

CITY OF SAN DIEGO, CALIFORNIA
COUNCIL POLICY

CURRENT

SUBJECT: SUSTAINABLE BUILDING POLICY

POLICY NO.: 900-14

EFFECTIVE DATE: May 18, 2010

BACKGROUND:

The passage of the California Global Warming Solutions Act of 2006 (Assembly Bill 32) and other pivotal legislation and policy in California — such as the establishment of statewide energy efficiency goals (AB 2021), Low-Income Energy Efficiency statutes, the Governor’s Green Building Executive Order, the California Energy Commission Integrated Energy Policy Report (2007), and the CA Public Utilities Commission (CPUC) Strategic Plan (2008)— create an environment where energy efficiency efforts must not only continue to thrive but scale up at unprecedented levels. The four specific programmatic goals, known as the “Big Bold Energy Efficiency Strategies,” established by the CPUC include:

1. All new residential construction in California will be zero net energy by 2020;
- 2 - All new commercial construction in California will be zero net energy by 2030;
3. Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California’s climate; and
4. All eligible low-income customers will be given the opportunity to participate in the low income energy.

The 2003 update of 900-14 requires City projects to achieve the U.S. Green Building Council’s LEED silver standard for all new buildings and major renovations over 5,000 square feet. The City of San Diego General Plan (2008) and the City of San Diego Climate Protection Action Plan (2004) formalizes the commitment to increase energy efficiency and the use of renewable energy. In order to achieve the goals in the CPUC Strategic Plan and the City’s General Plan, more substantial requirements are needed as a bridge to zero net energy in 2020 (residential) and 2030 (commercial). To that end, the Sustainable Building Policy will be updated every three years to remain current with new State and Federal guidelines and local needs.

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PURPOSE:

The purpose of this policy is to reassert the City’s commitment to green and sustainable building practices, and applies to new construction or major renovations that the City owns, occupies or leases. A major renovation is defined as an alteration or renovation to existing conditioned spaces that are 5,000 gross square feet or larger in area and require at least two energy building system changes. The site boundary for the scope of this Policy is the contract limit line of the work included in the Major Renovation project. (See Definitions, page 5-6)

The Sustainable Buildings Policy shall recognize projects that are designed, constructed and operated using cost-effective innovative strategies and technologies that seek to achieve the following:

1. Avoid permanent adverse impact on the natural state of the air, land and water;
2. Ensure a healthful indoor environmental quality;
3. Optimize social and economic benefits to the project and the community; and
4. Encourage occupant behavior, maintenance and operations that maximize conservation opportunities, reduce resource consumption and minimize wastes.

Fiscal analysis using life cycle cost estimating is part of a “reasonable payback” determination for energy efficiency and renewable energy technology. Approved life-cycle cost estimating measures to be used include first-cost, incentives, operating expenses, and utility savings for proposed technology. This policy shall implement renewable energy strategies that provide a payback of less than 10 years.

STANDARDS

1. City owned, occupied or leased new construction and major renovation projects shall meet the requirements of the US Green Building Council (USGBC) Leadership in Energy and Environmental Design Program[®] (LEED[®]) for Silver level certification.
2. City owned, occupied or leased new construction and major renovation projects shall use 15 percent less total building energy consumption than the minimally code compliant building as modeled following the Title 24 requirements. *Energy Pro* software is the preferred software tool to identify efficiency.

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3. City owned new construction and major renovation projects shall provide a minimum of 15 percent of total building energy from onsite self-generation using proven renewable energy technologies when site conditions and configuration allow for reasonable payback on the significant investment in renewable energy technologies.
4. City owned, occupied or leased new construction and facilities replacing plumbing fixtures shall use 20 percent less water than the baseline water consumption profile for interior non-process water uses.
5. City owned, occupied or leased facilities shall use non- potable water for permanent irrigation to the extent possible.
6. City owned, occupied or leased facilities shall comply with all stormwater development requirements in the Storm Water Management and Discharge Control Ordinance and the San Diego Municipal Code Land Development Manual Storm Water Standards for all projects.
7. City owned, occupied or leased new construction or major renovation facilities shall comply with all elements of the Construction and Demolition Ordinance.
8. City owned, occupied or leased facilities shall comply with all elements of the City Recycling Ordinance , and occupant recycling should include paper, corrugated cardboard, glass, plastic and metals at a minimum.
9. Cooling, refrigeration, or fire suppression equipment in new buildings or replacement of equipment in City owned, occupied or leased facilities shall not use CFC-based products.
10. The following sustainable building measures are strongly encouraged for City owned, occupied or leased new construction and major renovation:
 - a. Incorporate enhanced commissioning and measurement and verification procedures for all facilities.
 - b. Improve indoor air quality by reducing contaminants from all occupied spaces by using low-emitting volatile organic materials, including adhesives, paints, coatings carpet systems, composite wood and agrifiber products.

