required comprehensive facility audits within the first year. Within ( ) days of the completion of the comprehensive facility audit of each facility, each college in the District shall begin implementing cost-effective recommendations for installation of energy efficiency, water conservation, and renewable energy technologies for that facility consistent with supporting the District Energy Team.
2. *Implementation of Existing Audits*.
   Within ( ) days of the date of this policy, each college in

the District shall begin to implement cost-effective recommendations from comprehensive audits of facilities performed within the past 3 years, for installation of energy efficiency, water conservation, and renewable energy technologies consistent with supporting the District Energy Official.

E. Energy Management Strategies and Tools.

Each college in the district shall use a variety of energy management strategies and tools, which are life-cycle cost-effective, to meet the goals of this policy. A college's use of these strategies and tools shall be taken into account in assessing the college's progress and formulating its scorecard. Consistent with the promotion of energy efficiency, the energy savings will be budgeted to:

a. Purchase new energy efficient equipment and/or finance energy efficiency retrofitting projects;
b. Support community college Energy Management Vocational Training Programs;
c. Support staff and faculty fellowships;
d. Provide staff, faculty and administration energy efficiency training and/or technical assistance and;
e. Reward facilities department.

1. *Use of Innovative Financing and Contractual Mechanisms.*
In addition to available appropriations, each college in the District shall maximize its use of available alternative financing contracting mechanisms, including, but not limited to, utility demand side management programs, shared energy savings contracts, and energy savings performance contracts, to meet the goals and requirements of the policy. Public agencies, Energy-Savings Performance Contracts and/or utility energy-efficiency service contracts may provide significant opportunities for making district facilities more energy efficient at no net cost to taxpayers. In addition, district heads shall work with their procurement officials to identify and eliminate internal regulations, procedures, or other barriers to implementation of this policy.
2. *Utility Rebates/Manufacturers Rebates*
Each college will strive to procure appropriate utility rebate and/or equipment manufacturer's rebates.
3. *ENERGY STAR (Registered Trademark) and Other Energy Efficient Products.*
Each college shall select, where life-cycle cost-effective, ENERGY STAR and other energy efficient products when acquiring energy-using products. For product groups where ENERGY STAR labels are not yet available, colleges shall select products that are in the upper 25 percent of energy efficiency for their respective product categories. Each college shall incorporate energy efficient criteria consistent with ENERGY STAR and other designated energy efficiency levels into all guide specifications and project specifications developed for new construction and renovation, as well as into product specification language developed for Basic Ordering Agreements, Blanket Purchasing Agreements, and all other purchasing procedures.
4. *ENERGY STAR (Registered Trademark) Buildings.*
Each college will strive to meet the ENERGY STAR® building criteria for energy performance and indoor environmental quality in their eligible facilities to the maximum extent practicable. Colleges may use Energy Savings Performance

Contracts, utility energy-efficiency service contracts, or other means to conduct evaluations and make improvements to buildings in order to meet the criteria. Buildings that rank in the top 25 percent in energy efficiency relative to comparable commercial and State buildings will receive the ENERGY STAR® building label. Colleges will integrate this building rating tool into their general facility audits.

5. *Sustainable Building (New Construction and Renovation) Design.*
   The district will develop sustainable design principles. Each college in the District will apply such principles to the site, design, construction and commissioning of new facilities and renovation projects. Colleges will optimize life-cycle costs, pollution, and other environmental and energy costs associated with the construction, life-cycle operation, and decommissioning of the facility. Colleges should consider setting energy performance targets of at least 20 - 30% above Title 24 for new construction and 10-20% above Title 24 for renovation projects. Colleges should consider hiring architectural firms, consultants and energy engineers experienced in all phases of the sustainable building design process (SBDP) to aid them in constructing sustainably-designed or "green" buildings. Colleges should consider adopting the LEED™ (Leadership in Energy & Environmental Design) as a voluntary standard in assessing each project.
6. *The Collaborative for High Performance Schools (CHPS).*
   The district will review the established criteria of CHPS (The Collaborative for High Performance Schools) for what constitutes a high performance school. Although this criterion was established for K-12 schools, most principles would also be applicable to community colleges. Each college in the District will apply such principles, as appropriate, to the site, design, construction and commissioning of new facilities and renovation projects. Colleges should utilize the resources provided on the Collaborative for High Performance Schools (CHPS) website at: www.chpsnet<http://www.chps.net>. California's other energy conservation effort specifically linked to schools is the *Bright Schools Program.* The federal government also provides guidance for schools/colleges through its *Energy Smart Schools* program.
7. *Facility Efficiency Improvements.*
   Each college in the District will explore efficiency opportunities in facilities for steam systems, boiler operation, air compressor systems, industrial processes, and fuel switching, including cogeneration and other efficiency and renewable energy technologies.
8. *Highly Efficient Systems.*
   Each college in the District will implement energy systems, and other highly efficient systems within the District, in new construction or retrofit projects when life-cycle cost-effective. Colleges will consider combined cooling, heat, and power when upgrading and assessing facility power needs and will use combined cooling, heat, and power systems when life-cycle cost-effective. Colleges will survey local natural resources to optimize use of available biomass, bioenergy, geothermal, or other naturally occurring energy sources.
9. *Off-Grid Generation.*
   Each college in the District will use off-grid generation systems,

