Accelerating the Clean Energy Transition in Inland SoCal

Discussion of climate, energy, and environmental trends in Inland SoCal, and how CSE and Thrive Inland SoCal are working with our communities to invest in a better future

April 4, 2024

Kara Crohn, Luzita Lutfi, Jin Zhu

Center for Sustainable Energy®

Agenda

2:00pm	Intro to CSE & Connection to Environmental Justice Work
2:15pm	Discussion: What are the most important environmental and health issues in our region?
2:45pm	Inland SoCal Climate, Environment, Energy Trends
3:00pm	Questions?
3:05pm	How CSE-administered Programs and Community Outreach Help Inland SoCal
3:20pm	Questions?
3:25pm	How to get involved

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Intro to CSE & Connection to Environmental Justice Work

CSE Introductions

Kara Crohn, PhD
Director
Transparency & Insights

Jin Zhu
Senior Manager
California Transportation Programs

Luzita Lutfi
Associate Manager
Equity Engagement & Outreach

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Audience Introductions

- Who are you?
  - Name
  - Organization/School
  - Role/Area of Interest

Center for Sustainable Energy™

About CSE

Center for Sustainable Energy® (CSE) is a national nonprofit that accelerates adoption of clean transportation and distributed energy through effective and equitable program design and administration. Governments, utilities and the private sector trust CSE for its data-driven and software-enabled approach, deep domain expertise and customer-focused team. CSE's fee-for-service business model frees it from the influence of shareholders, members and donors, and ensures its independence.

Our vision is a future with sustainable, equitable and resilient transportation, buildings and communities.

We have one mission – Decarbonize.®

Our Focus on Equity & Inclusion

- CSE engages people in hard-to-reach, disadvantaged, low-income, and other vulnerable communities to share community-identified solutions that improve public health and address transportation and energy equity

  - **Partner with community-based organizations (CBOs)** to ensure we gather important insights for new program designs, administration, outreach and assessment when possible
  - We have partnered with and **funded over 100 CBOs on our Equity outreach projects** to ensure we have a complete understanding of each community we serve
  - We design outreach messaging and material in **multiple languages with cultural sensitivity**
  - CSE Equity outreach specialists and CBO partners connect with individuals and families who have been **disproportionately impacted by air pollution and other environmental factors** to **ensure access to EVs** and other clean energy incentives and resources
  - The CSE Policy team shares community-identified, data-driven **recommendations to policy makers** to expand adoption of clean technologies to low-income individuals and historically underserved communities
  - CSE's Caret® **Affordability Calculator**, which shows the **incentive levels required to make specific EVs affordable** to households of different income levels, has been used to inform federal and state EV incentive policy

Connection to Environmental Justice

CSE is a clean energy nonprofit with one mission "Decarbonize"

- **Capacity Building** – Partner with CBOs and environmental justice organizations by providing funding, training resources for program feedback and community outreach
- **Community Outreach and Engagement** – Work alongside community organizations to raise awareness and adoption of clean energy programs
- **Collaborative Projects** – Partner on projects aimed at addressing environmental injustices through programs that improve air quality and promote sustainable practices
- **Policy Advancements** – Through our policy teamwork, gather feedback from EJ organizations and CBOs to develop and/or advance EJ program principles

"Nothing About Us Without Us"

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$4B+ Program Management Portfolio

EV Incentive Programs: $2.3B+

- CA – Clean Vehicle Rebate Project
- CT – CHEAPER
- DE – Clean Vehicle Rebate Project
- MA – MOR-EV
- NJ – Charge Up New Jersey
- NY – Drive Clean NY & Truck Voucher
- OR –Clean Vehicle Rebate Program
- VT – PEV, Replace Your Ride, E-Bikes
- Utility EV programs (PG&E, SCE)

Over 600,000 rebated vehicles

EV Charging Incentive Programs: $500M

- CA – CALeVIP
- MA – MassEVIP
- NJ – Residential Charger Program
- NY – Charge Ready New York
- PA – EVSmart

Funding issued for:
6,000+ L2 chargers
1,400+ DCFC connectors

Distributed Energy: $1.3B

- CA – Solar on Multifamily Affordable Housing
- CA – Self-Generation Incentive Program
- $10M utility-funded solar program for low-income San Diego homeowners
- CA - Energy Storage Permitting Guidebook

