

# Appendix A Green Rating Systems

The following provides a discussion of several existing “green” rating systems, as well as existing reach code standards that can be implemented through the California Green Building Standards Code (CALGreen).

Numerous third-party green building rating systems exist that are usually voluntary, and are based on leadership standards that often exceed minimum building code requirements. In some cases, such as in California, building codes can be adopted that exceed minimum requirements and are known as “reach codes”. In some cases, these reach codes can result in similar outcomes as meeting certain ratings within third-party systems.

## CALGreen Tier 1 (Existing City Requirement)

The State of California historically establishes progressive standards that serve as models for other states and even the federal government. With the adoption of the 2010 California Green Building Standards Code, California became the first state to incorporate green building strategies into its building code. Known as the CALGreen Code, this section comprises Part 11 of the California Buildings Standards Code in Title 24 of the California Code of Regulations. CALGreen outlines mandatory and voluntary requirements for new residential and nonresidential buildings (e.g., retail, office, public schools, hospitals) throughout the state beginning on January 1, 2011. Updates to CALGreen have since been approved by the Building Standards Commissions, and the most current version is 2013 CALGreen, which became effective on July 1, 2014.

The development and implementation of the CALGreen Code aims to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to directives by the Governor. Pursuant to the California Global Warming Solutions Act of 2006 (AB 32), CALGreen provides strategies to reduce building-related sources of GHG to attain California’s 2020 and 2050 goals.

The provisions of CALGreen include both voluntary and mandatory measures for green building. Buildings/communities that have obtained the sole CALGreen title have met the minimum requirements of the code in the areas of (1) Planning and Design, (2) Energy Efficiency, (3) Water Efficiency and Conservation, (4) Material Conservation and Resource Efficiency, and (5) Environmental Quality.

CALGreen also includes Appendices which consist of voluntary measures designed to be adopted by local governments. This gives local jurisdictions the power to decide which measures they wish to

pursue. Tier 1 communities must comply with the provisions of section A4.601.4.2 of CALGreen. This includes compliance with all mandatory measures, improvements in efficiency and reduction of waste, as well as the adoption of at least eight additional measures from each category: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. Tier 2 rated communities must exceed the Tier 1 standard by adopting at least 12 voluntary measures, and establish even more stringent efficiency policies.

The City of Davis has adopted Tier 1 of the CALGreen Code. The measures apply to residential and nonresidential projects that include new construction, demolition, and/or additions and alterations. Upon submission of a building permit application, projects must provide plans to comply with the Tier 1 standards set forth by CALGreen.

## LEED

LEED, or Leadership in Energy & Environmental Design, is a third party green building certification program that identifies innovative building and design strategies. Developed by the U.S. Green Building Council (USGBC), LEED seeks to recognize buildings of excellence based on sustainable design practices and is an internationally distinguished mark of achievement in green building.

LEED's Rating System is composed of five groups which provide a flexible system of evaluation at varying scales and development types. The groups include Building Design and Construction, Interior Design and Construction, Building Operations and Maintenance, Neighborhood Development, and Homes.

The Building Design and Construction category applies to newly constructed buildings or buildings undergoing major renovations. Examples of projects that may fall under the umbrella of this classification are schools, hospitals, data centers, warehouses and distribution centers, hotels, and offices and office parks. The Interior Design and Construction group pertains to projects that can only improve their interior spaces. LEED design strategies can develop indoor areas that promote a healthier and more productive environment for residents, guests, customers, and workers. The third group, Building Operations and Maintenance, involves projects undergoing improvements with little to no construction. Neighborhood Development applies to new or ongoing development projects that contain residential, nonresidential, and mixed use. LEED strategies can be implemented at any stage of the planning process. Lastly, LEED provides category-specific guidelines for single family homes and low- and mid-rise multi-family dwellings.

Through the issuance of credits, buildings can attain four levels of LEED certification: Certification (40-49), Silver (50-59), Gold (60-79), and Platinum (80+). Credits are awarded for location, materials, water efficiency, sustainability, indoor environmental quality, and innovation. Projects have the freedom to pursue a selection (or all) of these focus areas and acquire accreditation based on their success.

With the innovative guidelines developed by USGBC, the LEED program provides direction for holistic green design for those individuals and companies dedicated to adopting new, environmentally sound

practices. As the most popular green building rating system in the world, LEED extends to over 150 countries and 69,000 building projects as of January 2015.

## Living Communities Challenge

The International Living Future Institute created the Living Community Challenge to encourage the merging of the built world with the living world. The Challenge provides planners and developers with a framework for true sustainable living. By adopting the standards established by the Challenge, individual ideals and philosophies can extend into the community to initiate a comprehensive transformation that promotes social justice and environmental health.

The Living Community Challenge is comprised of seven performance areas, or “Petals”: Place, Water, Energy, Health and Happiness, Materials, Equity, and Beauty and Spirit. Within the Petals are twenty Imperatives, each of which focuses on a specific topic. Participating projects may obtain three types of certification. The highest level, Living Certification, is granted to projects proven to attain all Imperatives, as evidenced by at least twelve months of functional operation. Projects that incorporate three or more Petals (must include water, energy, or materials) may achieve Petal Certification. Lastly, the institute will grant Net Zero Energy Building Certification for projects that achieve four of the Imperatives: Limits to Growth (01), Net Positive Energy (06), Beauty and Spirit (19), and Inspiration and Education (20).

In issuing this program, the International Living Future Institute hopes to stimulate green building and design projects that address the impending challenges future generations will face. Careful research and consults with renowned planners have allowed the Institute to generate the guiding principles that comprise the Living Community Challenge.

## STAR Communities

The Sustainability Tools for Assessing & Rating (STAR) Communities Rating System is a non-profit organization that identifies the characteristics of a sustainable community, and establishes a framework that provides guidance for local governments pursuing sustainability. STAR incorporates the varying interests of local, state, and federal agencies, non-profit organizations, national associations, universities, utilities, and private corporations. The diversity of these groups has contributed to the formation of leading strategies and methodologies for sustainable community planning.

The STAR Communities Rating System defines seven Sustainability Goal Areas: Built Environment; Climate and Energy; Economy and Jobs; Education, Arts, and Community; Equity and Empowerment; Health and Safety; and Natural Systems. These seven goals are broken down into 44 objectives which can be further enumerated into 526 measurable indicators. STAR assigns a point system to the indicators and grants certification based on point totals. Local governments may pursue goals based on individual preference or level of certification desired.

STAR offers three certification programs. The 3-STAR Community certification may be granted to projects that acquire 200-399 points and are recognized for leadership in sustainability. Projects that accrue 400-599 points attain the 4-STAR Community certification, which recognizes excellence on a national scale. Projects that achieve 600+ points earn the 5-STAR Community certification and are recognized as a top tier achiever in national sustainability. Communities must become recertified every three years.

The STAR Community Rating System can be pursued by local governments seeking to improve their existing communities. The detailed system set forth by the program provides guidance for mayors and city council members that may otherwise be overwhelmed or unsure of how to proceed towards their goal. Cities that have achieved STAR certification include Tacoma, WA and Evanston, IL. Both communities acquired the 4-STAR certification and serve as national leaders in sustainability.