

PROPOSED NEW CONSTRUCTION REACH CODES

**ALL-ELECTRIC NEW CONSTRUCTION, EXPAND SOLAR
PHOTOVOLTAICS, INCREASE ELECTRIC VEHICLE (EV)
CHARGING**

Prepared for City of Glendale by Rincon Consultants

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PROPOSED GLENDALE NEW CONSTRUCTION REACH CODES

1. All-Electric New Construction

All-electric new construction + infeasibility waiver; stand alone accessory dwelling unit (ADU) requirement

New construction will include wiring for electric heating, cooling, and cooking. Gas will not be installed.

2. Expand Solar Photovoltaics (PV)

50% energy offset OR roof area PV array requirement for non-res; multifamily res new construction

Non-residential & multifamily PV systems must offset 50% of projected electricity use or 50% of rooftop space.

3. Increase Electric Vehicle (EV) Charging

•CALGreen Tier 2 Voluntary Standards

•1-2 Family Homes + Low-Rise Multifamily: One Level 2 EV-Ready Space/ Unit + Level 1 Circuitry

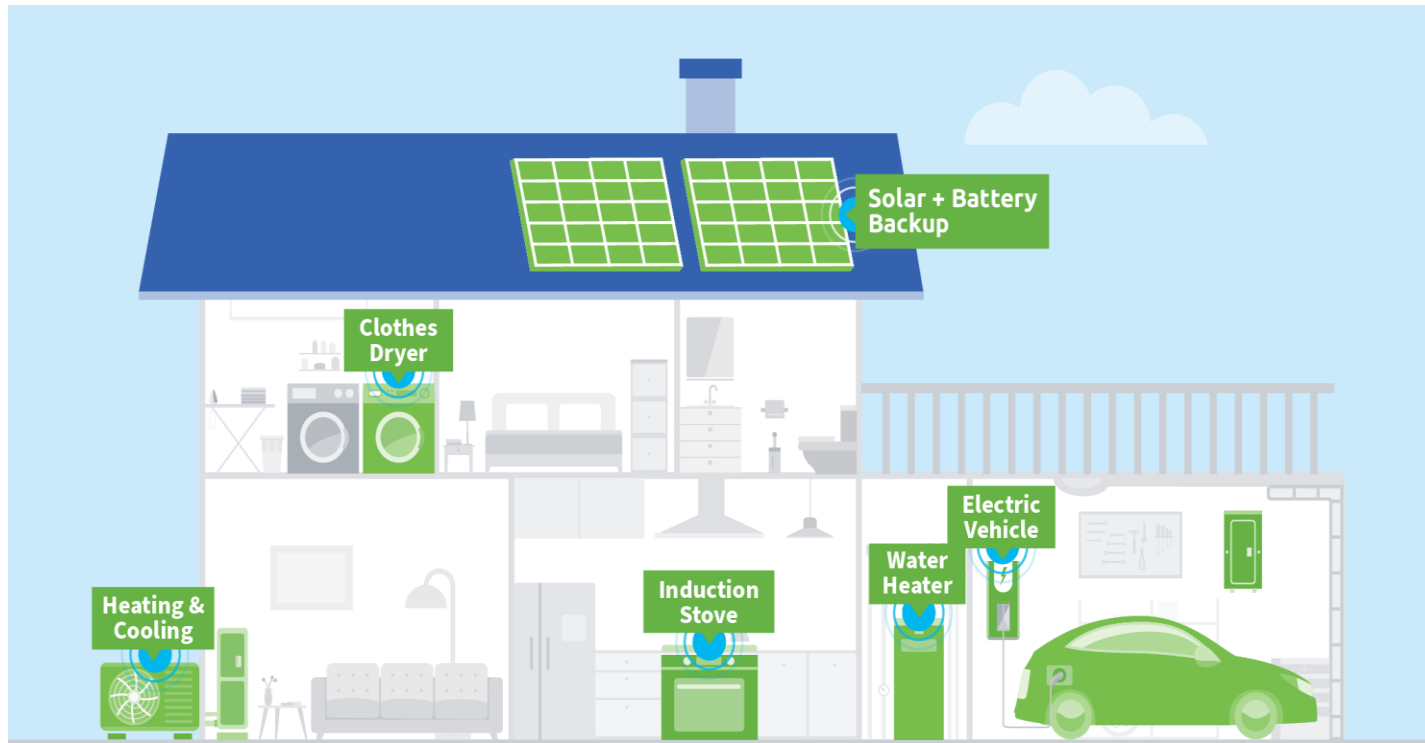
•Multifamily; Hotels & Motels: 40% of Parking spaces EV ready; >20 units; 15% of total spaces dedicated to EV

A REACH CODE “REACHES” BEYOND THE MINIMUM STATE REQUIREMENTS FOR BUILDING CONSTRUCTION AND DESIGN (EX. ENERGY EFFICIENCY, ELECTRIC BUILDING REQUIREMENTS).

TIMELINE: PROPOSED CODE WOULD BEGIN ON JAN 1, 2023 (BEGINNING OF NEW BUILDING CYCLE). BUILDING CODE UPDATES EVERY 3 YEAR.