8,400 projects funded

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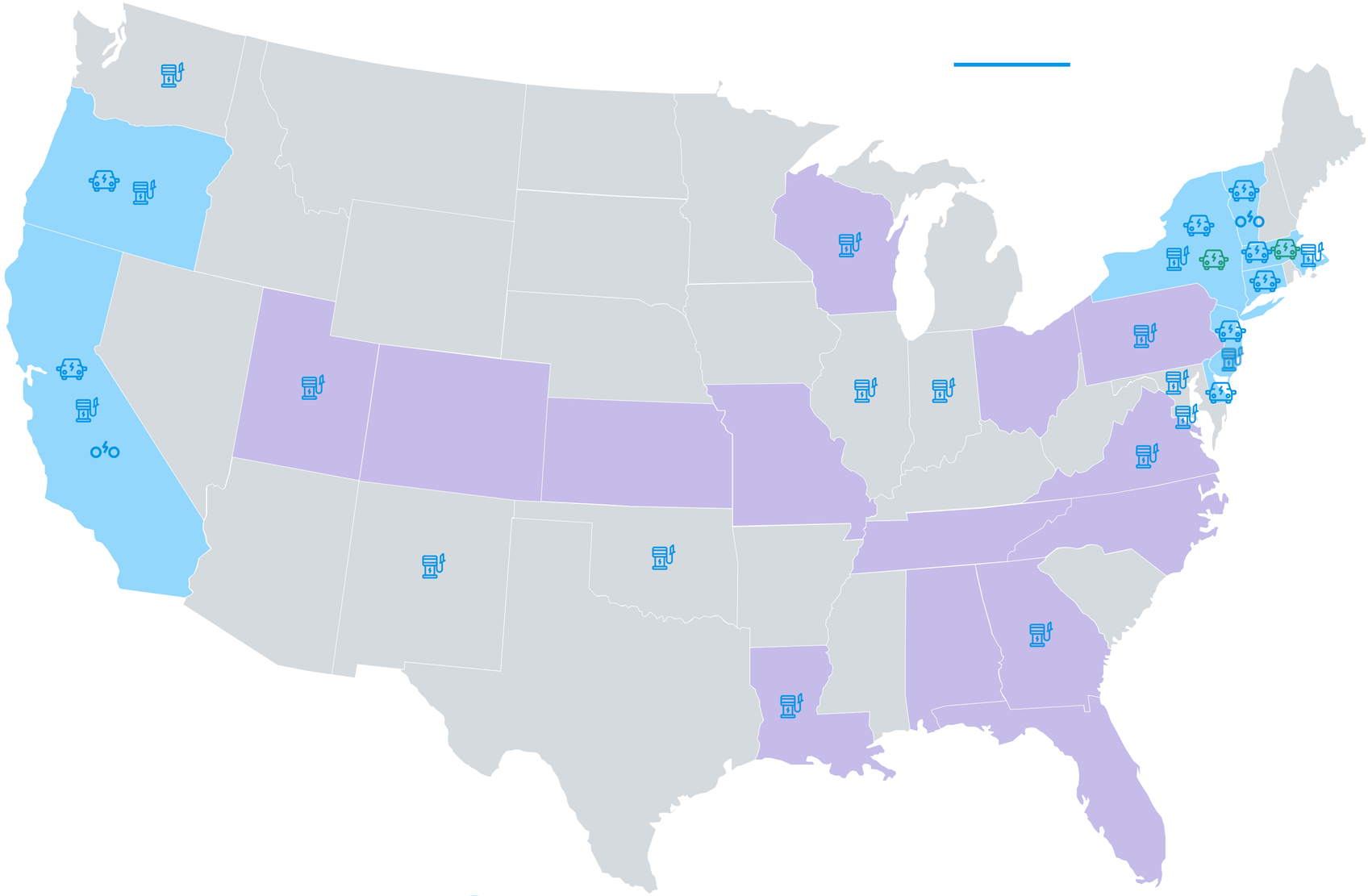
EV Rebate/EV Infrastructure Programs Covering 105 Million Americans