including solar hot water, solar electric, solar outdoor lighting, small wind turbines, fuel cells, and other off-grid alternatives, where such systems are life-cycle cost-effective and offer benefits including energy efficiency, pollution prevention, source energy reductions, avoided infrastructure costs, or expedited service.

F. Electricity, Natural Gas, Water and Other Resources.

To advance the greenhouse gas and renewable energy goals of this policy, and reduce source energy use, each college in the District will strive to use electricity from clean, efficient, and renewable energy sources.

1. *Competitive Power.*
   Each college in the District will take advantage of competitive opportunities in electricity, natural gas, water and other resources markets to reduce costs and enhance services. Colleges are encouraged to aggregate demand across facilities or campuses to maximize their economic advantage.
2. *Reduced Greenhouse Gas Intensity of Electric Power.*
   When selecting electricity providers, each college in the District will purchase electricity from sources that use high efficiency electric generating technologies when life-cycle cost-effective. Colleges will consider the greenhouse gas intensity of the source of the electricity and strive to minimize the greenhouse gas intensity of purchased electricity.
3. *Purchasing Electricity from Renewable Energy Sources.*
   Each college in the District will evaluate its current use of electricity from renewable energy sources and report this level in its annual report to the Board of Trustees. Based on this review, each college should adopt policies and pursue projects that increase the use of such electricity. Colleges should include provisions for the purchase of electricity from renewable energy sources as a component of their requests for bids whenever procuring electricity. Colleges may use savings from energy efficiency projects to pay additional incremental costs of electricity from renewable energy sources.

G. Fleet and Transportation Efficiency.

To increase transportation and fuel efficiency the college will:

1. Reduced Petroleum Fuel Consumption
2. Alternative Fuel Vehicles Acquisition and Use of Alternative Fuels
3. Acquisition of Higher Fuel Economy Vehicles

IV. College Performance: Measurement, Management and Reward

A. Accountability.

1. *Annual Budget Submission.*
   Each college's budget submission shall specifically request funding necessary to achieve the goals of this policy. Budget submissions shall include the costs associated with: encouraging the use of, administering, and fulfilling agency responsibilities under Energy-Savings Performance Contracts, utility energy-efficiency service contracts, and other contractual platforms for achieving conservation goals; implementing life-cycle cost-effective measures; procuring life-cycle cost-effective products; and constructing sustainably-designed new buildings, among other energy costs.
2. *Annual Implementation Plan.*
   Each college in the District will develop an annual implementation plan for fulfilling the requirements of this

policy. Such plans will be included in the annual report to the Board of Trustees under the appropriate section of this policy.

3. *Annual Reporting Requirements*.
   (a) Each college in the District will measure and report to the Board of Trustees its progress in meeting the goals and requirements of this policy on an annual basis. Each college in the District will follow reporting guidelines as developed by the district. Annual reports to the Board of Trustees are due at the end of each fiscal year.
   (b) Each college's annual report to the Board of Trustees will describe how the college is using each of the strategies described in Parts II, III and IV of this policy to help meet energy and greenhouse gas reduction goals. The annual report to the Board of Trustees will explain why certain strategies, if any, have not been used. It will also include a listing and explanation of exempt facilities.

B. Incentive Awards.

Colleges are encouraged to review employee incentive programs to ensure that such programs appropriately reward exceptional performance in implementing this policy. Such awards may include monetary incentives such as Quality Step Increases, leave time awards and productivity gain-sharing and non-monetary and honor awards such as increased authority, additional resources, and a series of options from which employees or teams of employees can choose.

C. Position Descriptions and Performance Evaluations.

Each college in the District will include successful implementation of provisions of this policy in areas such as Energy Savings Performance Contracts, sustainable design, energy efficient procurement, energy efficiency, water conservation, and renewable energy projects in the position descriptions and performance evaluations of college heads, members of the college energy team, principal program managers, heads of satellite facilities, facility managers, energy managers, facilities personnel, and other appropriate employees.

