



IDEAS Z2 Design Facility, San Jose (Credit: David Wakely)

San José Building Electrification Code

Green Town, Climate Crisis
September 30, 2020



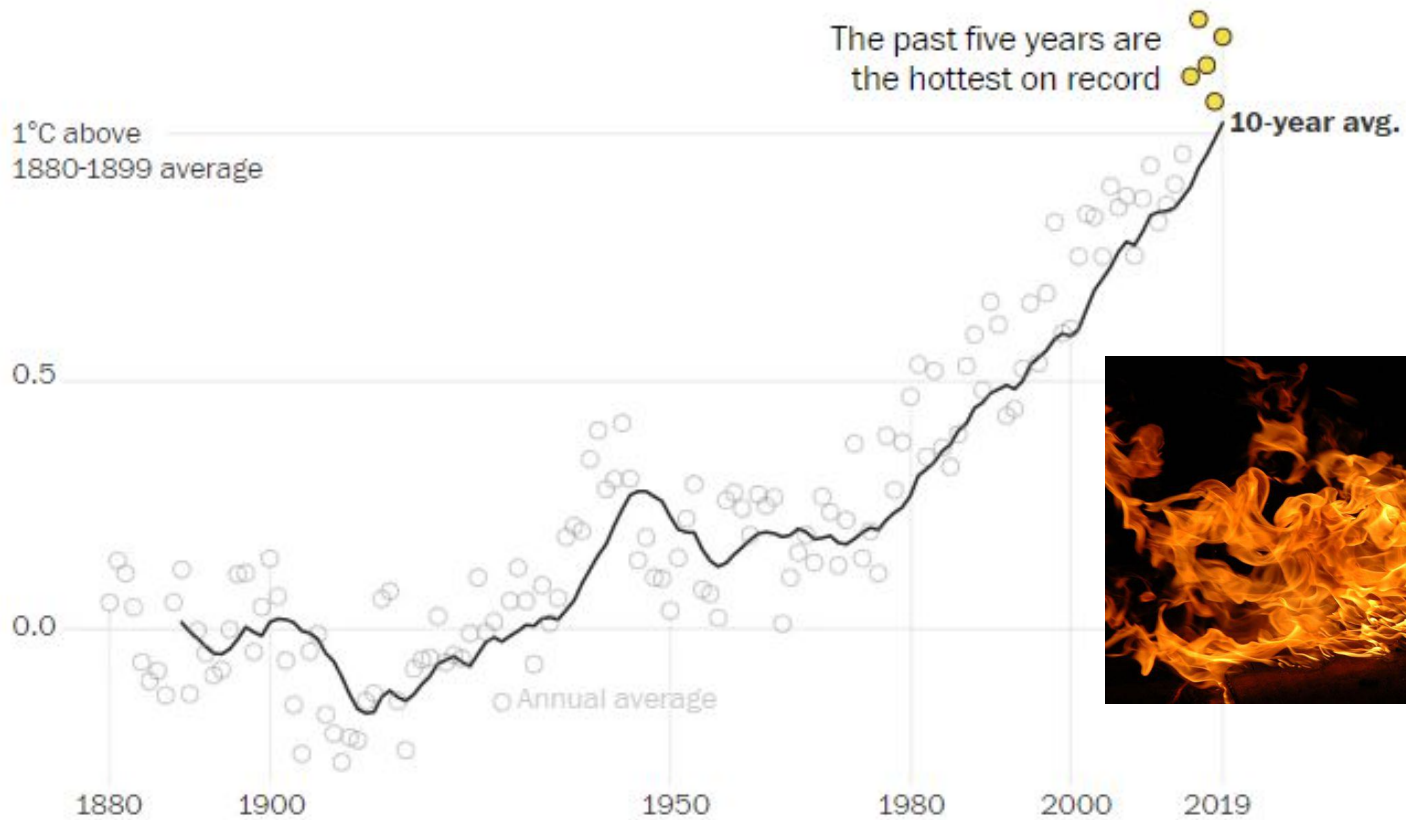
Why This Reach Code? Why Now?

- Adopted reach code:
 - Responded to stakeholder support and concerns
 - Pursues a significant reduction in GHG emissions
 - Improves Air Quality & Human Health
- Timing ensures:
 - Alignment with 2019 California Code effective date of January 1, 2020
 - Maximum impact due to implementation date
 - Progress on Climate Smart and American Cities Climate

“There is a growing consensus that building electrification is the most viable and predictable path to zero-emission buildings.”
California Energy Commission

2018 Integrated Energy Policy Report Update (Jan. 2019)

2010s = Hottest Decade EVER!



