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Council Agenda Report

Department Name: Community Development
Cost Center: 4006
For Agenda of: June 16, 2020
Placement: Public Hearing
Estimated Time: 60 Minutes

FROM: Michael Codron, Director, Community Development Department
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SUBJECT: CONSIDERATION OF A RESOLUTION ESTABLISHING A POLICY FOR CLEAN ENERGY CHOICE FOR NEW BUILDINGS AND IMPLEMENTATION MEASURES INCLUDING AN ORDINANCE APPROVING LOCAL AMENDMENTS TO THE ENERGY CODE AND AN ORDINANCE ESTABLISHING REGULATORY FLEXIBILITY FOR A LIMITED TERM TO SUPPORT ALL-ELECTRIC NEW BUILDINGS

RECOMMENDATION

1. Adopt a Resolution entitled "Clean Energy Choice Policy for New Buildings," rescinding R-11044 (2019 Series) and re-establishing a policy framework in support of local amendments to the California Energy Code (Attachment A); and
2. Introduce an Ordinance implementing an Energy Reach Code entitled "Local Amendments to Part 6 (Energy) of the 2019 California Building Code" adding Chapter 15.04.110, entitled "Amendments – California Energy Code", to the City's Municipal Code (Attachment B); and
3. Introduce an Ordinance to provide regulatory flexibility through December 31, 2022 in support of the Clean Energy Choice Incentive Program (Attachment C); and
4. Direct staff to return to Council in June 2021 with a summary of program performance and the Carbon Offset Program for deliberation and action.

REPORT-IN-BRIEF

In September of 2018 and February of 2019, Council directed staff to develop a proposal to avoid generating new greenhouse gas emissions as the result of energy use in new buildings. Due to rapid improvements in electric appliances, improved methods to quantify the impact of natural gas to the climate crises, changes to the California Energy Code, and residents and businesses purchasing electricity supply from carbon neutral resources via Monterey Bay Community Power, on September 3, 2019, Council formalized the policy preference for new buildings to be all-electric through adoption of Resolution R-11044 (2019 Series).[1]

This report identifies programs to implement Council's policy preference for all-electric new buildings. To achieve Council direction, staff's recommendation includes three of four total components, collectively referred to as the Clean Energy Choice Program for New Buildings:

[1] The September 3, 2019 Council Agenda Report is provided as Attachment D and the full public record is available at http://opengov.slocity.org/WebLink/DocView.aspx?id=96415&dbid=0&repo=CityClerk

1) A Resolution re-establishing a "Clean Energy Choice" policy that new buildings should be all-electric (Attachment A).
2) Local amendments to the California Energy Code requiring solar panels on new nonresidential buildings, requiring new buildings with natural gas to be built to a substantially higher performance standard, and requiring new residential buildings with natural gas to include "retrofit ready" requirements (Attachment B).
3) An incentive program outlining technical support, financial support, communication support, and including an ordinance to allow for regulatory flexibility (Attachment C).

Using the 2019 Statewide Cost Effectiveness Studies completed by the California Statewide Codes and Standards Program, which was vetted through a public process including PG&E and SoCal Gas, the City may make findings that the proposed building code amendments related to building energy performance are cost effective and use less energy than the standard State Code. The California Energy Commission (CEC) must agree with the City's analysis before the local amendments to the California Energy Code can go into effect. The cost effectiveness studies are provided as Attachment E (low-rise residential) and Attachment F (nonresidential, high-rise residential, and hotels).

Staff has also developed a four-part incentive program to assist with the transition to designing and building all-electric new buildings. The incentive program includes technical support, access to direct financial incentives for multi-family housing and affordable housing projects through Monterey Bay Community Power, regulatory flexibility, and communications and marketing support for all-electric new buildings.

Overall, the Clean Energy Choice Program for New Buildings is an incremental approach to avoid the generation of new greenhouse gas emissions as the result of new development. At build-out of the City's General Plan (2035), the Clean Energy Choice Program is anticipated to avoid 6,250 Metric Tons of CO2 equivalence ($MTCO_2e$) per year. The annual amount of avoided emissions would be equivalent to taking 1,320 passenger vehicles off the road or planting nearly 160,000 trees to sequester carbon.[2,3]

The Clean Energy Choice Program for New Buildings was developed with input from local developers, electricians, architects, builders, designers, technical consultants, the California Energy Commission, peer cities, utility partners, and community members.

