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David Jones – Sustainability Officer
City of Glendale
Suite 200
Glendale, California, 91206
Via email: Djones@glendaleca.gov

Subject: Building Electrification Post Berkeley

Dear Addressee:

Rincon Consultants has compiled a summary of the 9th Circuit Court decision in the California Restaurant Association (CRA) vs. City of Berkeley litigation, its impacts on building electrification ordinances, and the remaining options for cities to help decarbonize their buildings in pursuit of the State of California GHG reduction targets.

What was the outcome of the 9th Circuit Court decision in California Restaurant Association (CRA) vs. City of Berkeley?

The 9th Circuit Court determined that Berkeley's electrification ordinance (which was codified in the health and safety section of the City's Municipal Code) preempted the Federal Energy Policy and Conservation Act (EPCA). EPCA sets countrywide appliance efficiency standards which have historically served as one of the nation's most effective energy conservation policies. The first efficiency standards were set in California in 1974, before being adopted at the federal level in 1975.¹ The policy also was developed to preempt state level legislation to save manufacturers money and reduce regulatory burden resulting from several different state-level policies. Based on the preemption clause in EPCA, the 9th Circuit Court found that *"no State regulation concerning the energy efficiency, [or] energy use . . . of such covered product shall be effective with respect to such product."* In this finding, the Court took an exceptionally broad reading of energy use to not only apply to appliance efficiency specifically, but to the type of energy used for those appliances as well.

Berkeley appealed to the 9th Court for an En Banc review, which allows all 9th Circuit Judges to review the case, however, the 9th Circuit declined. While the language in the decision is broad, according to a memo developed by Shute, Mihaley & Weinberger, the only definite legal repercussion of the finding is that direct bans or prohibitions of natural gas on an energy or efficiency basis are preempted and that while the court did directly address building code provisions, it did recognize that "The EPCA does not permit States and localities to doge

¹ <https://www.energy.gov/eere/buildings/history-and-impacts>



preemption by hiding 'energy use' regulations in building codes." Berkeley has since paused their enforcement of the ordinance as they investigate new directions.

Why do we need Reach Codes in the first place?

The State of California Green Building Code (Title 24) has made real progress in decarbonizing new buildings and California has some of the most efficient buildings in the County. With all this progress, why are local reach codes still important?

State Codes are Limited.

2025 Building Energy Efficiency Standards (2025 Title 24/Energy Code) will still allow for the installation of natural gas infrastructure and will lack existing building and appliance specific requirements. The 2025 Title 24 requirements will likely use heat pump water heating and HVAC units as the "baseline" performance standard but will stop short of requiring all-electric buildings and will have no consideration for other methane gas appliances like stoves and dryers.

Limits Gas Infrastructure to Save Money Long Term.

One of the primary drivers of a natural gas infrastructure ban is to prevent the installation of gas infrastructure that is expensive to maintain. Much of the cost associated with installing new or upgrading existing gas mains, spurs, and meters is offset by ratepayers. This means that much of the cost of each therm of natural gas consumed is to pay for installation and maintenance of the gas system. In order to reach our climate goals, much of the gas system we use today will have to change (either to allow for decarbonized fuels or to be decommissioned). Every piece of gas infrastructure we install today will increase the cost of gas in the future. This could cause significant increases in gas costs of up to 5x by 2050.² Limiting the installation of new infrastructure is key to long-term savings and a managed transition.

Consistency with Climate Action Plan and GHG Targets.

The City of Glendale, and California as a whole, cannot reach its GHG emissions reduction goals without decarbonized buildings and electrification has been demonstrated to be the most cost-effective way to decarbonize. Requiring as many new buildings and retrofits as possible to be all-electric will be key to meeting these long-term goals.

Signals the Market.

The existing Glendale electrification ordinance provided a strong signal to developers that new construction should be decarbonized. This signal also reached the State as they incorporated many facets of local reach codes into the State code. By continuing to show commitment to electrification as the new standard, Glendale can send a clear message to important decision-makers and interested parties and avoid inconsistent legislation.

² https://gridworks.org/wp-content/uploads/2019/09/CA_Gas_System_in_Transition.pdf

What are the Remaining Options to Drive Electrification?

Several options remain for local governments to retain jurisdictional control over how their buildings are constructed. These options exist on a spectrum of risk, and each carry their own pros and cons in the short- and long-term. The following options have been organized based on their perceived risk following the CRA vs. City of Berkeley decision. The section has also been divided between new and existing construction. While the City of Berkeley decision was specific to new construction, the finding impacts existing building policies which are also critical to reaching carbon neutrality. This summary covers remaining options for both new and existing buildings.