Source: NASA's Goddard's Global Surface Temperature Analysis (GISTEMP)

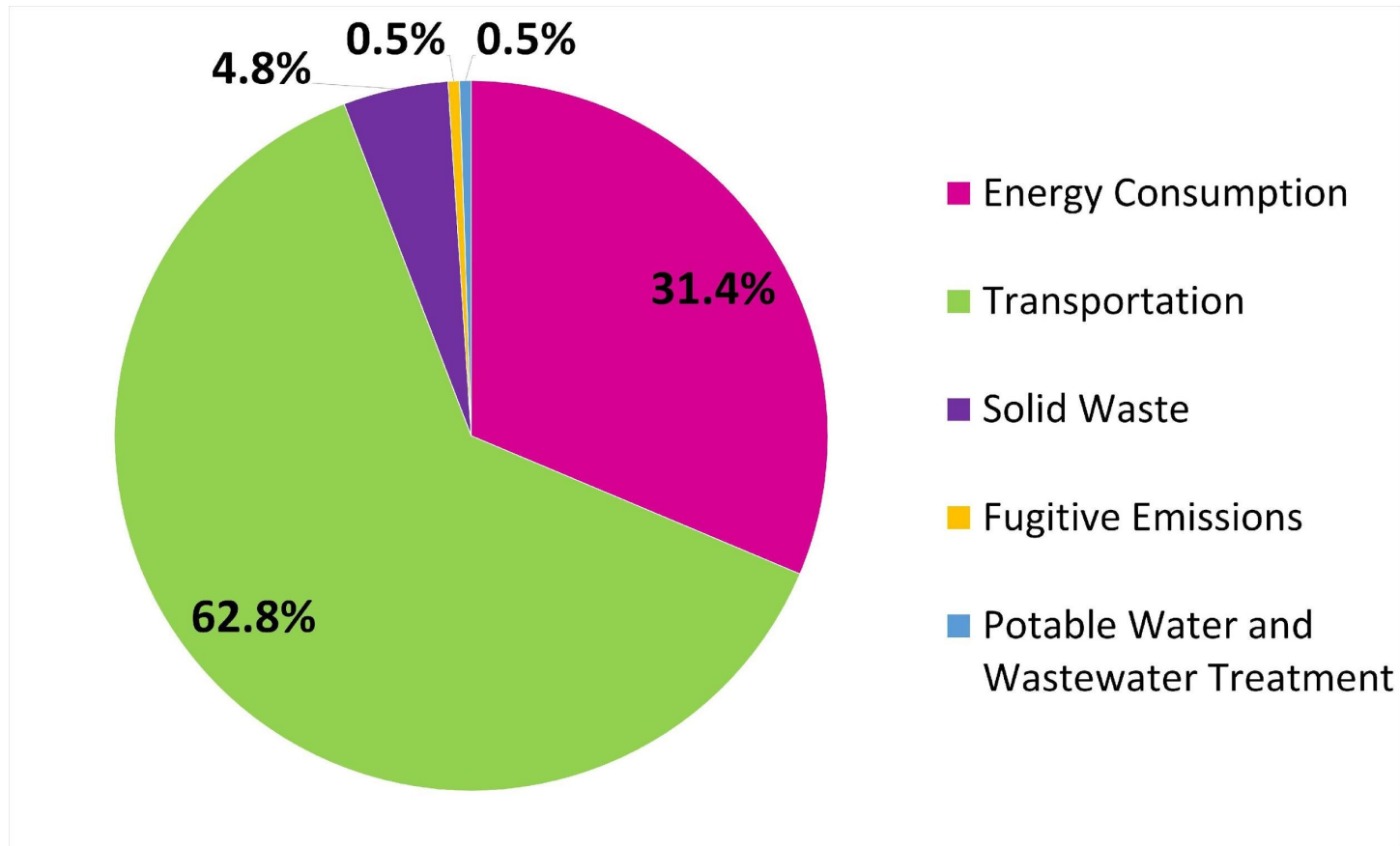
California & the Western US are On Fire



Greenland's Ice Sheet – Point of No Return!



San José 2017 GHG Emissions Profile



CLIMATE SMART SAN JOSE

A People-Centered Plan for a
Low-Carbon City



How reach code and natural gas ordinance will help us reach our Climate Smart goals?

