Chapter 3 - Opportunities for Conservation in Residential Development

Introduction

This chapter delineates the opportunities that exist for water and energy conservation in residential development as required by California Government Code §65583(a)(8), all of which can reduce development costs and improve the affordability of housing units. The discussion highlights the conservation efforts being made by the City of Los Angeles, which aim to both reduce energy and water consumption at the consumer end through regular usage, as well as to minimize the need or demand for traditional energy

and water sources. This chapter also addresses building design and land use planning initiatives which contribute to conservation such as green building programs, the promotion of infill projects and mixed-use development, and transit-oriented sustainable development. Additionally, to comply with SB 379 and related state legislation, the City of Los Angeles details additional goals, policies and programs related to sustainability, resilience and climate change in the Safety Element of the General Plan. Coordination with our public agencies overseeing water and sewer infrastructure requirements is pursuant with SB 1087 (Gov. Code § 65589.7).

Comprehensive Plans

In Los Angeles several City departments and agencies work collectively to advance citywide goals around sustainability, resilience, and conservation. The Mayor's Office works to coordinate these interrelated efforts through citywide plans and implementation efforts.

Sustainability pLAn

The City of Los Angeles released the ever first Sustainable City pLAn in 2015 under leadership of Mayor Garcetti, and has committed to annual progress reports and an update to the pLAn every four years. This has become more prescient for the City of Los Angeles due to the immediate and evolving challenges facing our environment and economy. The 2019 Sustainability pLAn, also known as the Los Angeles Green New Deal (GND) is a collection of policies and programs that provides a City-wide, interdepartmental framework for conservation and sustainable development. The GND lays the foundation for creating a more resilient and sustainable city by establishing four key principles:

1. A commitment to the Paris Climate Agreement and to act urgently with a scientifically-driven strategy for achieving a zero carbon grid, zero carbon transportation, zero carbon buildings, zero waste, and zero wasted water.
2. A responsibility to deliver environmental justice and equity through an inclusive economy, producing results at the community level, guided by communities themselves.
3. A duty to ensure that every Angeleno has the ability to join the green economy, creating pipelines to good paying, green jobs and a just transition in a changing work environment.

4. A resolve to demonstrate the art of the possible and lead the way, walking the walk and using the City's resources - our people and our budget - to drive change.[1]

The goals and targets outlined in the GND include renewable energy targets, increased goals for locally-sourced water, reducing building energy use, strategies to reduce Vehicle Miles Traveled (VMT) and increasing housing production near public transit.

Resilient Los Angeles

In addition to the Sustainability pLAn, the Mayor's Office produces and implements the Resilient Los Angeles Plan. While the Sustainability pLAn creates a roadmap to further carbon sequestration and clean energy in an effort to diminish the impacts of climate change, the Resilient LA plan provides guidance on how the city will respond to disaster impacts that cannot be avoided. Through 4 chapters, 15 goals, and 96 actions the Resilient LA Plan outlines a path to address underlying vulnerability in the city's infrastructure and social structure to ensure we are able to prevent, respond to and recover from physical and economic shocks to our city. Specifically, Goal 11 to "Restore, rebuild and modernize Los Angeles' Infrastructure" presents a key strategy to improve water and energy conservation across the city.

Los Angeles General Plan

The Housing Element is one of several elements of the City's General Plan. Similar to the planning efforts from the Mayor's Office, General Plan Elements include goals, objectives, policies and programs that reflect the work of several departments. Many of the City's other adopted Elements also touch on efforts to conserve energy and water in residential buildings.

Land Use. The 1996 Framework Element of the General Plan is the City's strategy for growth, setting a citywide context to guide decision-making. The Plan clearly sets forth a vision of sustainable growth in that it focuses on growth occurring in specific areas linked to existing and planned infrastructure and services, with a strong emphasis on creating growth near public transportation and job centers. This vision is carried out each time a Community Plan is updated, where growth considerations including

[1] See https://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf for the complete LA Green New Deal.

proximity to transit and jobs shape land use designations and zoning. Collectively the City's 35 Community Plans serve as the Land Use Element of the General Plan.

