

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 BIDLINGS, LANDSCAPE,  
AND INFRASTRUCTURE

- 1 WHEREAS, The recently completed master plan for the campus provides an opportunity for  
2 improving and sustaining long term campus environmental quality, but was  
3 concluded prior to the current understanding of the changing context of energy  
4 generation, transmission, and escalating costs of consumption within California;  
5 and  
6
- 7 WHEREAS, The University has tentatively budgeted for over a 75% increase in the next  
8 academic year for electricity costs; and  
9
- 10 WHEREAS, Current code required standards for building construction are unlikely to  
11 adequately address these concerns in a timely fashion as they are trailing  
12 indicators of larger social conditions and reactions to markets; and  
13
- 14 WHEREAS, Industry and government have referenced sustainable design standards which  
15 identify achievable design strategies and techniques to address environmental  
16 impacts of buildings, including: Governor Davis' Executive Order D-16-00, U.S.  
17 Green Building Council's Leadership in Energy and Environmental Design  
18 (LEEDs) Green Building Certification System; and  
19
- 20 WHEREAS, Current passive and active architectural design and systems technology has been  
21 amply demonstrated as providing off grid, low energy and zero energy designs for  
22 heating, cooling, and lighting alternatives, especially when taking into account  
23 longer pay-back or life-cycle costing; and  
24
- 25 WHEREAS, Current construction guidelines as approved by the California Department of  
26 Finance limit the campuses ability to apply life cycle cost practices in weighing  
27 design alternatives; and  
28
- 29 WHEREAS, Budgets for capital improvements are separate from operation budgets that cover  
30 utility and maintenance costs; and

31 WHEREAS, The next series of proposed structures on campus, including teaching facilities for  
32 the Colleges of Engineering, Science and Mathematics, and Architecture and  
33 Environmental Design can demonstrate the core of knowledge and understanding  
34 as to the nature of energy, energy efficient design, our interaction with the  
35 environment and our construction and environmental control techniques; and  
36

37 WHEREAS, The University budget must cover maintenance and operating costs as well as the  
38 costs of academic programs, these proposed new structures will have immediate  
39 and long term impact on financial resources over a time of mandated University  
40 growth; and  
41

42 WHEREAS, The environments created by a building have pedagogical implications in terms of  
43 available technologies, comfort, and social interaction, and  
44

45 WHEREAS, The demonstrated expertise for excellence in these design techniques and services  
46 is specialized and goes beyond current standard architectural practice; therefore be  
47 it  
48

49 RESOLVED: That the Administration consider implementing and expanding energy design  
50 standards and criteria for natural light and ventilation, passive (non-  
51 motorized/mechanical) heating and cooling techniques, and water utilization  
52 techniques beyond those in place as default minimums from Federal, State, and/or  
53 Local mandates; and be it further  
54

55 RESOLVED: That the Administration consult with on-campus faculty and staff expertise in  
56 identifying these techniques and criteria for the definition of these design  
57 thresholds, and be it further  
58

59 RESOLVED: That the Administration initiate life cycle costing evaluations of all new building  
60 systems at a minimum of 40 years; and be it further  
61

62 RESOLVED: That the Administration seek and obtain the services of design professionals with  
63 peer recognized and demonstrated excellence and expertise in these design  
64 techniques for energy conservation, sustainable architecture and building systems  
65 and in architectural design in general; and be it further  
66

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

Proposed by: Michael Lucas, CAED Caucus Chair  
Date: May 14, 2001  
Revised: May 24,2001

Exec Order

# Executive Order

EXECUTIVE DEPARTMENT  
STATE OF CALIFORNIA



EXECUTIVE ORDER 0-16-00

by the

Governor of the State of California

WHEREAS, California is committed to providing leadership on energy, environmental 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 provide environmental leadership by incorporating sustainable building practices into the State capital outlay and building management processes; and

WHEREAS, sustainable building practices utilize energy, water and materials efficiently throughout the building life cycle; enhance indoor air quality; improve employee health, comfort 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; and

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 (hereinafter 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 authority over substantive matters within another agency's jurisdiction, including any informational and public hearing requirements needed to make regulatory and permitting decisions.

IN WITNESS WHEREOF I have hereunto set my hand

LEED Version 2 Scoring Topics  
 U.S. Green Building Council  
<http://www.usgbc.org/>

the site, process of construction and materials are seen as a whole  
 the act/process of construction is considered as well as the finished building and its operation

Innovation & Design Process (IDeC)

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. Bicycle Storage & Changing Rooms  
 Alternative Transportation. Alternative Fuel Refueling Stations  
 Alternative Transportation. Minimum or No New Parking  
 Reduced Site Disturbance. Protect or Restore Open Space  
 Reduced Site Disturbance. Reduce Footprint & Increase Open Space  
 Stormwater Management. No Net Increase or 25% Decrease  
 Stormwater Management. Treatment Systems  
 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. 20% Reduction  
 Water Use Reduction. Additional 10% 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  
 Elimination of HCFC's and Halons  
 Measurement and Verification  
 Green Power

LEED Version 2 Scoring Topics p.2

Materials and Resources (MR)

Storage & Collection of Recyclables  
 Building Reuse. Maintain 75% of Existing Shell  
 Building Reuse. Maintain Additional 25% of Shell  
 Building Reuse. Maintain 100% Shell & 50% Non-Shell  
 Construction Waste Management. Salvage or Recycle 50%  
 Construction Waste Management. Salvage Additional 25%  
 Resource Reuse. Specify 5%  
 Resource Reuse. Specify 10%  
 Recycled Content. Specify 25%  
 Recycled Content. Specify 50%  
 Local/Regional Materials. 20% Manufactured Locally  
 Local/Regional Materials. of 20% Above 50% Harvested Locally  
 Rapidly Renewable Materials  
 Certified Wood

Indoor Environmental Quality (IEQ)

Minimum IAQ Performance  
 Environmental Tobacco Smoke (ETS) Control  
 Carbon Dioxide (CO<sub>2</sub>) Monitoring  
 Increase 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 Window  
 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

*Memorandum*

# CAL POLY

State of California  
**Memorandum**

SAN LUIS OBISPO  
CA 93407

*Senate Office*  
*file*  
*copy*

To: Unny Menon  
Chair, Academic Senate

Date: August 30, 2001

**RECEIVED**

From: *Warren J. Baker*  
Warren J. Baker  
President

SEP 13 2001

ACADEMIC SENATE  
Copies: Paul Zingg  
Frank Lebens

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

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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.