- All-electric homes: 47%
- Zero net carbon (ZNC) homes: 37,975
- ZNC commercial buildings: 70M sq. ft.
- EVs: 61%
- Solar: 668 MW
- Results in cost-effective, safer, and healthier buildings
- Preempts future retrofitting costs

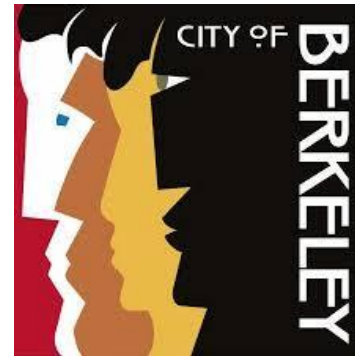
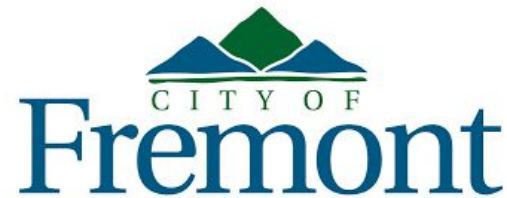
Health & Safety Benefits



Indoor Air Quality







Regional Reach Code Efforts



San José Reach Code & Natural Gas Ban

- Adopted September 17, 2019
- Natural Gas Prohibition
 - Adopted October 29, 2019
 - Applies to Single-Family, Detached ADUs, and Low-rise Residential buildings up to 3 stories
- Council Direction
 - Return to Council in 2020 with analysis on expanding the Gas Ban to all buildings
 - Currently scheduled for November 17th



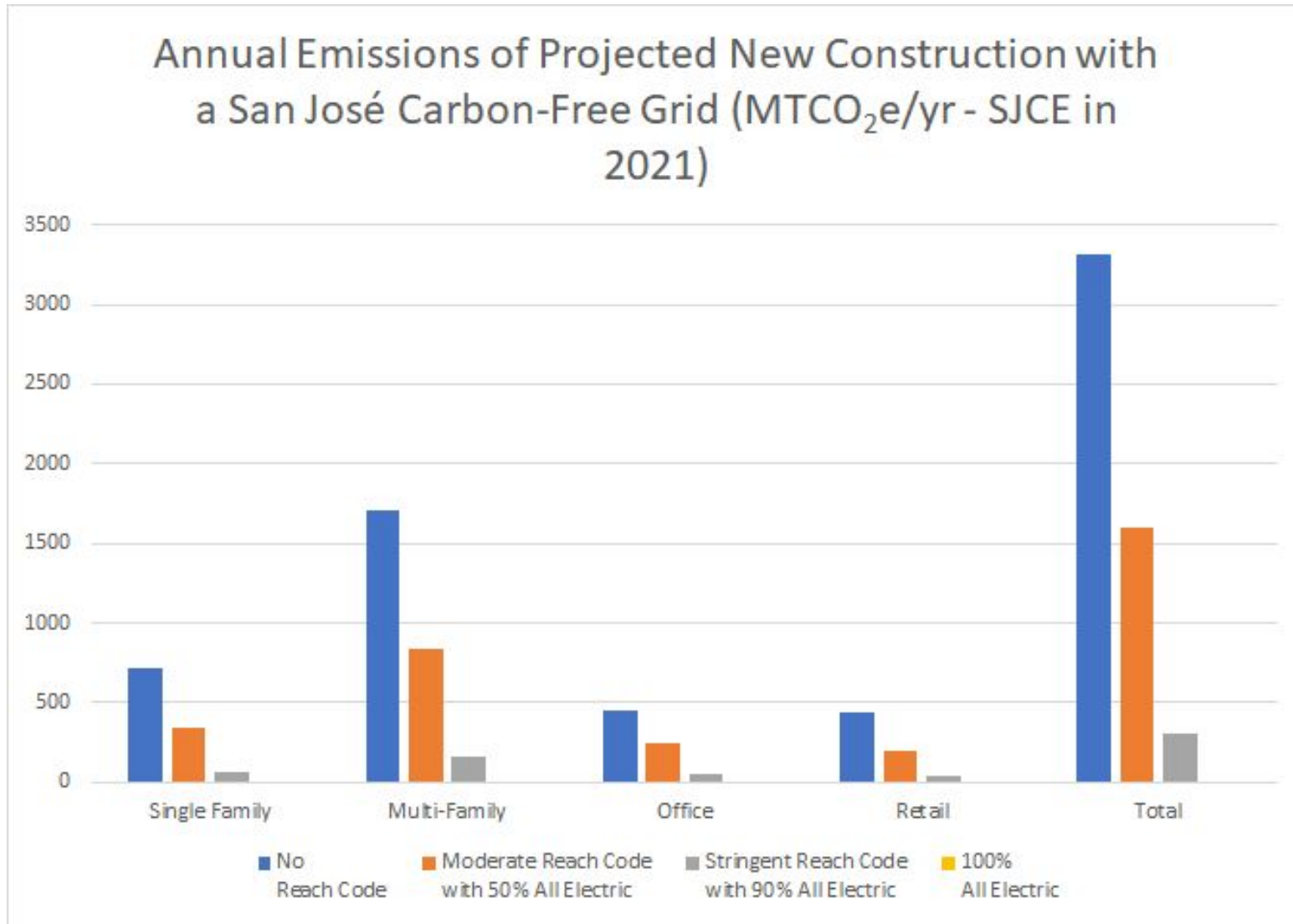
| | Natural Gas Infrastructure Prohibition Requirements | Reach Code Requirements ¹ | |
|---|---|---|--|
| Occupancy Type | Requirements Supplementing Reach Code ² | All-Electric Building Requirements ² | Mixed Fuel Building Requirements ² |