CALIFORNIA
CALeVIP
CVRP
Bear Valley Electric EVI
Central Sierra ZEV
DOE VCI-MUD LA Bureau of Streetlighting
DOE VCI-MUD San Francisco, San Mateo and Campbell
Irvine ZEV Transition Plan
Los Angeles Clean Cities
PG&E Used EV
Port of San Diego
Sac Metro AQMD CC4A
San Bernardino ZEV
San Diego County EV charger plan
San Diego County Green Fleet Action Plan
San Diego Regional Clean Cities
SCE Clean Fuel Reward Program
SCP eBike

CONNECTICUT
CHEAPR

DELAWARE
CVRP

GEORGIA
DOE VCI-MUD Atlanta

ILLINOIS
Chicago Area Clean Cities
DOE VCI-MUD Chicago Commonwealth Edison

INDIANA
South Shore Clean Cities

LOUISIANA
LADOT NEVI Plan Support

MARYLAND
Maryland Clean Cities
DOE VCI-MUD Takoma Park

MASSACHUSETTS
MOR-EV
MOR-EV MD/HD
MassEVIP
Boston University Campus Fleet

NEW MEXICO
Public Service Company of New Mexico (PNM)

NEW JERSEY
Charge Up New Jersey

NEW YORK
Charge Ready NY
Drive Clean NY
NY Truck Voucher Program
Clean Communities of Central New York

OKLAHOMA
Tulsa Area Clean Cities

OREGON
OCVRP
OCVRP Equity & Dealer Outreach
Columbia-Willamette Clean Cities
DOE VCI-MUD Portland

PENNSYLVANIA
PennDOT NEVI Implementation Plan Team
PECO EVsmart

UTAH
DOE VCI-MUD Salt Lake City

VERMONT
Vermont New PEV, Replace Your Ride, E-bikes

VIRGINIA
Virginia Clean Cities

WASHINGTON
Seattle City Light
DOE VCI-MUD Seattle 2030 District
DOE VCI-MUD Snohomish County PUD 1
Western Washington Clean Cities

WASHINGTON, D.C.
Greater Washington Region Clean Cities

WISCONSIN
Wisconsin Clean Cities

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Statewide incentive programs
Drive Electric USA Project Advisory Committee

EV Infrastructure
Light Duty EVs

Medium/Heavy Duty EVs
Electric Bikes

Transparency & Insights (T&I)

Insightful research and analytics to fuel effective, efficient, equitable decarbonization programs

Data Dashboards

- Data visualization tools to track program KPIs, including funding levels and impacts
- Transparency and on-demand reporting for stakeholders

Caret Software Platform

- Platform providing EV and EVI program forecasting, analytics, and charging session-level data knowledgebase
- Automation of EV charger infrastructure siting to optimize user-defined goals

Program Research

- Quantitative and qualitative research by team of 30 experts in social, behavioral and data sciences
- Consumer insights based on interactions with 600,000 new EV buyers

Small Group Discussion (15 min)

What are the most pressing environmental justice and energy concerns in our region?

State of the Climate in Inland SoCal

Climate Key Findings

Inland SoCal **Surface** temperatures are **2.6°F - 3.5°F higher** in **equity communities***

- Temperatures are projected to rise from an average of **81°F in 2023** to **88°F by 2100**

Extreme heat events are projected to **double every 15 years** from 2009 to 2038

- Heat event days increase**:** average of **14 days per year** in 2009-2023 to average of **21.5 days** in 2023-2037

Top GHG-emitting sectors in the state (2000 to 2020): **transportation** (38%), **industry** (23%)

- San Bernardino (2016): transportation (51%) and building energy (35%)
- Riverside (2017): transportation (36%) and agriculture (34%)

Current **climate mitigation strategies** primarily **target energy** and **transportation** sectors

- 32% of reviewed programs addressed these sectors

*Equity communities are census tracts with identified low-income communities and disadvantaged communities as defined by the state.