New Building Electrification Options

Gas Ban Through a Local Amendment to the Building Code – High Risk

While the City of Berkeley decision was not specific to local amendments to the building code, the breadth of the finding suggests that these codes would not be legally defensible if litigated. However, some cities are continuing to implement their gas infrastructure or appliance bans while they await further litigation in this area. Continuing to implement these codes, especially in the short-term, would limit new gas infrastructure but carries with it potentially serious legal risk. Some cities, like San Francisco, who have slightly different codes have signaled that they will continue to implement their codes until further notice. The Berkeley decision is likely just the first of many legal cases which will play out over time on this topic.

Pros

- Complete gas ban (minus exemptions)
- Easy to understand
- Easy to implement

Cons

- Legally tenuous

Air Quality Ordinance – Untested

Both the federal Clean Air Act and the California Clean Air Act establish targets for cities and counties to meet in order to reach attainment in criteria pollutants. Under the California Clean Air Act, cities and counties can implement local control measures to improve air quality in their region.³ As noted by the South Coast Air Quality Management District (SCAQMD), “Local governments have the flexibility to address air quality issues through ordinances, local circulation systems, transportation services, and land use. No other level of government has that authority, including the AQMD”. NOx emissions are a byproduct of burning fossil fuels like natural gas and have been found to have negative health effects, especially for children, and are a precursor for the development of Ozone. The SCAQMD estimates that NOx emissions

³ <https://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/chapter-1---introduction.pdf>

must be reduced by 67% by 2037 in order to meet federal regulations.⁴ To address these issues, some cities have begun to regulate NOx emissions directly.

For example, New York State is currently implementing a NOx emissions requirement that effectively bans natural gas in new construction. This ordinance is currently under litigation (Mulhern Gas Co. V. Rodriguez) in the Northern District of New York federal courts,⁵ but no decision has been made. Several cities in California have also adopted air quality standards that address NOx emissions including Los Altos Hills who have adopted a zero NOx requirement for space and water heating. This is ahead of the Bay Area Air Quality Management District Rule 9-6 and 9-4 which will also set a zero NOx standard beginning in 2027 for water heaters and 2029 for space heating. Furthermore, the California Air Resources Board is also planning on implementing their own statewide zero NOx threshold for appliances.⁶

Pros

- Complete gas ban (minus exemptions)
- EPCA Compliant
- Supported by SCAQMD and CARB efforts

Cons

- Untested legally (some risk)

Single Margin Source Energy Code Amendment – Lowest Risk

Cities in California can adopt local amendments to the energy code (Title 24). One of the areas where cities can adopt more stringent requirements is under the source energy rating (EDR1 for single family) which is an energy performance metric. The key to this approach is that one margin, or metric, is established for all energy types. This approach does not specify one type of energy (gas vs. electric) and it is considered to be EPCA compliant. Because all electric buildings meet a much lower source energy rating than mixed fuel buildings, the EDR score can be reduced to a level where gas buildings must complete additional (yet cost effective) energy efficiency actions such as larger solar arrays, battery storage, insulation, and other design strategies. This effectively increases the cost of building with gas compared to all-electric. However, this route does leave the door open for buildings to be built using electric space and water heating, but use gas for cooking. While this result will lower GHG emissions, it does increase the installation of new gas infrastructure which could contribute to future gas rate increases and the possibility of stranded assets (gas lines which need to be decommissioned before 2045). This approach may also not work for all building types depending on climate zone and cost effectiveness results. Therefore, while this approach is the lowest risk, it is not 100% effective at eliminating natural gas in new construction.

⁴ <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/03-es.pdf?sfvrsn=6#:~:text=We%20project%20that%20emissions%20of%20NOx%20%E2%80%93,programs%20by%202037%20to%20meet%20the%20standard.>

⁵ <https://climatecasechart.com/case/mulhern-gas-co-v-rodriguez/>

⁶ <https://ww2.arb.ca.gov/our-work/programs/zero-emission-space-and-water-heater-standards/about>

Pros

- EPCA Compliant
- Well established and low legal risk

Cons

- Gas can still be installed in new construction
- Potential for stranded assets/inefficient resource allocation
- More difficult modeling to show compliance

Existing Building Electrification Options

In addition to ordinances for new construction, there are also several existing building ordinances that cities in California have started to implement to work towards their decarbonization goals. These ordinances have also been developed based on the findings of the CRA vs. City of Berkeley case.

