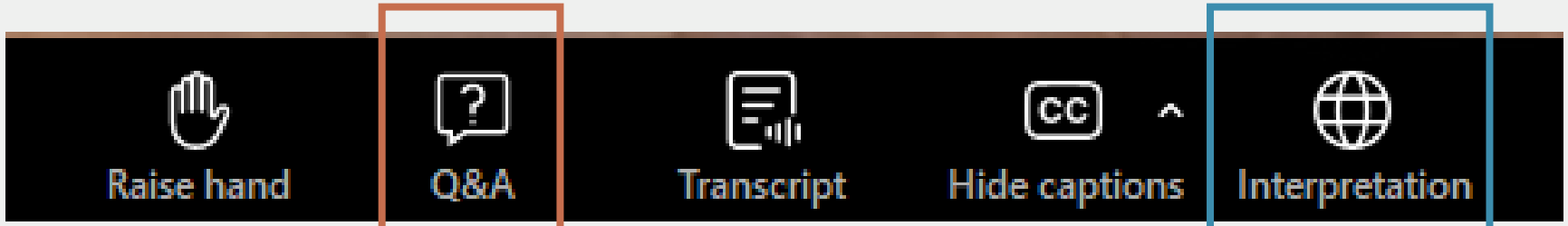
Building a Cleaner Tomorrow: Building Code Amendment Feedback Workshop

Online – May 8, 2025

Welcome to the Zoom webinar

- All microphones are muted and cameras off



Please write your questions in the Q&A

Habrá interpretación en español disponible en este evento

- Use the “Raise Hand” feature during the discussion if you’d like to speak

Agenda

- Welcome!
- What is electrification?
- Why electrify?
- How can we build a cleaner tomorrow?
- Addressing concerns
- Overview of building code options
- Process timeline and opportunities for public input
- Discussion
- Poll

Electrification defined

Switching appliances from using natural gas to carbon-free electricity for heating/ cooling, cooking, and clothes drying in our homes, apartments, offices, stores, and beyond

Space heating and cooling:
Gas furnace → heat pump

Water heating:
Gas water heater → heat pump hot water heater

Cooking:
Gas stove → induction stove

Clothes drying:
Gas clothes drying → electric dryer

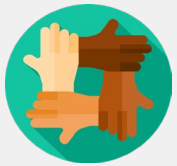
Why electrify?

- **Greenhouse gas emission reductions**
  - Built environment emissions: 43% in 2023

- **Community health**
  - Electronic appliances → improved air pollution, reduced risk of asthma (particularly childhood asthma)