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- c. Limit disruption of natural water flows and minimize storm water runoff by minimizing building footprints and other impervious areas, increasing on-site infiltration, preserving and/or restoring natural drainage systems, and reducing contaminates introduced into San Diego's rivers, bays, beaches and the ocean.
- d. Incorporate building products that have recycled content reducing the impacts resulting from the extraction of new materials. Newly constructed City facilities shall strive to have a minimum of 25% of building materials that contain in aggregate, a minimum weighted average of 20% post consumer recycled content materials.
- e. Prioritize the use and purchase of products that are manufactured, extracted, and assembled within the City of San Diego.
- f. Reduce the use and depletion of finite raw and long-cycle renewable materials by replacing them with rapidly renewable materials. Newly constructed City facilities should consider incorporating rapidly renewable building materials for 5% of the total building materials.
- g. Establish minimum indoor air quality (IAQ) performance to prevent the development of indoor air quality problems in buildings, maintaining the health and well being of the occupants. Newly constructed City facilities must show compliance with Federal and California IAQ standards by conforming to the latest published version of ASHRAE 62, Ventilation for Acceptable Indoor Air Quality standard.
- h. Design and build to take maximum advantage of passive and natural sources of heat, cooling, ventilation and light.
- i. Provide sustainable lighting systems that use 5000 Kelvin lamps in conjunction with high efficiency program start ballasts integrated with occupancy sensors and day lighting systems. All lighting must exceed a Color Rendering Index of 80 CRI.
- j. Outdoor lighting systems shall comply with local ordinances and utilize broad-spectrum lighting.
- k. Buildings must use energy management systems that can be automatically accessed for demand response calls with the local utility.

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IMPLEMENTATION:

1. All City departments shall be responsible for understanding the requirements for new construction and major renovations, and shall comply with the mandatory standards of the Sustainable Building Policy and seek to include as many voluntary measures as possible.
2. Engineering and Capital Projects Department, Development Services Department, and Environmental Services Department shall ensure, to the extent of their responsibility, that construction plans and implementation meet the mandatory standards.
3. The City will seek cooperation with other governmental agencies, public interest organizations, and the private sector to promote, facilitate, and implement sustainable building, energy efficiency, and renewable generation in the community.
4. This Policy shall be reviewed and updated at least every three years to align with applicable codes, standards and technologies.

LEGISLATION:

The City supports State and Federal legislation that promotes or allows sustainable development, conservation of natural resources, energy efficiency, and renewable technology.

Definitions Used In This Policy:

Build It Green: Build It Green (BIG) is a professional non-profit membership organization whose mission is to promote healthy, energy- and resource-efficient buildings in California. Supported by a solid foundation of outreach and education, Build It Green connects consumers and building professionals with the tools and technical expertise they need to build quality green homes. (Definition source: Build It Green).

Baseline Water Consumption Profile: Baseline water consumption profile represents the average State of California water usage for commercial and residential buildings, as provided by the Department of Water Resources.

Conditioned Space: Part of a building where temperatures are controlled through heating or cooling.

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Energy Consumption, Total Building: Total Building Energy Consumption is used for calculating a building's annual energy use as specified in the Alternative Calculation Methods Manuals for Title 24 compliance and is equivalent to the Energy Budget that is the maximum amount of Time Dependent Valuation (TDV) energy that a proposed building, or portion of a building, can be designed to consume. (Definition source: Title 24).

Expedite: The permit will be reviewed by appropriate City staff in 75% of the standard time it takes for permit review.

