CITY OF ALBANY CITY COUNCIL AGENDA STAFF REPORT

Agenda Date: December 5, 2022

Reviewed by: NA

SUBJECT: Amendments to Green Building Requirements

REPORT BY: Michelle Plouse, Community Development Analyst

Jeff Bond, Community Development Director

SUMMARY

The action before the City Council is to adopt a Resolution amending the City of Albany Green Building Requirements.

STAFF RECOMMENDATION

That the Council adopt Resolution No. 2022-135, amending the City of Albany Green Building Requirements.

CLIMATE ACTION COMMITTEE RECOMMENDATION

That the Council adopt a resolution to amend the City of Albany Green Building Requirements.

PLANNING AND ZONING COMMISSION RECOMMENDATION

That the Council adopt a resolution to amend the City of Albany Green Building Requirements with an edit changing the electric vehicle charging requirement from 20% to 25%.

BACKGROUND

The City of Albany General Plan Policy *CON-6.1: Green Construction* directs the City towards development of standards and guidelines which support "green" construction and environmental leadership in the building industry. Action *CON-6.A* requires that "new construction to meet or exceed California Green Building Code standards for energy and water efficiency," and that "Albany's building codes should be regularly reviewed and periodically amended to meet or exceed state requirements."

The City of Albany Climate Action and Adaptation Plan (CAAP) established the objective of 70% greenhouse gas (GHG) emissions reductions by 2035, and net zero emissions by 2045. The CAAP focuses on reducing emissions from the City's largest emissions sectors, including new and existing buildings. An estimated 40% of GHG emissions in Albany result from the building sector.

The California Green Building Standards Code, also known as CALGreen, is Part 11 of thirteen parts of the official California Code of Regulations (Title 24), also referred to as the California Building Standards Code. CALGreen was the nation's first mandatory green buildings standards code, adopted by the State of California in 2007 to reduce statewide greenhouse gas emissions resulting from the building sector. Local governments may adopt additional requirements that go beyond the state building code.

On January 19, 2021, the City Council adopted a set of green building measures for new construction and renovations as Resolution No. 2020-127. The requirements were approved by the California Energy Commission (CEC) on May 12, 2021 and are now in effect and being implemented by staff. On December 6, 2021, the Council adopted Resolution No. 2021-118 (Attachment 1), which updated the green building measures to include energy efficiency requirements for new mid-rise and high-rise buildings. This resolution has not yet been approved by the Energy Commission.

Local ordinances must be updated along with the new state building codes every three years. Albany's current green building codes must be updated by January 1, 2023, when the 2022 California Building Code goes into effect. This updated Resolution includes several changes, including an all-electric requirement.

DISCUSSION

All-Electric Requirement

The City's current Green Building Resolution contains requirements that incentivize the construction of all-electric buildings, but all-electric construction is not mandated. New mixed-fuel buildings are required to meet a higher standard of energy efficiency than all-electric buildings, which can be accomplished through various measures such as additional solar panels, solar storage batteries, and insulation. The additional cost and complexity of these measures serves as an incentive for all-electric construction.

Since 2019, over 30 cities throughout California have adopted local ordinances requiring that new buildings are built all-electric, with no natural gas appliances. This trend is part of a larger effort to reduce emissions from the building sector and take advantage of California's growing supply of renewable energy. The proposed Resolution (Attachment 2) includes an all-electric requirement to replace the current electric-incentive model in Resolution No. 2021-118. In contrast to the City's current Resolution, this all-electric measure would require all new subject buildings to be fully electric; natural gas infrastructure and appliances would not be allowed.

• Buildings Subject to All Electric Requirement

In general, the all-electric requirement would apply to all newly-constructed buildings. The draft resolution (Attachment 2) contains an exception for scientific laboratory buildings because they often require very specific equipment or indoor conditions. This exemption still requires the building to install electric appliances wherever technically feasible. The resolution also includes a general infeasibility and financial hardship exemption to provide flexibility for special cases.

In accessory dwelling units (ADUs), all newly installed appliances would need to be electric. However, new ADUs could utilize pre-existing gas water heaters and heating, ventilation and air-conditioning (HVAC) systems if they are shared with the main house. For instance, an attached ADU could be connected to the home's existing gas water heater, but if a new water heater is installed it would need to be electric.

Finally, any project that is subject to the City's fire sprinkler requirement would also need to completely electrify. The trigger for the fire sprinkler requirement is as follows:

The cumulative aggregate of the area of new construction in the structure, plus the area of substantial remodel of the structure, since November 7, 1996, exceeds 50% of the floor area of the structure that was existing on November 7, 1996 (attached garages are included as part of the existing floor area); or the aggregate of the area of new construction in the structure, plus the area of substantial remodel of the structure, exceeds 1,500 square feet.

• Impact of All Electric Requirement

All-electric buildings prevent carbon emissions and other noxious gases that are produced when natural gas appliances are used. The exact amount of emissions avoided by building all-electric will vary from building to building, but in general, electrification will prevent approximately one metric ton of carbon dioxide (MTCO₂) per year for single family buildings, 0.5 tons in ADUs, and 0.25 tons per unit in multifamily buildings.

The cost of building all-electric versus mixed-fuel depends on the building type, however, with the new building code, in most cases an all-electric building will be less expensive to build. The 2022 building code will require all new buildings to be electric-ready, meaning that all the electrical infrastructure and wiring must be in place for future electrification, even if the builder or homeowner installs gas appliances. Buildings in Albany's climate zone must also install heat pump HVAC systems.

Given these requirements, the added cost of electrification is only in the form of electric appliances, which generally cost slightly more than gas. However, these costs are offset by the savings from not having to install gas piping. One notable exception is large multifamily buildings, where electric water heating can be much more expensive, and raise building costs by up to \$100,000.