Health. The Plan for a Healthy Los Angeles, adopted in 2015, lays out the City's vision of healthy neighborhoods and satisfies the environmental justice requirements of SB 1000. The plan focuses on several aspects of health, including access to clean and healthy housing, buildings and open spaces. In an effort to meet these health goals the plan establishes programs and quantifiable targets around energy and water conservation to ensure lasting access to clean and healthy buildings.

Mobility. The Mobility Plan serves as the City of Los Angeles' Transportation Element. The plan sets a vision for a comprehensive mobility system that allows people to move around the city through many modes of travel. Combined with the smart growth strategy detailed above, this represents a significant effort to enhance energy and water savings by enabling reduced use of single occupancy vehicles. The plan also has strategies for green enhancements to car infrastructure, such as improved access to electric vehicle charging.

Safety. The Safety Element of the General Plan details the city's efforts to prevent, respond to and recover from disaster events such as fires, earthquakes and floods. In keeping with recent state legislation the Safety Element is being updated alongside the Housing Element, including updates to better reflect efforts to prevent and respond to climate change. Many of the goals, policies and programs detailed in the Sustainability pLAn and Resilient LA will be formally integrated into the Safety Element to satisfy these requirements, ensuring that the water and energy savings framework thoroughly established through these Mayoral plans is additionally reflected in the City's official General Plan.

Targeted Initiatives

In addition to these comprehensive planning efforts, many departments and agencies within the City of Los Angeles undertake targeted campaigns and long range planning campaigns to realize specific conservation goals. The methods described below, as well as those described in Chapter 6, are specific efforts that the City is currently undertaking to reduce energy and water consumption, thereby working towards further reducing greenhouse gas emissions, while investing in critical infrastructure and sustainable housing development. Please note that specific objectives, policies and programs relating to conservation are detailed in Chapter 6 under Goal 3: **A City in**

which housing creates healthy, livable, sustainable, and resilient communities that improve the lives of all Angelenos.

Los Angeles Green Building Code

On January 1, 2011, the Los Angeles Green Building Code (LA Green Code) went into effect citywide. The Code is based primarily on the 2010 California Green Building Standards Code (CALGreen), the nation's first statewide green building standards code. Both were direct responses to meeting the goals of Assembly Bill 32 (AB 32), California's landmark greenhouse gas legislation, which seeks to reduce the energy and water use of construction; reduce waste; and reduce the carbon footprint. The Greenhouse Gas Reduction Fund (GGRF), established through the State's budget process utilizing cap-and-trade proceeds, is a significant source of funding for vital programs within the City of Los Angeles to reach sustainable development and transportation improvements at the community level, as well as clean energy and energy investments.

The LA Green Code expands upon CALGreen's policies and regulations, incorporating some earlier green provisions in the pre-existing LA Code, as well as replacing some overlapping provisions requiring that certain projects meet a LEED® standard. The LA Green Code exceeds CALGreen by applying not only to all new residential structures, but also to all building additions and alterations with a value in excess of $200,000. It also incorporates some green provisions in the pre-existing Code by requiring "solar ready" roofs and electric vehicle-ready components for all new buildings. In addition, the LA Green Code attempted to clarify various code sections within the CALGreen Code to make it easier to understand and implement.

