

Building Electrification 1st Reading

Veronika Vostinak, Sustainability Analyst
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City of Half Moon Bay City Council

Process Overview

- ✓ Initiated work on Climate Action and Adaptation Plan
 - ✓ Study Session held with Council on February 2
 - ✓ Draft Ordinance published on April 22
 - ✓ Public outreach conducted June – September
 - ✓ Follow-up Study Sessions September 21 and October 5
 - ✓ Ordinance introduction November 16
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- Anticipated effective date January 7, 2022

Context

- Climate Action and Adaptation Plan
 - Greenhouse Gas Reduction (Climate Action)
 - City's commitment to State Targets
 - Senate Bill 32 (SB 32) – Reduce GHG emissions 40% below 1990 levels by 2030
 - Executive Order (EO) B-55-18 – Achieve carbon neutrality by 2045
 - Adapt to Climate Change Impacts (Climate Adaptation)
 - Sea Level Rise/Coastal Erosion
 - Wildfire
 - Flooding

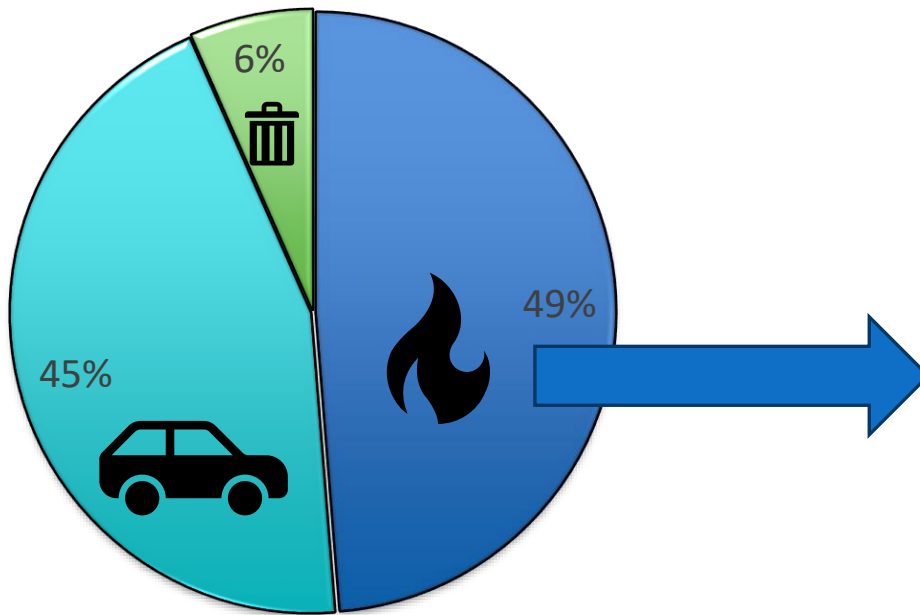
What is Building Electrification?

Building Electrification describes the move away from Fuel Gas (natural gas, propane, etc) powered appliances towards highly-efficient electric alternatives.

Benefits:

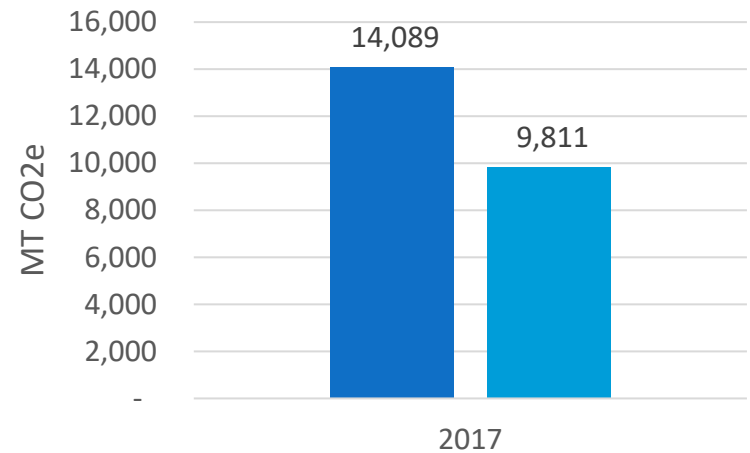
- Assist with Climate Targets
 - 40% GHG reduction by 2030
 - Carbon neutrality by 2045
- Public Health and Safety
 - Indoor air quality
 - Increased asthma rates
 - Earthquake/fire risk