- **Energy affordability**
  - Gas bills could more than double over time

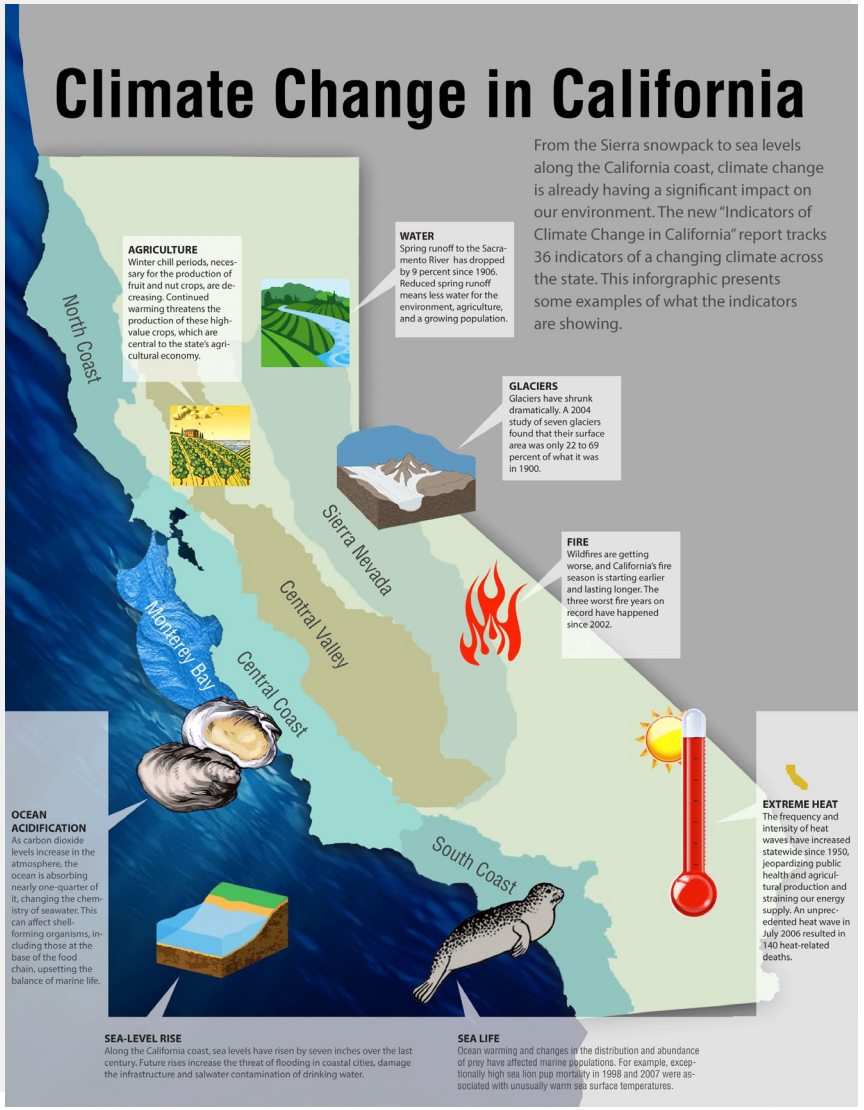
- **Resilience & safety**
  - Decreased fire & carbon monoxide risk, increased resilience with solar and battery storage



- **Equity**
  - Equitable access to health, safety, upgraded buildings & comfort benefits.

The cost of inaction

- Cost of mitigation vs. cost of rebuilding after climate disaster
  - LA fires ($250B in damages)
  - San Diego floods ($1.4B in damages)



https://www.kqed.org/lowdown/12800/how-is-climate-change-affecting-california-infographic

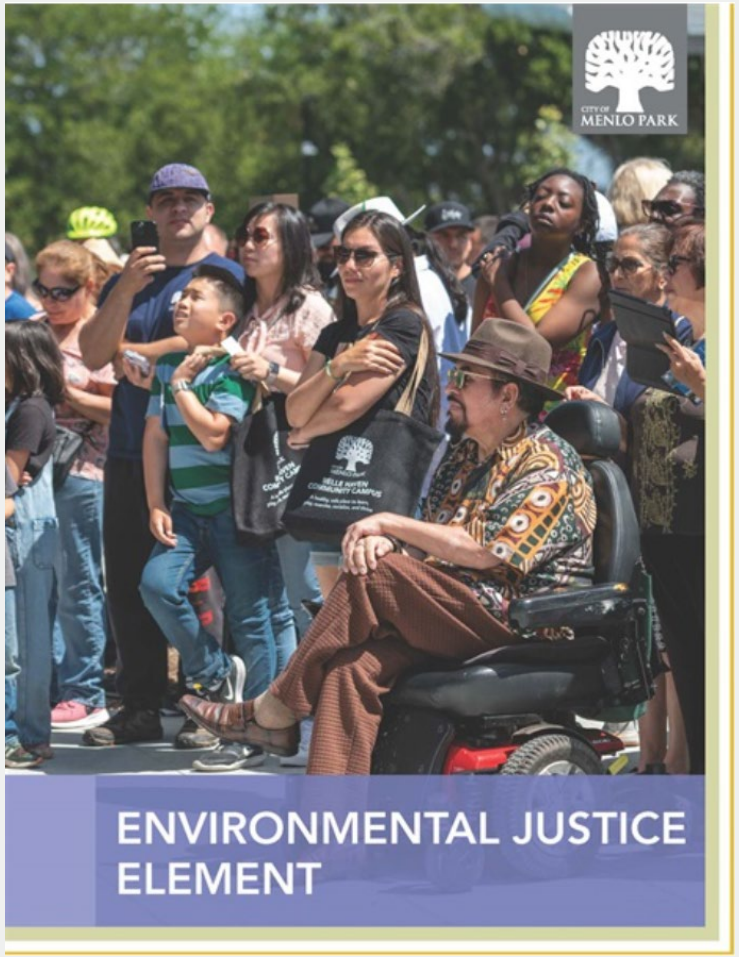
Menlo Park Climate Action Plan (CAP)