Since its adoption in 2011, the LA Green Code has undergone multiple revisions during the 2013-2021 Housing Element cycle -- in 2014, 2017 and 2020. The following types of projects are subject to the Los Angeles Green Code:

- All new buildings (residential and non-residential)
- All additions (residential and non-residential)
- Alterations with building valuations of $200,000 or more (residential and nonresidential)
- Residential alterations that increase the building's conditioned volume

Updates to the LA Green Code include standards in the following areas:

Solar Energy

Production of electricity from fossil fuels creates pollution, including smog and greenhouse gas emissions. By having a municipally-owned utility, Los Angeles' investment in solar is generating clean power, reducing pollution, and improving grid reliability. This includes incentives to expand solar energy in commercial and multi-family development, as well as opportunities to allow renters to tap into renewable energy programs through programs such as Community Solar. In 2017, the Los Angeles Department of Water and Power (LADWP) launched the Solar Rooftops Program (SRP) designed to expand solar access to Residential Customers who would otherwise not be able to install solar panels due to cost. The program launched in early 2017 and as of May 2019 the SRP has been revised to expand eligibility and the overall scope of the initial program. If approved, customers can get a fixed roof lease payment from LADWP. Agreements are valid for up to 20 years. In 2018, Shared Solar, under the umbrella of LADWP's Community Solar initiatives, enabled residential customers living in multifamily dwellings (apartments, condominiums, duplexes) to fix a portion of their electric bill against rising utility costs for 10 years, as well as support renewable energy, help create local jobs, help reduce the carbon footprint of LADWP's generation portfolio and lessen the impact of global warming. Program participants subscribe for either the minimum of 50 kWh or the maximum of 100 kWh of energy on a monthly basis.

Water Conservation

As drought conditions continue and Los Angeles looks to increase its own local water supply, long-term water conservation changes are needed at every level. New building codes and rebates provide incentives to conserve and adapt to a changing climate. For example, Angelenos can save thousands of gallons by installing water-efficient fixtures/appliances and drought-tolerant landscaping. In 2017, amendments to the LA Green Code also included standards for greywater systems in residential development.

Other Green Building Programs

- **Electric Vehicle (EV) Charging Stations:** Transportation is one of the largest and fastest growing contributors to greenhouse gas emissions associated with climate change. In California, the transportation sector contributes more than 40% of statewide greenhouse gas emissions.[2] Through LADWP, the City of Los Angeles provides rebates for commercial and residential customers investing in EV infrastructure. For example, the Charge Up LA! program offers LADWP

[2] *Assessing California's Climate Policies*, Legislative Analyst's Office, 2018, https://lao.ca.gov/Publications/Report/3912

residential customers rebates to help offset the cost of charging stations for electric vehicles (EV).

- **Existing Buildings Energy and Water Efficiency Program (EBEWE):** On December 13, 2016, the City Council adopted Ordinance No. 184674, establishing the Existing Buildings Energy & Water Efficiency Program to reduce energy and water consumption in buildings within the City of Los Angeles.[3] These efficiency improvements will lower energy use, water use, and greenhouse gas emissions citywide.
- **Cool Roofs:** The Los Angeles City Council approved a Cool Roofs Ordinance (Ord. No. 183149) in 2014 that incentivizes this conservation strategy by reducing the need for running air conditioning systems. Cool roofs also are available in a variety of styles: shingle, shake, tile, membrane, and spray-on liquid coatings in residential and commercial buildings.
- **Waste Hauling:** On March 5, 2010, the Los Angeles City Council approved Council File No. 09-3029 pertaining to a Citywide Construction and Demolition (C & D) Waste Recycling Ordinance that requires all mixed C & D waste generated within city limits be taken to City-certified C & D waste processors. LA Sanitation and Environment (LASAN) is responsible for the C & D waste recycling policy. This is an ongoing program that requires an annual certification of approved haulers and reporting of their C & D diversion rate. As of December 2020, all the City's certified haulers had an over 75% diversion rate of C & D material.[4]
- **Fireplaces:** The South Coast Air Basin presently has some of the highest levels of fine particulate pollution in the United States. Public health and air pollution concerns led to the adoption of Rule 445 by the South Coast Air Quality Management District (SCAQMD), allowing that only install gaseous-fueled fireplaces and stoves in any new residential or commercial development that begins construction on or after March 9, 2009. In addition, other elements of the SCAQMD's Healthy Hearts program ensure that residential building components such as wood-burning devices do not continue to be significant sources of air pollution and pollute indoor air with fine particulates and toxic air pollutants.[5]
- **Adaptive Reuse**: Over the past several decades, the Los Angeles Departments of City Planning, Building and Safety, and others collaborated to remove zoning and building code barriers that prevented developers from retaining existing