| Single-family, Detached Accessory Dwelling Unit (ADU), and Low-rise Multi-family  | Requires all-electric building. | Efficiency: To Code Electric Vehicle Charging Infrastructure (EVCI): Single-family: 1 EV Ready; Detached ADU: 1 EV Ready (if space is required by Code); Low-rise Multi-family: 10% EVSE, 20% EV Ready, 70% EV Capable | <i>Not applicable per Natural Gas Infrastructure Prohibition.</i> |
| Low-Rise Hotel/Motel  | <i>Not applicable.</i> | Efficiency: To Code EVCI: 10% EVSE, 20% EV Ready, 70% EV Capable | Efficiency: EDR = min. 10 point reduction; electrification-ready EVCI: Same as All-Electric Building Requirements |
| High-rise Multi-family and Hotel/Motel  | <i>Not applicable.</i> | Efficiency: To Code EVCI: High-rise Multi-family: 10% EVSE, 20% EV Ready, 70% EV Capable; Hotel/Motel: 10% EVSE, 0% EV Ready, 50% EV Capable | Efficiency³: 6%; electrification-ready EVCI: Same as All-Electric Building Requirements |
| Other Non-residential  | <i>Not applicable.</i> | Efficiency: To Code EVCI: 10% EVSE, 0% EV Ready, 40% EV Capable | Efficiency³: Office & Retail: 14%; Industrial/Manufacturing: 0%; All other non-residential occupancies: 6%; all electrification-ready EVCI: Same as All-Electric |

