

City of Angels

Greenhouse Gas

Reduction Plan

Addendum #1

to 2023 Plan

BACKGROUND:

Reach Codes are local building energy ordinances adopted by city councils that exceed statewide minimum standards for energy efficiency, greenhouse gas (GHG) reductions, or electric vehicle readiness. As noted in the environmental document prepared for the *2023 City of Angels Greenhouse Gas Reduction Plan* (page 18, footnote 3), a 2024 court decision *California Restaurant Association versus the City of Berkeley* (9th Cir. 2024, No. 21-16278) that would have prohibited natural gas infrastructure in new buildings and 2025 state legislation (AB 130) curbed the use of Reach Codes to reduce greenhouse gas emissions.

From October 1, 2025, through June 1, 2031, Assembly Bill 130 imposes a near-complete moratorium on local modifications to building standards affecting residential units, with certain exceptions. This includes the prohibition of new decarbonization ordinances and most reach codes that exceed State minimums. Therefore, the City will not implement reach codes exceeding State minimums until and unless alternative legislation is passed. The City will carry forward an amendment to this effect as part of the final adoption of the GHGRP—with an increase in efforts facilitating energy efficient retrofits to offset anticipated reductions from reach codes that may have exceeded State minimums, in combination with increased efforts at increased Active Transportation Mode sharing.

As stated, the draft GHGRP includes an addendum that removes Reach Codes and increases Active Transportation Mode sharing (i.e., pedestrian, bike trails). This addendum includes those changes.

The legal and legislative actions affect three programs in the City's Greenhouse Gas Emissions Plan that directly or indirectly address the use of Reach Codes:

1. Existing Buildings (EB-3)

Measure EB-3: Implement an Electrification Time of Replacement Ordinance

At equipment end of life, replace 45% of existing residential and commercial natural gas and propane water heaters with electric alternatives by 2030 and 90% by 2045 (based on 10-year life and 10% non-compliance). At equipment end of life, replace 23% of natural gas, propane, and wood space heaters with electric alternatives by 2030 and 90% by 2045 (based on 20-year life and 10% noncompliance). By 2025, adopt an ordinance that requires residential and commercial fossil fuel-powered space and water heating appliances to be replaced with electric alternatives at time of replacement.

Table 5. Measure EB-3 GHG Reduction Impact (MT CO_{2e}/Year)

	2030	2045
Total	919	2560

2. New Construction (NC)

Measure NC-1: Implement Reach Codes

Achieve 53% efficiency improvement for new residential buildings and a 30% efficiency improvement for new commercial buildings through the implementation of reach codes and green building standards by 2030 and 2045. This assumes ordinance adoption by 2025.

Pursue reach codes and green building standards that go beyond Title 24. Examples include incentives for exceeding minimum building energy performance, requiring new construction to be fully electric (no propane), or requiring energy audits.

Table 6. Measure NC-1 GHG Reduction Impact (MT CO₂e/Year)

	2030	2045
Total	62	92

3. Water and Wastewater (WW)

Measure WW-4: Require Low-Flow Water Use Fixtures

The City will adopt a reach code to exceed state level requirements by 5% for the installation of water-conserving appliances in all new residential and non-residential buildings, and the City will require design plans of new development projects to include water-saving features.

Table 18. Measure WW-4 GHG Reduction Impact (MT CO₂e/Year)

	2030	2045
Total	0.34	0.35

DISCUSSION:

Under California's AB 130, updates to residential building standards through 2031 are paused and temporarily slow down the statewide push for mandatory building electrification. However, local changes to residential building standards are allowed under certain circumstances. Those applicable to the City of Angels include:

1. Exceptions for Home Hardening (Health and Safety Code Section 13869.7 - i.e., increasing fire resistance through actions such as sealing cracks, holes, gaps at doors and windows).
2. Exceptions for Reach Code Measures that comply with a general plan that was adopted prior to 6/30/2025.
3. Measures reasonably necessary because of local climatic, topological, and geological conditions.