- Goal: carbon neutral by 2030
- Six key strategies:
  - **1 - Explore policy/program options to convert 95% of existing buildings to all-electric by 2030**
  - 2 - Set citywide goals for increasing electric vehicles to 100% of new vehicles by 2025 and decreasing gasoline sales 10% a year from a 2018 baseline
  - 3 - Expand access to electric vehicle (EV) charging for multifamily and commercial properties
  - 4 - Reduce vehicle miles traveled (VMT) by 25% or an amount recommended by the Complete Streets Commission
  - 5 - Eliminate the use of fossil fuels from municipal operations
  - 6 - Develop a climate adaption plan to protect the community from sea level rise and flooding

https://menlopark.gov/Government/Departments/City-Managers-Office/Sustainability/Climate-Action-Plan

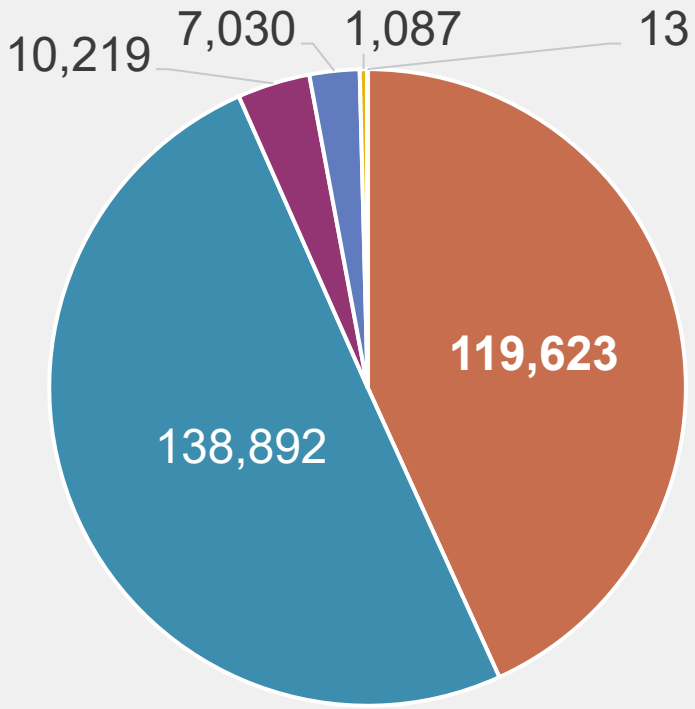
General Plan: Environmental Justice Element

- Sept. 24, 2024, the City adopted its first General Plan Environmental Justice (EJ) Element
- Identifies community priority activities to reduce pollution exposure and improve indoor air quality
- Electrifying home appliances used for space heating, water heating, cooking and clothes drying helps improve air quality



www.menlopark.gov/EJElement

2023 greenhouse gas (GHG) inventory



Building energy was the source of 43% of communitywide emissions

Building Energy
On-road Transportation
Off-road Equipment
Solid Waste
Wastewater
Water

How can we build a cleaner tomorrow?

- Promote voluntary action
  - Education
  - Outreach events
  - City programs
    - Permit fee waiver
    - Home upgrade program
  - Advertise incentives
    - Peninsula Clean Energy (PCE)
    - Bay Area Regional Energy Network (BayREN)
    - TECH Clean California
    - Federal (Inflation Reduction Act (IRA)

- Adopt rules to require action
  - Building code amendments

Visit the City's website to learn more about incentives and get started!

www.menlopark.gov/homeupgrade

Requiring action: building codes

- Building codes set the bar for the worst building allowed to be built without breaking the law
  - Sets minimum standard
- Updated every three years
- Cities can adopt local amendments – specific rules that go beyond the state requirements

What's already included with the 2025 Code?