D. Retention of Savings and Rebates.

Each college in the District will be granted authority to retain a portion of savings generated from efficient energy and water management at the facility or site as outlined in Section E (Energy Management Strategies and Tools) where the savings occur to provide greater incentive for that facility and its site managers, faculty and staff to undertake more energy management initiatives and training, invest in renewable energy systems, and purchase electricity from renewable energy sources.

E. Training and Education.

Each college in the District will ensure that all appropriate personnel (college heads, members of the college energy team, principal program managers, heads of satellite facilities, facility managers, energy managers, facilities personnel, and other appropriate employees) that work with energy equipment or are involved in energy-related decisions will receive training for implementing this policy.

1. The district will provide relevant training or training materials for those programs that they make available to all colleges relating to the energy management strategies contained in this policy.
2. At a minimum, every new employee that works in facilities or with energy equipment will be given basic instruction on the introduction to energy management, the whole building

approach, lighting, HVAC, and energy management systems and controls and water and other natural resources.

3. The district, in partnership with the California Department of General Services, will incorporate into existing procurement courses or develop for new courses information on college energy management tools, including Energy Savings Performance Contracts, utility energy-efficiency service contracts, ENERGY STAR® and other energy-efficient products and water and other natural resources, and life-cycle cost analysis.
4. Each college in the District is encouraged to participate and foster the existing statewide energy management training and policy efforts, which includes training for all regions of California.
5. Each college in the District is encouraged to develop outreach programs that include education, training, and promotion of ENERGY STAR® and other energy efficient products for all its employees.

F. Showcase Facilities.

The district will designate exemplary new and existing facilities with significant public access and exposure as showcase facilities to highlight energy or water efficiency and renewable energy improvements.

1. *New Building Showcases*.
   When a college constructs a new building, it will designate it, at the earliest stage of development, to be a showcase highlighting advanced technologies and practices for energy efficiency, water conservation, or use of solar and other renewable energy. Colleges should consider using the LEED™ (Leadership in Energy & Environmental Design) voluntary standard in assessing each project.
2. *Demonstrations in Existing Facilities*.
   Each college in the District will designate one of its major buildings to become a showcase to highlight energy or water efficiency and also will attempt to incorporate cogeneration, solar and other renewable energy technologies, and indoor air quality improvements. Selection of such buildings will be based on considerations such as the level of non-community college visitors/students, historic significance, and the likelihood that visitors will learn from displays and will implement similar projects.

Tier 3: State Policy Recommendation (Please see State Policy section SEMP, pages 4-7)

STATE POLICY RECOMMENDATION

Developed through a partnership between the California Energy Commission and California Community Colleges – 9/1/02

A strategy for assembling a strong district team could be to:

DISTRICT ENERGY TEAM

1. *Designation of Senior District Officer and Senior College Official (for those Districts with more than one college).*
   The district will designate a senior official (an employee of the District) to be responsible for meeting the goals and requirements of this Policy, including preparing the annual report to the Board of Trustees, which addresses all areas of Sections II, III and IV of the Policy Administration Guidelines. In addition, if there are multiple colleges within a District, each college in the district will designate a senior official to be responsible for submitting college updates to the Senior District Official for inclusion in the annual district report.

2. *Designation of College Energy Task Force*
   Each college in the district will form a technical support team consisting of appropriate college procurement, legal, budget, instructional, management, and technical representatives as well as a public utility representative (i.e. PG&E, SoCal, Edison, SMUD, etc.) to expedite and encourage the college's use of appropriations, Energy-Savings Performance Contract, if any, and other alternative financing mechanisms necessary to meet the goals and requirements.

3. *Designation of an Energy Management Technician*
   Each college in the district will designate a College Energy Management Technician (who is an employee of the district) to implement, coordinate and monitor energy utilization, efficiency and savings on the District properties.

Suggested Energy Task Force Members:

1. Chancellor or his/her appointee
2. Trustee
3. President (s)
4. Vice President of Business/Facilities
5. Director of Facilities
6. Faculty Member
7. Staff Member
8. Facilities Technician
9. Student
10. Representative(s) with expertise in Energy Management i.e. your local utility representative who could expedite and encourage the college's use of appropriations to meet the goals and requirements of this Policy.
11. Community Member at large

The Team members should be actively involved in the policy development.

The Team members should be a good cross section of the college community in order for the policy to be successfully implemented throughout the campus. **You need "buy-in" by everyone!**

Once the District Energy Policy has been established, it is time to implement. Energy efficiency and resource conservation should become a part of each employee's job and training should be incorporated into existing mandatory, annual in-service training. A California Community College (CCC) statewide training consortium could be developed to train administrators, faculty, staff, technicians and students on energy efficiency and resource conservation. There is expertise within 108 colleges to train both CCC employees, including energy management technicians, and the public. Policy development and training must go hand-in-hand.