Should Council move forward with staff's recommendation, the second reading of the Ordinances would occur on July 7, 2020. Pending California Energy Commission approval of the local amendments to the California Energy Code, the program would go into effect by September 1, 2020.

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[2] Equivalencies are provided by the Environmental Protection Agency at: https://19january2017snapshot.epa.gov/sites/production/files/widgets/ghg_calc/calculator.html#results

[3] Note that the September 3, 2019 Council Agenda Report estimated that the Clean Energy Choice Program for New Buildings would reduce emissions by 7,800 MTCO2e per year in 2035. Through additional work completed for the climate action plan and updated assumptions regarding program participation, this number has been revised down to the 6,250 $MTCO_2e$ reduction referenced in this report.

DISCUSSION

Background

This report provides a description of the September 3, 2019 Council action taken in support of the Clean Energy Choice Program for New Buildings, an overview of the Clean Energy Choice Program for New Buildings (including minor proposed changes to the program and removing the Carbon Offset Program for consideration at a future date), new components including the Clean Energy Choice Incentive Program, potential legal concerns, and statewide momentum toward all-electric new development.

Previous Council Action

On September 3, 2019, Council approved the Clean Energy Choice Program for New Buildings, which included Resolution R-11044 (2019 Series) stating the Council's preference for all-electric new buildings, the introduction of an ordinance outlining local amendments to the California Energy Code, and introducing an ordinance establishing the Carbon Offset Program.[4,5]

Prior to final adoption of the ordinances, the City received notification of potential administrative action under review by the Fair Political Practices Commission (FPPC) with respect to an alleged conflict of interest involving Councilmember Pease. The City Attorney had sought the advice of the FPPC in this matter, however, once the FPPC began an investigation associated with the complaint, the request moved from the advice unit to the enforcement unit, to which the normal timeframes for FPPC advice do not apply. As of the writing of this report, there has been no resolution of the pending complaint by the FPPC. As a result, moving forward at this time will require Councilmember Pease's recusal in the matter. In addition, it is staff's recommendation that the City Council rescind and readopt its resolution in support of the Clean Energy Choice Program for New Buildings and the implementing ordinances and reintroduce those measures without Councilmember Pease's participation.

Clean Energy Choice Program for New Buildings Overview

The proposed Clean Energy Choice Program for New Buildings encourages all-electric new buildings through incentives and local amendments to the Building Code and Zoning Regulations. Figures 1 and 2 illustrate the proposed pathways for obtaining a City building permit through compliance with the adopted components of the Clean Energy Choice Program for New Buildings and program components are described in detail below.

Two key definitions of terms used throughout this report and in the attached resolution and ordinances are:

1. "ALL-ELECTRIC BUILDING" is a new building that has no natural gas plumbing installed within the building and that uses electricity as the source of energy for all space heating, water heating, cooking appliances, and clothes drying appliances. An All-Electric Building may be plumbed for the use of natural gas as fuel for appliances in a commercial kitchen.[6]

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[4] The Council Agenda Report is provided as Attachment D and the full public record is available at http://opengov.slocity.org/WebLink/DocView.aspx?id=96415&dbid=0&repo=CityClerk

[5] The Carbon Offset Program, which was proposed as part of the September 3, 2019 meeting, has been separated from this item for consideration at a future date.

[6] Note that the September 3, 2019 Council Agenda Report recommended exemptions for commercial *cooking*

2. "MIXED-FUEL BUILDING" is a new building that is plumbed for the use of natural gas as fuel for space heating, water heating, cooking or clothes drying appliances.

