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# Climate-Safe California: The Path to Net-Negative Emissions by 2030

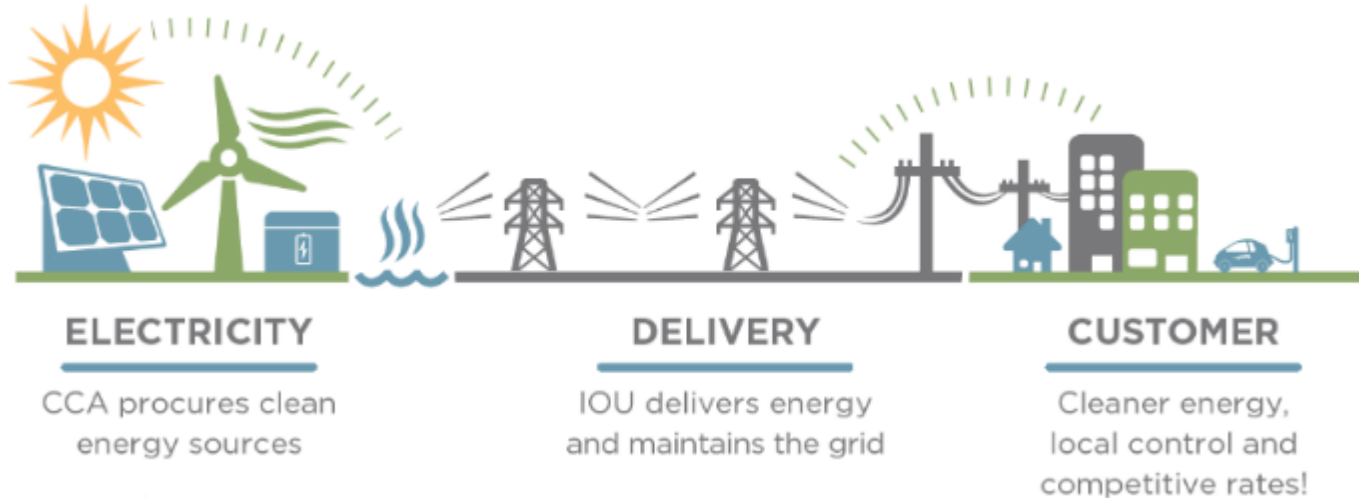
February 22, 2021

Ellie Cohen and Staff

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# Mission: Speed and scale greenhouse gas reductions



**Key role in growing Community Choice Energy:  
23 CCAs now serving 88% clean energy to  
11+ million Californians- ¼ of state!**

Sunday

# Los Angeles Times

\$3.66 DESIGNATED AREAS HIGHER © 2020 WST ++ SUNDAY, SEPTEMBER 13, 2020 latimes.com

# California's climate apocalypse

Fires, heat, air pollution: The calamity is no longer in the future — it's here, now

## Oregon residents standing ground

BY RICHARD READ,  
MOLLY HENNESSY-FISKE  
AND MELISSA ETEHAD

MOLALLA, Ore. —  
Christine VanOeveren grab-



BY SUSANNE RUST  
AND TONY BARBOZA

In 2001, a team of international scientists projected that during the next 100 years, the planet's inhabitants would witness higher maximum temperatures, more hot days and heat waves, an increase in the risk of forest fires and "substantially degraded air quality" in large metropolitan areas as a result of climate change.

In just the past nearly two decades after the third United Nations Intergovernmental Panel on Climate Change report was issued, heat records were

# Current global climate goals are inadequate

## UN IPCC 1.5°C Report- Oct 2018

- Emissions must decline by 45% by 2030 to meet 1.5°C (2.7°F) limit
- Up to 1000 Gt CO<sub>2</sub>e must be removed from atmosphere over the decades ahead
- Achieve net-zero emissions by 2050



**UN operates by consensus so goals are conservative and not enough.**

**We must do more sooner per new science...**

<https://www.ipcc.ch/sr15/>  
<https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/>

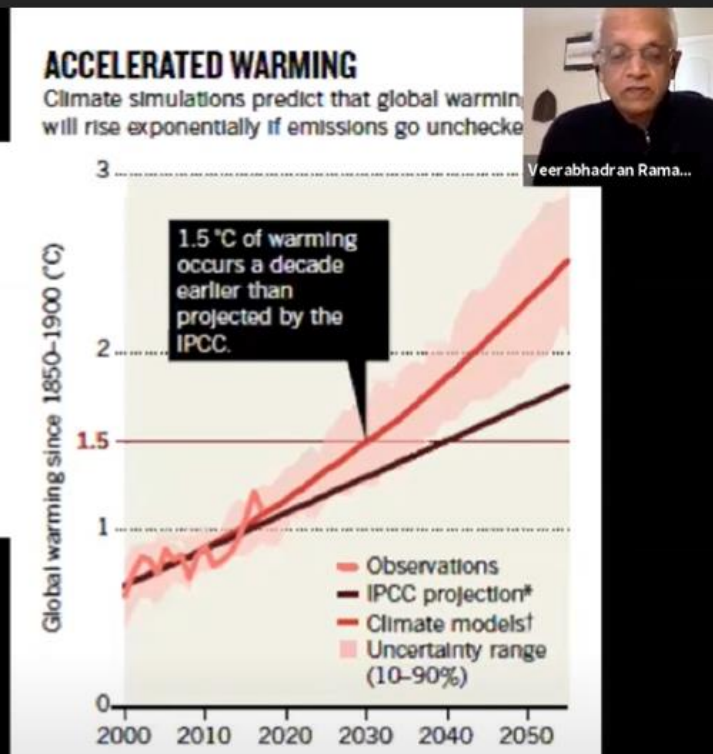


# Will pass 1.5°C dangerous warming by 2030 10 years earlier than UN IPCC projected

In CA as early as 2027- impacts on ag, economy, communities

## Global warming will happen faster than we think

Three trends will combine to hasten it, warn Yangyang Xu, Veerabhadran Ramanathan and David G. Victor.



Xu, Y., et al, **Global Warming will Happen Faster than We Think**, Nature Dec 2018, 564(7734):30-32

DOI: [10.1038/d41586-018-07586-5](https://doi.org/10.1038/d41586-018-07586-5)

MoveCA Zoomposium, Jan 21 2021, <https://www.youtube.com/watch?v=T3lOX5ru0BI&t=12s> (at 16 min in)

Hébert, R. et al. *Climate Dynamics*, 2020; DOI: [10.1007/s00382-020-05521-x](https://doi.org/10.1007/s00382-020-05521-x)

CA impacts: personal communication with V. Ramanathan, Scripps/UC San Diego

# Western US now in global warming-induced severe megadrought

- Threatens dustbowl & ag economy by as early as 2027 in CA
- 2015 drought cost ~\$2.7 billion and 20k lost ag jobs in California



<https://www.washingtonpost.com/weather/2020/04/16/southwest-megadrought-climate-change/>  
[Williams et al. Science Apr 17 2020](#)  
<https://www.scientificamerican.com/article/drought-takes-2-7-billion-toll-on-california-agriculture/>



# Increasing health impacts especially to most vulnerable communities

Fossil fuel air pollution => 1 in 5 deaths globally  
2020 CA smoke storm: ~1200-3000 addl deaths among 65+



<https://www.seas.harvard.edu/news/2021/02/deaths-fossil-fuel-emissions-higher-previously-thought>

<https://www.latimes.com/california/story/2021-02-01/wildfire-smoke-microbes-in-the-air>

<http://www.who.int/globalchange/en/>; Leleiveld et al., Cardiovascular, March 2020; Hoffman et al. Climate Jan 2020  
Bekkar et al JAMA June 2020

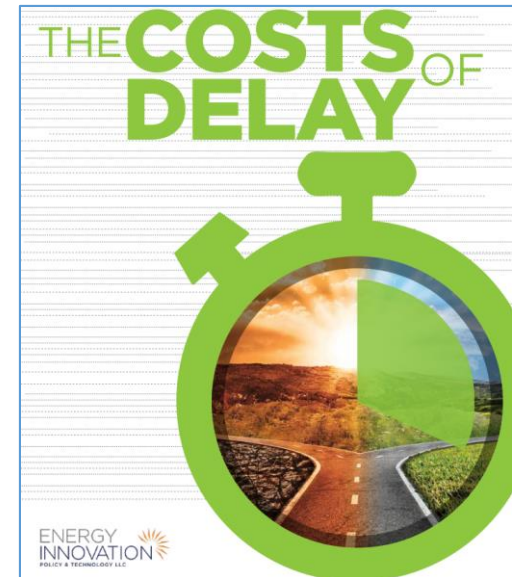
<https://www.nytimes.com/2020/06/18/climate/climate-change-pregnancy-study.html>

<https://amp-sacbee-com.cdn.ampproject.org/c/s/amp.sacbee.com/news/california/fires/article245947495.html>;

<http://www.g-feed.com/2020/09/indirect-mortality-from-recent.html>

# Climate action delay costs trillions, bankrupting our economy

- **Costs much less investing big today rather than waiting until 2030** *(For CA: est. \$47 billion/year now vs. \$110 billion/year starting in 2030 based on CA = 14.6% of GDP)*
- **\$150 Billion in damages from 2018 CA wildfires; \$80 Billion in 2019**
- **\$80 billion invested in California** **will** **generate ~725,000 jobs**



[https://energyinnovation.org/wp-content/uploads/2021/01/Cost\\_of\\_Delay.pdf](https://energyinnovation.org/wp-content/uploads/2021/01/Cost_of_Delay.pdf)

<https://www.federalreserve.gov/publications/files/financial-stability-report-20201109.pdf>

<https://www.nytimes.com/2020/09/08/climate/climate-change-financial-markets.html>

Wang, D et al. **Economic footprint of California wildfires in 2018**. *Nature Sustainability*, 2020 DOI: [10.1038/s41893-020-00646-7](https://doi.org/10.1038/s41893-020-00646-7)

<https://www.accuweather.com/en/weather-news/california-wildfires-will-cost-tens-of-billions-accuweather-estimates/612548>

Political Economy Research Institute [https://www.peri.umass.edu/images/CA-EconRecProgram-6-12-20\\_Final.pdf](https://www.peri.umass.edu/images/CA-EconRecProgram-6-12-20_Final.pdf)

World Resources Institute <https://www.wri.org/blog/2020/07/economic-benefits-climate-action-us>



## RAISING THE ALARM

Evidence that tipping points are under way has mounted in the past decade. Domino effects have also been proposed.



**A. Amazon rainforest**  
Frequent droughts

**B. Arctic sea ice**  
Reduction in area

**C. Atlantic circulation**  
In slowdown since 1950s

**D. Boreal forest**  
Fires and pests changing

**F. Coral reefs**  
Large-scale die-offs

**G. Greenland ice sheet**  
Ice loss accelerating

**H. Permafrost**  
Thawing

**I. West Antarctic ice sheet**  
Ice loss accelerating

**J. Wilkes Basin, East Antarctica**  
Ice loss accelerating

**9 of 15 global tipping points underway now... domino effect to uninhabitable 'hothouse' climate if we don't act soon...**

Lenton, Rockstrom, Gaffney, Rahmstorf, Richardson, Steffen, Schyellnhuber.  
*Nature*, Nov 27 2019  
<https://www.nature.com/articles/d41586-019-03595-0>

<https://www.sciencedaily.com/releases/2019/11/191127161418.htm>

**“We have underestimated the risks off **unleashing irreversible changes** ...We are seeing strong evidence already for **declaring a state of planetary emergency**...**

**The next decade is our window...with consequences for all future generations.”**



- Johan Rockström, Director, Potsdam Institute for Climate Impacts Research, 2019

<https://www.sciencedaily.com/releases/2019/11/191127161418.htm>

<https://sverigesradio.se/avsnitt/1425542>

<https://medium.com/@rchrthy/johan-rockstr%C3%B6ms-10-point-agenda-for-saving-the-world-unofficial-transcript-431261f885c6>

**“Humanity is causing a rapid loss of biodiversity and, with it, Earth's ability to support complex life. But the mainstream is having difficulty grasping the magnitude of this loss, despite the steady erosion of the fabric of human civilization.”**





**The climate reality  
is outpacing  
outdated science  
and policy.**

**Leaders are now  
stepping up, but...**

# California is behind: New International & National Climate Targets....

- ✓ **EUROPEAN UNION:** Cut GHGs by at least 55% by 2030 ... from 1990 levels to reach net zero emissions by 2050
- ✓ **UK:** Cut GHGs 68% by 2030 from 1990 levels & 100% ZEV sales by 2030
- ✓ **FINLAND:** Net-Zero emissions by 2035 without offsets
- ✓ **RHODE ISLAND:** 100% GHG free electricity by 2030
- ✓ **PRESIDENT BIDEN**
  - 100% GHG free electricity by 2035
  - 40% investments to lower-income communities
  - Invest \$2 trillion (= ~\$292 Billion in CA @ 14.6% GDP)

<https://www.theguardian.com/environment/2020/dec/03/uk-vows-outdo-other-major-economies-emissions-cuts-by-2030> Dec 3, 2020  
<https://www.cbsnews.com/news/uk-ban-new-gasoline-diesel-cars-vehicles-by-2030-boris-johnson-green-industrial-revolution/> Nov 18 2020  
<https://www.axios.com/eu-carbon-emissions-target-cut-2030-climate-063fa943-1af8-471f-a798-590bba10c7c4.html> Dec 11, 2020  
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)32290-X/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32290-X/fulltext) December 2, 2020  
<https://joebiden.com/wp-content/uploads/2020/07/UNITY-TASK-FORCE-RECOMMENDATIONS.pdf> July 8, 2020  
<https://www.nytimes.com/2020/07/14/us/politics/biden-climate-plan.html> Feb 1, 2021

# Bold targets work!

## As goes California, goes the world

- AB1493 (2002) **tailpipe emissions cuts**; later adopted by 13 other states; basis for 2010 national clean car standards
- CA launched **Under2 Coalition** (2017); now includes 220 jurisdictions with 1.3 billion people and 43% of the world economy
- Gov. Newsom EO **100% ZEV car sales** by 2035 (Sept 2020); GM announces will sell only 100% ZEV cars (January 2021)





# California must lead for the country and the world to secure a climate-safe future



# Need more aggressive policies and accelerated timelines in CA now!



## Climate-Safe California Campaign for Rapid Decarbonization

[www.theclimatecenter.org](http://www.theclimatecenter.org)

GOAL: By 2025, CA will have enacted the bold policies required by science to dramatically cut emissions, start drawdown and secure resilient communities by 2030, inspiring global action



# CLIMATE-SAFE CALIFORNIA

## Remove more carbon that we are emitting by 2030

Accelerating existing state goals 15 years...  
2045 is too late

- **Net-negative emissions by 2030** (capture more carbon than we are emitting) (Brown 2018 EO by 2045)
  - **80% below 1990 GHG levels by 2030** (Schwarzenegger 2005 EO by 2050)
  - **Nature-based annual sequestration greater than emissions by 2030**

**Definition:** net negative emissions is achieved when, as a result of human activities, more greenhouse gases are removed from the atmosphere than are emitted into it. – UN IPCC 1.5C Report <https://www.ipcc.ch/sr15/chapter/glossary/>





# Guiding principles for Climate-Safe CA targets, policies and programs

- 1- Based on the **latest science**
- 2- Ensure a **just transition** for fossil fuel workers
- 3- Prioritize **climate justice**: ensure lower-income & BIPOC communities are no longer disproportionately harmed by fossil fuels and have equitable access to climate-friendly solutions

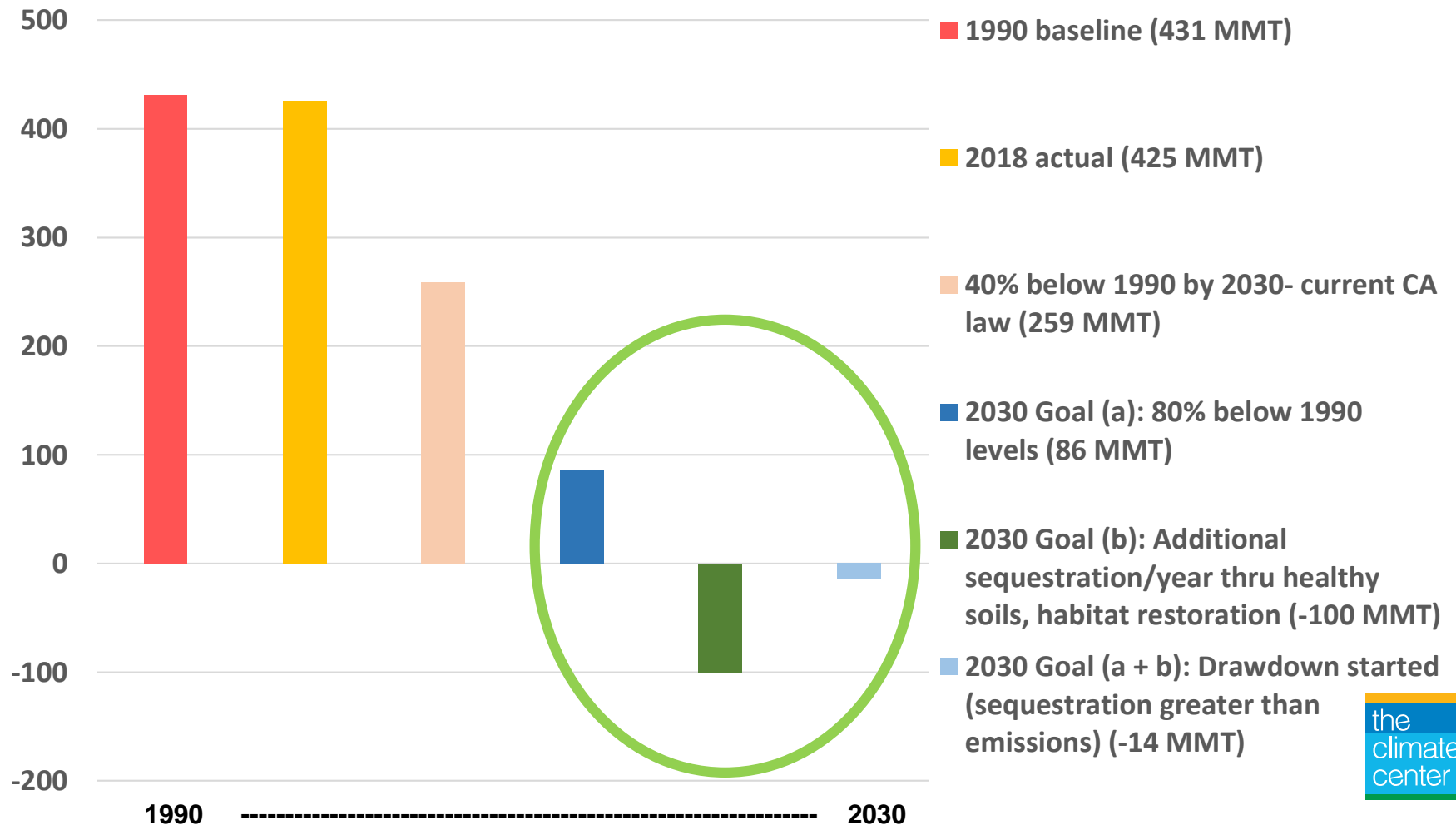


Photo: Stand.LA. by KPCC AirTalk

# California's measured GHG emissions: where we are & where we need to go by 2030

[www.climatesafeca.org](http://www.climatesafeca.org)

## Million Metric Tons (MMT) CO<sub>2</sub>e Per Year



# TYPES OF POLICIES REQUIRED BY SCIENCE TO REACH NET-NEGATIVE EMISSIONS BY 2030

1. Accelerate the phase-out of fossil fuel development, production and use
2. Scale-up nature-based sequestration to 100 MMT/year by 2030 on natural & working lands
3. Invest in community resilience, including clean energy microgrids & storage
4. Fund climate action with \$12-20 billion/year and leverage private sector money

Age Group	Male (%)	Female (%)
18-24	10	10
25-34	20	20
35-44	30	30
45-54	40	40
55-64	50	50
65-74	60	60
75+	70	70





# Two 2021 Bills to Prioritize Microgrid Development in Disadvantaged Communities

## 1) PLAN

**Community Energy Resilience Act (SB99, Dodd):** Creates a new CEC statewide program for local governments in disadvantaged communities to plan local energy systems for decarbonization, resilience, equity

## 2) FUND

**Energy Resilience and Equity Act (AB 1325, Burke):** To fund microgrid development in disadvantaged communities; provides market signals to engage the private sector



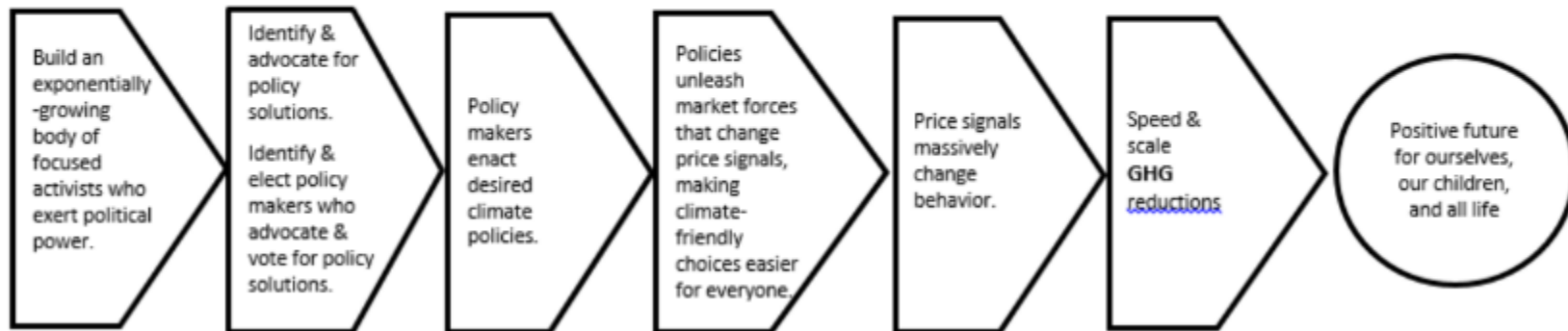
# The suite of solutions and technologies exists today for California to enact now



# How ensure California increases its global leadership for speed and scale GHG reductions?

## The Climate Center's Theory of Change

ACTIVISTS → POLICY CHANGE → MARKET FORCES → BEHAVIOR CHANGE → IMPACT



Build an unprecedented cross-sectoral coalition of climate advocates demanding accelerated, equitable climate policies to channel market forces so all can participate in the clean energy economy

# Endorse Climate-Safe California

[www.climatesafeca.org](http://www.climatesafeca.org)



Climate-Safe California  
Rapid Decarbonization Campaign  
Endorsement Platform

- A public pledge of support for California to accelerate aggressive climate policy
- Inspiring states and countries to greater action for a climate-safe Earth

<https://theclimatecenter.org/act-locally-on-climate-safe-ca/>



# 900+ endorsements of Climate-Safe CA to build further support

- **ELECTEDS (50) and APPOINTED**

- Congressmen Jared Huffman, Mike Thompson
- State Senators Henry Stern, Scott Wiener, Mike McGuire, Josh Becker
- Asm Kevin Mullin, R. Rivas, Stone
- CA State Assoc of Counties,\* Chair, James Gore
- Co. Supervisors Holly Mitchell, Carmen Ramirez
- Angelina Galiteva, CAISO Board member\*

- **CITIES/GOVERNMENTAL AUTHORITIES**

- Bay Area Air Quality District
- City of Petaluma
- Regional Climate Protection Authority
- Town of San Anselmo

- **SCIENTISTS and ECONOMISTS**

- Carl Mears, PhD, UN IPCC
- Dan Kammen, PhD, UC Berkeley\*
- Hunter Lovins
- Ben SanTERS, PhD, LLNL\*
- Steve Weissman, PhD, UC Berkeley\*
- David Pellow, PhD, UCSB\*

- **BUSINESS (66)**

- Hobo Wines
- Terry Tamminen, 7th Generation Advisors\*
- Ygrene Energy

- **NGOs (80)**

- Alliance of Nurses for Healthy Environments
- CA League of Conservation Voters
- Carbon Cycle Institute
- Center for Sustainable Energy
- Central CA Environmental Justice Network
- Climate Mobilization
- Joint Venture Silicon Valley
- Labor Network for Sustainability
- Local Government Commission
- Mi Familia Vota

- **FAITH**

- Roman Catholic Diocese of Fresno
- Catholic Charities, Stockton



[www.theclimatecenter.org/endorsementlists](http://www.theclimatecenter.org/endorsementlists)

\*affiliations for  
identification purposes  
only

# Supervisor Holly J. Mitchell

L.A. County Board of Supervisors, former State Senator



**“The science supports the fact that California’s climate crisis is real with dangerous and accelerating impacts on our vulnerable populations. Climate-Safe California offers a powerful solution that will hopefully catalyze similar efforts in other states, the nation and the world.”**

<https://theclimatecenter.org/endorsementlist/>

# Terry Tamminen

former CAL EPA Secretary under Governor Schwarzenegger



**“I strongly endorse the goal of Climate-Safe California to achieve net-negative emissions by 2030; 2050 is too late. The campaign’s focus on science, urgency, and policy is exactly what’s needed – and California must lead the way.”**

<https://theclimatecenter.org/endorsementlist/>

# State Senator Henry Stern

speaking at The Climate Center's Virtual Community  
Energy Resilience Summit, August 5, 2020



**“This campaign for a Climate-Safe California is not only crucial but it is scalable. The goal for a 2030 near term net-negative emissions target is not just something we should be striving for in California, but should be pushing the next administration [*in Washington*] to embrace as well.”**

<https://theclimatecenter.org/endorsementlist/>



# Climate-Safe California Core NGO partners to organize support your leadership



Alliance of Nurses for  
Healthy Environments



California League of  
Conservation Voters

Carbon Cycle Institute



LABOR NETWORK  
FOR SUSTAINABILITY



Local  
Government  
Commission

**Our house is on fire. Ask at every level of government: are we doing enough?**





# CA first state to reach net negative emissions

Kickstarts nation & world into equitable climate action

December 2030



# Thank you!

ellie@theclimatecenter.org

For more information, visit

[www.climatesafeca.org](http://www.climatesafeca.org)

Upcoming webinars:

[www.theclimatecenter.org/webinars](http://www.theclimatecenter.org/webinars)

