Adopted: May 29, 2001

ACADEMIC SENATE
of
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, California

AS-570-01/ML

RESOLUTION ON ENERGY EFFICIENCY AND SUSTAINABLE DESIGN AND CONSTRUCTION PRINCIPLES FOR CAL POLY BUILDINGS, LANDSCAPE, AND INFRASTRUCTURE

1 WHEREAS, The recently completed master plan for the campus provides an opportunity for improving and sustaining long term campus environmental quality, but was concluded prior to the current understanding of the changing context of energy generation, transmission, and escalating costs of consumption within California; and

2 WHEREAS, The University has tentatively budgeted for over a 75% increase in the next academic year for electricity costs; and

3 WHEREAS, Current code required standards for building construction are unlikely to adequately address these concerns in a timely fashion as they are trailing indicators of larger social conditions and reactions to markets; and

4 WHEREAS, Industry and government have referenced sustainable design standards which identify achievable design strategies and techniques to address environmental impacts of buildings, including: Governor Davis' Executive Order D-16-00, U.S. Green Building Council's Leadership in Energy and Environmental Design (LEEDs) Green Building Certification System; and

5 WHEREAS, Current passive and active architectural design and systems technology has been amply demonstrated as providing off grid, low energy and zero energy designs for heating, cooling, and lighting alternatives, especially when taking into account longer pay-back or life-cycle costing; and

6 WHEREAS, Current construction guidelines as approved by the California Department of Finance limit the campuses ability to apply life cycle cost practices in weighing design alternatives; and

7 WHEREAS, Budgets for capital improvements are separate from operation budgets that cover utility and maintenance costs; and
WHEREAS, The next series of proposed structures on campus, including teaching facilities for the Colleges of Engineering, Science and Mathematics, and Architecture and Environmental Design can demonstrate the core of knowledge and understanding as to the nature of energy, energy efficient design, our interaction with the environment and our construction and environmental control techniques; and

WHEREAS, The University budget must cover maintenance and operating costs as well as the costs of academic programs, these proposed new structures will have immediate and long term impact on financial resources over a time of mandated University growth; and

WHEREAS, The environments created by a building have pedagogical implications in terms of available technologies, comfort, and social interaction, and

WHEREAS, The demonstrated expertise for excellence in these design techniques and services is specialized and goes beyond current standard architectural practice; therefore be it

RESOLVED: That the Administration consider implementing and expanding energy design standards and criteria for natural light and ventilation, passive (non-motorized/mechanical) heating and cooling techniques, and water utilization techniques beyond those in place as default minimums from Federal, State, and/or Local mandates; and be it further

RESOLVED: That the Administration consult with on-campus faculty and staff expertise in identifying these techniques and criteria for the definition of these design thresholds, and be it further

RESOLVED: That the Administration initiate life cycle costing evaluations of all new building systems at a minimum of 40 years; and be it further

RESOLVED: That the Administration seek and obtain the services of design professionals with peer recognized and demonstrated excellence and expertise in these design techniques for energy conservation, sustainable architecture and building systems and in architectural design in general; and be it further

RESOLVED: That the Administration work with the Chancellor's Office to change State regulations on construction cost guidelines to include lifecycle cost practices and funding.

Proposed by: Michael Lucas, CAED Caucus Chair
Date: May 14, 2001
Revised: May 24, 2001
WHEREAS, California is committed to providing leadership on energy, environmenal and public health issues by implementing innovative and resource-efficient public building design practices and other state government programs that improve the lives of California’s 34.5 million residents; and

WHEREAS, the state invests approximately two billion dollars ($2,000,000,000) annually for design, construction and renovation, and more than six hundred million dollars ($600,000,000) annually for energy, water, and waste disposal at state-funded facilities; and

WHEREAS, a building’s energy, water, and waste disposal costs are computed over a twenty-five year period, or for the life of the building, and far exceed the first cost of design and construction; and

WHEREAS, an opportunity exists for the State of California to foster continued economic growth and productivity, incorporate environmentally preferable products; and thereby substantially reduce the costs and environmental impacts associated with long-term building operations. Without compromising building performance or the needs of future generations:

WHEREAS, the widespread adoption of sustainable building principles would result in significant long-term benefits to the California environment, including reductions in smog generation, runoff of water pollutants to surface and groundwater sources, the demand for energy, water and sewage treatment services, and the fiscal and environmental impacts resulting from the expansion of these infrastructures; and

WHEREAS, it is critical that my Administration provide leadership to both the private and public sectors in the sustainable building arena;

NOW, THEREFORE, I, GRAY DAVIS, Governor of the State of California, by virtue of the power and authority vested in me by the Constitution and statutes of the State of California, do hereby establish a state sustainable building goal and issue this order to become effective immediately:

The sustainable building goal of my administration is 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.