FlexPath, AC2HP, and Electric Readiness Options

To conform with AB 130, numerous local jurisdictions have adopted “FlexPath” ordinances. These are flexible local rules for homeowners undertaking major remodels allowing them to choose energy-saving upgrades from a point-based menu of options to meet energy saving targets. Instead of a one-size-fits-all mandate or forcing full home electrification, FlexPath allows individuals to customize their project to meet their needs and budget. Other alternatives being implemented include:

- Air Conditioners to Heat Pump (AC2HP) programs: Programs require or encourage (often through incentives) replacing space heaters or air conditioners with high efficiency heat pumps at equipment end of life.
- Electric readiness programs – under these programs use of gas appliances, water heaters, etc. continue to be used; however, specific spaces are made ready to support future electrification.

Generally, these options include provisions that if compliance costs exceed 20% of the project valuation or it is technically infeasible to comply, an exception may be granted.

DISCUSSION:

Based on the preceding, three GHGRP measures are proposed for amendment as follows:

PROPOSED AMENDMENTS TO PLAN:

Existing Buildings (EB)

Measure EB-3: Implement ~~an a Flexpath or Related Electrification Time of Replacement~~ Ordinance

Establish a “Menu of Alternatives” as part of a Flexpath code that establishes a list of options that are cost-effective and require greater energy reduction/conservation than the California Energy Code, with guidance from the California Statewide Utility Codes and Standards Program and California Statewide Codes and Standards Enhancement (CASE) Team based on exceptions allowed pursuant to California Health and Safety Code Section 18941.5(c) including, but not limited to: exceptions for home hardening (for fire resistance), measures that comply with Angels Camp General Plan 2020, or that are reasonably necessary because of local climatic, topological, and geological conditions.

~~At equipment end of life, replace 45% of existing residential and commercial natural gas and propane water heaters with electric alternatives by 2030 and 90% by 2045 (based~~

~~on 10-year life and 10% non-compliance). At equipment end of life, replace 23% of natural gas, propane, and wood space heaters with electric alternatives by 2030 and 90% by 2045 (based on 20-year life and 10% noncompliance). By 2025, adopt an ordinance that requires residential and commercial fossil fuel-powered space and water heating appliances to be replaced with electric alternatives at time of replacement.~~

Table 5. Measure EB-3 GHG Reduction Impact (MT CO₂e/Year)

	2030	2045
Total	919	2560

New Construction (NC)

Measure NC-1: Implement Reach a Flexpath Ordinance Codes

Achieve 53% efficiency improvement for new residential buildings and a 30% efficiency improvement for new commercial buildings through the implementation of reach codes and green building standards by 2030 and 2045. This assumes ordinance adoption by 2025.

Establish a “Menu of Alternatives” as part of a Flexpath code that establishes a list of options that are cost-effective and require greater energy reduction/conservation than the California Energy Code, with guidance from the California Statewide Utility Codes and Standards Program and California Statewide Codes and Standards Enhancement (CASE) Team based on exceptions allowed pursuant to California Health and Safety Code Section 18941.5(c) including, but not limited to: exceptions for home hardening (for fire resistance), measures that comply with Angels Camp General Plan 2020, or that are reasonably necessary because of local climatic, topological, and geological conditions.

Pursue ~~reach codes~~ a Flexpath Ordinance and green building standards that go beyond Title 24. Examples include, but are not limited to, incentives for exceeding minimum building energy performance, requiring new construction to ~~be prepare for future electrification~~ fully electric (no propane), ~~or~~ requiring energy audits, and use of high efficiency heat pumps for HVAC.

Table 6. Measure NC-1 GHG Reduction Impact (MT CO₂e/Year)

	2030	2045
Total	62	92

Water and Wastewater (WW)

Measure WW-4: Require Low-Flow Water Use Fixtures

The City will adopt ~~a reach code~~ an incentive program and/ or menu of alternative to exceed state level requirements by 5% for the installation of water-conserving appliances in all new residential and non-residential buildings, and the City will require design plans of new development projects to include water-saving features.

Table 18. Measure WW-4 GHG Reduction Impact (MT CO₂e/Year)

	2030	2045
Total	0.34	0.35

ENVIRONMENTAL

PROPOSED AMENDMENT TO ENVIRONMENTAL DOCUMENT

1. Add footnote 3 in the Initial Study, Table 3 to Measure EB-3 and WW-4

Sample Menu of Alternatives – Source: City of Santa Cruz

(Excludes list of exceptions, appeals, modifications, etc.)