Other Green Building Measures

In addition to energy-efficiency requirements, the current green building Resolution contains the following measures:

Residential Measures	New Construction	Alterations/Additions
30% of new paving must be permeable paving	X	X
At least 1 Energy Star washing machine or	X	X
dishwasher per unit		
Kitchen faucets must have a flow rate of no more	X	X
than 1.5 gallons per minute		
Cement content of concrete must be reduced by	X	X
at least 25%		
90% of resilient flooring must be meet Low-	X	X
VOC emissions limits		
Multifamily only: 20% of parking spaces must	X	
have level 2 EV chargers installed. The		
remainder must be EV-ready, with sufficient		
panel capacity and inaccessible wiring installed		

Non-Residential Measures	New Construction	Alterations/Additions
Solar panels must be installed on the entire solar	X	
zone (mandated solar accessible area) of the roof		
12% of parking spaces must designated for clean	X	X
air vehicles		
Outdoor lighting power must be reduced by 10%	X	X
12% reduction in indoor water use via efficient	X	
fixtures		
Cement content of concrete must be reduced	X	X
90% of resilient flooring must be meet Low-VOC	X	X
emissions limits		

Most of the measures that Albany currently requires have not been affected by the new code and have not been edited aside from updates to relevant code section numbers. However, the proposed Resolution does include changes to the outdoor lighting and non-residential solar requirements.

• Outdoor Lighting

Albany currently requires non-residential buildings to reduce outdoor lighting power by 10%, however, the draft resolution drops this requirement so that the Resolution will not need to be approved by the California Energy Commission (CEC). With the shift from electric-preferred to an all-electric requirement, no other part of this draft Resolution would need to be approved by the CEC. This only provides minor energy savings and avoiding the CEC approval process will simplify and speed up enforcement of the Resolution.

• Non-Residential Solar

Albany currently requires all new non-residential buildings to install solar panels on the entire "solar zone". The solar zone is an area on the roof that is designed to support solar panels and in the sunlight. It must make up at least 15% of the roof area. The 2022 code now includes both solar and battery storage requirements for most new non-residential buildings, based on floor area rather than the solar zone. Because the new code goes beyond Albany's current requirement in most

cases, this section has been deleted from the draft resolution to avoid overlapping and contradictory requirements.

• Electric Vehicle (EV) Charging

The Commission recommended that the City Council adopt the Resolution with one further change: to raise the requirement for multifamily EV charger installations from 20% of spaces to 25% in order to expand access for multifamily tenants. Staff and the Climate Action Committee recommend keeping the level at 20% for now, as this is still significantly more than the current demand and the requirements prepare buildings for easy and inexpensive charger installation later on. Additionally, raising the charger requirement at time of construction will increase costs for already expensive housing projects.

SUSTAINABILITY/SOCIAL EQUITY CONSIDERATIONS

SUSTAINABILITY: Implementation of the proposed green building measures will reduce greenhouse gas emissions, conserve water, improve indoor air quality, and increase access to electric vehicles. The most impactful measure will be the all-electric requirement, which will prevent 0.25 to one metric ton of carbon dioxide (MTCO₂) per year for each unit subject to the requirement.

SOCIAL EQUITY: The proposed measures will likely cause a slight increase in the cost of construction, although in many cases the requirements will be cost neutral. New, large multifamily buildings are likely to see the most significant cost impacts, from electric vehicle charging and electric water heating. These costs will incrementally affect the ability of low and moderate income households to be able to afford new multifamily housing. However, these measures will also increase the quality and comfort of housing by improving indoor air quality, reducing water usage and costs, and providing access to electric vehicles for renters.

CITY COUNCIL STRATEGIC PLAN INITIATIVE

Adopting green building measures advances the Council Strategic Plan Initiative Goal 1, Objective 1 to "Advance Climate Action."

FINANCIAL CONSIDERATIONS

There will be a small amount of expenses associated with education and outreach, implementation, and enforcement. There will also be some staff time required to implement the changes to current green building requirements.

ATTACHMENTS

- 1. Resolution 2022-135
- 2. Resolution 2022-135 with Redline Changes

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RESOLUTION NO. 2022-135

A RESOLUTION OF THE ALBANY CITY COUNCIL ADOPTING LOCAL AMENDMENTS TO THE 2022 CALIFORNIA GREEN BUILDING CODE

WHEREAS, the City Council of the City of Albany adopted the Albany 2035 General Plan on April 18, 2016; and

WHEREAS, The City of Albany General Plan Policy CON-6.1: Green Construction directs the City towards development of standards and guidelines which support "green" construction and environmental leadership in the building industry; and

WHEREAS, Action CON-6.A requires "new construction to meet or exceed California Green Building Code standards for energy and water efficiency," and that "Albany's building codes should be regularly reviewed and periodically amended to meet or exceed state requirements;" and

WHEREAS, The City of Albany Climate Action and Adaptation Plan (CAAP) established the objective of 70% greenhouse gas (GHG) emissions reductions by 2035, and net zero emissions by 2045; and

WHEREAS, The CAAP focuses on reducing emissions from the City's largest emissions sectors, including new and existing buildings. An estimated 40% of GHG emissions in Albany result from the building sector; and

WHEREAS, CAAP Action 3.2.6 directs the City to "Adopt voluntary green building tiers;" and

WHEREAS, The City of Albany General Plan Policy *T-2.3: Low-Emission Vehicles* directs the City to "encourage the use of low emission or zero emission vehicles, along with the infrastructure to support such vehicles, such as electric vehicle charging stations;" and

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WHEREAS, The CAAP established the goal that 98% of passenger vehicles in Albany be electric vehicles by 2045; and WHEREAS, CAAP Action 1.2.2 directs the City to "adopt an electric vehicle readiness ordinance that would increase the charging requirements for new construction and renovations;" and WHEREAS, The General Plan Policy CON-4.3: Low Impact Development directs the City to "support the use of pervious pavement" to "capture and filter rainwater and reduce runoff to local creeks and the Bay:" and WHEREAS, Policy CON-6.9: Reducing Water Usage directs the City to partner with EBMUD, PG&E, StopWaste and other organizations to achieve water efficiency and reduced usage and support indoor and outdoor conservation practices; and WHEREAS, on January 19th, 2021 the Albany City Council unanimously approved Resolution No. 2020-127: A Resolution of the Albany City Council to Adopt Green Building Measures; and

WHEREAS, on December 6th, 2021 the Albany City Council unanimously approved Resolution No. 2021-118: A Resolution of the Albany City Council Updating and Amending Green Building Measures; and