Adopted Reach Code: Solar-readiness/Electrical Readiness

- “Solar-readiness” includes:
 - Identification of solar ready zone
 - Documentation of structural load including solar
 - Interconnection pathway
- 2019 Code includes solar-readiness for most building types
- Adopted reach code extends solar-readiness requirement to excluded non-residential buildings
- Solar-ready saves about 10% of the total installed cost of a system versus non-solar-ready
- Electrical “readiness” a game changer



Emissions Benefits



Financial Benefits

- All-electric buildings are low-cost construction option
Many are already being built in California...



Quetzal Gardens, San Jose



Plaza Point, Arcata



The Grove, Scotts Valley



Valley Glen, Dixon

Santana Row, San Jose



Sol Lux Alpha, San Francisco



Linda Vista, Mountain View



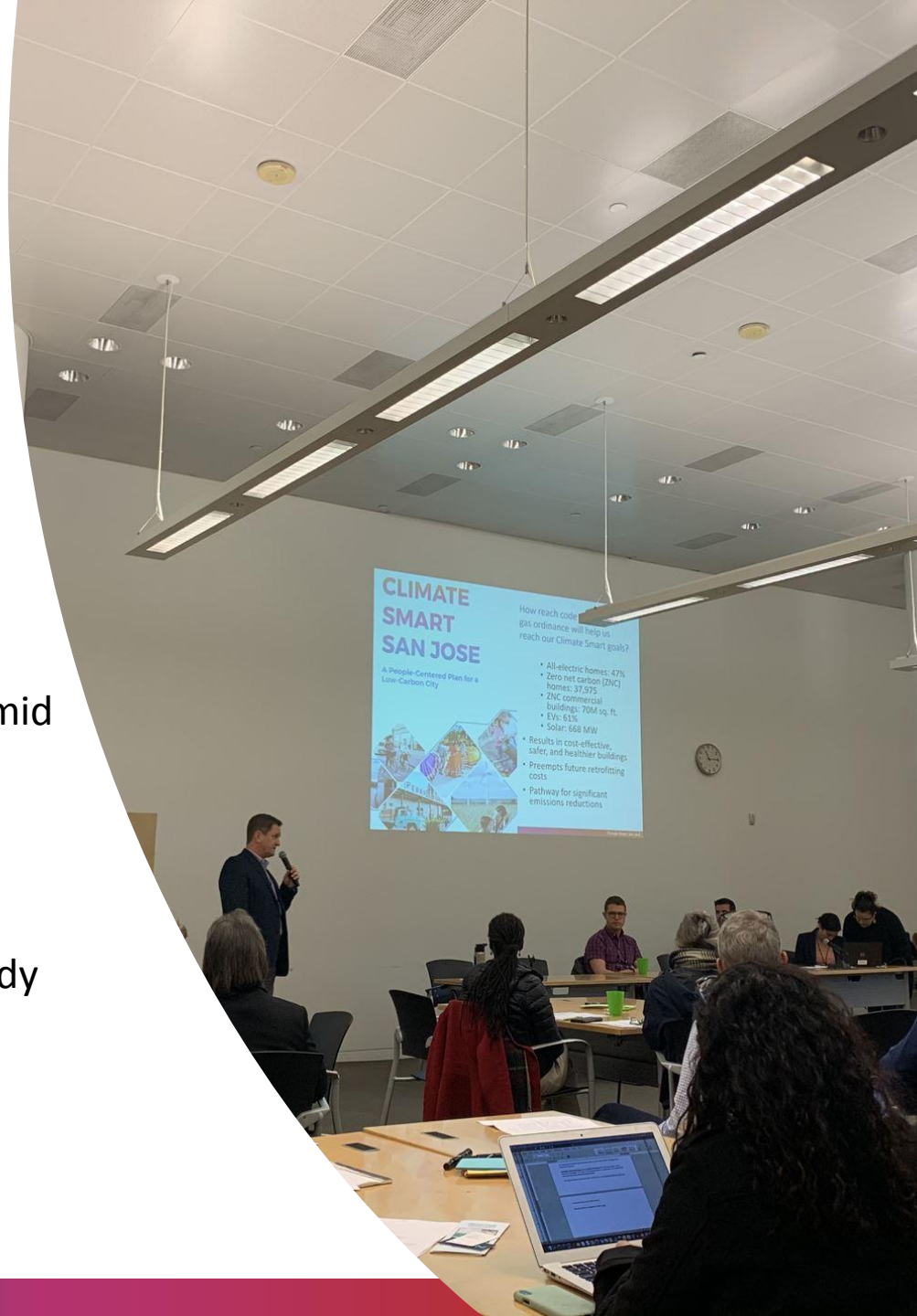
Stakeholder Engagement Summary

- City reach code webpage
- Over 65 stakeholders and 200 Neighborhood Associations included in outreach efforts
- Four stakeholder engagement workshops (May-July 2019)
- Four additional public presentations
- Several individual meetings, as requested



Building Expert's Roundtable 12/19

- Discuss the technical feasibility of building all electric new construction
- Share best practice examples for low-mid rise all electric new construction
- Collect input from building industry professionals to inform a technical study
- Identify specific challenges, unpacking the barriers and developing solutions



Post-adoption Implementation

Next Steps

- Provide trainings and resources for City staff and the public
- Work closely with projects permitted since January 1, 2020 (code interpretation and tech support)
- Work on expanding CEC compliance options for centralized HPWH systems
- Pursue funding opportunities to incentivize all-electric buildings, EVs, and EVCI in San José
- Collect and report data on the reach code impact



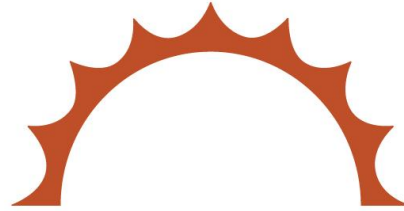
Award-winning Recognition!

2020 SPUR Impact Awards: Building Reach Code Team Helps San José Go Carbon Neutral

March 20, 2020



Left to Right: Julie Benabente, Ken Davies, Ron Davis, James Son



CLIMATE SMART

— SAN JOSE —

LIVING BETTER TODAY FOR TOMORROW

www.ClimateSmartSJ.org