Table 150.0-I: Measure Menu

Measures	Table 150.0-J ID	Points
Water Heating Package	E1	1
Induction Cooktop	E2	1
Heat Pump Clothes Dryer	E3	1
Air Sealing	E4	2
Duct Sealing	E5	3
R-49 Attic Insulation	E6	4
Windows	E7	4
R-15 Wall Insulation	E8	5
New Ducts + Duct Sealing	E9	6
R-19 Floor Insulation	E10	9
R-30 Floor Insulation	E11	10
Heat Pump Water Heater (HPWH)	E12	12
Solar PV + Electric Ready Pre-Wire	E13	13
Heat Pump Space Heater	E14	18
Utility Room, Kitchen & Laundry-Related Electric Ready Pre-Wire	M1	Mandatory
Panel-Related Electric Ready Pre-Wire	M2	Mandatory
LED Lighting Upgrade	M3	Mandatory
Note: the measures in the Measure Menu shall conform to the specifications in Table 150.0-J		

Table 150.0-J: Measure Specifications

ID	Measure Specification
General Measures	
E1	Water Heating Package: Add exterior insulation meeting a minimum of R-6 to existing storage water heaters. Insulate all accessible hot water pipes with pipe insulation a minimum of ¾ inch thick. This includes insulating the supply pipe leaving the water heater, piping to faucets underneath sinks, and accessible pipes in attic spaces or crawlspaces. Upgrade fittings in sinks and showers to meet current California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements.

ID	Measure Specification
	Water heaters 20 gallons or less, or water heaters that are not able to add exterior insulation may not take credit for this measure. Exception 1: Water heater blanket is not required on water heaters less than 20 gallons. Exception 2: Water heater blanket not required if application of a water heater blanket voids the warranty on the water heater. Exception 3: Upgraded fixtures are not required if existing fixtures have rated or measured flow rates of no more than ten percent greater than 2025 California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements. Exception 4: Water heaters with factory installed insulation of R-24 or greater
E2	Induction Cooktop: Replace existing gas and electric resistance stove top with inductive stove top and cap the gas line
E3	Heat Pump Clothes Dryer: Replace existing electric resistance clothes dryer with heat pump dryer with no resistance element and cap gas line.
E4	Air Sealing: Seal all accessible cracks, holes, and gaps in the building envelope at walls, floors, and ceilings. Pay special attention to penetrations including plumbing, electrical, and mechanical vents, recessed can light luminaires, and windows. Weather-strip doors if not already present. Verification shall be conducted by a certified HERS Rater that either: a) shows at least a 30 percent reduction from pre-retrofit conditions; or b) shows that the number of air changes per hour at 50 Pascals pressure difference (ACH50) does not exceed ten for Pre-1978 vintage buildings, seven for 1978 to 1991 vintage buildings and five for 1992-2010 vintage buildings. Compliance can also be demonstrated with blower door testing conducted by a certified HERS Rater no more than three years prior to the permit application date showing compliance with condition (a) or (b). If combustion appliances are located within the pressure boundary of the building, conduct a combustion safety test by a professional certified by the Building Performance Institute in accordance with the ANSI/BPI-1200-S-2017 Standard Practice for Basic Analysis of Buildings, the Whole House Combustion Appliance Safety Test Procedure for the Comfortable Home Rebates Program 2020 or the California Community Services and Development Combustion Appliance Safety Testing Protocol. Reducing the air leakage of a building can reduce the building's drying potential. When improving the air sealing of a building, consider if there is a need to add continuous ventilation to the building (if not already present).
E5	Duct Sealing: Air seal all space conditioning ductwork to meet the requirements of the 2025 Title 24 Section 150.2(b)IE. The duct system must be tested by a HERS Rater no more than three years prior to the alteration or addition permit application date to verify the duct sealing and confirm that

