



Mr. Enrique Rodriguez, Associate Construction Analyst  
 Building Standards Commission  
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Via Email: [Enrique.Rodriguez@dgs.ca.gov](mailto:Enrique.Rodriguez@dgs.ca.gov)

January 14, 2021

**Re: Electric Vehicle infrastructure, Nonresidential, CALGreen 2022**

Dear Mr. Rodriguez

On behalf of the undersigned organizations and individuals, we thank you for the opportunity to comment on proposed changes to Title 24, Part 11 of the 2022 CALGreen Building Code for the 2021 Triennial Code Adoption Cycle. We appreciate efforts by the Building Standards Commission (BSC) and the California Air Resources Board (CARB) to increase electric vehicle (EV) infrastructure in new nonresidential construction, and we encourage you to go even farther, as it is imperative that this code cycle provide *access to power for all*. As detailed below, this can be achieved in a cost-effective manner by significantly increasing the percentages of spaces served over what is currently proposed, using power management technology. Further, we urge you to include “trigger points” -- events that trigger requirements for new EV infrastructure in existing buildings. Providing access to power in new parking spaces and qualifying existing buildings will improve our chances of meeting California’s air quality and climate goals, and narrow the equity gap for low income and disadvantaged communities. Please see below for details of our cost effective proposal.

We all recognize that we need to promote electric vehicles, as well as reduce vehicle miles traveled, as we transition California away from burning gasoline and diesel. Making electric vehicles and access to charging available to everyone is critically important to achieve this transition in an equitable way. We urge BSC and CARB to work in cooperation with environmental and climate justice organizations, to ensure that the EV infrastructure requirements are implemented in a broad and equitable manner.

Our proposal for new nonresidential construction is taken from the current 2020 EV infrastructure reach code, developed in 2018-20 by two Community Choice energy companies: Peninsula Clean Energy (PCE) and Silicon Valley Clean Energy (SVCE)<sup>1</sup>. This code, in part or whole, has already been adopted by ten municipalities across California.

In summary, the PCE/SVCE reach code redefines *EV Ready* to mean “plug and play”: there is a receptacle connected to a complete circuit, plus signage at the parking space indicating that EV charging is available there. It defines *EV Capable* to mean “some assembly required”: there is panel capacity and raceway (but only through “pinch points” such as walls, between floors or when trenching is necessary to reach the parking space), plus signage at the parking space indicating that the space is EV Capable. Further, the reach code splits nonresidential code into office and commercial<sup>2</sup> building types, with differing minimum required percentages of the total

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<sup>1</sup> PCE/SVCE based their code in part on reach codes developed and implemented by the cities of San Francisco, Fremont and Oakland in 2017, and Palo Alto in 2013.

<sup>2</sup> Commercial includes retail establishments

parking spaces for electric vehicle supply equipment (EVSE) (a Level 2 charger), EV Ready, and EV Capable, as illustrated below:

	BUILDING TYPE:	
	Office	Commercial
EVSE:	10% L2	6% L2
EV Ready	10% L1	10% <sup>3</sup> L1 OR for >100 spaces, one 80kW DC Fast Charger per 100 spaces
EV Capable	30% L1 or L2	N/A
<i>Note, these percentages are additive.</i>		

We support the recommendations for trigger points, requiring new EV infrastructure in existing non-residential buildings, that are laid out in CARB’s report, *EV Charging Infrastructure: Nonresidential Building Standards*<sup>4</sup>. These trigger points are: adding new parking, repaving of existing parking, and building alterations where electrical service is upgraded. Specific requirements depend on the particular trigger; please see the report for further details.

In summary, it is critical to adopt EV infrastructure code that enables access to power because:

- Widespread EV adoption is essential for meeting California’s climate and public health goals.
- Mandating EV signage for Level 1 EV Ready access provides an inexpensive and highly effective means for public EV education, and will help to accelerate widespread EV adoption.
- Mandating EV signage for EV Capable at the parking space alerts drivers of the potential for EV charging. (Keeping that information hidden in the electrical room and on blueprints dramatically lowers the likelihood of fully implementing potential EV infrastructure.)
- California can’t afford to keep building parking that isn’t EV Ready, and we need to future-proof our buildings. Retrofitting even EV Capable buildings is much more difficult and expensive than including EV Ready infrastructure in new construction.
- Mandating plug-and-play “EV access for all” in new construction statewide helps to even the playing field. It provides access to clean transportation more equitably, and reduces the risks of gentrification in certain “EV-forward” communities.

For all the above reasons and more, we must provide *access to power for all* in this forthcoming CALGreen code cycle. Please see attached for details of the cost benefits of our proposal.

<sup>3</sup> PCE/ SVCE reach code proposes 6%, the undersigned have determined that 10% is more appropriate.

<sup>4</sup>[https://ww2.arb.ca.gov/sites/default/files/2020-09/CARB\\_Technical\\_Analysis\\_EV\\_Charging\\_Nonresidential\\_CALGreen\\_2019\\_2020\\_Intervening\\_Code.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-09/CARB_Technical_Analysis_EV_Charging_Nonresidential_CALGreen_2019_2020_Intervening_Code.pdf)

Cordially,

**ORGANIZATIONS:**

Don Anair, Research and Deputy Director, Clean Transportation Program, **Union of Concerned Scientists**  
Simon Mui, Deputy Director, Clean Vehicles & Fuels Group, **Natural Resources Defense Council**  
Daniel Barad, Policy Advocate, **Sierra Club California**  
Janelle London, Co-Executive Director, **Coltura**  
John Higham, EV Policy Chair, **Electric Auto Association**  
Katherine Stinken, Policy Director, **Plug In America**  
Andrea Marpillero-Colomina, **GreenLatinos**  
Liore Milgrom-Gartner, Director, **CA Interfaith Power & Light**  
Terry Travis, Co-Founder, **EVNoire**  
Russ Hancock, President & CEO, **Joint Venture Silicon Valley**  
Diane Bailey, Executive Director, **Menlo Spark**  
Mary Kay Benson, Steering Council Manager, **350 Butte County**  
Steven Douglas, Vice President, Energy and Environment, **Alliance for Automotive Innovation**  
Lauren Weston, Executive Director, **Acterra: Action for a Healthy Planet**  
Jennifer Tanner, Founder, **Indivisible California Green Team**  
Ralph Propper, President, **Environmental Council of Sacramento**  
Sven Thesen, EV driver since 2007, Founder, **Project Green Home**  
Val Muchowski, Chair, **Mendocino Women's Political Coalition**  
Jack Lucero Fleck, EV Driver since 2011, Transportation Team Co-Lead, Board Member, **350 Bay Area**  
Violet Saena, Director, **Climate Resilient Communities**  
Rosana Francescato, Communications Director, **Clean Coalition**  
Geoffrey Ivison, Sunrise Movement, **Silicon Valley hub**  
Christopher Chavez, Deputy Policy Director, **Coalition for Clean Air**  
Pauline Seales, Network Organizer, **Santa Cruz Climate Action**  
Mark Roest, Director of Marketing & International Development, **Sustainable Energy Inc**  
Dan Johnson, Architect, **Beyond Efficiency Inc**  
Nicole Kemeny, President, **350 Silicon Valley**  
Christine Kohl-Zaugg, Executive Director, **Sustainable San Mateo County**  
Bruce Hodge, Founder, **Carbon Free Palo Alto**  
Jan Dietrick, Policy Team Leader, **350 Ventura County Climate Hub**  
Ann Edminster, founder/principal, **Design AVenues LLC**  
Nehemiah Stone, Principal, **Stone Energy Associates**  
Nicholas P Carter, PhD, EV driver and advocate since 2001, **npc Solar**  
R. Peter Mackin, Lead Advisor, **Sacramento Electric Vehicle Association (SacEV)**  
Jerry Pohorsky, Chapter President, **Electric Auto Association Silicon Valley**  
Dave Atherton, Chapter President, **Electric Auto Association San Joaquin Valley**  
Angelina Rahimi, President, **Aura Planning Inc.**  
Debbie Mytels, Chair, **Peninsula Interfaith Climate Action**  
Sean Armstrong, Principal, **Redwood Energy**  
Nicholas Johnson, Founder, **Orange**  
Linda Hutchins-Knowles, California Senior Organizer, **Mothers Out Front California**  
Maureen Blanc, Director, **Charge Across Town**  
Tama Becker-Varano, Founder, **Change Begins With ME**  
Simeon Gant, Executive Director, **Green Tech Education and Employment**  
Kevin Morrison, Founder, **Green Novato**  
Maia Piccagli, **Mothers Out Front SF**

Antonina Markoff, Co-chair, **Climate Reality Project Bay Area Chapter**  
Matt Frommer, Senior Transportation Associate, **Southwest Energy Efficiency Project**  
Suresh Venkatraman, Board Member, **GreenTown Los Altos**  
Tara Hammond, Founder & CEO, **Hammond Climate Solutions**  
Beverly DesChaux, Chapter President, **Electric Auto Association Central Coast CA**  
Justine Burt, Co-Chair, **UU Church of Palo Alto, Green Sanctuary**  
Dave Shulka, Operations, **Long Beach Alliance for Clean Energy**  
Elaine Borseth, President, **EV Association San Diego, Electric Auto Association**  
Jane Melia, EV driver since 2012, CEO, **Harvest Thermal, Inc.**  
Woody Hastings, Energy Program Manager, **The Climate Center**  
Jim Stewart, EV Driver, **Earth Day Los Angeles**  
Hoi Y. Poon, Co-Founder, **Silicon Valley Youth Climate Action**  
Patrick Carr, Steering Committee Member, **350 Humboldt**  
Jennifer Thompson, Executive Director, **Sustainable Silicon Valley**  
Ann Harvey, MD, Physician, **Climate Health Now**  
Barbara Weinstein, PhD, and Prerana Jayakumar, **Transition Palo Alto**  
Jay Friedland, CEO, **Gridchange LLC**  
Jose Torre-Bueno, Executive Director, **Center for Community Energy**  
Todd Weber, President, **Elders Climate Action, NorCal chapter**  
Richard Burke, President, **Elders Climate Action, SoCal chapter**  
Susannah Saunders, Founder, **INDIVISIBLE ROSS VALLEY**  
Erin McDade, Senior Program Director, **Architecture 2030**  
Annika Osborn, **EV Advocate, Cool the Earth**

#### **INDIVIDUALS:**

Guy Hall, Secretary, Electric Auto Association  
Janet E Perlman, Physician  
Marc S Geller, EV Driver since 2001  
Jessica Craven, EV Driver since 2014, member of the LACDP, Energy & Environment subcommittee on the  
CADEM Platform Committee  
Barbara Quick, Author  
Joe Siudzinski, Retired engineer, multiple-EV owner  
Kendra Bronstein  
Leane Eberhart, Architect  
Suds Jain, Santa Clara City Councilmember  
Stephen Rosenblum, Retired Chemist  
Bruce Naegel, Member, Sustainable Silicon Valley, Carbon Free Mountain View, Carbon Free Silicon Valley  
Tom Kabat, Utility Resource Planner & Energy Consultant  
Carol Cross, 2017 Bolt driver and enthusiast  
Sunny Galbraith, Teacher, EV Driver since 2014  
Steve Yano, EV Driver  
William Robert Shreve, St. Timothy's Episcopal Church Member  
Raymond Larios, Advocate  
Jared Johnson, Policy Fellow, Acterra  
Dr. Kathleen Kramer, Physician, EV Driver since 2007  
Ambarish Malpani, EV Driver since 2015  
Linda Henigin, EV Driver and Teacher

Jonathan Ziegler, EV driver  
Jim Stewart, EV Driver since 2018  
Rani Fischer, Peninsula Interfaith Climate Action, 350.org, EV driver since 2017  
Arthur Keller, EV Driver since 2001, primary author of Palo Alto city infrastructure ordinance  
Colby Allerton, EV Driver since 2014  
Jennifer Neff, 350 Bay Area, Fremont Resident  
Gail Thompson, RN, PICA member  
David McCoard  
Dr. Janet Perlman, Physician, UCSF  
Dr. Ralf Buengener, Engineer, EV driver since 2017, member 350SV  
Morgan Goodwin, EV driver since 2018  
Robert Whitehair, Retired Facility Director for Silicon Valley Firms, SSMC  
Bill Hilton, Retired, UU Church of Palo Alto  
Bruce Karney, Retiree & Environmental Activist  
John Thomas Donnelly, Retired  
Sally Ahnger, EV Driver since 2002  
Gary Latshaw, Retired Physicist  
Laura A Rosenberger, Environmental advocate  
Kim F Floyd  
Carl van Reis, Volunteer in an EV driving household  
Hildy Meyers  
Judith Borcz, Volunteer  
Leonard Abrams, EV Driver since 2013  
Ted Rees, Retired Electrical Engineer  
Alan Solomon, Lead Generation/Sales  
Kevin Ma, Santa Clara County Renter  
Cor van de Water, Managing Director Embedded Eng EV Charging  
Tim Minezaki, Engineer & Advocate  
Sybil J. Cramer, Founding Chair, Los Altos High School Sustainability Committee  
Richard Bode, Leadership Team, Davis Electric Vehicle Association (DEVA)  
Sandra Hall, EV Advocate, Davis Electric Vehicle Association & Environmental Council of Sacramento  
Barbara Smith-Thomas, Unitarian Universalist Church of Palo Alto Green Sanctuary Committee  
Roland Saher, Retired Teacher  
Tyler Hall, Engineer  
Ann Dorsey  
Victoria Hall, Registered Nurse - Labor and Delivery  
Amanda Bancroft, 350 Silicon Valley, Board of Directors  
Ryan Chang, EV Driver since 2011  
Matondo Martin Tshimika, Environmental Advocate & mechanic  
Gini Bossenbroek, Mother  
Katherine C King, Retired Professor  
Suresh Venkatraman  
Jeralyn Moran, Retired Wildlife Biologist and EV driver since 2016  
Michelle Matsumoto, Mothers Out Front  
Donna M. Staton, MD, MPH, Pediatrician, EV Driver, GreenTown Los Altos  
Chris Gilbert  
Vanessa Warheit, 350 Bay Area, El Cerrito Democratic Club, EV driver since 2013  
Mark Grossman, 350 Silicon Valley  
Dr. Christopher Cocca, Software Engineer  
Terry Nagel, Chair of SMC and Former Mayor, City of Burlingame  
Alexandra Moffatt, EV Charge Palo Alto

Eva Markiewicz, Founding Volunteer of Rewiring America  
James Dormon, Engineer  
Carol Bardoff  
David Wilde, EV Driver since 2018  
Ronald W Harness, Engineering Consultant & EV Driver since 2014, Climate Reality Project/Drive Clean Bay Area  
Ron Harness, Past President and EV Driver, Rotary Club of Novato  
Alyssa Bazemore, College Student, Salisbury University  
Quinton Soard, College Student Salisbury University  
Debbie M Mendelson, Fossil Free Mid Peninsula  
Marvin Goodman, Cong Rabbi, Peninsula Sinai  
Myu Campbell , retired engineer  
Pat Kinney, Elder, First Presbyterian Church of Palo Alto  
Ralph T King, Filmmaker activist, SC-CAN! Silicon Valley Climate Action Now  
Ellen Hill, EV driver, Fossil-Free Mid-Pen  
Victoria Armigo, EV Driver, Victoria Armigo, EA  
Susan Whitford  
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Peri Plantenberg, Student at Homestead High; Co-lead, Transit Team, Silicon Valley Youth Climate Action  
Allan Grimes  
Paul Chestnut , Retired Engineer, Stewards of Our Common home  
Lawrence Abbott , EV Driver since 2021, San Leandro First Wednesday  
Kathryn Bumpass, Church member and Retired professor  
Virginia Tincher, Volunteer, Citizens Climate Lobby, Acterra, LWVPA  
Alison Nicole Sullivan, Aspirational EV owner  
Robert C Bolles, Retired Computer Scientist  
Jonathan Trail, St. Timothy's Episcopal Church, EV Driver since 2018  
James Fiske, Engineer  
Anne T. Kramer, Sustainability Professional, Nike Inc  
Hugh William, MUD Resident and EV charger  
Lauren Fraser, Volunteer, Rewiring America  
Alexandra Lee  
Dency Nelson, EV Driver since 2002/Founding Member PlugInAmerica.org, Beach Cities Democrats/LACDP/CADEM/Shakespeare by the Sea/Little Fish Theatre/Plug In America  
Craig Gordon, Attorney and San Francisco Fire Department EMS Captain  
Alice Sung, Founding Principal, Greenbank Associates  
Candice Kollar, LEED AP, Green Building Specialist, Kollar EcoCreative  
Virginia Madsen, Retiree and renter who hopes to be an EV driver soon  
Stacy Braslau-Schneck, Business Owner  
Greg Thomson, Independent  
David Ergo, Vice President, Primo Business Works  
Rebecca Mathieson  
Karen Mendelow Nelson, EV Driver/Climate Reality Leadership Corps EV Squad, Environmental Forum of Marin/Climate Reality Leadership Corps  
Laurie-Ann Barbour, The Climate Center, EV Driver since 2017  
Ellen Gordon, EV driver since 2016  
Mary Dateo, Board Member of Carbon Free Mountain View  
Bruce Karney, Environmental Activist, Carbon Free Mountain View  
Robin & David Moller Climate Reality Project Marin/Sonoma EV Squad  
Ms. Bettina Hughes, Biologist/Ecologist

Rev. Michael Dack, Elders Climate Action  
Cornelia Reynolds, EV Driver since 2017, Elder Climate Action  
Adrienne Pierce, EV driver (6+ years) and sustainability advocate  
Simone Adams, PPP Community Green Liaison, EV Squad  
Carlos Davidson, Pacifica Climate Committee  
Martin Kupferman, Retired Entrepreneur  
Michael Abramson, MVCSP  
Linda LaCount, Las Casitas condo owner, EV Driver for 3 weeks  
Ed Stedman  
Fred Oliver, Realtor and EV driver since 2013, Electric Auto Assn  
Bill and Monique Murphy, Retirees  
KO, Bahr Bee Ranch, EV Conversion 2003  
Carol Cross, Co-Convenor, Fossil Free Mid-Peninsula  
Bill Devincenzi, Board Member, Elders Action Network  
Joffre Baker, Retired, Baker Scientific  
Gwyn Dukes, Retired counselor, EV driver  
Bruce Bell, EV advocate since 2017, Drive Clean Bay Area  
Ray Pingle, Lead Volunteer, Clean Transportation, Sierra Club California

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