[3] Ordinance No. 184674 can be found here: https://www.ladbs.org/docs/default-source/forms/green-building-2017/ord_184674.pdf?sfvrsn=fd6cfe53_12
[4] See LA Sanitation's reporting under the Citywide Construction and Demolition Waste Recycling Ordinance here: https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-r/s-lsh-wwd-s-r-cdr?_adf.ctrl-state=2ql4h0anf_544&_afrLoop=9460429905574954#!
[5] Rule 445 adopted by the South Coast Air Quality Management District can be found here: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-445.pdf

structures and converting them to a new use. This strategy reduces materials consumption and the overall carbon footprint of a project.

Water Management Plans

One Water LA

The One Water LA 2040 Plan (One Water LA) is a comprehensive planning process designed to increase sustainable water management for the City of Los Angeles.[6] In 2018, LASAN and LADWP completed the final draft of the One Water LA Plan, a more comprehensive water management plan for the City of Los Angeles that builds off of the Sustainability pLAn. The total estimated cost of the projects and programs developed for the plan is roughly $13 billion. The Department of City Planning was also involved in the development of the plan.

Urban Water Management Plan

An Urban Water Management Plan (UWMP) is prepared and adopted by LADWP every five years to forecast the future water demands and water supplies under average and dry year conditions. The Plan includes sections on water conservation, water recycling, water quality and rates. In regards to water conservation, the plan formally adopts goals detailed in Executive Directive 5, which mandated City goals and actions in response to the drought, as well as goals from the Sustainability pLAn that pertain to water conservation.

Residential and Commercial Rebate Programs for Efficient Appliances

Implementing conservation measures with regard to energy use will decrease the operating costs of a home or apartment, making it more affordable for the tenant or owner. One means of lowering energy costs is by using more efficient appliances. The US Environmental Protection Agency's Energy Star rating program identifies specific manufacturers' appliances that use between 10% and 50% less energy and water than other manufacturers. There are periodic manufacturer's rebates available for these

[6] The complete One Water LA 2040 Plan can be accessed through LA Sanitation here: https://www.lacitysan.org/san/faces/wcnav_externalId/s-lsh-es-owla-r?_adf.ctrl-state=2ql4h0anf_234&_afrLoop=9458442747542397#!

products to off-set their initial cost. In addition, as of April 2013, LADWP offers rebates for the purchase of energy efficient appliances that include refrigerators, air conditioning, weatherization and retrofits, and window upgrades.[7]

Greenhouse Gas Reduction Strategies

Land use patterns and development can occur in ways that are more sustainable and help to conserve resources. Sustainable development recognizes the connections between land use, natural resources and transportation to reduce energy consumption, reduce dependence on the automobile, and provide long term environmental benefits, health benefits, and cost savings. The 1996 Framework Element of the General Plan is the City's strategy for growth, setting a citywide context to guide decision-making. The Plan clearly sets forth a vision of sustainable growth in that it focuses on growth occurring in specific areas linked to existing and planned infrastructure and services, with a strong emphasis on creating growth near public transportation and job centers. The primary objectives of the policies in the Framework Element's Land Use chapter are to support the viability of the City's residential neighborhoods and commercial districts, and, when growth occurs, to encourage sustainable growth in a number of higher-intensity commercial and mixed-use districts, centers and boulevards and industrial districts particularly in proximity to transportation corridors and transit stations.

