

**DOCKETED**

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<b>Project Title:</b>	Local Ordinances Exceeding the 2019 Energy Code
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<b>Document Title:</b>	City Council Agenda Staff Report
<b>Description:</b>	Staff Report regarding the second reading of Healdsburg's 2020 Reach Code dated December 16, 2019
<b>Filer:</b>	Danuta Drozdowicz
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**CITY OF HEALDSBURG  
CITY COUNCIL AGENDA STAFF REPORT**

**MEETING DATE:** December 16, 2019

**SUBJECT:** Second Reading of Healdsburg's 2020 Energy Reach Code

**PREPARED BY:** Felicia Smith, Utility Conservation Analyst

**STRATEGIC INITIATIVE(S):**  
Effective & Efficient Government

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**RECOMMENDED ACTION(S):**

Adopt by reference upon second reading and waive further reading of the text, the 2020 Energy Reach Code, with amendments to increase building electrification.

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**BACKGROUND:**

Local governments can adopt optional local building code amendments, known as “reach codes”, that exceed state code standards. Cities and Counties can adopt amendments to the Energy Code (Title 24, Part 6) and California Green Building Standards CALGreen (Title 24, Part 11) codes to meet local environmental goals.

As the State and region quickly move toward renewable energy, future building standards will likely require electrification of buildings. Addressing electrification now for new buildings avoids hardships and costs for building owners in the future. Through SB 100 the state is requiring that power providers achieve 60 percent renewable energy by 2030 and 100 percent renewable and carbon free electricity by 2045.

GHG Emissions

In the upcoming code cycle, the City has forecasted the construction of approximately 130 dwelling units, a combination of market-rate and income restricted housing. Below, the table quantifies the estimated Greenhouse Gases (“GHG”) emissions of a 2019 code compliant home that has electric space and water heating that is 2,000 square feet.

**Annual GHG Emissions per home in metric tons of carbon dioxide equivalent**

<b>Reach Code</b>	<b>Annual GHG Emissions per home (MT CO<sub>2</sub>e)</b>	<b>Annual GHG Emissions for 130 homes (MT CO<sub>2</sub>e)</b>
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Electric Space and Water Heating Reach Code (Natural Gas and Electric)	1.34	174.2
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City Council Direction

Staff presented reach code options and recommendations at two City Council meetings. At the October 21, 2019 meeting, City Council directed staff to develop an ordinance to increase building electrification by requiring electric space and water heating but allowing natural gas for cooking and decorative fireplaces for low rise residential and non-residential newly constructed buildings. On December 2, 2019, City Council approved the first reading of the 2020 Energy Reach Code.

**DISCUSSION/ANALYSIS:**

The proposed reach code ordinance requires efficient electric heating and water heating appliances in newly constructed buildings but allows for gas cooking and decorative fireplaces. Space heating and water heating accounts for approximately two-thirds of average residential energy use. Requiring these uses to be electric results in a measurable reduction of GHG emissions. An average residential home is estimated to avoid 0.7 metric tons of carbon dioxide equivalent annually as compared to a standard mixed fuel code compliant home.

Proposed Reach Code

The proposed reach code applies to newly constructed buildings. Based on City Council direction on October 21, 2019, the reach code ordinance for the City of Healdsburg would have the following standards and requirements:

Summary of proposed Reach Code requirements and standards	
Building Type	Requirements and Standards
New Low-Rise Residential Buildings (single family and multi-family three stories or less)	<p>Requires all-electric building for: space heating, water heating, clothes drying</p> <p><i>Exceptions:</i> Natural gas can be used for cooking, decorative fireplaces, pool and spa equipment</p> <p>Attached accessory dwelling units are exempt</p> <p><i>Mitigation Measure:</i> Prewiring for electric appliances is required where natural gas appliances are used</p>
New Non-Residential Buildings (commercial buildings and high-rise multifamily)	<p>Requires all-electric building for: space heating, water heating, clothes drying</p> <p><i>Exceptions:</i></p>