The use of technology such as videoconferencing, on-line learning and videotapes, are some of the options for delivering long-term training. Refer to the **Energy Training Handbook** for strategies to implement your training program.

6 Step Approach for all CCC Districts interested in institutionalizing their Energy Policy through training:

1. Tie training to your District Energy Policy. Revise and continue to expand goals as necessary.
2. Onsite training or via technology-based training. Use technology training to supplement on-site training. Consider networking with other community college sites via 4CNET technology.
3. Consider training topics – 9 course modules are available in the **Energy Training Handbook**
4. Utilize local trainers and resources (Pacific Gas and Electric's Stockton Training Center and Pacific Energy Center, San Diego Gas and Power, labor unions, trade associations, community colleges, and CSU Maritime Academy)
5. Require in-service for all college personnel each year! Make it a part of in-service requirement of all employees, particularly, energy technicians
6. Keep it low cost, accessible and relevant.

The public has approved billions of dollars in district bonds for new building construction and renovation projects throughout California. Your district can optimize these funds by using the guidelines put forth in this Handbook to realize savings (both energy and dollars), trigger incentives and rebates, and meet sustainability goals.

Establish and strengthen partnerships with public utilities, energy providers, energy stakeholders, state agencies, local government and the general public.

Utilize the 4CNet of the CCC and CSU systems in your training efforts. It provides a statewide network to all 108 campuses and will be economical.

Why should the community colleges de velop a policy?

This commitment is consistent with the mission of the CCC system to provide leadership in serving the educational needs of the public. Based on the past 10 years of work on promoting energy savings through training and policy, SEMP is convinced that the CCC system can become a model for the entire country.

F A Q s

What is the Board's role in energy policy development?

According to the National School Boards Association (NSBA) document entitled A Blueprint for Education Excellence (1984), the local district board truly is the designated leader in our form of representative government when it comes to providing excellence in the nation's schools and colleges. The board has the essential responsibility, through its policy process, for setting overall goals and objectives for schools and colleges for review and evaluation of the effectiveness of the schools. Boards can make a difference.

A critical role of the board is to oversee facilities and financial planning, establish policies related to such facilities and financial planning, review performance, and direct the administration and Chancellor. The chancellor prepares the facility and financial plans, implements the policy, administers programs, measures performance and reports to the Board

The board is also responsible for establishing policies governing salaries, terms and conditions of employment, leave, in-service and other training, and state and federally mandated benefits (NSBA).

The board is responsible for determining the number and expected conditions of buildings, and for approving building plans. It is also responsible for setting policies that affect the educational environment in college facilities. The administration is responsible for consultation with the Board and for securing the various designers, contractors, and maintenance people for facilities. It is also responsible for assuring that goals for facility environment are met.

Any long-term effort to institutionalize energy efficiency into a district will not occur without board policy.

What are the benefits of implementing District Energy Policy? What is in it for our District?

- Enhances student learning
- Improves employee productivity
- Avoids uncertainty of energy sources, costs and reliability of service
- Relatively easy to accomplish
- Addresses energy reliability issues of the present and future
- Saves money
- Increases comfort level in classrooms and office space
- Utilizes expertise within CCC districts while continuing to build their knowledge base and skills (technicians long term value to the district)
- Best practices and knowledge gained incorporates into daily operations
- Strengthens your energy independence and security
- Builds confidence and good will in public's trust of community colleges

How will Policy be enforced?

Each college in the District will designate a College Energy Management Technician (who is employed in the District) to implement, coordinate and monitor energy utilization, efficiency and savings on the District properties.

What have we learned about employee training?

The criteria established for training programs are:

- Must target all employees to achieve long term benefits
- Can successfully teach principles of energy management
- Curriculum must be flexible, modular and possibly officer the option of a certificate

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Technology-Based Training was an integral part of the initial SEMP training. The following table is an overview of the technologies available to deliver training.

Technology Usage Table

Technology	Usage	Expense	Technical Support	CCC Access	Student Access
Satellite	Low	Highest	Requires the most	Very few have capability	On campus
CCCSat	Low	Medium	Significant	Only One Location	On campus
Dish Network	Low	Medium	Significant	Only One Location	Home
Local Cable	Low	* High/Low	* High/Low	Very few have capability	Home
4CNet	Low/High	Low	Low	All have capability	On campus
Mediated Learning	High	Low	* High/Low	All have capability	On/Off campus

Key: * "High" if production crew is used. "Low" if using Distance Education classroom.

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