Figure 1 – Low-Rise Residential and Single-Family Residential Policy Approach

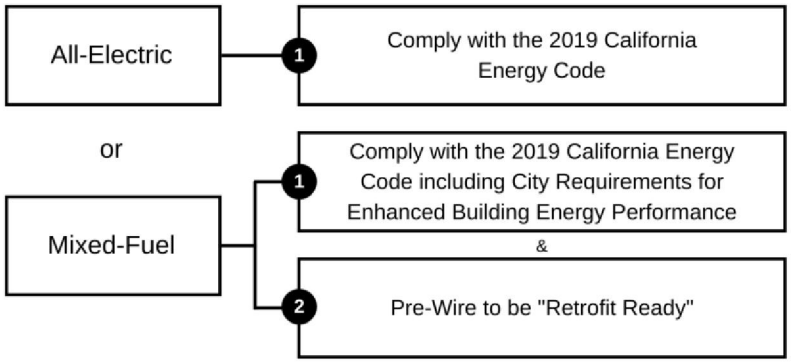
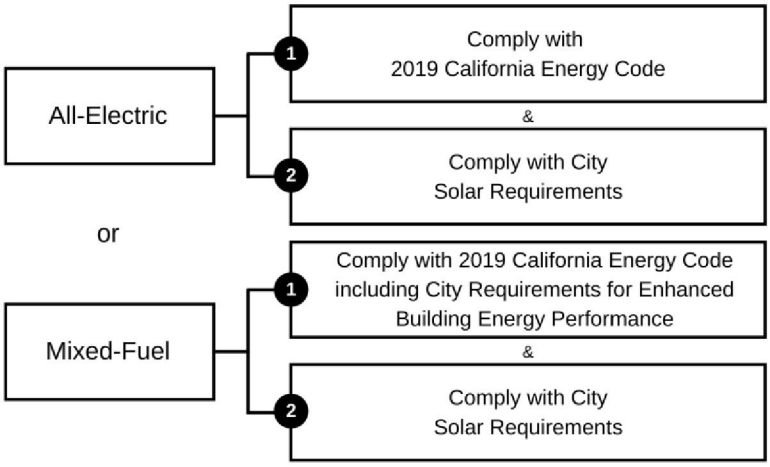


Figure 2 – Nonresidential Policy Approach



1. Building Code – Energy Requirements

The California Energy Code contains energy efficiency standards for residential and nonresidential buildings. Public Resources Code Section 25402.1(h)(2) and Section 10-106 of the Building Energy Efficiency Standards establish a process that allows local adoption of energy standards that are more stringent than the statewide standards.[7,8] Under this process, the CEC requires any local amendments to the California Energy Code that affect energy use in regulated buildings to be cost effective and use less energy than the standard requirements. In the proposed Clean Energy Choice Program for New Buildings, the City may make findings that all proposed amendments (increasing building performance requirements for mixed-fuel buildings and requiring solar on nonresidential, high rise hotel, and mid to high rise residential buildings) are "cost effective" and use less energy than the standard state requirements. Cost effectiveness and energy use considerations and findings are provided

equipment only. This has been updated to exempt all appliances in commercial kitchens.
[7] Public Resources Code Section 25402.1: http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=25402.1.
[8] Building Energy Efficiency Standards: https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf

later in this report and in the local amendments to California Energy Code Ordinance.

Under the local amendments to the California Energy Code, new buildings with natural gas (e.g. mixed-fuel buildings) would be required to have enhanced building performance. As noted in Table 1, single-family and low-rise multifamily residential new buildings would be required to exceed the standard design Total Energy Design Rating (EDR)[9] score by at least 9.5 and 9 points, respectively. Table 1 also identifies performance requirement for new non-residential buildings (15% better than code for office/retail, 9% better for hotel/motel, and 5% better for other nonresidential uses).

The enhanced EDR requirements and nonresidential compliance margins reflect the maximum cost-effective compliance margins that can be achieved using federal appliance efficiency standards as reported in the statewide cost effectiveness studies. In other words, the standards are achievable through the performance pathway *without using appliances that exceed federal efficiency standards.*

Table 1. Proposed Improved Energy Performance Standards

Building Type	Performance Requirement	Requirement Justification
Single-family	Exceed the standard Energy Design Rating by at least 9.5 points	Maximum cost-effective Total Energy Design Rating
Low-rise multifamily	Exceed the standard Energy Design Rating by at least 9 points	Maximum cost-effective Total Energy Design Rating
Office/retail	15% compliance margin	Maximum cost-effective compliance margin
Hotel/motel and high-rise residential	9% compliance margin	Maximum cost-effective compliance margin
Other nonresidential with indoor lighting & mechanical	5% compliance margin	Maximum cost-effective compliance margin
Other nonresidential with indoor lighting or mechanical, but not both	5% compliance margin	Maximum cost-effective compliance margin

2. Nonresidential, High-Rise Residential, and Hotel Solar Requirements

The 2019 California Energy Code requires all new low-rise residential buildings to include solar photovoltaic panels and requires non-residential, high-rise residential, and hotel buildings to be "solar ready".[10] Given that the design and supporting components will already be completed as a requirement of State Law, the proposed amendment to the Energy Code would require the additional step of installing solar panels on the entire Solar Zone of a

[9] Total Energy Design Rating (EDR): The 2019 Energy Code includes EDR as a new metric for measuring the relative energy performance of a building.