WHEREAS, the California Health and Safety Code (HSC) Section 18941.5, with reference to HSC Section 17958.7, allows for more restrictive local amendments that are reasonably necessary because of local climatic, geological, or topographical conditions. California Code of Regulations, Title 24, Part 11, California Green Building Standards Code (CALGreen), Section 101.7.1, provides that local climatic, geological, or topographical

conditions include environmental conditions established by the city, county, or city and county; and

WHEREAS, Section 12-6.1(b)(4)(p) of the Albany Municipal Code allows the City Council to establish, by resolution and periodically review and update, more-stringent voluntary measures contained in the California Green Building Standards Code appendices to address local environmental conditions; and

WHEREAS, the proposed resolution does not involve a commitment to or require a significant physical change in future projects, and thus is not a "project" as defined by California Environmental Quality Act (CEQA) Guidelines Section 15378; and

WHEREAS, the State of California allows local jurisdictions to amend the California Building Standards Code where necessary to reasonably address adverse local conditions related to climate, geology, and/or topography, and thus the City Council makes the following findings regarding local conditions:

- a) The City of Albany is a dense built-out community with predominately older woodframe commercial and residential structures that lack modern fire protection elements, are located on small lots with minimal setbacks that increase the potential for rapid fire spread, and are reached by narrow streets that often hamper emergency response; and
- b) The eastern edge of the City of Albany is located less than two miles from the ridgeline of the East Bay Hills, in the path of "Diablo Winds," which could rapidly bring a wildland fire from the East Bay Hills into the City; and
- c) The City of Albany lacks access to secondary sources of water for fire suppression in the event of damage to primary water supply; and
- d) The City of Albany is frequently exposed to extremely high risk "red flag" fire conditions consisting of warm temperatures, low humidity, and strong winds that

- combine to produce an increased risk of fire danger. These conditions have worsened in recent years due to global warming; and
- e) Furthermore, climate conditions have resulted in the City of Albany experiencing dangerous air quality for weeks, even from distant fires; and
- f) Reducing greenhouse gas (GHG) emissions associated with the design, construction, maintenance, and operation of buildings is necessary to reduce the City of Albany's contribution to climate change, which is causing the severe local climatic conditions; and
- g) The City of Albany is vulnerable to major earthquakes on the San Andreas, Hayward and Calaveras faults, which are expected to result in damage to aging underground infrastructure including natural gas lines and water lines needed for fire suppression. Reducing the reliance on natural gas in new construction will decrease the risk of fires caused if aging underground gas lines rupture in a seismic event; and
- h) The City of Albany has moderate to highly expansive soils present throughout most of the built-out portions of the City of Albany; and
- i) The waterfront portion of the City of Albany includes poorly compacted artificial fill.

NOW, THEREFORE, THE ALBANY CITY COUNCIL RESOLVES AS FOLLOWS:.

Section 1: Applicability

The requirements of this Resolution shall apply to applications subject to zoning clearance submitted on or after the effective date set forth in Section 6, for all buildings proposed to be located in whole or in part within the City, except for the following activities:

- A. Interior improvements
- B. Normal repairs or replacement

- C. Accessory buildings which are located in a rear yard and do not exceed one hundredtwenty square feet in area and twelve feet in height.
- D. The following types of signs:
 - 1. Signs which are allowed without a sign permit, as listed in Section 20.36.
 - 2. Signs which are allowed by Section 20.32 with a zoning clearance. A zoning clearance may include consideration of design characteristics.
 - (a) Change of message on an existing sign.
 - (b) Fascia signs.
 - (c) In-window permanent signs.
- E. Television and other antennas.
- F. Roof replacement materials, flashing, roof vents, gutters and downspouts, on residential buildings.
- G. Skylights on residential buildings, not to exceed a twelve (12)-inch projection above the roof surface.
- H. Other minor exterior alterations that the Community Development Director may determine are similar in visual impact to those listed herein.

This Resolution will supersede Resolutions Nos. 2020-127 and 2021-118. Applications submitted prior to the effective date of this Resolution, shall comply with Resolution No. 2020-127 as applicable. Buildings must comply with all measures that are applicable to the building type in question and to the specific areas of the building in which construction is occurring.

Section 2: Definitions

- A. Accessory Dwelling Unit (ADU) has the same meaning as defined in the 2022 California Building Code, Title 24, Part 11, Section 202.
- B. Addition means an extension or increase in floor area of an existing building or structure.
- C. Alteration means any construction or renovations to an existing structure other than repair or addition.

- D. All-Electric Building means a building in which all appliances are fueled only by electricity and neither natural gas nor combustion equipment is used.
- E. Clean Air Vehicle means a zero-emitting, fuel-efficient, or carpool/vanpool vehicle as defined in the 2022 California Building Code, Title 24, Part 11, Section 202.
- F. Electric Vehicle Charging Station (EVCS) shall have the same meaning as defined in the 2022 California Building Code, Title 24, Part 11, Section 202.
- G. Electric Vehicle-Capable Space shall mean a vehicle space for which there is electrical panel space to accommodate the future installation a 40-ampere dedicated branch circuit and overcurrent protective device. Construction documents shall indicate wiring schematics, raceway methods, the raceway termination point and proposed location of future EV spaces and EV chargers. Raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.
- H. Major Alteration means a building undergoing an alteration that requires the installation of an automatic fire sprinkler system according to Chapter 11 of the Albany Municipal Code.
- I. Mixed-fuel Building means a building that is fueled by both natural gas and electricity.
- J. Multi-family Building means a residential building that contains more than two dwelling units, excluding accessory dwelling units.
- K. Natural Gas shall have the same meaning as "Fuel Gas" as defined in California Plumbing Code and Mechanical Code.
- L. Newly Constructed Building shall be defined as a building, including an accessory dwelling unit, that has never before been used or occupied for any purpose.
- M. Nonresidential Building means all buildings that are not classified in Occupancy Group R-2, R-3, or R-4, as defined in the 2022 California Building Code, Title 24, Part 2, Section 310.
- N. Permeable Paving means paving using materials and techniques which allow the movement of water around the paving material and allow precipitation to percolate through the paving surface to the soil below.

