



CITY COUNCIL AGENDA STATEMENT



~~October 6, 2020~~
~~November 17, 2020~~
December 1, 2020

File ID: ~~20-0316~~
~~20-0426~~
20-0482

TITLE

ORDINANCE OF THE CITY OF CHULA VISTA AMENDING CHAPTER 15.26 OF THE CHULA VISTA MUNICIPAL CODE TO ESTABLISH ENERGY UPGRADE REQUIREMENTS FOR ADDITIONS AND REMODELS TO SINGLE FAMILY HOMES AND CONDOS (SECOND READING AND ADOPTION)

RECOMMENDED ACTION

Council adopt the ordinance .

SUMMARY

The City's most recent Climate Action Plan was adopted in 2017 and lays out a path to reduce greenhouse gas (GHG) emissions. One of the innovative GHG reduction strategies from the energy sector included requiring energy-savings retrofits in existing buildings. This action builds on previous City climate actions that focused on increased energy standards for new buildings by expanding similar requirements to existing buildings. As the City works to make new homes more energy efficient this ordinance will also allow us to improve the energy efficiency of older homes that can see the most benefits. The proposed increased energy efficiency standards would affect some pre-2006 residential properties that are undergoing additions or remodels.

Based on the attached cost effectiveness studies created by the California Public Utilities Commission (CPUC) and Investor Owned Utilities, City staff has determined that the proposed requirements exceed existing Title 24 energy requirements and are cost effective and are anticipated to lower utility bills for applicable Chula Vista residents. The proposed ordinance requires that homes built before 2006 make a number of energy efficiency upgrades when they are also pursuing an addition or remodeling of their home. A significant threshold was selected to focus on the larger projects that will be able to incorporate these energy efficiency items and receive the most benefit. To add more flexibility, the ordinance allows residents to select the energy efficiency improvements they would like to include in their project from a list of measures. While staff recommends each project implement all measures on the list, only a specific number of measures are required. Additionally, exemptions have been added for low-income homeowners, homes where similar measures have already been completed and homes that cannot make the upgrades for technical or financial reasons. In ten years, it is estimated that these requirements could save approximately 641 metric tons CO₂e emissions and \$559,000 in utility costs per year, by 2040, those figures rise to 1,340 metric tons and \$1.1 million in bill savings annually. These savings exceed Title 24 energy savings but assume that projects will include all recommended energy efficiency measures in their projects, if residents choose to select less

measures there will be an estimated reduction of energy savings. When modeling homeowners not choosing to add insulation to parts of the home not being remodeled reduced energy savings by 50% so it will be incumbent on staff to have a robust education campaign that will show the homeowner the benefit of installing this more expensive solution.

ENVIRONMENTAL REVIEW

The Development Services Director has reviewed the proposed Project for compliance with the California Environmental Quality Act (CEQA) and has determined that the Project qualifies for a Categorical Exemption pursuant to State CEQA Guidelines Section 15308 Class 8 (Actions by Regulatory Agencies for Protection of the Environment) and Section 15301 Class 1 (Existing Facilities). The proposal seeks to help address the local threat of climate change by reducing greenhouse gas (GHG) emissions and lowering vulnerability to anticipated climate change impacts. Thus, no further environmental review is necessary. In addition, notwithstanding the foregoing, the Development Services Director has also determined that the Project qualifies for an Exemption pursuant to Section 15061(b)(3) of the California Environmental Quality Act State Guidelines.

BOARD/COMMISSION/COMMITTEE RECOMMENDATION

The Sustainability Commission (SSC) on September 9th, 2019 unanimously supported the proposed requirements.

The Board of Appeals and Advisors on February 10th, 2020 recommended that City Council adopt the ordinance.

DISCUSSION

The 2017 Climate Action Plan (CAP) and related implementation actions were established through an extensive outreach effort to Chula Vista residents and communities. The Climate Change Working Group (CCWG) was chaired by Sustainability Commission members and consisted of 13 other members representing various community sectors. In November 2014, City Council adopted the 12 GHG reduction strategies that the CCWG presented, which included requiring energy savings retrofits in existing buildings.