BUILDING TYPES COVERED: NEW CONSTRUCTION ONLY. EXISTING BUILDINGS WILL NOT BE AFFECTED.

VISION FOR NEW BUILDINGS IN GLENDALE



All-electric buildings are heated and cooled by **energy efficient** electric heat pumps. Induction stoves maintain **healthy air quality** as you cook

Solar panels **save building owners money** while contributing to **grid stability** during high-demand days for electricity

Electric vehicles **improve local air quality** and cost less to charge and maintain

ALL-ELECTRIC BUILDING TECHNOLOGY



Heating and cooling via electric air source heat pump instead of a gas furnace



Water heating via an electric heat pump water heater instead of a gas water heater



Cooking via an electric induction cooktop & oven instead of a gas stove

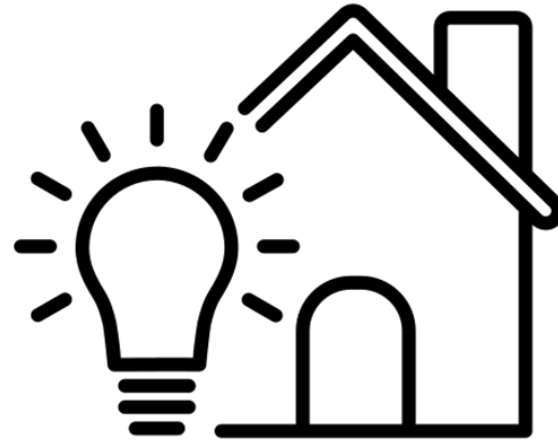


Drying clothes via an electric or heat pump clothes dryer instead of a gas dryer

1. ALL ELECTRIC NEW CONSTRUCTION

Electric appliances like heat pumps and induction stovetops will be installed in new buildings instead of gas-powered appliances

- **Building types covered:** All building types, including ADUs
- **Infeasibility waiver** for technological infeasibility (application)



1: BENEFITS

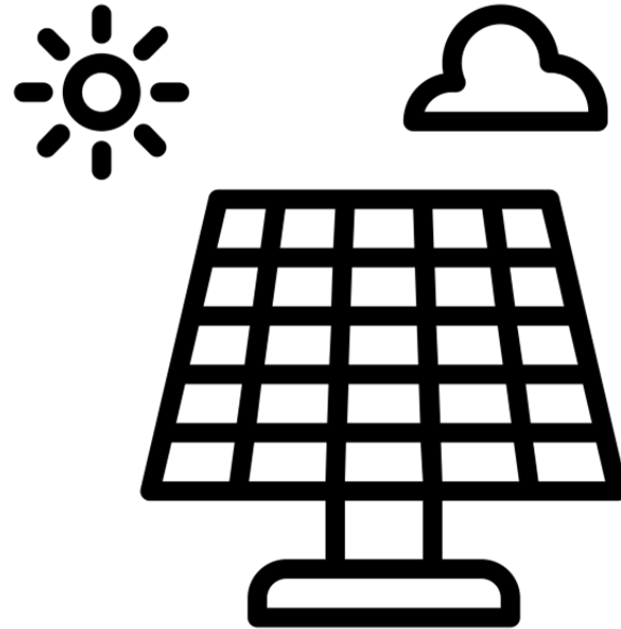
- Cleaner indoor air = **increased community health**
 - *Less indoor air pollution & reduced risk of asthma*
- All-electric buildings are **less expensive** to build and occupants **save money**
 - *Gas prices are rising and will continue to rise. Gas bills could more than double over time.*
- All-electric buildings are a **key strategy for climate action**
 - *As the California grid goes Carbon-Free by 2045, all-electric buildings will be carbon neutral by 2045*
 - *Natural gas makes up approx. 14% of GHG emissions in Glendale (2004)*

Source(s): Natural Resources Defense Council, Rocky Mountain Institute, Gridworks, EPA

2: EXPAND SOLAR PHOTOVOLTAICS (PV)

Single family homes already have solar PV requirements, so are not included in the proposed reach code.

- **Building types covered:** Non-residential and multifamily new construction
- **50% of electricity use or 50% of roof space requirement**



2: BENEFITS

- **Increased grid resiliency through local solar**
 - *Especially when paired with increased storage, local solar can contribute to electrical grid demand reduction, helping to weather demand peaks (ex. a hot summer day where there is increased use of air conditioning)*
- **Solar + electrification = cost savings**
 - *California Energy Codes and Standards' analysis shows cost savings for the community through improved grid reliability and decreased emissions as well as on-bill savings*

Sources: National Renewable Energy Laboratory, California Energy Codes

3: EXPAND ELECTRIC VEHICLE CHARGING THROUGH CALGREEN TIER 2 STANDARDS

- **Building types covered:** All new buildings (multifamily, hotels & motels, commercial, single-family residential)

One or Two-Family homes/ Low-rise Multifamily:

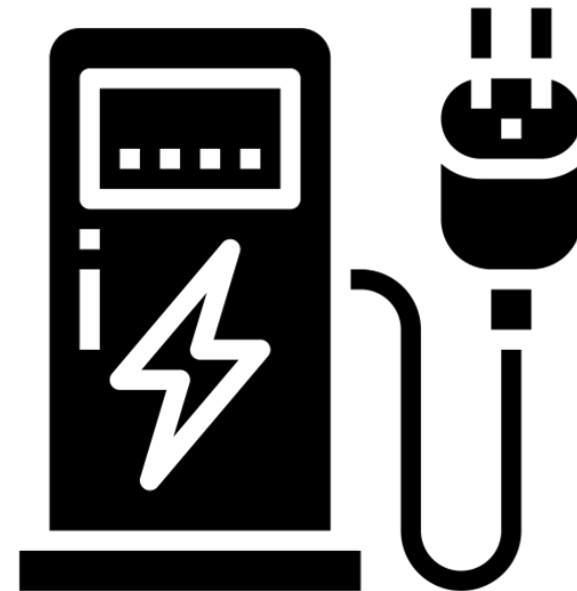
- One *Level 2* (40- to 100-amp breaker on a 208- or 240-volt alternating current (AC Circuit)) EV-Ready space per unit and Level 1 Circuitry ('slow charging').

Multifamily, Hotels & Motels:

- <20 Spaces: 40% of parking spaces must be EV Ready
- >20 Spaces: 15% of total parking spaces to have Level 2 EVSE (Electric vehicle supply equipment)

Other non-residential:

- Adopt an additional 10% Level 2 EV Charging requirement and 15% Level 2 capable spaces requirement for new non-residential buildings with 10 > spaces



3: BENEFITS

- **EVs contribute to healthy local air quality**
 - *Gas and diesel powered cars and trucks are one of the leading causes of air pollution (carbon monoxide, nitrogen oxides). EVs do not release air pollutants when they operate, keeping local air quality healthy.*
- **Decrease emissions from one of the biggest GHG emitting sources**
 - *Transportation accounts for around 50% of California's greenhouse gas emissions. 44% of Glendale's greenhouse gas emissions come from transportation (2004).*
- **Increase Glendale's preparedness for future EV Demand**
 - *California State policy has aggressive targets for the adoption of zero emissions vehicles, as well as charging infrastructure, with a target of 100% in-state sales of passenger cars and light duty trucks by 2035 (Executive Order N-79-20).*

Sources: Legislative Analyst's Office, Office of Governor Gavin Newsom, Union of Concerned Scientists

CALIFORNIA STATE CLIMATE TARGETS

Carbon Neutral by 2045 (Executive Order B-55-18; 2018); 40% below 1990 levels by 2030 (Senate Bill 32; 2016)

100% Carbon-Free Electricity by 2045 (Senate Bill 100, 2018), 60% from renewable sources by 2030

All new passenger vehicle sales must be zero-emission by 2045 (Executive Order N-79-20)



GLENDALE'S SUSTAINABILITY COMMITMENTS

1990s & Beyond

- One of the first cities in Southern California to implement use of recycled water, curbside recycling, plastic bag ban, landfill gas-to-energy. Other plans: Green Fleet Vehicles, Bicycle Transportation Plan, The Beeline Service, Green Business Programs, Farmers' Markets, and more.

2012 Greener Glendale Plan

- First iteration sustainability plan; first community greenhouse gas inventory

2017 Mayors National Climate Action Agenda

- City Council resolved to support Mayors National Climate Action, joining cities nationwide in updating climate action plans

2011, 2017, 2019 Green Building Standards (CALGreen and beyond)

- Expansion of solar energy initiatives, reaching beyond CalGreen standards and more;

Upcoming: Glendale's First Climate Action & Adaptation Plan

Glendale Sustainability Resources: Glendale Water & Power; Glendale Office of Sustainability

HOW WILL ELECTRIFICATION ORDINANCES BENEFIT GLENDALE?



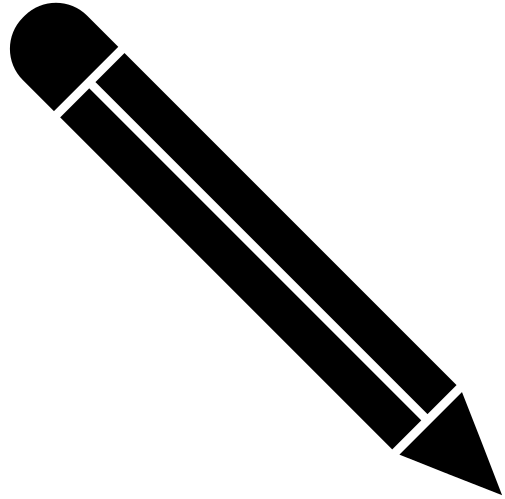
Cost savings for home owners, business owners & renters

Safer, healthier homes, cleaner air

Contribute to a stable electric grid

Contribute to climate action for Glendale

SHARE YOUR THOUGHTS AND FEEDBACK



FILL OUT THE SURVEY:
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MORE INFORMATION @:
[BIT.LY/GLENDALENEW ELECTRIFICATION](https://bit.ly/glendalenewelectrification)

NEXT MEETING: 9/8