



PUBLIC HEARING TO ADOPT AN ORDINANCE ADDING CHAPTER 16.26 - ELECTRIFICATION OF NEW BUILDINGS TO TITLE 16 OF THE RIVERSIDE MUNICIPAL CODE

Mayor Pro Tem Ronaldo Fierro
City Manager's Office
Community & Economic Development Department

City Council
December 6, 2022

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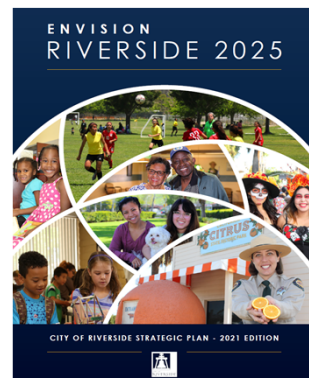
BACKGROUND

ENVISION RIVERSIDE 2025 STRATEGIC PLAN

On November 17, 2020, the Riverside City Council adopted the Envision Riverside 2025 Strategic Plan with an **ambitious goal of reaching citywide carbon-neutrality by 2040 – 5 years ahead of the State of California's goal.**



Sustainability
and Resiliency



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BACKGROUND CONTINUED

COMMITTEE ACTION

On April 22, 2021, the City Council's Economic Development, Placemaking & Branding/Marketing Committee formed the **Decarbonization Advisory Group (DAG)** with the goal of gaining input and industry advice from the development community, organized labor, advocacy groups, and other potential stakeholders.



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BACKGROUND CONTINUED

DECARBONIZATION ADVISORY GROUP

The Decarbonization Advisory Group (DAG) was made up of internal and external stakeholders that included but was not limited to:

City Team Representatives:

Council Committee Chair
Public Utilities (RPU)
Board of Public Utilities
CEDD
CMO
General Services

External Stakeholders:

Riverside Chambers of Commerce
Building Industry Association (BIA)
Inland Valley Association of Realtors
California Apartments Association
AFL-CIO and Building Trades Council
Southern California Gas Company
Southern California Edison
Riverside Neighborhood Partnership
And more...



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BACKGROUND CONTINUED

DECARBONIZATION ADVISORY GROUP

- Between **July 2021 and May 2022**, the DAG met for nearly a year and discussed the benefits of moving forward with a Building Decarbonization Reach Code.
- Presentations from Industry Experts included:

California Energy Commission	Building Decarbonization Association
Local Government Commission	CA Building Industry Association
SoCal Gas and Edison	ARUP Consulting
American Institute of Architects	



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BACKGROUND CONTINUED

DAG FINDINGS: PUBLIC HEALTH BENEFIT

- According to a recent study conducted by the UCLA Fielding School of Public Health, replacing all of California's gas appliances with electric appliances **would prevent 900 cases of respiratory illnesses, lower health care costs by \$3.5 billion and save 350 lives every year.**
- Cooking with gas appliances for over an hour can cause **carbon monoxide and nitrogen dioxide levels to increase above the acute national and state-based ambient air quality thresholds** in over 90% of scenarios modeled by the research team
- A 2013 study in the International Journal of Epidemiology showed that living in a home with gas cooking increased children's chance of having asthma by 42%.



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BACKGROUND CONTINUED

DAG FINDINGS: CLEAN JOBS

- UCLA Luskin Center for Innovation found that electrifying 100% of California's existing and new buildings by 2045 **would create over 100,000 full-time equivalent jobs, even after accounting for losses in the fossil fuel industry.**
- Exploring **workforce development opportunities** for local workers currently employed by or recently employed in a fossil-fuel industry and **creating pipelines for electrification-related job industries.**



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BACKGROUND CONTINUED

COMMITTEE ACTION

- On **June 23, 2022**, staff presented the DAG findings to the EDP&BM Committee along with a draft ordinance for a building electrification reach code for new low-rise construction.
- The Committee unanimously recommended the ordinance be considered by the City Council in line with the Triennial Building Code Updates and after community engagement efforts.



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BACKGROUND CONTINUED

COMMUNITY ENGAGEMENT WORKSHOPS

- Three Public Workshops held between August 2022 and October 2022.
- Feedback received that helped shape new exemptions (ADUs, future potential zero carbon alternatives, etc.).
- Three meetings with the Chambers of Commerce Economic Development Council through November 2022.