- O. Residential Building means a structure arranged, designed, and intended to be occupied as a primary residence. This includes all buildings of Occupancy Group R-2, R-3, or R-4, as defined in the 2022 California Building Code, Title 24, Part 2, Section 310, including any associated ADU's.
- P. Repair means reconstruction or renewal of any part of an existing building for the purposes of maintenance or damage correction.
- Q. Resilient Flooring has the same meaning as defined in the 2022 California Building Code, Title 24, Part 11, Section 202.
- R. Scientific Laboratory Building means a building which is classified in Occupancy Group L, as defined by the California Building Code, Title 24, Part 2, Section 313.
- S. Single-family Building means a structure that contains one or two dwelling units. An accessory dwelling unit may also be located in or associated with a single-family dwelling and may be attached or detached.
- T. Volatile Organic Chemicals, or "VOC" has the same meaning as defined in the 2022 California Building Code, Title 24, Part 11, Section 202.

Section 3: All-Electric Requirements

All newly constructed buildings and major alterations shall be all-electric buildings. All new appliances installed to serve newly constructed ADUs must be all-electric.

Requirements for combustion equipment

- A. Where combustion equipment is allowed per Exceptions under Section 5 the construction drawings shall indicate electrical infrastructure and physical space accommodating the future installation of an electrical heating appliance in the following ways, as certified by a registered design professional or licensed electrical contractor; and
- B. Branch circuit wiring, electrically isolated and designed to serve all electrical heating appliances in accordance with manufacturer requirements and the California Electrical

Code, including the appropriate voltage, phase, minimum amperage, and an electrical receptacle or junction box within five feet of the appliance that is accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors; and

- C. Labeling of both ends of the unused conductors or conduit shall be with "For Future Electrical Appliance"; and
- D. Reserved circuit breakers in the electrical panel for each branch circuit, appropriately labeled (i.e. "Reserved for Future Electric Range"), and positioned on the opposite end of the panel supply conductor connection; and
- E. Connected subpanels, panelboards, switchboards, busbars, and transformers shall be sized to serve the future electrical heating appliances. The electrical capacity requirements shall be adjusted for demand factors in accordance with the California Electric Code; and
- F. Physical space for future electrical heating appliances, including equipment footprint, and if needed a pathway reserved for routing of ductwork to heat pump evaporator(s), shall be depicted on the construction drawings. The footprint necessary for future electrical heating appliances may overlap with non-structural partitions and with the location of currently designed combustion equipment.

Section 4: Green Building Requirements

A. Twenty percent (20%) of the parking spaces in newly constructed multi-family buildings, rounded to the nearest whole number, shall be Electric Vehicle Charging Stations. The remainder of the parking spaces shall be Electric Vehicle-Capable. Branch circuit panelboard(s) shall be installed that contain the physical space to accommodate the future installation a minimum of one 40-ampere dedicated branch circuit and overcurrent protective device per EV-Capable space and have sufficient

electrical capacity to deliver a minimum 40 amperes at 208 or 240 volts multiplied by 20% of the total number of parking spaces. The service panel and/or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the *California Electrical Code*.

- B. All new construction, alterations, and additions of residential buildings shall be required to comply with all applicable measures listed in Appendix A.
- C. All new construction, alterations, and additions of nonresidential buildings shall be required to comply with all applicable measures listed in Appendix B.

Section 5: Exemptions

- A. The requirements of this Resolution shall not apply to projects that have an active zoning clearance application submitted on or before 30 days after adoption by the Albany City Council.
- B. If the applicant establishes that there is not an all-electric prescriptive compliance pathway for the building under the California Building Energy Efficiency Standards, and that the building is not able to achieve the performance compliance standard applicable to the building under the Energy Efficiency Standards using commercially available technology and an approved calculation method, then the local enforcing agency may grant a modification. The City shall have the authority to approve alternative materials, design and methods of construction or equipment per California Building Code Section 104.
- C. Notwithstanding the requirements of this Chapter and the Greenhouse Gas Emissions and other public health and safety hazards associated with Natural Gas Infrastructure, minimally necessary and specifically tailored Natural Gas Infrastructure may be allowed in scientific laboratory buildings.
- D. If an applicant for a nonexempt project believes that circumstances exist that make it a hardship or infeasible to meet the requirements of this Resolution, they may apply for an exemption or reduction in requirements as set forth below. In applying for an

1 Appendix A: Residential Non-Energy Measures

Measure	Construction type	Building type
Newly installed paving	New construction,	Multi-family, Single
shall meet the Tier 2	alterations, and additions	family, and ADUs
requirements of the 2022		
California Green Building		
Standards Code, Title 24, Part 11, Section A4.106.4.		
1 art 11, 5cction A4.100.4.		
In each unit where a	New construction,	Multi-family, Single
dishwasher or clothes-	alterations, and additions	family, and ADUs
washer is being installed, at		
least one dishwasher or		
clothes-washer shall be		
Energy Star approved.		
Kitchen faucets shall have	New construction,	Multi-family, Single
a maximum flow rate of no	alterations, and additions	family, and ADUs
more than 1.5 gallons per		
minute.		
TT1	NT	M 1/2 C 11 C 1
The cement content of all concrete shall be reduced	New construction, alterations, and additions	Multi-family, Single family, and ADUs
by at least 25%. The	atterations, and additions	lamily, and ADOS
cement shall be replaced by		
fly ash, slag, silica fume,		
rice hull ash, or another		
suitable material.		
At least 90% of the total	Now construction	Multi family Single
area of resilient flooring	New construction, alterations, and additions	Multi-family, Single family, and ADUs
installed shall comply with	anoranono, ana additiono	laminy, and ADOS
the VOC-emissions limits		
set forth in the 2022		
California Green Building		
Standards Code, Title 24,		