The Secretary for State and Consumer Services (herein referred to as "the Secretary") shall facilitate the incorporation of sustainable building practices into the planning, operations, policymaking, and regulatory functions of State entities. The objectives are to implement the sustainable building goal in a cost effective manner, while considering externalities; identify economic and environmental performance measures; determine cost savings; use extended life cycle costing; and adopt an integrated systems approach. Such an approach treats the entire building as one system and recognizes that individual building features, such as lighting, windows, heating and cooling systems, or control systems, are not stand-alone systems.

In carrying out this assignment, the Secretary shall broadly consult with appropriate private sector individuals and public officials, including the Director of the Department of Finance; the Secretary of Business, Transportation, and Housing; the Secretary for Education; the Secretary for Environmental Protection; the Secretary of Health and Human Services; and the Secretary for Resources. The Secretary shall submit a report to the Governor 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.

Thereafter, on an annual basis, the Secretary shall report on the activities and on the efforts of all State entities under the Governor’s jurisdiction to implement the Governor’s sustainable building strategy. The Secretary shall devise a method for compiling such information and reporting it to the Governor and the Legislature.

All State entities under the Governor’s jurisdiction shall cooperate fully with the Secretary and provide assistance and information as needed. The Regents of the University of California. Boards 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.

Nothing in this Order shall be construed to confer upon any state agency decision-making autonomy over substantive matters within another agency’s jurisdiction, including any informational and public hearing requirements needed to make regulatory and permitting decisions.
LEED® Version 2 Scoring Topics
U.S. Green Building Council
http://www.usgbc.org/

the site, process of construction and materials are seen as well as the final building and its operation.

Innovation & Design Process (ID)
Innovation in Design
LEED® Accredited Professional

Sustainable Sites (SS)
- Erosion and Sedimentation Control
- Site Selection
- Urban Redevelopment
- Brownfield Redevelopment
- Alternative Transportation: Locate Near Public Transportation
- Alternative Transportation: Alternative Fuel Refueling Stations
- Alternative Transportation: Minimum or No New Parking
- Reduced Site Disturbance: Protect or Restore Open Space
- Stormwater Management: No Net Increase or 25% Decrease
- Landscape & Exterior Design to Reduce Heat Islands: Site Surfaces
- Landscape & Exterior Design to Reduce Heat Islands: Roof Surfaces
- Light Pollution Reduction

Water Efficiency (WE)
- Water Efficient Landscaping, Reduce by 50%
- Water Efficient Landscaping: Reduce Additional 50% or No Irrigation
- Innovative Wastewater Technologies
- Water Use Reduction: Additional 0% Reduction

Energy and Atmosphere (EA)
- Fundamental Building Systems Commissioning
- Minimum Energy Performance
- CFC Reduction in HVAC&R Equipment
- Optimize Energy Performance: 20% New 10% Existing
- Optimize Energy Performance: 30% New 20% Existing
- Optimize Energy Performance: 40% New 30% Existing
- Optimize Energy Performance: 50% New 40% Existing
- Optimize Energy Performance: 60% New 50% Existing
- Renewable Energy: 5%
- Renewable Energy: 10%
- Renewable Energy: 20%
- Additional Commissioning
- Environmental Tobacco Smoke (ETS) Control
- Carbon Dioxide (CO2) Monitoring
- Inadequate Ventilation Effectiveness
- Construction IAQ Management Plan: Prior
- Construction IAQ Management Plan: During
- Low-Emitting Materials: Adhesives
- Low-Emitting Materials: Paints
- Low-Emitting Materials: Carpet
- Low-Emitting Materials: Composite Wood
- Indoor Chemical and Pollutant Source Control
- Controllability of Systems: Operable Windows
- Controllability of Systems: Individual Controls
- Thermal Comfort: Comply with ASHRAE 55-1992
- Thermal Comfort: Permanent Monitoring System
- Daylight and Views: Diffuse Sunlight to 90%
- Daylight and Views: Direct Line of Sight to 90%

The tally points to 4 levels of "green" certification, with a minimum threshold for any certification.
State of California

Memorandum

To:       Unny Menon
          Chair, Academic Senate

Date:     August 30, 2001

From:     Warren J. Baker
          President

Subject:  Response to Academic Senate Resolution AS-570-01/ML - Resolution on Energy Efficiency and Sustainable Design and Construction Principles for Cal Poly Buildings, Landscape, and Infrastructure

         and

         Response to Academic Senate Resolution AS-572-01/AGW - Resolution on the Environment

I am hereby acknowledging receipt of the above-referenced Academic Senate resolutions. I want to express my appreciation to the Academic Senate for the work that went into the development of these resolutions, and I can assure you that the campus will take these resolutions into consideration particularly in the implementation of the Cal Poly Master Plan, future campus construction and in the acquisition of goods and services.