	<p>Natural gas can be used for cooking, decorative fireplaces, pool heating equipment</p> <p>Non-residential buildings may apply for exemptions under certain conditions</p> <p>Essential service and public facilities (i.e., fire or police stations) may apply for exemption</p> <p><i>Mitigation Measure:</i> For all exemptions, natural gas appliance locations must be electrically pre-wired for future appliance installation when feasible</p>
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**Cost Effectiveness Study Results**

The California Statewide Codes & Standards studies and TRC memorandum present the research and cost effectiveness analysis of various building prototypes with different reach code options. Since Healdsburg is a publicly owned utility, staff had the report evaluated against Healdsburg’s Electric Rates to validate cost effectiveness.

The studies are a tool for communities to select different reach code options ranging from increased energy efficiency to all-electric requirements. The studies provide evidence that the proposed electric requirements for new buildings are cost effective.

The Table below highlights the estimated cost savings for a new all-electric building compared to a mixed fuel building that has natural gas.

<b>Cost savings for all-electric buildings</b>		
<b>Building Type</b>	<b>Construction Savings</b>	<b>Operational Savings</b>
Single family home	Up to \$5,349	\$ 4,416.00
Multifamily - three stores or less	Up to 2,337	\$ 1,755.00
Medium Office	\$ 73,695.00	\$ 32,266.00
Retail	\$ 7,464.00	\$ 22,981.00

A majority of the cost savings is experienced upfront in the construction phase by avoiding the cost to install natural gas infrastructure. The operational savings was calculated using time dependent valuation (“TDV”). TDV was developed by the California Energy Commission (“CEC”) to reflect time dependent value of energy including the long-term projected costs of energy, such as the cost of energy during peak periods. It also provides a value for GHG emissions produced or reduced and related societal costs as part of the calculation. TDV is expressed as the overall lifecycle savings of a building, which for the purposes of the study is 30 years for low rise residential and 15 years for nonresidential.

The proposed reach code creates an exception for cooking and fireplaces. Since that is a voluntary choice, it does not need to be proven to be cost effective. The addition of the rewiring requirement is cost effective since natural gas cooking appliances use electricity for ignition, fans and lights and therefore electrical outlets will already be present.

Based on these studies, the suggested local amendments to the 2019 California Energy Code (Reach Code options), if adopted, would be cost-effective and will not consume more energy than permitted by Title 24, Part 6.

#### Next Steps

If adopted by City Council on December 16, staff will submit the proposed reach code to the CEC for approval. Approval can take up to 60 days. After CEC approval, staff will submit the reach code to the Buildings Standards Commission.

#### **ALTERNATIVES:**

The City Council could choose to modify various aspects of the staff recommendations to accommodate a more precise application. This could include an all-electric reach code with fewer exemptions.

No Action; the City Council could choose not to follow the recommended action and provide further direction to staff on how to achieve an equivalent GHG reduction and meet the Council's climate goals.

#### **FISCAL IMPACT:**

Staff time to develop this program is within existing approved budgets. Assistance from a qualified consultant, Guttman & Blaevoet, is being funded by the Electric Fund's Cap & Trade proceeds and is anticipated to not exceed \$18,000 through completion and presentation of a draft ordinance.

#### **ENVIRONMENTAL ANALYSIS:**

The City Council finds, pursuant to the California Environmental Quality Act ("CEQA") Guidelines Section 15061(b)(3), that this ordinance is exempt from the requirements of CEQA 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.

This ordinance is also exempt under CEQA Guidelines Section 15308 on the grounds that the City, as a regulatory agency, is authorized to amend the Energy Code and Green Building Standards Code. This ordinance assures the maintenance and protection of the environment by amending the Energy Code and Green Building Standards Code to impose more stringent energy efficiency requirements for future building.

#### **ATTACHMENT(S):**

Reach Code Ordinance  
2019 Non-Residential Cost Effectiveness Study

2019 Residential Cost Effectiveness Study  
2019 Healdsburg Electric Cost Effectiveness  
TRC All Electric Memo  
California Pool & Spa Association Letter  
Miller Starr Regalia Correspondence to the City Council