Appendix B: Non-Residential Non-Energy Measures

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3	Measure	Construction Type
4	Designated parking spaces for clean air	New construction, alterations, and additions
5	vehicles shall make up 12% of the parking spaces constructed, rounding to the nearest	
6	whole number. Parking spaces shall be	
7	marked as described in 2022 California	
8	Green Building Standards Code, Title 24,	
9	Part 11, Section A5.106.5.1.3.	
10	A 12% reduction in potable water use within	New construction only
11	the building will be achieved by complying with 2022 California Green Building	
12	Standards Code, Title 24, Part 11, Section	
13	A5.303.2.3.1	
14	Concrete shall comply with 2022 California	New construction, alterations, and additions
15	Green Building Standards Code, Title 24,	
16	Part 11, Sections A5.405.5	
17	At least 90% of the total area of resilient	New construction, alterations, and additions
18	flooring installed shall comply with the	
19	VOC-emissions limits set forth in the 2022 California Green Building Standards Code,	
20	Title 24, Part 11, Section A5.504.4.7	
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RESOLUTION NO. 2022-135

A RESOLUTION OF THE ALBANY CITY COUNCIL <u>ADOPTING</u> LOCAL AMENDMENTS TO THE 2022 CALIFORNIA GREEN BUILDING CODE

WHEREAS, the City Council of the City of Albany adopted the Albany 2035 General Plan on April 18, 2016; and

WHEREAS, The City of Albany General Plan Policy *CON-6.1: Green Construction* directs the City towards development of standards and guidelines which support "green" construction and environmental leadership in the building industry; and

WHEREAS, Action CON-6.A requires "new construction to meet or exceed California Green Building Code standards for energy and water efficiency," and that "Albany's building codes should be regularly reviewed and periodically amended to meet or exceed state requirements;" and

WHEREAS, The City of Albany Climate Action and Adaptation Plan (CAAP) established the objective of 70% greenhouse gas (GHG) emissions reductions by 2035, and net zero emissions by 2045; and

WHEREAS, The CAAP focuses on reducing emissions from the City's largest emissions sectors, including new and existing buildings. An estimated 40% of GHG emissions in Albany result from the building sector; and

WHEREAS, CAAP Action 3.2.6 directs the City to "Adopt voluntary green building tiers;" and

WHEREAS, The City of Albany General Plan Policy *T-2.3: Low-Emission Vehicles* directs the City to "encourage the use of low emission or zero emission vehicles, along with the infrastructure to support such vehicles, such as electric vehicle charging stations;" and

WHEREAS, The CAAP established the goal that 98% of passenger vehicles in Albany be electric vehicles by 2045; and

WHEREAS, CAAP Action 1.2.2 directs the City to "adopt an electric vehicle readiness ordinance that would increase the charging requirements for new construction and renovations;" and

WHEREAS, The General Plan Policy CON-4.3: Low Impact Development directs the City to "support the use of pervious pavement" to "capture and filter rainwater and reduce runoff to local creeks and the Bay;" and

WHEREAS, Policy *CON-6.9: Reducing Water Usage* directs the City to partner with EBMUD, PG&E, StopWaste and other organizations to achieve water efficiency and reduced usage and support indoor and outdoor conservation practices; and

WHEREAS, on January 19th, 2021 the Albany City Council unanimously approved Resolution No. 2020-127: A Resolution of the Albany City Council to Adopt Green Building Measures; and

WHEREAS, on December 6th, 2021 the Albany City Council unanimously approved Resolution No. 2021-118: A Resolution of the Albany City Council Updating and Amending Green Building Measures; and

WHEREAS, this Resolution will supersede Resolution No. 2020-127. New energy efficiency requirements will be added for mid-rise and high-rise buildings and the outdoor lighting requirement for multifamily buildings will be removed; and

WHEREAS, the California Health and Safety Code (HSC) Section 18941.5, with reference to HSC Section 17958.7, allows for more restrictive local amendments that are reasonably necessary because of local climatic, geological, or topographical conditions. California Code of Regulations, Title 24, Part 11, California Green Building Standards Code (CALGreen), Section 101.7.1, provides that local climatic, geological, or topographical

conditions include environmental conditions established by the city, county, or city and county; and

WHEREAS, Public Resources Code Section 25402.1(h)(2) and Section 10-106 of the Building Energy Efficiency Standards (Standards) establish a process which allows local adoption of energy standards that are more stringent than the statewide Standards, provided that such local standards are cost effective and the California Energy Commission finds that the standards will require buildings to be designed to consume no more energy than permitted by the California Energy Code; and

WHEREAS Cost effectiveness studies were prepared for the Statewide Code and Standards Program titled "2019 Cost Effectiveness Study: Low Rise Residential New Construction," and "2019 Nonresidential New Construction Reach Code Cost Effectiveness Study," and "2019 Mid Rise New Construction Reach Code Cost Effectiveness Study," and "2019 High Rise New Construction Reach Code Cost Effectiveness Study" ("Studies"). The Studies analyzed the feasibility and cost effectiveness of requiring new construction to be allelectric for 16 different climate zones in California, including climate zone 3, within which the City of Albany is located. The Studies also determined the efficiency standards for mid-rise and high rise residential buildings in this Resolution will meet the Study's cost effectiveness requirements in climate zone 3. Based on this, the City Council of the City of Albany hereby determines that the measures being adopted by the City are cost effective as documented in the Studies; and

WHEREAS, Section 12-6.1(b)(4)(p) of the Albany Municipal Code allows the City Council to establish, by resolution and periodically review and update, more-stringent voluntary measures contained in the California Green Building Standards Code appendices to address local environmental conditions; and

WHEREAS, the proposed resolution does not involve a commitment to or require a significant physical change in future projects, and thus is not a "project" as defined by California Environmental Quality Act (CEQA) Guidelines Section 15378; and The City Council finds that this Resolution is exempt from the California Environmental Quality Act

Commented [MP1]: This Resolution does not need to be approved by the CEC because it is an all-electric requirement, an amendment to the green building code but not to the energy code.