[10] Section 110.10 of the California Energy Code provides standards for single family, low-rise residential, high-rise residential, hotels, and nonresidential buildings to be ready to easily incorporate solar, including requirements for minimum solar zones (area for installed or future solar panels), interconnection pathways, and electrical service panels: https://ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf

nonresidential, high-rise residential, or hotel building.[11] The 2019 California Energy Code already requires the design and designation of a building's Solar Zone, this provision would add the additional requirement to install solar panels in the designated space.

3. Building Code – "Electric Ready" Requirements
   To minimize future retrofit or energy transition costs, residential buildings that choose to include natural gas will be required to pre-wire to be "retrofit ready."[12] Proposed requirements for each natural gas or plumbed propane appliance include:

   1. Minimum space requirements for a future electric requirement
   2. A dedicated electrical circuit that can be connected to the electrical panel
   3. A double pole breaker in the electrical panel labeled with the name of the appliance

4. Applicability and Exemptions
   The Clean Energy Choice Program for New Buildings would apply to all new residential and nonresidential buildings that are subject to the California Energy Code. The use of natural gas for certain uses (e.g., industrial, medical, and outdoor decorative uses) are not governed by the Energy Code for buildings and would not be subject to the local amendments to the California Energy Code. There are also specific exemptions to the program requirements. For example, the definition of an all-electric building includes an allowance for the use of natural gas for appliances in a commercial kitchen. The list of exemptions below was developed based on feedback from members of the public and through consideration of other City goals and objectives:

   1. The extension of natural gas infrastructure into an industrial building for the purpose of supporting manufacturing processes (i.e. not including space conditioning).
   2. Accessory Dwelling Units that are attached to an existing single-family home.
   3. Essential Service Buildings including, but not limited to, public facilities, hospitals, medical centers, and emergency operations centers).
   4. Temporary buildings.
   5. Gas line connections used exclusively for emergency generators.
   6. Any buildings or building components exempt from the California Energy Code.
   7. Residential subdivisions in process of permitting or constructing initial public improvements for any phase of a final map recorded prior to July 1, 2020, unless compliance is required by an existing Development Agreement.
   8. Any new building that is considered a "stationary source" of pollution already covered by California's "Cap and Trade" program.

5. Cost Effectiveness

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[11] Section 110.10(b) of the California Energy Code describes the solar zone as follow: The solar zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project, and shall have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.

[12] Staff originally considered including retrofit ready requirements for nonresidential buildings, but due to project variability and the high potential for inaccurately system sizing, they have been removed. Staff recommends that these additional considerations are reconsidered as part of the 2022 California Building Code update.

As described above, Section 10-106 of the Building Energy Efficiency Standards establishes a process that allows local adoption of energy standards that are more stringent than the statewide standards. Under this process, the CEC requires any local amendments to the California Energy Code that affect energy use in regulated buildings to be cost effective and use less energy than the standard requirements. The CEC requires the local agency to adopt a determination that the energy standards are cost effective at a public meeting. The determination must subsequently be filed with the Energy Commission.

In support of code development, the California Statewide Codes & Standards Program, which includes the State's Investor Owned Utilities (PG&E, SoCal Gas, SDG&E, and SCE, under the auspices of the California Public Utilities Commission) developed the 2019 Statewide Cost Effectiveness Study for Nonresidential Development (including nonresidential, high-rise residential, and hotel buildings) and the 2019 Statewide Cost Effectiveness Study for Low-Rise Residential New Construction (including single family homes and multi-family buildings under four stories), which are provided as Attachments E and F. These studies are highly detailed and are included in the record to support the Council's findings and policy decisions. These studies are the basis for staff's cost effectiveness findings and staff finds the studies sufficient to illustrate compliance with the requirements set forth under California Administrative Code Chapter 10-106. Based on these studies, staff finds the proposed local amendments to the 2019 California Energy Code that affect building energy use are cost-effective and consume less energy than permitted by Title 24, Part 6.[13]

The Clean Energy Choice Program for New Buildings has multiple implementing actions, including the code amendments as provided in Attachment B. The actions presented in staff's recommendation and in Attachment B that are required to pass the cost effectiveness and energy reduction tests are limited to the following:[14]