These CCWG recommendations were subsequently incorporated into the CAP adopted by the City Council in September 2017. Working with community stakeholders and consultants, city staff have created the Home Energy Sustainability Ordinance. Staff brought the item to City Council on March 3rd, 2020 and were directed to increase flexibility and decrease the implementation costs for applicants while ensuring that low-income residents would not be impacted. To achieve this, the ordinance now includes flexibility in selecting the measures applicants want to install in their project and a reduced number of required high implementation cost measures.

This proposed ordinance builds off previous energy efficiency efforts the City Council has approved such as the Commercial Outdoor LED Ordinance, above Title 24 “reach codes” for new homes and financing to allow residents to finance energy saving projects. The City of Carlsbad, Santa Monica and West Hollywood have also adopted a similar ordinance which went into effect in 2019. After Council approval, the California Energy Commission (CEC) must confirm that the proposed ordinance meets certain requirements including that the City has made a cost effectiveness finding. There are two common measures of cost effectiveness,

simple payback and benefit-to-cost ratio. Simple payback divides the up-front installation cost by the expected utility bill savings each year. The result is a simple measure of the number of years it takes to “pay back” the initial investment. The lower the number, the quicker a measure pays back and the more cost effective it is. Benefit- to - cost ratio divides the lifecycle benefits over the one-time costs. Lifecycle benefits are calculated over 30 years and discounted at 3%. Benefit-to-cost ratios above 1.0 are considered cost effective and the higher the ratio, the better. In addition, every three years, as updated state building codes are adopted, the City will be able to seek new approval from the CEC by affirming via letter that the cost-effectiveness of these requirements is unaffected by the new standards rather than adopting a new ordinance.

Table 1 Timeline

Task / Milestone	Date
Present to City Council (first reading)	11/17/20
City Council (second reading)	12/1/20
Submit California Energy Commission (CEC) Application	12/2/20
Receive CEC Response (expected)	1/14/20
File with California Building Standards Commission (expected)	1/14/21
Effective Date (30 days following CEC approval)	2/14/20

Proposed Home Energy Sustainability Ordinance

The proposed Home Energy Sustainability Ordinance requires that homes built before 2006 make some number of energy efficiency upgrades, see Table 2, when they are also making an addition or remodeling of their home. Based on the age of the home and the Climate Zone where the home is located, a different number of energy efficiency upgrades are required. The reason for the different requirements is because typically older or more inland homes consume more energy and have more opportunities to save energy.

Location	Year Home Was Built	Required Energy Efficiency Measures
All City	2006 or newer	0
All zip codes except 91914	2005 to 1979	2
All zip codes except 91914	1978 or older	3
91914	2005 or older	4

Table 2 Required Energy Efficiency Upgrades

The requirements are based on the Statewide Cost Effectiveness Study, attached with a Chula Vista Summary. All of the proposed requirements were found to be cost-effective in the energy simulations performed by these studies. Based on forecasted projects, staff estimates that if all recommended energy efficiency measures are included in projects, the average home will save more than \$170 in utility costs per year and take 8.3 years to recover the implementation costs of approximately \$1,400. Cumulatively over the first 10 years the combined implementation costs will total approximately \$4.9 million for all recommended energy upgrades and are expected to save \$14.5 million in utility costs over their useful life. The costs and savings are expected to be 50% lower if older homes choose not to install attic installation. Staff assumes that residents will select not to include the highest cost improvement, attic insulation, and therefore it will be incumbent on staff to educate and inform homeowners of the significant benefits derived from installing attic installation during their home remodel projects. For information about the possible energy efficiency measure see table 3, more detailed information is included in the ordinance documents.