Half Moon Bay GHG Emissions



■ Energy ■ Transportation ■ Solid Waste
■ Wastewater ■ Water

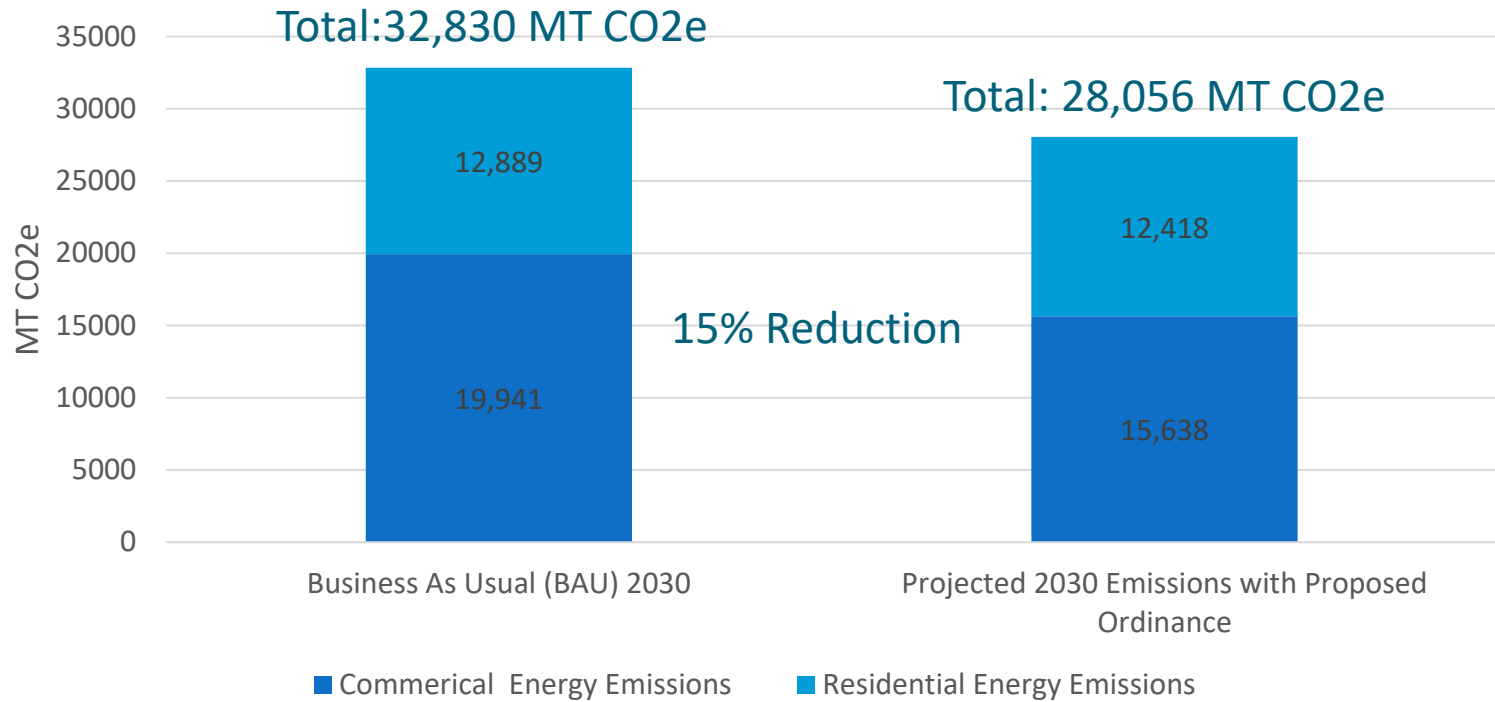
Natural Gas Emissions (2017)