Commented [MP2]: Cost effectiveness studies are not necessary for an electrification mandate. These are only necessary for requiring compliance and EDR margins, as we did in the previous resolution

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eodified in California Public Resources Code section 21000 et seq. (CEQA), pursuant to Subdivision (b)(3) of Section 15061 of the CEQA Guidelines, codified in Title 14 of the California Code of Regulations, because its standards are more stringent than the 2022 Energy Code, there are no reasonably foreseeable adverse environmental impacts, and there is no possibility that the activity in question may have a significant impact on the environment; and

WHEREAS, the State of California allows local jurisdictions to amend the California Building Standards Code where necessary to reasonably address adverse local conditions related to climate, geology, and/or topography, and thus the City Council makes the following findings regarding local conditions:

- a) The City of Albany is a dense built-out community with predominately older wood-frame commercial and residential structures that lack modern fire protection elements, are located on small lots with minimal setbacks that increase the potential for rapid fire spread, and are reached by narrow streets that often hamper emergency response;
- b) The eastern edge of the City of Albany is located less than two miles from the ridgeline of the East Bay Hills, in the path of "Diablo Winds," which could rapidly bring a wildland fire from the East Bay Hills into the City; and
- c) The City of Albany lacks access to secondary sources of water for fire suppression in the event of damage to primary water supply; and
- d) The City of Albany is frequently exposed to extremely high risk "red flag" fire conditions consisting of warm temperatures, low humidity, and strong winds that combine to produce an increased risk of fire danger. These conditions have worsened in recent years due to global warming;
- e) Furthermore, climate conditions have resulted in the City of Albany experiencing dangerous air quality for weeks, even from distant fires;
- f) Reducing greenhouse gas (GHG) emissions associated with the design, construction, maintenance, and operation of buildings is necessary to reduce the City of Albany's contribution to climate change, which is causing the severe local climatic conditions; and
- g) The City of Albany is vulnerable to major earthquakes on the San Andreas, Hayward and Calaveras faults, which are expected to result in damage to aging

underground infrastructure including natural gas lines and water lines needed for fire suppression. Reducing the reliance on natural gas in new construction will decrease the risk of fires caused if aging underground gas lines rupture in a seismic event; and

- h) The City of Albany has moderate to highly expansive soils present throughout most of the built-out portions of the City of Albany; and
- i) The waterfront portion of the City of Albany includes poorly compacted artificial fill.

NOW, THEREFORE, THE ALBANY CITY COUNCIL RESOLVES AS FOLLOWS:.

Section 1: Applicability

The requirements of this Resolution shall apply to applications subject to planning review zoning clearance submitted on or after the effective date set forth in Section 6, for all buildings proposed to be located in whole or in part within the City, except for the following activities:

- A. Interior improvements
- B. Normal repairs or replacement
- C. Accessory buildings which are located in a rear yard and do not exceed one hundred-twenty square feet in area and twelve feet in height.
- D. The following types of signs:
 - 1. Signs which are allowed without a sign permit, as listed in Section 20.36.
 - Signs which are allowed by Section 20.32 with a zoning clearance. A zoning clearance may include consideration of design characteristics.
 - (a) Change of message on an existing sign.
 - (b) Fascia signs.
 - (c) In-window permanent signs.
- E. Television and other antennas.
- F. Roof replacement materials, flashing, roof vents, gutters and downspouts, on residential buildings.
- G. Skylights on residential buildings, not to exceed a twelve (12)-inch projection above the roof surface.
- H. Other minor exterior alterations that the Community Development Director may determine are similar in visual impact to those listed herein.

Commented [MP3]: In the past two years, State laws have allowed more and more projects to bypass planning review. Zoning clearance is a much broader definition that captures almost every permitted project. The exceptions listed below are the City's exceptions from design review, which exempt very simple projects and over-the-counter permits. Therefore, this new language allows us to cover the same group of project types that the term "planning review" used to apply to.

This Resolution will supersede Resolutions No. 2020-127 and 2021-118. Applications submitted prior to the effective date of this Resolution, shall comply with Resolution No. 2020-127 as applicable. Buildings must comply with all measures that are applicable to the building type in question and to the specific areas of the building in which construction is occurring.

Section 2: Definitions

- A. Accessory Dwelling Unit (ADU) has the same meaning as defined in the 2022 California Building Code, Title 24, Part 11, Section 202.
- B. Addition means an extension or increase in floor area of an existing building or structure.
- C. Alteration means any construction or renovations to an existing structure other than repair or addition.
- D. All-Electric Building means a building in which all appliances are fueled only by electricity and <u>neither</u> natural gas <u>nor combustion equipment</u> is used.
- E. Clean Air Vehicle means a zero-emitting, fuel-efficient, or carpool/vanpool vehicle as defined in the 2022 California Building Code, Title 24, Part 11, Section 202 any vehicle certified to zero-emissions standards, high-efficiency vehicles bearing High-occupancy Vehicle (HOV) carpool lane stickers issued by the Department of Motor Vehicles, or carpool or van pool vehicles.
- F. Compliance Margin is a percentage that represents the degree to which a given nonresidential building, mid rise building, or high rise building exceeds the energy budget determined in the California Energy Code. The compliance margin is calculated by finding the difference between the energy budget of the building and the actual energy use of the building, both of which are determined by compliance software, and dividing that number by the energy budget. The higher the percentage, the lower the energy use of the building.
- G. Compliance Software is software that has been approved pursuant to Section 10-109 of Part 1 of the California Administrative Code, to demonstrate compliance with the

Commented [MP4]: This definition has been changed to match the new definitions in the building code.

Commented [MP5]: This Resolution will not require any compliance or EDR margins as we are shifting from an electric incentive model to electric required.

- performance approach of Part 6 of the California Building Code (Energy Code Part 6 Section 100.1).
- H. Efficiency Margin refers to an EDR Margin that is achieved only by increasing the energy efficiency of the structure itself, without the use of additional photovoltaics or energy storage batteries. This only applies to residential buildings.
- <u>H.F.</u> Electric Vehicle Charging Station (EVCS) shall have the same meaning as defined in the <u>2022</u> California Building Code, Title 24, Part 11, Section 202.
- LG. Electric Vehicle-Ready Capable Space shall mean a vehicle space for which there is electrical panel space to accommodate the future installation a 40-ampere dedicated branch circuit and overcurrent protective device.mean a parking space for which Ceonstruction documents shall indicate wiring schematics, raceway methods, the raceway termination point and proposed location of future EV spaces and EV chargers. Raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.
- K. Energy Budget means the maximum energy consumption that a proposed building, or portion of a building can be designed to consume, calculated using compliance software. The Energy Budget of each building is determined using the Compliance Software certified by the California Energy Commission.
- Energy Design Rating (EDR) is a number between 0 and 100 that signifies the energy efficiency of a given residential building, with 0 being a zero net energy building and 100 being equivalent to the energy efficiency of a 2006 International Energy Conservation Code (IECC) compliant building. The EDR of each building is determined using the Compliance Software certified by the California Energy Commission.
- M. Energy Design Rating (EDR) Margin means the difference between the EDR value that is required by the California Energy Code and the actual EDR value achieved by a given residential building. Both values are determined using the Compliance Software certified by the California Energy Commission.