Table 3 Energy Efficiency Measures Installation Details

Measure Name	Description
R-38 Attic Insulation	Add attic insulation in buildings with vented attic spaces to meet R-38.
Air Sealing	Apply air sealing practices throughout all accessible areas of the building. All joints, penetrations and other openings in the building envelope that are potential sources of air leakage shall be caulked, gasketed, weather stripped or otherwise sealed to limit infiltration and exfiltration. Homes with one or more vented combustion appliances must have a Building Performance Institute (BPI) Combustion Appliance Safety Inspection performed after air sealing.
Cool Roof	For steep slope roofs, install a roofing product rated by the Cool Roof Rating Council (CRRC) with an aged solar reflectance of 0.25 or higher and thermal emittance of 0.75 or higher.
Duct Sealing	Air seal all ductwork if the heating system were being replaced.
LED Lighting	Replace screw-in halogen, incandescent or CFL light bulbs with LED light bulbs.
Water Heating Package	Water Heater Blanket: Add R-6 insulation to the exterior of existing residential tank storage water heaters manufactured before April 2015. Requirement is waived for water heaters with internal tank insulation of at least R-16. Hot Water Pipe Insulation: Insulate all accessible hot water pipes with

	<p>R-3 pipe insulation.</p> <p>Low Flow Fixtures: Upgrade sink and shower fittings to meet current CALGreen requirements, which require maximum flow rates of 1.8 gallons per minute (gpm) for showerheads and kitchen faucets, and 1.2 gpm for bathroom faucets.</p>
Windows	<p>Replace existing single pane windows with a dual pane product, which has a U-factor equal to 0.32 or lower and a Solar Heat Gain Coefficient (SHGC) equal to 0.25 or lower.</p>
Water Heater Replacement	<p>High Efficiency Heat Pump Water Heater: Replace natural gas storage water heater, or, tankless water heater having a Energy Factor of .81 or less, with Heat Pump Water Heater with Uniform Energy Factor (UEF) of at least 3.1 (Northwest Energy Efficiency Alliance Tier 3).</p> <p>-or-</p> <p>High Efficiency Tankless Water Heater: Replace natural gas storage water heater, or, tankless water heater having an Energy Factor of .81 or less, with tankless water heater with a minimum Energy Factor of 0.96.</p>
Air Conditioner Replacement	<p>High Efficiency Air Conditioner: Replace an existing air conditioner having a SEER rating of 13 or less with an air conditioner of at least 18 SEER.</p> <p>-or-</p> <p>High Efficiency Heat Pump: Replace an existing air conditioner having a SEER rating of 13 or less with a Heat Pump of at least 18 SEER.</p>

Depending on the condition of the home, the homes location and the measures installed, the energy savings are expected to recover implementation costs within 7.9 to 10.7 years. Costs and expended energy saving will be reduced if residents choose to not install all recommended measures. For an overview of the cost-effectiveness of proposed requirements see the attached “Summary Cost-Effectiveness Results”.

The climate zones are created by the California Energy Commission to guide building requirements and align with zip codes. Within the City of Chula Vista, zip code 91914 lies within climate zone 10 and the rest of the city is located in climate zone 7. This proposed ordinance is expected to impact 3,872 homes which, if all recommended energy efficiency measures are taken should reduce approximately 3,218 metric ton (MT) of carbon emissions and save an estimated \$2.9 million over the first 10 years. The savings will help the City meet the energy and carbon reduction goals included in Objective 3.3 of the 2017 Climate Action Plan.

Staff anticipate that some homeowners and contractors may find other ways to reach the same energy reduction levels in their projects. The ordinance accommodates this option, providing a “performance path”

that would allow owners to concurrently complete an alternative set of energy measures that performs equal to or better than the applicable prescribed measures. Additionally, these energy efficiency upgrades may benefit homes not making additions or remodels and staff would encourage all residents to view the attached “Chula Vista Energy Efficiency Fact Sheet” or visit www.chulavistaca.gov/departments/clean/retrofit for more information about making their home more energy efficient.