1. Per Figures 17, 24, and 31 of the 2019 Nonresidential New Construction Reach Code Cost Effectiveness Study (Attachment F), the City's amendments to require additional efficiency compliance margins for energy performance in nonresidential (nonresidential, high-rise residential, and hotels) mixed-fuel buildings reduce energy and are cost effective.
2. Per Figures 38, 39, and 40 of the 2019 Nonresidential New Construction Reach Code Cost Effectiveness Study (Attachment F), the City's amendments to require solar on nonresidential (nonresidential, high rise residential, and hotels) buildings reduce energy and are cost effective.
3. Per Table 57 and Table 58 of the 2019 Cost-effectiveness Study: Low-Rise Residential New Construction (Attachment E), the City's amendments to require a lower Energy Design Rating score in low-rise residential mixed-fuel buildings (single family residential and multifamily buildings three stories and shorter) reduce energy and are cost effective.

Clean Energy Choice Incentive Program

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[13] In August 2019, SoCal Gas provided additional information about offsite infrastructure costs. This information was not relevant to the City's cost effectiveness findings related to the proposed local amendments to the California Energy Code as described in this report.

[1414] Based on discussion with CEC Energy Division staff, pre-wiring requirements do not affect the building's energy use and therefore are not subject to the requirements of Section 10-106.

The Clean Energy Choice Program for New Buildings will include incentives and support to facilitate a successful transition to cost-effective, all-electric new buildings. This incentive program was proposed by stakeholders and supported by City Council. The proposed incentive package has been vetted by developers and stakeholders and includes the following:

- *Technical Support:* The City has established on-call professional design and consulting services with 4LEAF, Inc. to answer technical questions about the Clean Energy Choice Program for New Buildings. Together, the City and 4LEAF, Inc. will document procedures for evaluating all-electric buildings and publish educational materials including a compliance guide, webpage, and video. With these materials as a foundation, 4LEAF, Inc. will also provide a telephone hotline and Community Development Department counter "office hours" to support project applicants in interpreting the California Energy Code and designing all-electric new buildings.

- *Financial Incentives:* Monterey Bay Community Power (MBCP) is currently developing a multi-year direct incentive program with an initial funding amount of $1.2 million through the end of September 2020. MBCP staff has communicated that the program will be available for new all-electric multi-family and affordable housing units in its service territory and is expected to begin taking applications in May of 2020. More information is available at https://www.mbcommunitypower.org/building-programs/.

- *Regulatory Flexibility:* The City is proposing regulatory flexibility to address design challenges that may arise during the initial transition period to all-electric buildings. The regulatory flexibility would be enabled via the ordinance provided as Attachment C which would apply to building permits with an application date between July 1, 2020 and December 31, 2022. The ordinance would permit the Director of Community Development to grant minor allowances to site development standards when all the following circumstances apply:

    1. The request directly relates to construction of an all-electric structure and may include, but is not limited to, issues such as the installation of mechanical equipment;
    2. The request provides the minor flexibility needed to design a project with all-electric buildings and results in better implementation of other Zoning Regulations or General Plan policies while allowing reasonable use of sites;
    3. The request is minor in nature and does not have the potential to cause a significant effect on the environment; and
    4. The Findings in Section 17.108.040 are met.

    On February 26, 2020 the Planning Commission considered the proposed ordinance at a public hearing. The Planning Commission voted 5-0-2 (Kahn and Stevenson absent) to recommend that the City Council introduce and adopt the ordinance with minor modifications for clarity.

- *Telling the Story:* For many in the community who have not been following California Public Utilities proceedings, California Energy Commission rulemaking processes, or the

rapid advance of electric appliances and renewable energy technologies, the statewide movement to support all-electric new buildings may be unexpected. To address this issue, the City will develop and share educational materials about the environmental and operational benefits of all-electric new buildings. The materials are intended to be made so that builders and other partners can place their branding on the communications to "co-own" the story. The City intends to develop and provide initial materials to partners in late Summer of 2020.

The City will continue to learn how it can best support the community as all-electric buildings become a more common building type and will re-evaluate the need to expand, remove, or add incentives to support successful projects as part of the 2022 California Energy Code Update Cycle.