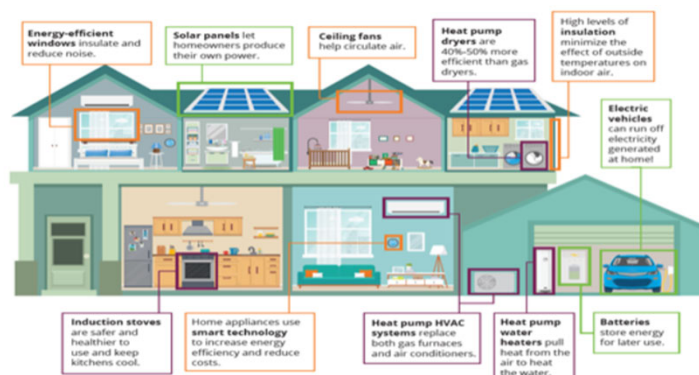
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DISCUSSION

WHAT IS BUILDING ELECTRIFICATION?



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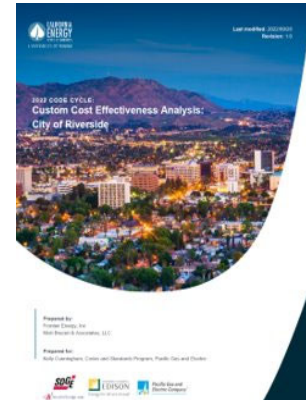
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DISCUSSION CONTINUED

COST EFFECTIVENESS-RESIDENTIAL

- California Codes and Standards Reach Code Program conducted and will conduct custom cost effectiveness studies for Riverside.
- Found that all-electric construction was cost effective for single family homes
- ADU's constructed on lots with existing mixed fuel buildings were not on-bill cost effective for property owners at this time which resulted in an exception being added to the proposed ordinance



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DISCUSSION CONTINUED

COST EFFECTIVENESS-RESIDENTIAL

- The California Codes and Standards Reach Code Program conducts custom cost effectiveness studies for all local governments.
- The City of Riverside requested a custom study based on Climate Zone 10 and RPU electric utility rates for newly-constructed buildings.
- The Reach Codes Team found:
 - For single family dwellings: **all-electric code compliant new construction is feasible and cost effective** based on TDV and Riverside Public Utilities electricity rates under both the D and D-TOU rates.
 - For ADUs and the all-electric code compliant package, **the cost-effective measure for the utility is positive** but not customer on-bill cost-effective due to RPU's rate structure. Additionally, **combining higher capacity PV systems and all-electric construction will reduce utility costs and increasing utility savings.**



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DISCUSSION CONTINUED

COST EFFECTIVENESS- MULTI-FAMILY

- According to the Energy and Environmental Economics Group Report commissioned by the California Energy Commission, electrification of low rise commercial and residential buildings in the near and long term will lead to consumer capital cost savings, bill savings and lifecycle savings in many cases.
- California Air Resources Board found that savings from all-electric appliances can be up to **\$750 per year in single family homes and up to \$300 per year in low-rise residential buildings.**
- **Local Multi-Family Residential Cost Study expected in 2023.**



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DISCUSSION CONTINUED

COST EFFECTIVENESS-COMMERCIAL

- More research is needed to fully understand the cost impact of building electrification of commercial buildings, given the complexities and wide diversity of types of businesses in commercial building. Given this, the **Riverside ordinance has various exemptions built in and a flexible waiver process for unique situations that commercial builders may find themselves in.**
- CARB is conducting a study in 22/23 funding cycle that will help inform future strategies for commercial buildings.
- **Local Commercial Building Cost Study expected in 2023.**



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DISCUSSION CONTINUED

UTILITY READINESS

1. RPU has identified an incremental increase in electricity load (load growth) due to the proposed ordinance
 - a. RPU has sufficient electric system capacity in the near term to accommodate this load growth
 - b. As with all load growth, RPU will procure additional generation or purchase electricity from the California energy market at the lowest cost available



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DISCUSSION CONTINUED

UTILITY READINESS

1. Over time, the electric grid is transitioning and changing to a mix of new technologies
 - a. Renewable generation
 - b. Battery energy storage
 - c. Distributed resources
 - d. Energy efficiency, and more
2. Options are evaluated in RPU's Integrated Resource Plan and other planning efforts