Co-Benefits

The energy and pollution reductions are the main objectives of the ordinance but there are other important co-benefits that can also be achieved with the energy upgrades. Improvements such as air and duct sealing can improve indoor air quality by keeping outside contaminants out of the homes living spaces. Additionally, attic insulation is also an important tool to keep indoor temperatures stable during summer and winter, which helps our region respond to extreme weather events. Finally, this ordinance would also help increase equity in the City by helping to more residents take advantage of newer energy upgrades that are required in new homes.

Exemptions

These proposed energy efficiency requirements are an effort to bring existing buildings closer to the energy efficiency of current energy code for new homes and reducing energy usage and lowering utility bills. The required updates are cost effective energy efficiency measures that have been widely available for years. Staff assumes that some residents may have already voluntarily adopted them. The following exemptions are designed for homes that have already undertaken voluntary energy updates.

- Low-income homeowners
- Homes where similar measures have already been completed
- Homes that have received a high score from a trusted third-party energy efficiency audit (such as a Department of Energy (DOE) Home Energy Score (HES) of at least 8 out of 10)
- Homes with on-site photovoltaics in place offsetting at least 95% of the annual electricity and gas-equivalent usage

Additionally, a property would be exempt for the reasons stated below:

- Project Value Cutoff - If the cost of completing required energy efficiency measures exceeds 20% of the overall project cost without those measures, applicants can propose a more limited set from among the required measures which does not exceed 20%.
- Technically/Financial infeasibility – If the prescribed measures would be technically infeasible or not be cost-effective due to unique characteristics of home or other special circumstances.
- Home Owners Association (HOA) Restrictions - A measure is beyond the authority of the homeowner due to HOA covenant
- Exempt Project Types - An Addition or Remodel consists solely of medically necessary improvements, or principally of, solar PV, solar water heating, electrical upgrades for PV or electric vehicle (EV) charging, or energy storage.

Required Next Steps

In order for the City to adopt and enforce increased building energy standards, the City must submit an application to the California Energy Commission (CEC) and obtain approval before the increased standards can take effect. The application submittal must include:

- 1) The proposed standards as adopted by Council
- 2) The City's determination that the proposed standards will save energy and are cost-effective
- 3) A study with supporting analysis for the City's energy savings and cost effectiveness findings

The proposed ordinance includes the necessary energy savings and cost effectiveness findings. By reviewing the attached cost effectiveness study and adopting this proposed ordinance, Council will be making the cost effectiveness and energy savings determinations mentioned above. After City Council votes on the proposed ordinance after the first reading, staff will submit the application to the CEC for their review and approval, a process that can take up to three months. After CEC approval, staff will file the ordinance with the California Building Standards Commission and the ordinance will go into effect 30 days after the CEC approval. After City Council Approval, staff will begin preparing for the ordinance to take effect by working with various internal departments and stakeholders to educate impacted parties about the requirements and how they can be met.

DECISION-MAKER CONFLICT

Staff has reviewed the decision contemplated by this action and has determined that it is not site-specific and consequently, the real property holdings of the City Council members do not create a disqualifying real property-related financial conflict of interest under the Political Reform Act (Cal. Gov't Code § 87100, et seq.).

Staff is not independently aware and has not been informed by any City Council member, of any other fact that may constitute a basis for a decision-maker conflict of interest in this matter.

CURRENT-YEAR FISCAL IMPACT

No current year fiscal impact. The building permit review and inspection time associated with implementing this ordinance will be funded through building permit fees; outreach and education time will be supported through existing Economic Development Department funds.

ONGOING FISCAL IMPACT

No ongoing fiscal impact. The building permit review and inspection time associated with implementing this ordinance will be funded through building permit fees.

ATTACHMENTS

1. Existing Home Energy Sustainability Ordinance Summary
2. Summary Cost-Effectiveness Results
3. Existing Building Efficiency Upgrade Cost-Effectiveness Study
4. Existing Home Energy Sustainability Ordinance Overview
5. Chula Vista Energy Efficiency Fact Sheet

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