GreenPoint Rated: GreenPoint Rated is a third party rating system for homes and multi-family buildings based on a set of green building measures pulled from the Green Building Guidelines developed by Build It Green and used to evaluate a residence's environmental performance. (Definition source: Build It Green).

LEED: The LEED (Leadership in Energy and Environmental Design) Green Building Rating System is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. Members of the U.S. Green Building Council, representing all segments of the building industry, developed LEED and continue to contribute to its evolution using their guiding principles that provide the clarity and continuity, while also giving the system the flexibility to grow and respond to a rapidly changing market. (Definition source: USGBC).

Major Renovation- City Owned, Occupied or Leased Buildings: Alterations or renovations to existing conditioned spaces that are 5,000 gross square feet or larger in area and require at least two energy building system changes. The site boundary for the scope of this Policy is the contract limit line of the work included in the Major Renovation project.

Major Renovation- Private Sector Residential And Commercial Buildings: Alterations or renovations to existing conditioned spaces in residential buildings with more than 1,500 gross square feet or larger and require at least two energy building system changes, **OR** commercial buildings with more than 5,000 gross square feet or larger and require at least two energy building system changes.

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New Construction- City Owned, Occupied or Leased Buildings: New Construction includes newly constructed buildings that have never been used or occupied for any purpose. (Definition source: Title 24). For purposes of this policy, New Construction is expanded to mean projects that are 5,000 gross square feet or larger in area. The site boundary for the scope of this Policy is the contract limit line of the work included in the New Construction project.

New Construction- Private Sector Residential and Commercial Buildings: New Construction includes newly constructed buildings that have never been used or occupied for any purpose. (Definition source: Title 24). For purposes of this policy, New Construction is expanded to mean residential projects that are 3,000 gross square feet or larger in area **OR** commercial buildings that are 10,000 gross square feet or larger in area. The site boundary for the scope of this Policy is the contract limit line of the work included in the New Construction project.

Renewable Energy Technologies: Renewable energy potential technologies include solar, wind, geothermal, low-impact hydro, biomass, bio-gas technologies, and fuel cell technologies that do not use fossil fuels. (Definition source: USGBC). Other technologies that do not use refined fossil fuels may be considered on a project-by-project basis.

Reasonable Payback: Fiscal analysis using life cycle cost estimating is part of a “reasonable payback” determination for energy efficiency and renewable energy technology. Approved life-cycle cost estimating measures to be used include first-cost, incentives, operating expenses, and utility savings for proposed technology. This policy shall implement renewable energy strategies that provide a payback of less than 10 years.

Title 24: Title 24, Part 6, of the California Code of Regulations is the Energy Efficiency Standards for Residential and Nonresidential Buildings in California. Established in 1978 in response to a legislative mandate to reduce California's energy consumption, the standards are updated periodically (usually every three years, at minimum) to allow consideration and possible incorporation of new energy efficiency technologies and methods. Energy efficiency reduces energy costs for owners, increases reliability and availability of electricity for the State, improves building occupant comfort, and reduces environmental impact. (Definition source: California Energy Commission).

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USGBC: The U.S. Green Building Council (USGBC) is a non-profit organization committed to expanding sustainable building practices. USGBC is composed of more than 15,000 organizations from across the building industry that are working to advance structures that are environmentally responsible, profitable, and healthy places to live and work. (Definition source: USGBC).

REFERENCES:

- Council Policy 400-11, Water Conservation Techniques
- Council Policy 400-12, Water Reclamation/Reuse
- Council Policy 600-17, Affordable/In-Fill Housing and Sustainable Buildings Expedite Program
- Council Policy 900-02, Energy Conservation and Management
- Council Policy 900-06, Solid Waste Recycling
- Ordinance Number O–19420 N.S., Construction and Demolition Debris Diversion Deposit Program, Ordinance Number O–19694 N.S
- General Plan Update (2008)
- Equal Opportunity Contracting, Municipal Code 18173, sections 22.2701- 22.2702
- Non-Discrimination in Contracting, Municipal Code 18173, sections 22.3501-22.3517

HISTORY:

Adopted by Resolution R-289457 - 11/18/1997
Amended by Resolution R-295074 - 06/19/2001
Amended by Resolution R-298000 - 05/20/2003
Amended by Resolution R-305833 - 05/18/2010