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DISCUSSION CONTINUED

UTILITY READINESS

1. Statewide energy shortages are a regional concern
2. RPU cannot function alone
 - a. Impacts affect all entities in the California Independent System Operator
 - b. RPU/State agencies/and all utilities in California are working to address the potential shortfalls which are occurring during summer peaks
3. Regardless, RPU will ensure sufficient electricity is procured to serve the City's load including the all-electric buildings as developed



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DISCUSSION CONTINUED

BUILDING DECARBONIZATION ORDINANCE

1. Adding Chapter 16.26 to Title 16 of the RMC.
2. A phased approach to decarbonization of the built environment:
 - a. Includes all newly constructed buildings three stories or less be all electric effective January 6, 2023;
 - b. Includes all newly constructed buildings four stories or more be all electric effective January 1, 2026.
3. Includes many off ramps to accommodate industry readiness and requires periodic review.



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DISCUSSION CONTINUED

BUILDING DECARBONIZATION ORDINANCE

Exceptions include:

1. Cooking equipment for commercial kitchens and food establishments
2. Water heating (if virtual net metering is unavailable) for regulated affordable housing
3. Existing building alterations, remodels, changes of use, and additions
4. Process loads for manufacturing/industrial use equipment and machinery
5. Newly constructed ADUs/JADUs with existing mixed-fuel primary buildings on site
6. Emergency operation facilities, when necessary
7. Outdoor portable propane appliances
8. Consideration of future availability of alternative zero carbon fuel sources



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DISCUSSION CONTINUED

BUILDING DECARBONIZATION ORDINANCE

Includes Infeasibility Waiver Process for:

- a. Unusual physical site conditions
- b. Commercial availability of electric appliances or equipment;
- c. Necessary operational requirements
- d. Electrical infrastructure upgrade costs, or
- e. public health and safety reasons

Building Official may waive requirements in writing only for those portions of the building where building electrification is infeasible. Appeals of the Building Official's determination are permissible in accordance with preestablished procedures outlined in the municipal code.



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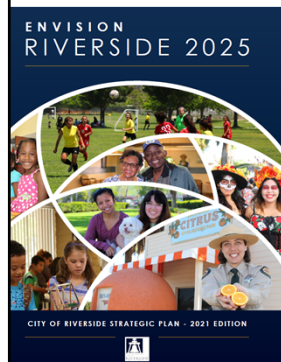
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DECARBONIZATION EFFORTS CITYWIDE

4.6.

Implement the requisite measures to achieve citywide carbon neutrality no later than 2040.



1. Leadership: CARB leads State of California efforts to address Climate Change including building decarbonization; City of Riverside Strategic Plan and Office of Sustainability; RUSD; UCR OASIS, policy
2. Lands - Tree plantings; SAR initiatives, natural lands management
3. Transportation (36.8%) – No. 1 Green Fleet North America; VMT Thresholds; Clean Air Car Share; Electric Vehicles & Infrastructure; Grant partnership with Volvo; Innovation Corridor partnership with UCR; Vine Street Mobility Hub; Gage Canal Trail; Complete Streets Ordinance
4. Industrial (20%) – WQCP Anerobic Digester; Clean Fuels at Corp Yard
5. Electricity (16%) – 50% non-GHG sources; Private Solar; Race to 2040
6. Agricultural (8.6%) – Northside Ag Innovation Center Agri-voltaic
7. Commercial & Residential (10.5%) – **Building Electrification**; Cal Energy and Green Codes; LEAD Building Certification (CARB; UCR North Campus; Kaiser Hospital Tower Expansion)
8. Transformative Climate Communities – Eastside Climate Collaborative

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STRATEGIC PLAN ALIGNMENT



Strategic Priority No. 2 – Community Well-Being

Goal 2.4 – Support programs and innovations that enhance community safety, encourage neighborhood engagement and build public trust

Strategic Priority No. 4 – Environmental Stewardship

Goal 4.6 – Implement requisite measures to achieve citywide carbon neutrality no later than 2040

Strategic Priority No. 5 – High Performing Government

Goal 5.5 – Fosters a culture of safety, well-being, resilience, sustainability, diversity, and inclusion across the city organization



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RECOMMENDATIONS

That the City Council:

1. **Conduct a public hearing;** and
2. **Adopt an Ordinance** adding Chapter 16.26 – Electrification of New Buildings to Title 16 of the Riverside Municipal Code.



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