



BOARD OF SUPERVISORS
AGENDA LETTER

Agenda Number:

Clerk of the Board of Supervisors
105 E. Anapamu Street, Suite 407
Santa Barbara, CA 93101
(805) 568-2240

Department Name: Community Services
Department No.: 057
For Agenda Of: October 4, 2022
Placement: Departmental
Estimated Time: 1 hour
Continued Item: No
If Yes, date from:
Vote Required: Majority

TO: Board of Supervisors
FROM: Department
Director George Chapjian, Community Services Director
(805) 568-2467
Contact Info: Ashley Watkins, Sustainability Division Chief
(805) 568-3514

SUBJECT: Building Electrification Ordinance

County Counsel Concurrence

As to form: Yes

Other Concurrence: Planning & Development

As to form: Yes

Auditor-Controller Concurrence

As to form: Yes

Recommended Actions:

- A. Direct staff to proceed with developing an ordinance that regulates natural gas infrastructure in new construction, additions, and major alterations, based on health and safety concerns and climatic, geological, and topographical conditions (Option 4), or provide other direction to Staff; and
- B. Determine that the above recommended actions do not constitute a project pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15378(b)(2), as this involves continuing administrative activities; when projects and programs proceed to implementation, they may be subject to environmental review under CEQA; and that the above recommended actions are exempt from CEQA pursuant to CEQA Guidelines Section 15308, which consists of actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment.

Summary Text:

This item is being presented to your Board to provide staff with direction regarding options for regulating natural gas infrastructure in new buildings, additions, and alterations. On April 5, 2022, staff provided the final Energy and Climate Action Plan report along with several options for early climate actions that could be taken to reduce emissions. At that time, the Board directed staff to develop an ordinance to regulate natural gas use in new construction.

Staff have conducted significant research and explored four policy options that would meet the Board's direction. Staff recommend proceeding with Option 4: Develop a local ordinance that regulates natural gas infrastructure in new construction, additions, and major alterations, citing health and safety concerns. This option would help the County meet its carbon emission reduction target, have the greatest impact, and be the most straightforward to develop and implement. It would also provide regional consistency along the Central Coast, thus reducing confusion for the local building industry. The policy option considerations and the justification for the recommendation are outlined below.

Background:

Natural gas is methane. Methane is approximately 25 times more potent as a greenhouse gas (GHG) than carbon-dioxide over a 100-year span. In addition to the emissions from burning methane gas, leaks throughout gas storage, transmission, and distribution systems have a substantial short-term impact on the atmosphere due to the global warming potential (GWP) of methane. Burning gas releases toxic byproducts like nitrogen dioxide, formaldehyde, and carbon monoxide, which reduces indoor and outdoor air quality. Several studies show indoor methane natural gas combustion can increase asthma rates in children.¹

Methane gas infrastructure is particularly vulnerable during seismic events where ruptured gas lines create a high fire risk that can lead to much greater property damage.

Methane gas use in buildings is the next largest source of carbon emissions after vehicle transportation in the County. As the electric grid supply is decarbonized, or no longer supplied by fossil fuel generation sources, methane gas use remains the last source of carbon emissions in buildings. Reducing emissions from methane gas use in buildings to the greatest extent is essential to achieving the County's 50% carbon emission reduction target by 2030.

Building electrification (also called building decarbonization or fuel switching) will play a key role in reducing carbon emissions and preventing the lock-in of future emissions. It entails designing and constructing new buildings to exclusively use electric equipment for space heating, water heating, cooking, and drying machines instead of gas-fired equipment and appliances.

Heat pumps are appliances that provide heating and cooling by moving heat from one place to another, taking advantage of temperature differentials. Heat pumps can replace resistance heating in many places, reducing electric consumption and customer utility bills. Heat pumps can utilize ambient air, refrigerants, stable ground temperatures, and water to achieve this function. Advances in heat pump technology and generous rebates have made building electrification more attainable and affordable.