Commented [MP6]: This shift in terminology is meant to better line up with the new definitions in the building code and to clarify the EV charging requirements. This does not change our EV Charging requirements in any way.

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- O. Low-Rise Building means a multifamily building with fewer than 4 stories.
- P. Mid-Rise Building means a multifamily building with 4-7 stories.
- H. Major Alteration means a building undergoing an alteration that requires the installation of an automatic fire sprinkler system according to Chapter 11 of the Albany Municipal Code.
- Q.I. Mixed-fuel Building means a building that is fueled by both natural gas and electricity.
- R.J. Multi-family Building means a residential building that contains more than two dwelling units, excluding accessory dwelling units.
- S.K. Natural Gas shall have the same meaning as "Fuel Gas" as defined in California Plumbing Code and Mechanical Code.
- T.L. Newly Constructed Building shall be defined as a building, including an accessory dwelling unit, that has never before been used or occupied for any purpose.
- U.M. Nonresidential Building means all buildings that are not classified in Occupancy Group R-2, R-3, or R-4, as defined in the 2022 California Building Code, Title 24, Part 2, Section 310.
- V. Office Building means a building which is classified in Occupancy Group B, as defined by the 2019 California Building Code, Title 24, Part 2, Section 304.1
- W.N. Permeable Paving means paving using materials and techniques which allow the movement of water around the paving material and allow precipitation to percolate through the paving surface to the soil below.
- X.O. Residential Building means a structure arranged, designed, and intended to be occupied as a primary residence. This includes all buildings of Occupancy Group R-2, R-3, or R-4, as defined in the 2022 California Building Code, Title 24, Part 2, Section 310, including any associated ADU's.
- Y.P. Repair means reconstruction or renewal of any part of an existing building for the purposes of maintenance or damage correction.

Commented [MP8]: ADU's will be included in the allelectric requirements, but only for newly installed equipment.

- Z. Retail Building means a building which is classified in Occupancy Group M, as defined by the 2019 California Building Code, Title 24, Part 2, Section 309.1
- Q. Resilient Flooring has the same meaning as defined in the 2022 California Building Code, Title 24, Part 11, Section 202.
- AA.R. Scientific Laboratory Building means a building which is classified in Occupancy Group L, as defined by the California Building Code, Title 24, Part 2, Section 313.
- BB.S. Single-family Building means a structure that contains one or two dwelling units. An accessory dwelling unit may also be located in or associated with a single-family dwelling and may be attached or detached.
- CC. Solar Zone has the same meaning as defined in 2019 California Energy Code, Title 24, Part 6, Section 100.1 and Section 110.10.
- DD.T. Volatile Organic Chemicals, or "VOC" has the same meaning as defined in the 2022 California Building Code, Title 24, Part 11, Section 202.

Section 3: All-Electric Requirements

All newly constructed buildings and major alterations shall be all-electric buildings. All new appliances installed to serve newly constructed ADUs must be all-electric.

Requirements for combustion equipment.

- A. Where combustion equipment is allowed per Exceptions under Section 5 the construction drawings shall indicate electrical infrastructure and physical space accommodating the future installation of an electrical heating appliance in the following ways, as certified by a registered design professional or licensed electrical contractor:
- B. Branch circuit wiring, electrically isolated and designed to serve all electrical heating appliances in accordance with manufacturer requirements and the California Electrical Code, including the appropriate voltage, phase, minimum amperage, and an electrical receptacle or junction box within five feet of the appliance that is accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors; and
- C. Labeling of both ends of the unused conductors or conduit shall be with "For Future Electrical Appliance"; and

Commented [MP9]: This won't be necessary if we delete the solar zone requirement (see below).

Commented [MP10]: These requirements are taken from the EBCE/TRC model ordinance.

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- D. Reserved circuit breakers in the electrical panel for each branch circuit, appropriately labeled (i.e. "Reserved for Future Electric Range"), and positioned on the opposite end of the panel supply conductor connection; and
- E. Connected subpanels, panelboards, switchboards, busbars, and transformers shall be sized to serve the future electrical heating appliances. The electrical capacity requirements shall be adjusted for demand factors in accordance with the California Electric Code; and
- F. Physical space for future electrical heating appliances, including equipment footprint, and if needed a pathway reserved for routing of ductwork to heat pump evaporator(s), shall be depicted on the construction drawings. The footprint necessary for future electrical heating appliances may overlap with non-structural partitions and with the location of currently designed combustion equipment.

Section 4: Green Building Requirements

- A. Newly constructed residential buildings, excluding Accessory Dwelling Units (ADUs) shall be required to meet or exceed the Energy Design Rating (EDR) Margins and Compliance Margins listed in Appendix A.
- B. All new construction, alterations, and additions of residential buildings shall be required to comply with all applicable measures listed in Appendix B.
- Twenty percent (20%) of the parking spaces in newly constructed multi-family buildings, rounded to the nearest whole number, shall be Electric Vehicle Charging Stations. The remainder of the parking spaces shall be Electric Vehicle-Ready Capable. Branch circuit panelboard(s) shall be installed that contain the physical space to accommodate the future installation a minimum of one 40-ampere dedicated branch circuit and overcurrent protective device per EV-Ready Capable space and have sufficient electrical capacity to deliver a minimum 40 amperes at 208 or 240 volts multiplied by 20% of the total number of parking spaces. The service panel and/or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.
- D. Newly constructed retail and office buildings shall be required to meet or exceed the Compliance Margins described in Appendix C.

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Commented [MP11]: These requirements have been replaced with the all-electric requirement above

Commented [MP12]: This is a shift in terminology for clarity but does not change the actual requirements in any way.

All newly constructed nonresidential buildings shall install solar panels on the entire Solar Zone of the roof.