■ Commercial ■ Residential

Half Moon Bay GHG Emissions (2017): 61,522 MT CO2e

2030 Energy GHG Emission Projections



Note: 2017 GHG inventory or projections do NOT account for methane leakage

4/22 Draft Ordinance Provisions

1. All – electric new construction
2. Conversion to electric appliances at the time of replacement
3. All gas lines must be capped/decommissioned by January 1, 2045
4. *Expanded electric vehicle/solar requirements**

Exceptions:

- Small, portable propane tanks
 - Grills, firepits, patio heaters, etc
- Emergency generators (propane, natural gas, petroleum)
- Technical or physical infeasibility
 - Extremely limited instances

**Moved to new PV/EV Reach Code*

Study Sessions

- September 21 and October 5
 - Followed public outreach period
- Public Comment
 - Varied opinions
- Guided Discussion
 - Broad and detailed policy
- Policy Direction
 - Delays in implementation
 - Temporary exceptions

Current Draft

Residential Provisions

Provision	Effective Date
All-Electric New Construction	January 1, 2023*
Prohibition of Conversion to Mixed-Fuel	30 days after Ordinance adoption
Full Electrification of Major Remodels*	January 1, 2025
Pre-wire Minor Remodels	30 days after Ordinance adoption
All-Electric New Appliances	30 days after Ordinance adoption
Exchange of Appliances	January 1, 2023
Termination of Gas Services	January 1, 2045

*For Council discussion

Non-Residential Provisions

Provision	Effective Date
All-Electric New Construction	January 1, 2023*
Prohibition of Conversion to Mixed-Fuel	January 1, 2025
Full Electrification of Major Remodels*	January 1, 2025
Minor Remodels	Not included, revisit in 2024
All-Electric New Appliances	30 days after Ordinance adoption
Exchange of Appliances	January 1, 2025
Termination of Gas Services	January 1, 2045

*For Council discussion

Exceptions

Provision	Expiration Date
PG&E CARE/FERA Customers (Owner-Occupant)	January 1, 2027
Deed Restricted Affordable Housing	January 1, 2027
Commercial Greenhouses	January 1, 2030
Wastewater Treatment Facilities	January 1, 2045
Portable Propane Tanks	N/A
Emergency Generators	N/A
Mobile Homes**	N/A

**Not listed within Ordinance, mobile homes regulated by State

Points for Council Discussion

- Applicability for New Construction
 - "In-Process" applicants have until January 1, 2023 to start construction
- Extended Delay for Commercial Kitchens
 - Not included in Ordinance
- Definition of Major Remodel
 - No consensus on trigger (500 vs. 750 square feet)

Major/Minor Remodel

- 2020 & 2021 Data
 - 8 projects with alterations/additions of 500 – 749 square feet
 - Smaller projects (1-3 rooms)
 - Kitchens, bathrooms, laundry rooms, bedrooms
 - 18 projects with alterations/additions of 750+ square feet
 - Larger projects (3+ rooms, structural/layout changes)
- New ADUs and minor maintenance projects are *excluded*

Residential Retrofit Cost Estimates

Item	Difference in Cost
Range	\$1,000 - \$5,500
Clothes Dryer	\$200 - \$2,500
Space Heating (electric heat pump)	\$4,000 - \$10,000
Water heater (electric heat pump)	\$2,000 - \$3,200
Electric Panel Upgrade (if necessary)	\$4,000 - \$6,000

Total (no panel upgrade): \$7,200 - \$21,200

Total (with panel upgrade): \$11,200 - \$27,200

New TECH Incentives

Appliance	Building Type	Incentive
Heat Pump HVAC	Single-Family	\$3,000
Heat Pump Water Heater	Single-Family	\$3,100
Heat Pump HVAC	Multi-Family	\$2,000 per equipment
Electric Panel Upgrade	Multi-Family	\$1,000 per apartment
Heat Pump Water Heater	Multi-Family	\$1,400 - \$2,100 per equipment

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Recommendation

Conduct a public hearing, waive first reading, and introduce an ordinance adopting a new chapter 14.06 to the Half Moon Bay Municipal Code entitled “Electrification of Buildings.”

Questions?