Carbon Offset Program
Concurrent with the local amendments to the California Energy Code and the incentive program outlined above, staff developed the Carbon Offset Program, which would require a new mixed-fuel building to offset its new natural gas use through direct energy efficiency or electrification retrofit of an existing building. The program would also provide an option to pay an in-lieu fee to accomplish the same outcome. Staff will monitor development over the next year to determine the efficacy of building code and incentive portions of the Clean Energy Choice Program and potential need for the Carbon Offset Program.

Ongoing Public Engagement
The initial conversation regarding building decarbonization occurred through City Council study sessions publicly held on September 18, 2018 and February 19, 2019. Since then, the City has led, supported, or attended public engagement events as outlined in Table 3.

Table 3. Public Engagement Events Prior to September 3, 2019

Event & Date	Description
Energy code workshop #1 May 1, 2019	Staff held a kickoff workshop for developers, builders, and design professionals to review the City's approach to the code amendments, early feasibility and cost effectiveness funding findings, and to discuss potential concerns and issues. Following the meeting, staff met directly with the developers and builders of San Luis Ranch, Avila Ranch, and Righetti Ranch.
Builders Roundtable May 13, 2019	Staff presented the initial building code concept to the Developer's Roundtable for feedback.
Planning Commission May 22, 2019 and July 24, 2019	Staff met with the Planning Commission on two occasions to explain the reasoning behind the development of local amendments to the energy section of the building code and to present proposed code language. The items were informational at both meetings.
Chamber of Commerce Legislative Action Committee July 11, 2019	Staff presented the reasoning behind the development of local amendments to the energy section of the building code and proposed approaches to the Chamber of Commerce Legislative Action Committee. City staff has been working closely with Chamber Staff to respond to comments.

Event & Date	Description
Energy code workshop #2 – Code and Offset Program Review July 24, 2019	Staff held an open workshop for developers, builders and design professionals to review the proposed local amendments to the California Energy Code and Carbon Offset Program. The event was attended by 35 individuals representing and led to additional revisions to the proposed code language and approach.
Public Comment Period August 9, 2019	On July 22, 2019, the City posted draft building code amendment language for a public comment period, which closed on August 9, 2019. The City received 93 comments from over 15 individual commenters including residents, architects, electricians, statewide experts, and the California Energy Commission.
Electrification Expo August 22, 2019	The City partnered with the Tri-County Regional Energy Network and the Climate Coalition to host a half day training for design professionals on the 2019 California Building Code, a panel discussion for residents and businesses to better understand the potential benefits and challenges of all electric/carbon free buildings, and an electrification expo hosted at the Downtown Association Farmer's Market.
City Council Public Hearing September 3, 2019	Staff presented two ordinances and a resolution to implement the Clean Energy Choice Program for new buildings. Council approved the first reading of the ordinances and adopted the resolution.

Following the September 3, 2019 City Council meeting, staff worked with builder, designers, realtors, and MBCP to provide education and to identify useful components of an incentive program. The City led, supported, or attended the public engagement events identified in Table 4.

Table 4. Public Engagement Events Since September 3, 2019

Event & Date	Description
Small-group stakeholder meetings September-November, 2019	Staff met with numerous builders, designers, developers, and trade professionals to discuss potential implementation challenges and resolutions to those challenges.
HBA Builder's Breakfast October 5, 2019	Staff presented the Clean Energy Choice Program for New Buildings to the Home Builder's Association (HBA) Builder's Breakfast and facilitated a discussion about incentives that would lead to successful implementation.
SLO Association of Realtors' Meeting October 9, 2019	Staff presented the Clean Energy Choice Program for New Buildings to the SLO Association of Realtors' monthly meeting and facilitated a discussion about incentives that would lead to successful implementation.
Women's Council of Realtors January 16, 2020	Staff presented the Clean Energy Choice Program for New Buildings to the Women's Council of Realtors member luncheon.
Social Media February-April, 2020	Beginning in February 2020, Staff shared weekly information about the Clean Energy Choice Program for New Buildings on the City's Instagram, Facebook and Twitter accounts. All posts included direction to summary fact sheets at www.slocity.org/cleanenergychoice.
SoCal Gas February 26, 2020	Staff met in-person with SoCal Gas staff to discuss the Clean Energy Choice Program for New Buildings, inclusion of SoCal Gas partnership in the City's Climate Action Plan, potential advanced technology pilot projects, and other opportunities for collaboration.