Heat pump adoption emphasis

- Single-family: Use heat pumps for both space and water heating
- Multifamily: Wider use of heat pump for space heating, plus heat pump water heaters for individual units.
- Nonresidential: Expanded baseline from 2022

Electric-ready emphasis

- Allows owners flexibility to upgrade to electric cooking and water heating when the investment works for them

Cost effectiveness change

- 2025 Calculations will switch from EDR and TDV to Longterm Systemwide Cost (LSC)

Summary fact sheets from Energy Code Ace:

- Single-family buildings: What's changed in 2025
- Multi-family buildings: What's changed in 2025
- Non-residential buildings: What's changed in 2025

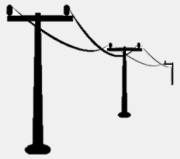
The 2025 Energy Code is effective Jan 1, 2026.

We have heard some concerns

- **Cost**
  - Short term investment but can save you money over time; variable

- **Availability of incentives**
  - Incentives are variable; uncertainty of federal funding; sometimes complicated to apply

- **Gas rates**
  - Gas is considered cheaper than electricity



- **Grid reliability**
  - Power outages from planned power shut offs and increased electricity demand could strain the grid

- **Contractor availability**
  - Many contractors are still encouraging gas equipment installs (familiarity with equipment, single trade install)

Addressing concerns: cost

- Upfront costs for electric equipment is higher, but can be equal to gas (or cheaper) with rebates

- PCE personalized support and full-service programs can help determine specifics for your project https://www.peninsulacleanenergy.com/residential/home-upgrade-services/personalized-support/

- Reference projects can help you see what other similar homes did
  - San Mateo County home electrification case studies - https://www.smcsustainability.org/energy-water/decarbonizing-homes/cost-plans/

Addressing concerns: gas vs. electricity costs

Residential Rate	Mixed-Fuel *New Equipment*	Mixed-Fuel *Existing Equipment*	All-Electric *Minimum Efficiency*	All-Electric *Standard Efficiency*	All-Electric *High Efficiency*
E1 (B)	$3,410	$3,655	$3,810	$3,705	$3,540
E1 (H) (Electric Heating)	-	-	$3,720	$3,615	$3,450
TOU-C (B)	**$3,360**	**$3,605**	$3,690	$3,585	$3,430
TOU-C (H) (Electric Heating)	-	-	$3,600	$3,495	$3,345
EV-2A	-	-	$3,325	$3,245	$3,125
E-ELEC	-	-	**$3,300**	**$3,225**	**$3,110**

Bill savings were seen, even when electrifying with minimum efficiency equipment, as long as the right rate is used. We recommend switching to E-ELEC or EV-2A.

Bill Impacts for Existing Single-family Homes [SVCE & Peninsula Clean Energy 2023 Analysis]

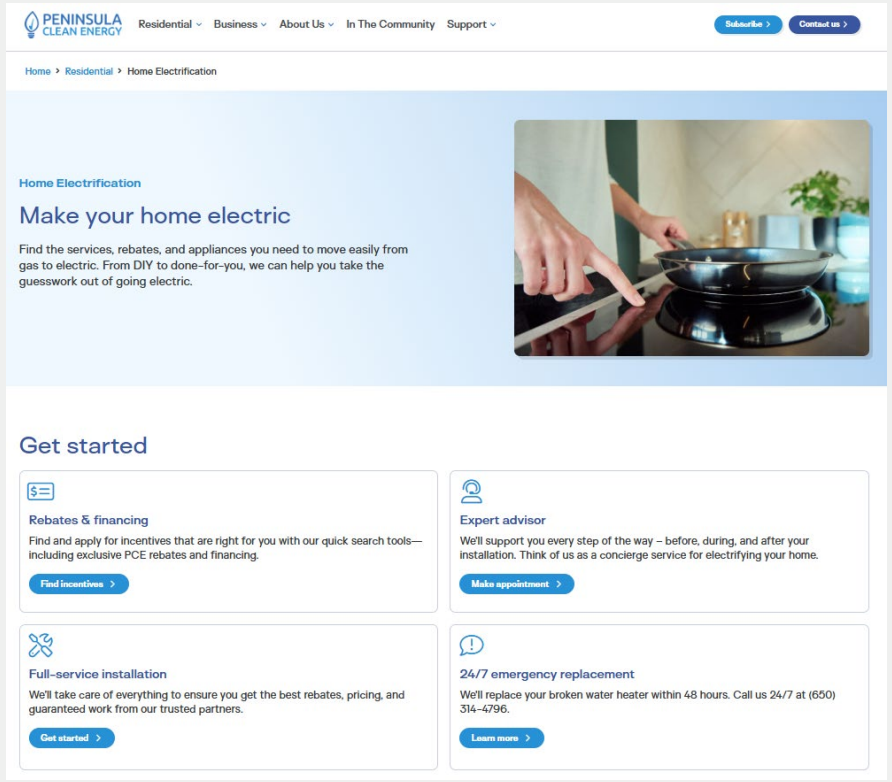
https://svcleanenergy.org/wp-content/uploads/Bill-Impacts-of-Home-Electrification-Feb-2025.pdf