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Climate – Methods

- Cal-Adapt Climate Data Models
  - Temperature
  - Precipitation
  - Relative humidity
  - Heat events
  - Extreme precipitation
- LANDSAT 8 TIRS data
  - Surface temperature
- Secondary Literature Review
  - GHG methodologies
  - Regional Climate Action Plans
  - Climate mitigation program descriptions & reports
  - Extreme heat event reports

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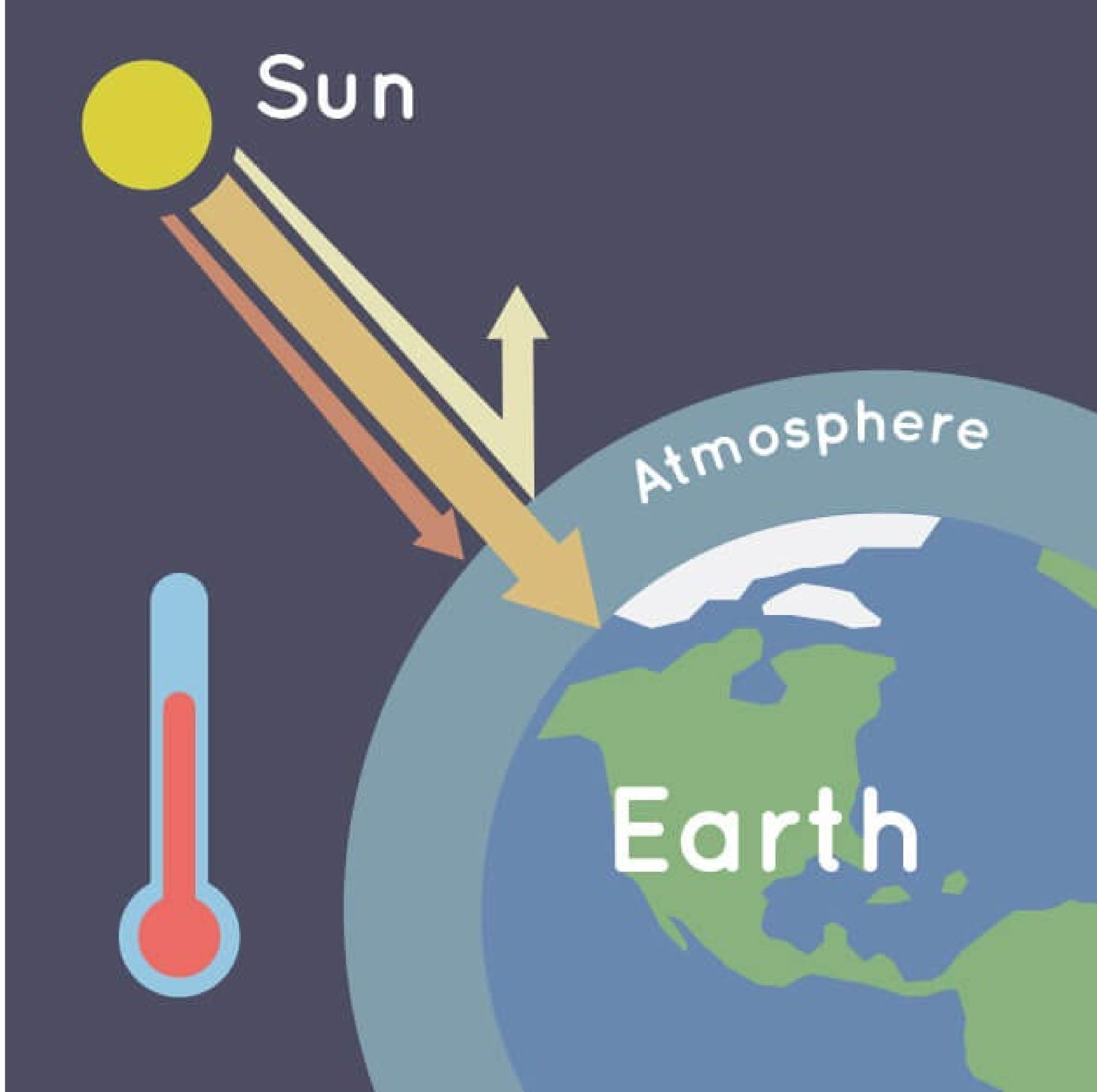
Climate – GHG

Why are we reporting greenhouse gas emissions and programs designed to avoid them?