¹ Weiwei Lin, Bert Brunekreef, Ulrike Gehring, Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children, *International Journal of Epidemiology*, Volume 42, Issue 6, December 2013, Pages 1724–1737.

Buildings are long-term assets with energy-consuming equipment that essentially “lock in” system infrastructure for many years. While usually affecting a relatively small percentage of the building stock, local building codes affecting new construction are an important and necessary step for jurisdictions seeking to avoid unnecessary emissions which will be costlier to mitigate in the future.

The California Air Resources Board recently released its 2022 Scoping Plan, which serves as the State’s plan to meet its carbon reduction goals. The Scoping Plan recommends all-electric buildings become standard for residential construction starting in 2026 and non-residential construction starting in 2029. The Scoping Plan provides an extensive overview and background on building decarbonization considerations (Attachment 1). Additionally, staff have prepared a document containing Frequently Asked Questions (Attachment 2).

Building Decarbonization Policy Options

Decarbonizing buildings will require a host of strategies to shift market supply and demand for all-electric equipment and installation and construction services. To start, a best practice is to adopt a local ordinance affecting new construction.

Staff have evaluated several policy options for regulating methane gas in new construction. They are listed below in order of effectiveness and preference (least to most) based on the following considerations:

- **Option 1: Develop a Carbon Impact Fee**

A Carbon Impact Fee could be assessed at the time of permit application to assess the cost of carbon impacts from a project. This would still allow for choice to utilize natural gas, but would financially discourage projects from utilizing methane gas. A nexus study would have to be completed in order to determine the cost of the fee. Cost considerations could include the cost of emitting one ton of carbon dioxide equivalents, including 'non-market' impacts on the environment and human health. Another approach could be to create a program to retrofit existing buildings with all-electric equipment to offset the impacts of the new development, and the assessed fee on the new development could be equal to the cost of retrofitting those buildings. Staff do not recommend this approach for the following reasons: developing a fee and mitigation program would take a considerable amount of time and resources, including a complex nexus study; the avoidance of methane natural gas infrastructure is not guaranteed by the fee; and, the fee would be a limited source of program revenue as the statewide construction standard moves closer to all-electric.

- **Option 2: Lower the County’s Greenhouse Gas (GHG) Thresholds of Significance**

The Thresholds of Significance are used by the County to screen larger projects seeking discretionary approval that need to ensure the projects are avoiding or mitigating local and regional impacts. The Interim Thresholds, adopted by the Board on January 26, 2021, currently include a 300-metric ton threshold for carbon emissions. This threshold is roughly equivalent to 62,000 square feet of detached single-family housing or 26,000 square feet of commercial space. During the development of the 2030 Climate Action Plan, staff will update the Interim Thresholds to Final. This provides an opportunity to lower the threshold and potentially capture smaller projects. Staff do not recommend this as the sole mechanism to regulate methane natural gas as smaller projects would not be addressed by the Thresholds, nor would it guarantee the avoidance of natural gas infrastructure.

- **Option 3: Develop a local energy ordinance (reach code) that discourages or regulates natural gas infrastructure in new construction, additions, and major alterations**

A ‘reach code’ is a local building energy code that goes beyond the requirements of the State for energy efficiency and/or energy performance. Reach codes would either have to be updated to be consistent with - or more aggressive than - the State’s triennial code update or be allowed to expire. In prior years, reach codes focused on increasing energy efficiency and energy performance of buildings. When requiring increased energy performance beyond State codes, the County would need to demonstrate that the requirements are cost effective (the cost of the measure is less than the operational lifetime savings) and are not preempted by Federal appliance standards, and County must obtain approval from the California Energy Commission (CEC). This adds complexity and time to the development and implementation process.