Substantial Remodels - Depends on New Construction Ordinance Adopted

One of the easiest ways to begin addressing existing buildings is to capture significant remodels with the new building ordinance. Most cities already have a definition for what constitutes a significant remodel based on square footage of the remodel (example: 50% or more) or cost (example: \$100,000). Building remodels which meet these thresholds are required to follow the new construction requirements established by the new construction reach code. This requirement can be added to the new construction ordinance which makes adoption more straight forward.

Pros

- No need for additional requirements (tier off new construction)
- Established definitions for “substantial remodel”

Cons

- Only a few building remodels of this size per year

Two-Way Air-Conditioning Ordinance – Untested

Another option to begin decarbonizing buildings is the “two-way” air conditioning requirement. This approach requires new air conditioners to provide both heating and cooling. Heat pumps can meet this requirement at similar costs to dedicated AC units. This is a cost-effective way to deploy heat pumps to more buildings allowing building owners to keep their gas furnace but making it less likely they will replace their furnace in the future since the heat pump already provides both heating and cooling. Furthermore, buildings with dedicated air conditioners will not need additional electrical work to accommodate the heat pump. This approach is being implanted by the City of San Mateo and is expected to be included as a voluntary measure in the 2025 code cycle for CALGreen.⁷

⁷ <https://www.cityofsanmateo.org/3363/Reach-Codes>



Pros

- Cost effective
- No additional electrical work

Cons

- Only covers HVAC

Remodel Minimum Energy Savings Checklist – Low Risk

Cities also have the ability to require additional “cost effective” energy efficiency upgrades at time of remodel in order to meet a minimum energy savings threshold. The City can set a threshold (such as cost of project or square footage) and then provide a checklist of several energy efficiency upgrades which could include heat pump installation, insulation, LED lighting, and more. The Local Codes and Standards program can provide a complete list of cost-effective approaches for inclusion in the checklist.⁸ Because this list provides many options to meet the requirements, it is considered EPCA compliant, even though it includes electrification actions. Cities like Piedmont have been implementing a similar program for several years.⁹ This approach could be used to heavily incentivize heat pump installation at time of retrofit.

Pros

- Cost effective
- Flexible to include different sizes/types of retrofits

Cons

- More complex due to several options

Additional Existing Building Electrification Options

Additional requirements which can help promote electrification are also being developed and implemented by cities around California. These include:

Electrification Readiness – The City can require sufficient panel capacity for complete electrification for all projects which require changes to electric panels. The City could also require new 220v circuits and receptacles whenever kitchens, laundry rooms, or mechanical rooms are renovated.

Require Heat Pump Rooftop Package Units – Or higher efficiency gas units. The Draft of the 2025 Title 24 code requires heat pump rooftop package units OR additional energy efficiency options such as variable frequency drives or economizers. Since heat pump rooftop package units are easy replacements for mixed fuel package units, switching to a heat pump on replacement will likely be lower cost than adding additional energy efficiency equipment.

⁸ https://explorer.localenergycodes.com/policies/options?only_study_type=existing-buildings

⁹ https://cdns5-hosted.civicleve.com/UserFiles/Servers/Server_13659739/File/Government/Departments/Planning%20Division/Reach_Codes/2023%20Reach%20Code%20Piedmont%20Checklist%20for%20Homeowners.pdf?v=w0n4k5gg&v=w0n4k5gg



Building Performance Standards – Building performance standards (BPS) are ideal for larger commercial buildings (25,000 sq. ft. or larger). The building performance standard can be developed to phase in over time and provide time for data collection, retro-commissioning, and finally actions to reduce emissions. Thresholds for GHG emissions per square foot can be established to guide building owners towards decarbonization over time. Several California cities such as San Jose¹⁰ and Brisbane¹¹. Additionally, cities like Denver Colorado have well established BPS programs.¹²

¹⁰ <https://www.sanjoseca.gov/your-government/departments-offices/environmental-services/climate-smart-san-jos/energy-and-water-building-performance-ordinance>

¹¹ <https://www.brisbaneca.org/bbep>

¹² <https://www.cmta.com/news/energize-denver-faq#:~:text=To%20summarize%2C%20Energize%20Denver%20is,and%20to%20reach%20Net%20Zero>