- Exception: If installing solar panels on the entire Solar Zone will result in more electricity production annually than the modeled electricity usage of the building, as determined by compliance software, the building will not be required to fill the entire solar zone. Instead, the number of solar panels installed must be sufficient to produce at least as much electricity (kWh) annually as the modeled electricity usage of the building.
- B. All new construction, alterations, and additions of residential buildings shall be required to comply with all applicable measures listed in Appendix A.
- G.C. All new construction, alterations, and additions of nonresidential buildings shall be required to comply with all applicable measures listed in Appendix B.

Section 5: Exemptions

- A. The requirements of this Resolution shall not apply to:
- B.A. 1.— Projects that have an active zoning clearance planning review application submitted on or before 30 days after adoption by the Albany City Council final action by the State of California.
 - Projects that are determined by the Community Development Director to be exempt from planning review.
- B. If the applicant establishes that there is not an all-electric prescriptive compliance pathway for the building under the California Building Energy Efficiency Standards, and that the building is not able to achieve the performance compliance standard applicable to the building under the Energy Efficiency Standards using commercially available technology and an approved calculation method, then the local enforcing agency may grant a modification. The City shall have the authority to approve alternative materials, design and methods of construction or equipment per California Building Code Section 104.
- C. Notwithstanding the requirements of this Chapter and the Greenhouse Gas Emissions and other public health and safety hazards associated with Natural Gas Infrastructure, minimally necessary and specifically tailored Natural Gas Infrastructure may be allowed in scientific laboratory buildings.

Section 5: Hardship or Infeasibility Exemption

Commented [MP13]: This has been superseded by the new code. There are still a few building types that aren't required to have solar, so we could edit it to apply only to those.

Commented [MP14]: This is taken from the EBCE/TRC model ordinance

- D. C. If an applicant for a nonexempt project believes that circumstances exist that make it a hardship or infeasible to meet the requirements of this Resolution, they may apply for an exemption or reduction in requirements as set forth below. In applying for an exemption, the burden is on the applicant to show financial hardship or physical infeasibility.
 - <u>1.</u> Application. If an applicant for a nonexempt project believes such circumstances exist, the applicant may apply for an exemption at the time of planning application submittal.
 - 2. Granting of Exemption. The granting of an exemption shall be made by the overall project decision-making authority. If an exemption is granted, the applicant shall be required to comply with this Chapter in all other respects.
 - <u>3.</u> Denial of Exemption. If the decision-making authority determines that it is possible for the applicant to fully meet the requirements of this Chapter, they shall so notify the applicant.

Section 6: Effective Date; Prior Resolution Superseded

The requirements of this Resolution shall be effective 30 days after adoption by the City Council final action by the California Energy Commission (the "Effective Date"). This Resolution shall supersede Resolution No. 2021-118 shall supersede and Resolution No. 2020-127 as of its effective date, except as specified in Section 1 herein.

Section 7: Filing; Posting

The City Clerk is hereby directed to file a copy of this Resolution with the California Building Standards Commission and the California Energy Commission of the State of California. The City Clerk is directed to cause copies of this Resolution to be posted or published as required by law.

GE'NELL GARY, MBA PRESTON

JORDAN, MAYOR

Commented [MP15]: The CEC no longer needs to approve all-electric ordinances, only energy efficiency requirements such as the old EDR Margin requirements.

Attachments: Appendix A: Residential Energy Efficiency Appendix A: Residential Non-Energy Measures Appendix C: Non-Residential Energy Efficiency Appendix B: Non-Residential Non-Energy Measures

Measure	Construction type	Building type
Newly installed paving shall meet the Tier 2	New construction, alterations, and additions	Multi-family, Single family, and ADUs
requirements of the 20 <u>22</u>	arterations, and additions	laminy, and 11003
California Green Building Standards Code, Title 24,		
Part 11, Section A4.106.4.		
In each unit where a	New construction,	Multi-family, Single
dishwasher or clothes- washer is being installed, at	alterations, and additions	family, and ADUs
least one dishwasher or		
clothes-washer shall be Energy Star approved.		
Kitchen faucets shall have	New construction,	Multi-family, Single
a maximum flow rate of no	alterations, and additions	family, and ADUs
more than 1.5 gallons per minute.		
The cement content of all concrete shall be reduced	New construction, alterations, and additions	Multi-family, Single family, and ADUs
by at least 25%. The	arterations, and additions	lummy, and 11003
cement shall be replaced by fly ash, slag, silica fume,		
rice hull ash, or another		
suitable material.		
At least 90% of the total	New construction, alterations, and additions	Multi-family, Single family, and ADUs
area of resilient flooring installed shall comply with	anerations, and additions	lamily, and ADOS
the VOC-emissions limits set forth in the 2022		
California Green Building		
Standards Code, Title 24, Part 11, Section A4.504.2		

Appendix B: Non-Residential Non-Energy Measures

Measure	Construction Type
Designated parking spaces for clean air	New construction, alterations, and additions
vehicles shall make up 12% of the parking	
spaces constructed, rounding to the nearest	
whole number. Parking spaces shall be	
marked as described in 2022 California	
Green Building Standards Code, Title 24,	
Part 11, Section A5.106. <u>5</u> .1.3.	
Outdoor lighting shall comply with 2022	New construction, alterations, and additions
California Green Building Standards Code,	
Title 24, Part 11, Section A5.203.1.1.1	
A 12% reduction in potable water use within	New construction only
the building will be achieved by complying	
with 2022 California Green Building	
Standards Code, Title 24, Part 11, Section	
A5.303.2.3.1	
Concrete shall comply with 2022 California	New construction, alterations, and additions
Green Building Standards Code, Title 24,	
Part 11, Sections A5.405. <u>52.1 and</u>	
A5.405.2.1.1	
At least 90% of the total area of resilient	New construction, alterations, and additions
flooring installed shall comply with the	
VOC-emissions limits set forth in the 20 <u>22</u>	
California Green Building Standards Code,	
Title 24, Part 11, Section A <u>5</u> .504.4.7	

Commented [MP16]: This requirement would require approval by the CEC, which would complicate and delay the process of enforcing this Resolution.