ID	Measure Specification
	the requirements have been met. This measure may not be combined with the New Ducts and Duct Sealing measure in this Table. Dwelling units without ductwork or where the ducts are in conditioned space may not take credit for this measure.
E6	R-49 Attic Insulation: Attic insulation shall be installed to achieve a weighted assembly U- factor of 0.020 or insulation installed at the ceiling level shall have a thermal resistance of R-49 or greater for the insulation alone. Recessed downlight luminaires in the ceiling shall be covered with insulation to the same depth as the rest of the ceiling. Luminaires not rated for insulation contact must be replaced or fitted with a fire-proof cover that allows for insulation to be installed directly over the cover. Exception: In buildings where existing R-30 is present and existing recessed downlight luminaires are not rated for insulation contact, insulation is not required to be installed over the luminaires.
E7	Windows: Replace at least 50% of existing windows with high performance windows with an area-weighted average U-factor no greater than 0.27.
E8	R-15 Wall Insulation: Install wall insulation in all exterior walls to achieve a weighted U-factor of 0.095 or install wall insulation in all exterior wall cavities that shall result in an installed thermal resistance of R-15 or greater for the insulation alone.
E9	New Ducts+ Duct Sealing: Replace existing space conditioning ductwork with new R-8 ducts that meet the requirements of 2025 Title 24 Section 150.0(m) 11. This measure may not be combined with the Duct Sealing measure in this Table. To qualify, a preexisting measure must have been installed no more than three years before the alteration or addition permit application date.
E10	R-19 Floor Insulation: Raised-floors shall be insulated such that the floor assembly has an assembly U-factor equal to or less than U-0.037, or shall be insulated between wood framing with insulation having an R-value equal to or greater than R-19. This measure cannot be combined with measure R-30 Floor insulation.
E11	R-30 Floor Insulation: Raised-floors shall be insulated such that the floor assembly has an assembly U-factor equal to or less than U-0.028, or shall be insulated between wood framing with insulation having an R-value equal to or greater than R-30. This measure cannot be combined with measure R-19 Floor insulation.
E12	Heat Pump Water Heater (HPWH): Replace existing electric resistance or natural gas storage water heater with a heat pump water heater that meets the requirements of Sections 110.3 and 150.2 (b) 1.H.iii.b or c.
E13	PV and Electric Ready Pre-Wire: Install a solar PV system that meets the requirements of 2025 Title 24 Section 150.1(c)14. In addition to the solar PV system, comply with the water heating system electric readiness requirements per Section 150.0(w)4 and the heat pump space heaters requirements per Section 150.0(t) and one of the following:

ID	Measure Specification
	A. Energy Storage Systems (ESS) Ready, as specified in Section 150.0(s), or B. EV Charger Ready as specified in the California Green Building Code, Title 24, Part 11, Section A4.106.8.1, which otherwise applies to new construction. Exception 1: In buildings where the designated space requirement specified in Section 150.0(n) 1 can be demonstrated to the building official as infeasible, the electric readiness components per Section 150.0(n)1 are not required.
E14	Heat Pump Space Heater: Replace all existing gas and electric resistance space heating systems with an electric-only heat pump system that meets the applicable requirements of Sections 150.2 (b) 1.C, 150.2 (b)1.E, 150.2(b)1.F, and 150.2(b)1.G.
Mandatory Measures	
M1	Utility Room, Kitchen & Laundry-Related Electric Ready Pre-Wire: Where the project includes a kitchen remodel, comply with the electric cooktop ready requirement, as specified in Section 150.0(u). Where the project includes a laundry room remodel, comply with the electric clothes dryer ready requirement, as specified in Section 150.0(v). Where the project includes a utility room remodel, comply with the water heating system electric readiness requirements per Section 150.0(n)1 and the heat pump space heater electric readiness requirements per Section 150.0(t): Exception 1: If an electrical permit is not otherwise required for the project other than compliance with this measure. Exception 2: If a utility service upgrade is not otherwise required for the project other than compliance with this measure. Exception 3: In buildings where the designated space requirement specified in Section 150.0(n)1 can be demonstrated to the building official as infeasible, the electric readiness components per Section 150.0(n)1 are not required.
M2	Panel-Related Electric Ready Pre-Wire: Where the project includes a new electrical panel and electrical service upgrade to 200A or more, comply with the water heating systems electric readiness requirements per Section 150.0(n)1 and the heat pump space heater electric readiness requirements per Section 150.0(t). Exception 1: In buildings where the designated space requirement specified in Section (150.0(n)1 can be demonstrated to the building official as infeasible, the electric readiness components per Section 150.0(n)1 are not required.
M3	LED Lighting Upgrade: Replace all interior and exterior screw-in incandescent, halogen, and compact fluorescent lamps with LED lamps. Install photocontrol and either a motion sensor or an automatic time switch, or an astronomical time clock control on all exterior lighting luminaires consistent with current Title 24 requirements for new single-family residential buildings. Alternative means of exterior lighting timing controls,

ID	Measure Specification
	including smart home devices, may be approved.