

The energy and sustainability procedures provide goals and guidance to achieve energy conservation, sustainable building, physical-plant management best practices, and integration across the college district. The procedures are consistent with Executive Order S-12-04, which requests the community colleges active participation in statewide energy conservation and reduced electrical demand; Government Code §15814.30, which states that “all new public buildings for which construction begins after January 1, 1993, shall be models of energy efficiency and shall be designed, constructed, and equipped with all energy efficiency measures, materials, and devices that are feasible and cost-effective”; Government Code §15814.31, which requires that “all public buildings, when renovated or remodeled, shall be retrofitted to meet...Title 24 of the California Code of Regulations”, including Part 6, Energy Code; and Title 24, Part 11, California 2010 Green Building Standards Code (CALGreen), effective as of January 1, 2011.

#### **A. Energy Efficiency and Conservation**

The college district will seek continuous improvement in energy efficiency from year to year. All major capital projects should at a minimum meet CALGreen Tier 1 Voluntary Standards for nonresidential buildings and aim to achieve Tier 2 whenever possible for new construction. All major renovation projects should at a minimum outperform the current Title 24 Standards by at least ten percent (as determined by the designers based on required standard engineering protocols). The district shall develop a policy that takes advantage of all incentives available for these projects, including those available from the Community College System Office. To do so, the district will submit to the System Office an annual one-page worksheet updating the energy savings by campus for the most recently completed fiscal year and an energy modeling document for each project submitted for state funding prepared by the project architect.

#### **B. Energy Independence**

The college district will develop a strategic plan for energy procurement and production to reduce energy-capacity requirements from the electricity grid, to promote energy independence using available economically feasible technology (solar, wind, biomass), and for on-site generation. MiraCosta College will endeavor to develop self-generated energy capacity and procure energy through cost-effective alternatives that contribute to the state of California and California Public Utilities Commission Renewable Portfolio Standard requirements to meet or exceed forty percent use of renewable energy by 2014.

### **C. Building Operation for Energy Conservation**

All district buildings and facilities, regardless of the source of funding for their operation, should be operated in the most energy-efficient manner without endangering public health and safety and without diminishing the quality of education. MiraCosta College should actively seek all available sources of funding for implementing energy-efficiency improvement and utilities infrastructure renewal projects. Funding sources should include federal and state budget appropriations, federal, state, and private sector grant opportunities, and other unique public/private sector financing arrangements that have been made available through legislative actions in California and the United States Congress. The college district should cooperate with federal, state, and local governments and other appropriate organizations in accomplishing energy conservation and utilities-management objectives throughout the state, and inform students, faculty, staff, and the general public of the need for and methods of energy conservation and utilities management.

To accomplish the energy conservation goals, the district shall designate an energy/ utilities manager or sustainability coordinator with the responsibility and the authority for carrying out energy conservation and utilities-management programs. The manager/ coordinator should solicit and evaluate feedback from faculty, staff, students, and community organizations to monitor the effects of energy conservation efforts on instructional programs and the environment. Training on new energy management concepts and programs should be a regular part of staff development for physical plant staff.

### **D. Sustainable Construction Practices**

New construction, remodeling, renovation, and repair projects should be designed with consideration of optimum energy utilization, low-life-cycle operating costs, and compliance with all applicable energy codes and regulations. Energy-efficient and sustainable-design features in the project plans and specifications need to be considered in balance with the academic program needs of the project within the available project budget. In an effort to reduce the creation of greenhouse gases, capital planning for facilities and infrastructure should consider features of a sustainable and durable design to achieve a low life-cycle cost. Principles and best practices established by leading industry standards or professional organizations should be implemented to the greatest extent possible. New construction and major remodeling projects shall be designed to achieve at least CALGreen Tier 1 Voluntary Standards for nonresidential buildings and aim to achieve Tier 2 whenever possible.

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

1. Site and design considerations that optimize local geographic features to improve sustainability of the project, such as maximizing use of vistas, microclimate, and prevailing winds.
2. Durable systems and finishes with long life cycles that minimize maintenance and replacement.
3. Optimization of layouts and design of spaces that can be reconfigured with the expectation that the facility should be renovated and re-used versus demolished.

4. Systems designed for optimization of energy, water, and other natural resources.
5. Optimization of indoor environmental quality for occupants.
6. Utilization of environmentally preferable products and processes, such as recycled-content materials and recyclable materials.
7. Procedures that monitor and report operational performance, as compared to the optimal design and operating parameters.
8. Space should be provided in each building to support an active program for recycling and reuse of materials.

In order to implement the sustainable building goal in a cost-effective manner, the process should identify economic and environmental performance measures; determine cost savings; use extended-life-cycle costing; and adopt an integrated-systems approach. Such an approach treats the entire building as one system and recognizes the individual building features, such as lighting, windows, heating, and cooling.

#### **E. Physical Plant Management**

In order to conserve purchased energy resources, the college district will establish appropriate energy-efficiency set points for heating and cooling of district facilities. These limits do not apply in areas where other temperature settings are required by law or by specialized needs of equipment or scientific experimentation. The college district will develop and maintain a computerized energy-management system to provide centralized reporting and control of campus energy-related activities. Scheduling of building and/or facility usage should be optimized consistent with the approved academic and nonacademic programs to reduce the number of buildings operating at partial or low occupancy. To the extent possible, academic and nonacademic programs should be consolidated in a manner to achieve the highest building utilization. Further, the scheduling of buildings should be implemented in a manner to promote central plant and individual building air-conditioning-system shutdown to the greatest extent possible during the weekend and other holiday periods. Campus energy/utilities managers should make all attempts to change or update building operating schedules to match the changes in the academic programs on a continuing basis.

#### **F. Grounds and Landscape Management**

Sustainable practices will be pursued in all matters of grounds and landscape management including optimization of water efficiency through the use of irrigation controls, low-water plants, and reclaimed water; reduction of quantity and improvement in quality of runoff; the elimination of aggressive invasive species from campus plants; minimization of the grounds-keeping waste stream; elimination of the release of toxic substances into the campus environments on a regular basis and minimization of such releases on an emergency basis; maximization of energy efficiency in grounds-keeping equipment; and development of a wildlife and native plant management strategy that supports habitat preservation within our campuses and their surrounding areas.

## **G. Sustainability Integration across the Entire College District**

The above-mentioned procedures are instrumental in promulgating efficiency and sustainability not only for their own sake, but so that this entire learning institution can become a model and classroom of sustainability for students, faculty, staff, and the community. To take educational advantage of physical sustainability improvements, the district will pursue efforts to develop a broad sustainability curriculum in career-technical education, science and liberal arts, establish a distinct and focused sustainability governance structure within the district to support an integrated approach to sustainability across all campus functions and communities, provide structured support and leadership for student involvement in campus and community sustainability activities, and promote community outreach to generate community support for campus sustainability efforts and to diffuse sustainability practices into the community.