Event & Date	Description
Developers Roundtable March 10, 2020	Staff presented the updated Clean Energy Choice Program for New Buildings, including the incentive program to the Developers Roundtable.

Legal Considerations
In October of 2019, staff received a letter from a community member outlining potential legal concerns with the Clean Energy Choice Program for New Buildings. The City contracted with the law firm Shute Mihaly & Weinberger (SMW) to review the concerns. SMW possesses extensive experience in the energy and local government sectors. SMW has carefully reviewed the potential legal concerns and based on that assessment, staff concludes the Clean Energy Choice Policy for New Buildings represents a valid exercise of the City's powers and is not in conflict with or pre-empted by any state or federal law, including CEQA.

Statewide Updates
Since August of 2019, 29 other local governments have approved policies to support all-electric new buildings (with more than 20 additional local governments taking action expected by the end of 2020). The State of California has also taken sustained action towards supporting all-electric new buildings, including the Public Utilities Commission's decision to make the statewide energy efficiency funding pool open for electrification, a proposed decision for over $44 million in technical research and direct support for building electrification, and a new proceeding to discuss the future of the natural gas grid in California. As the state continues to work towards its legislative targets of reducing emissions 40 percent below 1990 levels by 2030 and carbon neutrality by 2045, the statewide movement toward all-electric new buildings is expected to rapidly accelerate.

Greenhouse Gas Emissions and All-Electric New Buildings
Energy use in buildings is the second largest source of greenhouse gas emissions in California and in San Luis Obispo.[15] Most emissions from buildings come from two sources: purchased electricity and direct combustion of natural gas for space and water heating and cooking. California's electrical grid is rapidly changing. In 2018, about 38 percent of electricity consumed on the California grid came from fossil fueled generation sources, which is a decrease of almost 50 percent from 2010.[16,17] This decrease will continue to occur over the next 25 years. By 2045 the entire California grid is required to have 100 percent carbon free resources (SB100), and as of 2020 all new residential buildings will be required to have onsite solar generation systems.[18] These regulations will continue to significantly reduce greenhouse gas emissions from electricity used in buildings.

The previously referenced cost-effectiveness studies found that in San Luis Obispo's climate zone, all-electric residential and nonresidential buildings built using the 2019 California Energy Code have a substantially lower greenhouse gas emissions impact than a similar building that includes natural gas.[19] These findings have been confirmed through numerous studies and

[15] https://ww2.arb.ca.gov/research/research-green-buildings
[16] https://ww2.energy.ca.gov/almanac/electricity_data/total_system_power.html
[17] https://ww2.energy.ca.gov/almanac/electricity_data/system_power/2010_total_system_power.html
[18] https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100
[19] Using 2018 California electrical grid-wide emissions factors, and factoring in San Luis Obispo's Climate Zone,

reports. For example, an article titled, "Quantifying Greenhouse Gas Emissions and the Marginal Cost of Carbon Abatement for Residential Buildings under California's 2019 Title 24 Energy Code" published in the September 2019 volume of the Journal of Environmental Science and Technology notes that, "all-electric homes represent the first-best policy option for residential sector [greenhouse gas] abatement in California."[20] Additional reports support these findings, including research focused on residential buildings, space and water heating, and how heat-pump electrical appliances can accommodate large amounts of renewable energy on the grid.[21,22]

The 2019 California Energy Code is one of the most stringent and effective energy codes in the nation. Although there is always room to improve efficiency, and alternative building methods can lead to further improvements, an all-electric new building using California's electrical grid and built to the minimum standards of the 2019 code is one of the lowest operational greenhouse gas emitting buildings in the nation.

In January 2020, the City began service with Monterey Bay Community Power (MBCP) - a Community Choice Aggregation (CCA) public agency that procures carbon-free energy sources on an annual basis for the communities it serves. The agency has already supported new renewable energy projects by contracting for a large solar and storage facility in California, large wind farms in New Mexico (with transmission lines to the California grid), a geothermal plant in California, and ongoing support for eventual development of offshore wind and battery storage along the Central Coast. MBCP continues to solicit proposals to build new renewable energy resources and is currently exploring numerous new renewable energy projects. Leveraging MBCP's carbon-free resources, combined with high-efficiency electric appliances and the 2019 California Energy Code, all-electric new buildings constructed in San Luis Obispo are considered operationally carbon neutral.

Previous Council Action and Policy Context
Previous Council Action and Policy Context are described in detail in the September 3, 2019 Council Agenda Report, provided as Attachment D.