Addressing concerns: grid reliability

- State and local agencies are planning for electrification
- EVs and electrification will help stabilize the grid
- Currently planning for a 27% increase in peak demand by 2035

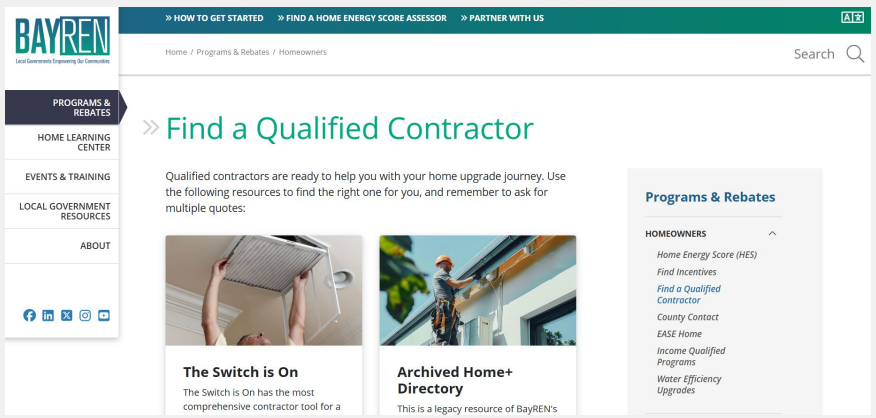
https://www.smcsustainability.org/wp-content/uploads/Grid-Reliability-Electrification-Explainer_FINAL.pdf

Addressing concerns: finding contractors



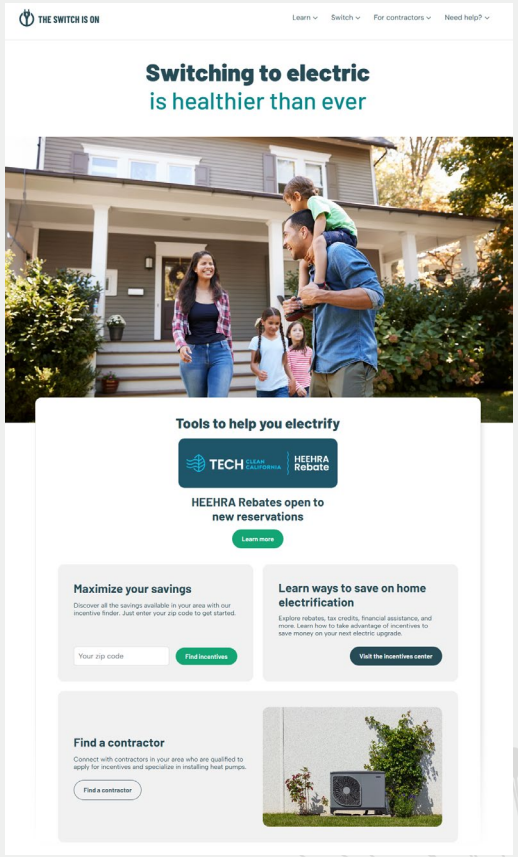
Peninsula Clean Energy

https://www.peninsulacleanenergy.com/residential/home-electrification



BayREN

https://www.bayren.org/homeowners/find-qualified-contractor



The Switch Is On

https://www.switchison.org/

A closer look at municipal code amendments

- Construction project requirements (time of pulling a permit):
  - Residential
    - Single-family residential and duplex
    - Mixed-use residential
    - Multi-family
  - Nonresidential
    - Commercial (office, retail, restaurants)
    - Life science labs
    - Hotels
- Time of sale requirements