Since the adoption of the 2013-2021 Housing Element, the City of Los Angeles has implemented several key programs to holistically address the need for accelerating affordable housing production along with transportation and other infrastructure investments that complement evolving design standards to improve the lives of Angelenos in the most vulnerable communities. This vision is carried out each time a Community Plan is updated, where growth considerations including proximity to transit and jobs shape land use designations and zoning. Similarly, the Transit Oriented Communities (TOC) Affordable Housing Incentive Program has built on the overall vision of the framework to ensure that much of our recent growth in housing, especially affordable housing, occurs near existing and planned transit.

[7] The complete list of rebates available to residential customers through LADWP can be found here: https://www.ladwp.com/ladwp/faces/ladwp/residential/r-savemoney/r-sm-rebatesandprograms?_adf.ctrl-state=1dvtzc9a0k_4&_afrLoop=496043549217702

Measure JJJ & Transit Oriented Communities (TOC) Program

In 2016, Los Angeles voters approved Measure JJJ (also known as "Build Better LA"), which among other provisions, required the Department of City Planning (DCP) to create a program to further incentivize affordable housing near transit. DCP developed program guidelines for what is now the Transit Oriented Communities (TOC) Affordable Housing Incentive Program, which became effective on September 22, 2017 (for more information see Appendix 2.1). The program encourages affordable housing within one-half mile of major transit stops by providing for additional density, reduced parking, and other zoning incentives for projects that include covenanted affordable units. The TOC program is now a major way to produce transit-oriented, mixed-income housing in Los Angeles. Between 2017 and December 2020, the TOC program produced applications for more than 35,000 housing units throughout the City. More than 7,500 (or 22%) of these units are restricted affordable units.

State and Local initiatives

State grant programs are an important component of funding local and community-based initiatives. The programs listed below are examples of local implementation aimed at improving sustainability and affordable housing production in low-income, frontline environmental justice communities

Transformative Climate Communities

The Transformative Climate Communities Program (TCC) funds community-led development and infrastructure projects that achieve major environmental, health and economic benefits in California's most disadvantaged communities. TCC empowers the communities most impacted by pollution to choose their own goals, strategies and projects to enact transformational change with data driven milestones and measurable outcomes. The California Strategic Growth Council (SGC) awards TCC grants and partners with the California Department of Conservation to implement them. TCC is part of California Climate Investments (cap-and-trade dollars at work). Within the City of Los Angeles, two communities have been part of the TCC program, Watts and the Northeast San Fernando Valley.

Affordable Housing and Sustainable Communities (AHSC) Program

The AHSC Program is a competitive state funding program with the primary objective to reduce greenhouse gas (GHG) emissions by providing funding for investments in

affordable housing development, transportation, and programs that encourage residents to walk, bike, and use public transit. Funded by the Greenhouse Gas Reduction Fund (GGRF) auction proceeds from California's Cap-and-Trade program, AHSC awards funding to create holistic communities with affordable housing and transportation options near jobs and other key destinations. Established in 2014, AHSC is administered by the SGC and implemented by the California Department of Housing and Community Development (HCD). More recently, the SGC has established an annual cycle of AHSC award rounds, with applications due every February and funding awards announced in June. The AHSC Program receives an annual statutory allocation (per Senate Bill 862) of 20% of the GGRF auction proceeds through 2030. To date, the AHSC Program has awarded over $1.1 billion in grant funds for projects across the state, with much more to follow as this program continues. Successful projects are defined as those that substantially reduce GHG emissions by increasing access to affordable housing, employment centers, and key destinations through sustainable transportation options. As a result, projects include both an affordable housing component and a sustainable transportation scope of work. Projects are competitively scored based on established scoring criteria, including GHG emissions reductions efficiency, length of active transportation improvements, and green building status. Combined with the prior AHSC awards, the City has successfully secured approximately $330.8 million to support 28 developments with 2,943 new housing units, of which 2,668 are affordable, and an array of GHG emission-reducing transit infrastructure projects.