Schedule and Next Steps
Should Council approve staff's recommendations, work would proceed on the timeline provided in Table 5.

Table 5. Schedule and Next Steps

Task	Timeframe
Second reading of the Clean Energy Choice Program for New Buildings ordinances and submittal of local amendments to the	July 7, 2020

the 2019 Energy Code compliant all-electric buildings are projected to emit approximately 40 percent fewer greenhouse gas emissions than a 2019 Energy Code compliant mixed-fuel building. For multi-family buildings, the study reports a savings of approximately 30 percent. These savings will increase as the grid continues to become cleaner and in San Luis Obispo these buildings are functionally carbon neutral through participation in Monterey Bay Community Power, as described in the body of this report.

[20] https://pubs.acs.org/doi/abs/10.1021/acs.est.9b02869

[21] https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf

[22] https://www.sciencedirect.com/science/article/pii/S1040619018302331?via%3Dihub

Task	Timeframe
California Energy Code to the California Energy Commission.	
Receive approval from the California Energy Commission	July-August 2020
Clean Energy Choice Program goes into effect	September 1, 2020

CONCURRENCE

The Office of Sustainability, Community Development, Fire Department and Utilities Department concurs with the recommendations in this report.

ENVIRONMENTAL REVIEW

The Clean Energy Choice Program for New Buildings ordinances are categorically exempt from CEQA because they constitute actions taken by a regulatory agency for the purpose of protecting the environment (CEQA Guidelines Section 15308). In addition, these ordinances are exempt from CEQA under the General Rule, 15061(b)(3), on the grounds that these standards are more stringent than the State energy standards, there are no reasonably foreseeable adverse impacts, and there is no possibility that the activity in question may have a significant effect on the environment.

As supported by the 2019 Statewide Cost Effectiveness Studies, the Clean Energy Choice Program ordinances affect building energy performance to be cost-effective and consume less energy than permitted by Title 24, Part 6 and results in lower energy use. Further, the studies demonstrate that the ordinances would not result in an increase in the cost to develop housing. Additionally, the ordinances are expected to have a net benefit to the environment through the reduction in GHG emissions. The ordinances are limited in application to the construction of new buildings. The proposed Clean Energy Choice Program for New Buildings is supported by PG&E and there is no evidence that the electrical grid would be negatively impacted or that any effects on the electrical grid would impact public safety. Given that the State has a directive to go carbon neutral by 2045, the ordinances also fit within the statewide framework toward decarbonization that is already underway.
The ordinance to provide regulatory flexibility is additionally categorically exempt from environmental review under the Class 3 exemptions for (1) construction and location of limited numbers of new small facilities or structures (2) installation of small new equipment and facilities in small structures (15303 CEQA Guidelines).

FISCAL IMPACT

Budgeted: Yes Budget Year: 2019-20
Funding Identified: Yes/No

Fiscal Analysis:

Funding Sources	Total Budget Available	Current Funding Request	Remaining Balance	Annual Ongoing Cost
General Fund	$50,000	0$	$0	TBD
Total	**$50,000**		$0	TBD

The Clean Energy Choice Program for New Buildings is a 2019-21 Climate Action Major City Goal work task and staff time is included in the 2019-20 budget to develop this proposal, submit to the CEC, and have it in place to begin implementation in 2020. The $50,000 figure presented in the Fiscal Analysis Table, above, represents encumbered funds for the technical support component for the Clean Energy Choice Incentive Program.

ALTERNATIVES

1. ***Include Carbon Offset Requirement.*** The City Council could direct staff to include a Carbon Offset Program to implement the full Clean Energy Choice Program for New Buildings. This action will require staff to return to the Council for consideration of an implementing ordinance, administrative guidelines and an in-lieu fee program.
2. ***No Action.*** The City Council could decide to take no action on the proposed Clean Energy Choice Program for New Buildings. If the Council chooses this option, direction should be provided to staff if any additional follow-up is desired.

Attachments:

a - Draft Resolution - Clean Energy Choice Program

b - Draft Ordinance - Local Amendments to the California Energy Code

c - Draft Ordinance - Regulatory Flexibility

d - Council Agenda Report dated September 3, 2019

e - COUNCIL READING FILE - 2019 Residential Cost Effectiveness Study

f - COUNCIL READING FILE - 2019 Nonresidential Cost Effectiveness Study