Possible options for the 2025 code cycle

	New construction			Existing buildings		
	Single-family and duplex	MF residential	Nonresidential	Single-family and duplex	MF residential	Nonresidential
Prewiring	☑	☑	☐	☐	☐	☐
AC to Heat Pump	☑	☑	☑	☐	☑	☑
Flex Path	x	x	x	☐	☐	☐
Building Performance Standard (BPS)	x	☐	x	x	☐	☐
Green Building Ordinance	☐	☐	☐	☐	☐	☐
Time of sale ordinance	☐	☐	☐	☐	☐	☐

Pre-wiring update

- Enables future electrification by providing wiring and electrical capacity for key appliances
- Updates to existing requirements to cover full home electrification when sizing equipment
- Clarifying process to request smart panels/load sharing
- Exploring options for other building types

Air conditioner (AC) to heat pump (HP)

- Requires installation of a heat pump when a new cooling (AC) system is proposed
- Ensures residents benefit from modern equipment
- Residents would receive the same level of cooling, with additional heating option in a single piece of equipment
- Required in base code for new construction and some additions and alterations for residential and nonresidential buildings

Flex path

- Requirements for major residential addition and/or alteration projects (based on affected area square footage or project cost)
- Flexible pathways to meet required point limit that includes energy efficiency measures and/or electrification measures
- Points based on energy and greenhouse gas (GHG) savings
- Option to explore additional nonresidential building types

Building performance standard (BPS)

- Adopt a policy standard for commercial buildings over a specific square footage (ex: 20,000 sq. ft.)
- Policy would require disclosing building energy use, increasing energy efficiency, and eventually, electrifying buildings as a phased approach

Benchmark
Report metric tons CO2e and square footage

Retro-commission
Engineering report on energy saving opportunities

Performance standard
Complete projects to reach the threshold

Green building ordinance

- Larger buildings would have options to be zero-emission or achieve a green building certification (Leadership in Energy and Environmental Design LEED), Passive House, Living Building Challenge)
- Would allow flexibility for compliance
- If certification is chosen, there could be impacts to project completion timelines

Time of sale requirements

- Mandates energy assessments, disclosures and project funding at the time of sale for certain properties
  - E.g. one-to-four unit residential buildings
- Includes:
  - Completing an energy assessment
  - Public reporting of energy assessments
  - Buyer and seller fund energy improvement escrow account
  - Use it or lose it within three years for qualifying projects for set point value
  - City audit after three years to confirm compliance with required point total
- Specific requirements and exemptions vary based on building size and type
- Based on City of Berkeley building emission savings ordinance (BESO)

Timeline and next steps

There will be many more opportunities to provide input on the proposed building code amendments

May 6 and May 8
Public engagement workshops

May 21
Environmental Quality Commission (EQC)

May 27
City Council study session (tentative)

May 27 – August
Building code development

August 20
EQC meeting

September
Two City Council meetings to adopt the amendments

October
California Energy Commission approval

Jan 1, 2026
Implementation begins

We want to hear from you!

- Contact us anytime with your feedback about the options the City is considering
  - sustainability@menlopark.gov
  - 650-330-6720

- Join the conversation by providing public comment at public meetings
  - May 21 EQC meeting
  - May 27 City Council study session (tentative date)
  - August 20 EQC meeting (tentative date)
  - September City Council meetings (tentative dates)

Resources not linked on slides

- Menlo Park home upgrade program application https://www.surveymonkey.com/r/LTJDJYX
- Menlo Park electrification webpage https://menlopark.gov/Government/Departments/City-Managers-Office/Sustainability/Home-Electrification
- Summary fact sheets from Energy Code Ace https://www.energycodeace.com/resources
- City of Berkeley building energy savings ordinance information https://berkeleyca.gov/sites/default/files/documents/BESO%20Amendments%20Overview.pdf

Questions/discussion?

Thank you!

sustainability@menlopark.gov

Anchors and sails activity

As a community, we're in the same boat headed toward a cleaner future. Together, we can identify the risks and opportunities to help us get there.

- Anchors – Challenges that slow us down
- Sails – Programs/support structures to move us forward
- Wind – Benefits/opportunities
- Rocks – Risks
- Islands – Goals/destinations