Reach codes could also, and more simply, require all-electric to-code construction. This means a building would have to be constructed to be all-electric, but would not have to be more efficient than State code. This would not require approval from the CEC. Staff do not recommend a reach code that requires increased energy performance, so as to avoid having to obtain CEC approval, which is time consuming and requires re-adoption.

- **Option 4: Develop a local ordinance that prohibits natural gas infrastructure in new construction, additions, and major alterations, citing health and safety concerns**

A local ordinance could be adopted, citing health and safety concerns, to regulate the use of natural gas infrastructure, to address prohibiting the extension of natural gas infrastructure in new construction, e.g., new buildings, additions, and alterations. An ordinance prohibiting the extension of methane natural gas infrastructure in new buildings utilizes the jurisdiction’s police powers through the California Health and Safety Code. The City of Santa Barbara adopted its ban on methane natural gas infrastructure in January 2021. The County of Ventura’s recently adopted 2040 General Plan requires the County to amend the County Building Code to prohibit methane natural gas connections to new residential and commercial buildings. Such an ordinance would be relatively straightforward to adopt and implement, would be the most effective at ensuring compliance and would not require approval from the CEC. This would be the single-most effective and lowest resource cost measure the County can implement to reduce and avoid carbon emissions. By regulating new methane natural gas infrastructure in at least new residential buildings, staff estimate that the County would avoid over 10,000 metric tons of carbon emissions, or roughly 8% of forecasted methane natural gas emissions by 2030. This is an essential and foundational step to reducing carbon emissions from buildings and meeting the County’s reduction target. This would provide regional consistency along the Central Coast, thus reducing confusion for the building industry. For the above stated reasons, staff recommend proceeding with this option to develop an ordinance that prohibits the extension of methane natural gas infrastructure in new construction, major alterations, remodels and additions of a certain size.

How would it work? Who would it apply to?

The City of Santa Barbara adopted its ban on methane natural gas infrastructure in new buildings in 2021. The City’s ordinance (Attachment 2) exempts restaurants, clean rooms, laboratories, and projects where electrification is not feasible or deemed to be in the public interest. Staff recommend applying the ordinance to as much new construction (additions and alterations) and to as many building types unless

where infeasible or cost prohibitive. Staff also recommend applying the ordinance to alterations, which could include projects that demolish, modify, or replace 50% or more of roof framing or exterior walls exterior finish material, for example, to be consistent with Chapter 10 of the Santa Barbara County Code. Proposed applicability and exemptions will be vetted and drafted in close coordination with community stakeholders and Planning & Development. Staff request that the Board provide direction on the above-mentioned considerations, such as applicability, exemptions, effective dates, etc.

Following the Board's direction, staff will work with the utilities, Central Coast Community Energy, the Tri-County Regional Energy Network, and interested stakeholders, such as local contractors, builder associations, and chambers of commerce, to prepare an ordinance for Board adoption. Staff will also coordinate with local jurisdictions that are interested in developing similar ordinances to promote regional consistency.

Performance Measure:

Annual greenhouse gas emissions (in unincorporated County areas): 50% reduction below 2018 levels by 2030

Fiscal and Facilities Impacts:

Budgeted:

Yes, Sustainability staff time from the General Fund is budgeted for development of the Ordinance. The County may be eligible to receive \$15,000 from the Tri-County Regional Energy Network's (3C-REN) Energy Code Connect program after the ordinance is adopted.

Staffing Impacts:

Sustainability staff will leverage technical assistance from public / investor-owned utilities and 3C-REN to develop the ordinance, conduct outreach, and prepare for implementation.

Special Instructions:

Please provide one copy of the minute order to Ashley Watkins.

Attachments:

Attachment 1: California Air Resources Board Draft 2022 Scoping Plan, Appendix F. Building Decarbonization

Attachment 2: City of Santa Barbara Natural Gas Prohibition Information & Request Form

Attachment 3: Building Electrification Frequently Asked Questions

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Authored by:

Garrett Wong, Climate Program Manager

cc: