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# Net-Negative Emissions by 2030: The policies that can get us there

January 26, 2021

Ellie Cohen and Team, The Climate Center

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the  
climate  
center

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-

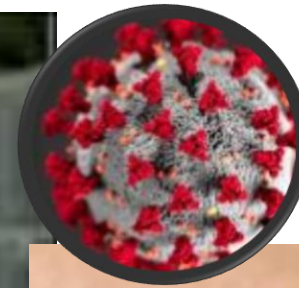


BY SUSANNE RUST  
AND TONY BARBOZA

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

# Increasing health impacts especially to most vulnerable communities; extreme heat most deadly



<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>



# Climate inaction or inadequate action is bankrupting our economy

- **Fed Reserve:** banks must consider climate risks
- **Threatens** markets, pension funds
- **\$150 Billion in damages from 2018 CA wildfires; \$80 Billion in 2019**
- **\$80 billion invested in CA will generate ~725,000 jobs**
- Investments in **clean energy** generate more than **2x the jobs** as in fossil fuels



<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>

**“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 deterioration  
of the climate and  
environment is  
outpacing  
outdated policy.**

**Leaders are now  
stepping up.**

# Governor Newsom on Sept. 11, 2020: “We are in a climate emergency... Our goals are inadequate...We must fast-track goals”

New Exec Orders: 100% ZEV new car sales by 2035 & protect  
30% of land and waters by 2030.... **But....**



<https://defenders.maps.arcgis.com/apps/webappviewer/index.html?id=8fa934ebbee54431bdc53d0873ab14>

<https://www.gov.ca.gov/2020/09/23/governor-newsom-announces-california-will-phase-out-gasoline-powered-cars-dramatically-reduce-demand-for-fossil-fuel-in-californias-fight-against-climate-change/> Sept. 23 2020

<https://calmatters.org/environment/2020/09/california-governor-climate-emergency/> Sept. 11 2020



# California is behind: New International & Proposed 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**
- ✓ **BIDEN**
  - Eliminate carbon pollution from power plants by 2035
  - Net-zero new buildings by 2030
  - Get agriculture to net-zero
- ✓ **SENATE SELECT COMMITTEE ON CLIMATE CRISIS**
  - Invest **2% annually of GDP w/ 40% to low income communities** Note: 2% of CA 2019 GSP \$3.2 trillion = \$64 billion

<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.democrats.senate.gov/climate-report> August 25, 2020



# 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 reduce emissions, start drawdown and secure resilient communities by 2030, inspiring global action

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

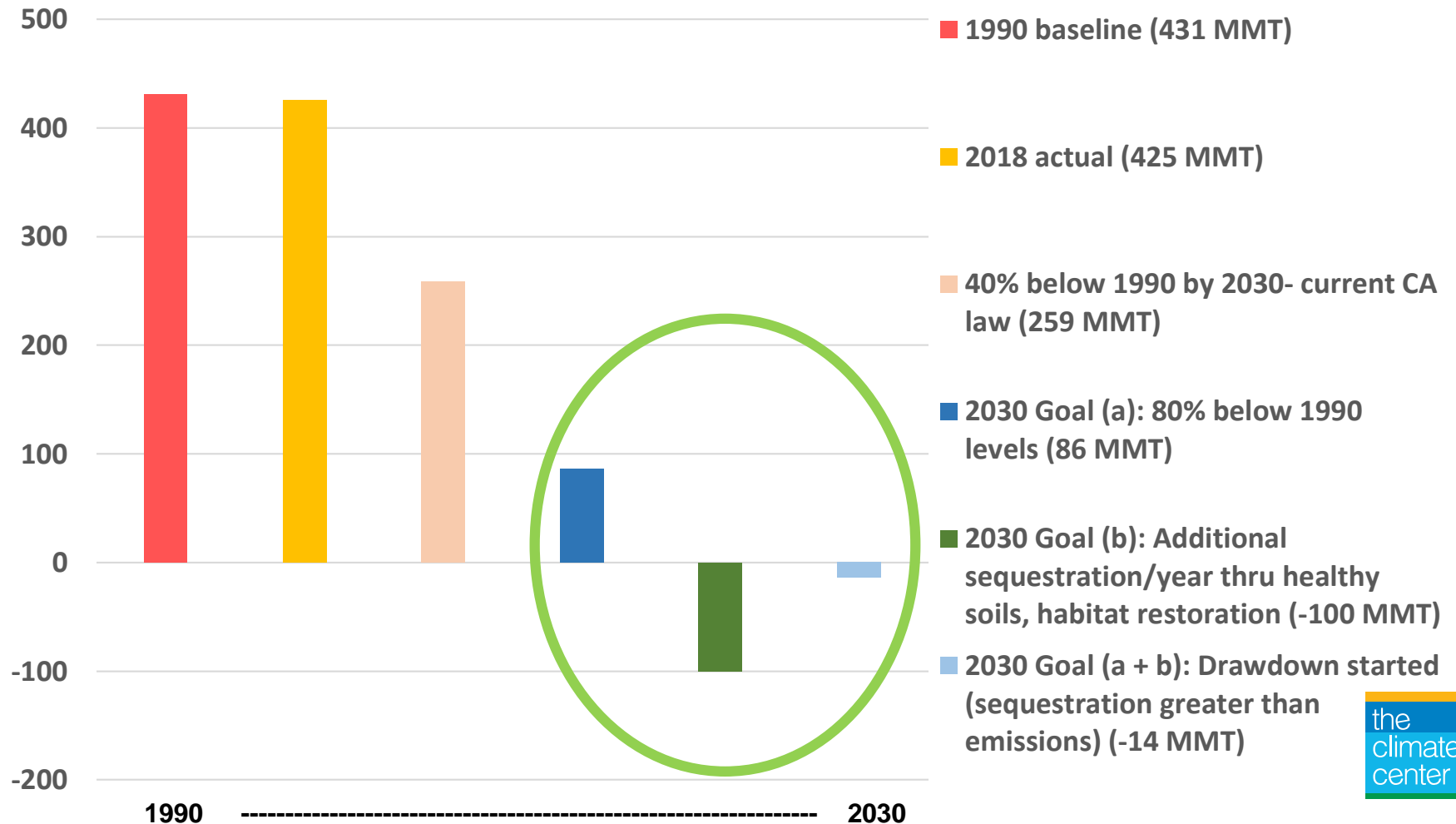
- 1- Based on the **latest science**
- 2- Ensure a **just transition** for fossil fuel workers
- 3- Prioritize **climate justice**: ensure lower-income & BIPOC communities are no longer disproportionately harmed by fossil fuels & climate change, and have equitable access to climate-friendly solutions



# 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





# CLIMATE-SAFE CALIFORNIA ACT- *DRAFT*

## includes accelerating existing state goals

- **Net-negative emissions by 2030** (sequestration greater than emissions, CA becomes net carbon sink) (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/>



# 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

# 1- Accelerate phase out of fossil fuel development, production and use

- Immediately **halt new oil & gas drilling, & infrastructure**
- Invest in public-private efforts to **transition fossil fuel workers to good quality jobs** or early retirement
- **Establish 1 mile health & safety buffer zones around active wells**
- **Secure 100% GHG-free, decentralized electricity with storage by 2030**
- **No new gas/diesel powered vehicle registrations by 2030**
- **Electrify everything- 100% new buildings in 2022 building code update** (*e.g., ban methane gas; quickly cut SLCPs*)



# 2- Increase Sequestration

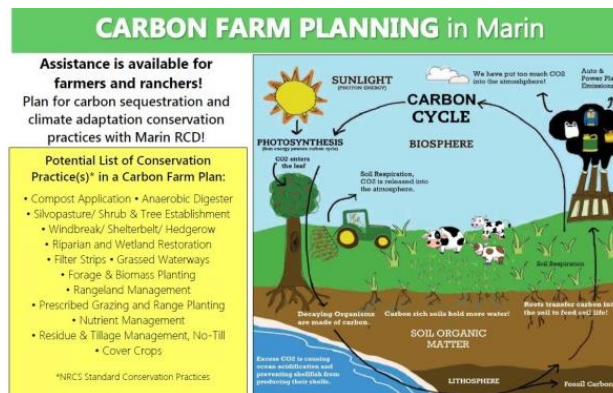
- **Sequester addl. ~100+ MMT CO<sub>2</sub>e annually** in healthy soils, forests and vegetation annually— public & private— by 2030
  - **Carbon farming** and gardening
  - **Climate-smart habitat restoration** and management on land/coast
  - **Enhance protected habitats**
  - **Engage Indigenous communities and TEK** (*traditional ecological knowledge*)



Carbon Farming, Marin



Kelp forests



<https://www.marincarbonproject.org/carbon-farming>  
<https://www.carboncycle.org/carbon-farming/>  
<https://www.pointblue.org/our-work/restoration/>



# Draft Sequestration Bill

## Climate Restoration & Food Security Act

- To **rapidly scale up nature-based carbon sequestration** on California's natural and working lands
- Creates a **technical assistance program** to help landowners take advantage of state and federal funding programs
- Establishes a **Climate Restoration Corps**



Photo: Point Blue's STRAW program <https://www.pointblue.org/our-work/restoration/>.

# 3- Invest in Community Resilience

- **Fund implementation of resilience plans in all California counties and cities by 2025 (SB379)**
- **Establish resilience hubs, prioritizing lower income communities**
- **Implement *clean* energy community microgrids with storage including EV's, starting with critical facilities in lower income communities by 2021**



<https://microgridknowledge.com/tribal-microgrid/>

# Two 2021 Bills to Prioritize Microgrid Development in Disadvantaged Communities

## 1) PLAN

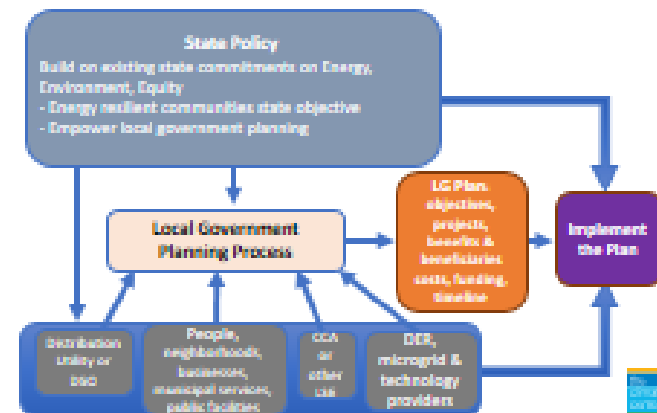
**Community Energy Resilience Act (SB99, Dodd):** Creates a new CEC statewide program for local governments in disadvantaged communities to plan local energy systems for decarbonization, resilience, equity

## 2) FUND

**Energy Resilience and Equity Act (EREA):** Provides market signal to fund microgrid development in disadvantaged communities:

- With market signals, the private sector will respond

### Community Energy Resilience Act (CERA): Communities PLAN



## 4- Fund climate action

Institute **equitable funding strategies** to produce **additional ~\$12-20+ billion/year** specifically for climate action, such as:

- **Regulatory changes** that open markets *so private investments pay for much of what's needed & expedite use of **federal green stimulus funds***
- **Per Passenger/Parcel Fee** e.g., \$2.4 billion/yr *from \$10 per passenger x 240 million (CA in 2018; requires federal action)*
- **Ballot measures** e.g., \$30 Billion 2022 climate ballot measure for transportation & other sectors over 10 years
- **Progressive Carbon Fees, Feebates**
- **Green climate bonds**
- **Close tax loopholes & upgrade tax code**





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



# 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/>

# Endorse Climate-Safe California and urge the Governor & other state elected to accelerate climate action

[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



# CA first state to reach net negative emissions

Kickstarts nation & world into equitable climate action

December 2030







# Thank you!

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