Greenhouses allow plants to grow year-round because the glass walls trap heat from the sun and keep it from getting too cold. The greenhouse effect works much the same way on Earth. Gases in the atmosphere, such as carbon dioxide, trap heat similar to the glass roof of a greenhouse. These heat-trapping gases are called greenhouse gases and keep Earth much warmer than what it would be without an atmosphere.

https://climatekids.nasa.gov/greenhouse-effect/



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Climate – GHG

Top GHG-emitting sectors in the state (2000 to 2020):

- **Transportation** (38%)
- **Industry** (23%)

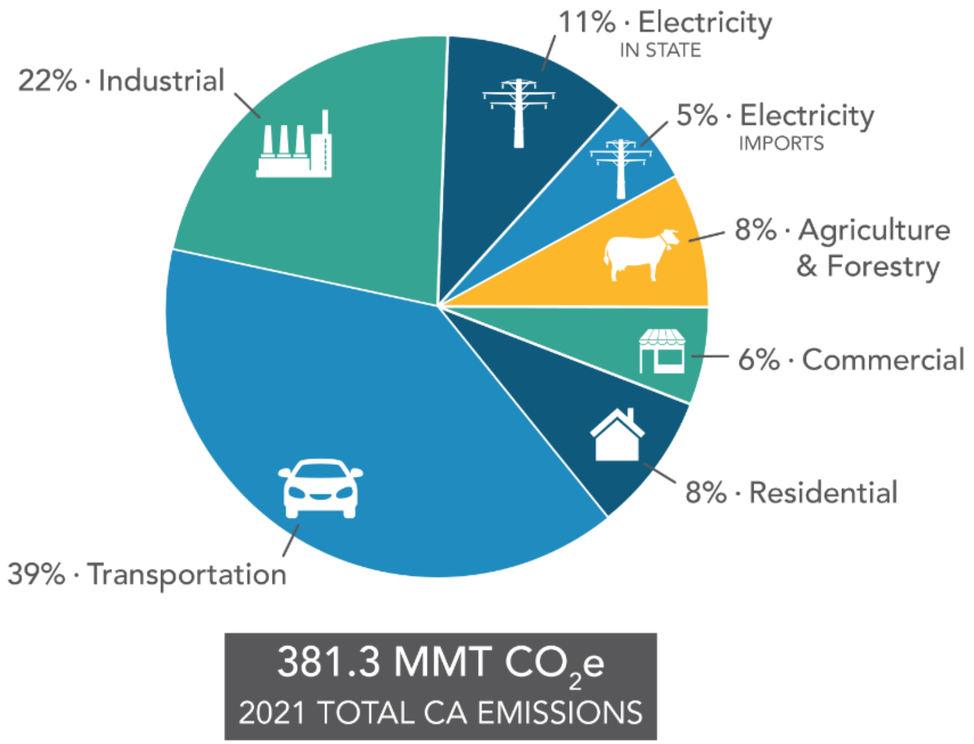
San Bernardino (2016):

- Transportation (51%)
- Building energy (35%)

Riverside (2017):

- Transportation (36%)
- Agriculture (34%)

2000-2021 GHG Inventory (2023 Edition)



Graphic: California's greenhouse gas emissions in 2021 broken out by economic sector

California Air Resources Board "Current California GHG Emission Inventory Data"

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State of Energy in Inland SoCal

Energy Key Findings

Top electricity consumers (reported by Southern California Edison, SCE) are **residential (36%), commercial (31%),** and then **industrial (29%)**

Electricity **consumption** has **increased 11%** from 2018 to 2022 and is projected to **further increase** by **8.3%** to **25%** by 2031, depending on electric vehicle use

Inland SoCal is **prioritizing renewable energy**, with solar power plants being installed at the greatest rate across all energy sources in terms of quantity (7%) and generating capacity (33%) since 2020

Generative capacity of **renewable energy sources** has **increased 274%** from 2000-2023, however, **natural gas** remains the **primary** energy **source** (56%)

Clean energy job median **wages** are **significantly higher** (24.8 %) than national median wages in sectors such as retail, services, recreation, and accommodations

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Energy – Methods

- Geospatial analysis of existing infrastructure
  - Powerplants
  - Distributed energy resources

- Advanced modeling of projected electric vehicle (EV) adoption and projected electric vehicle infrastructure that will be necessary to support the growing EV fleet

- 7+ primary research interviews with energy experts

- 9+ secondary research of regional reports, industry reports, and white papers

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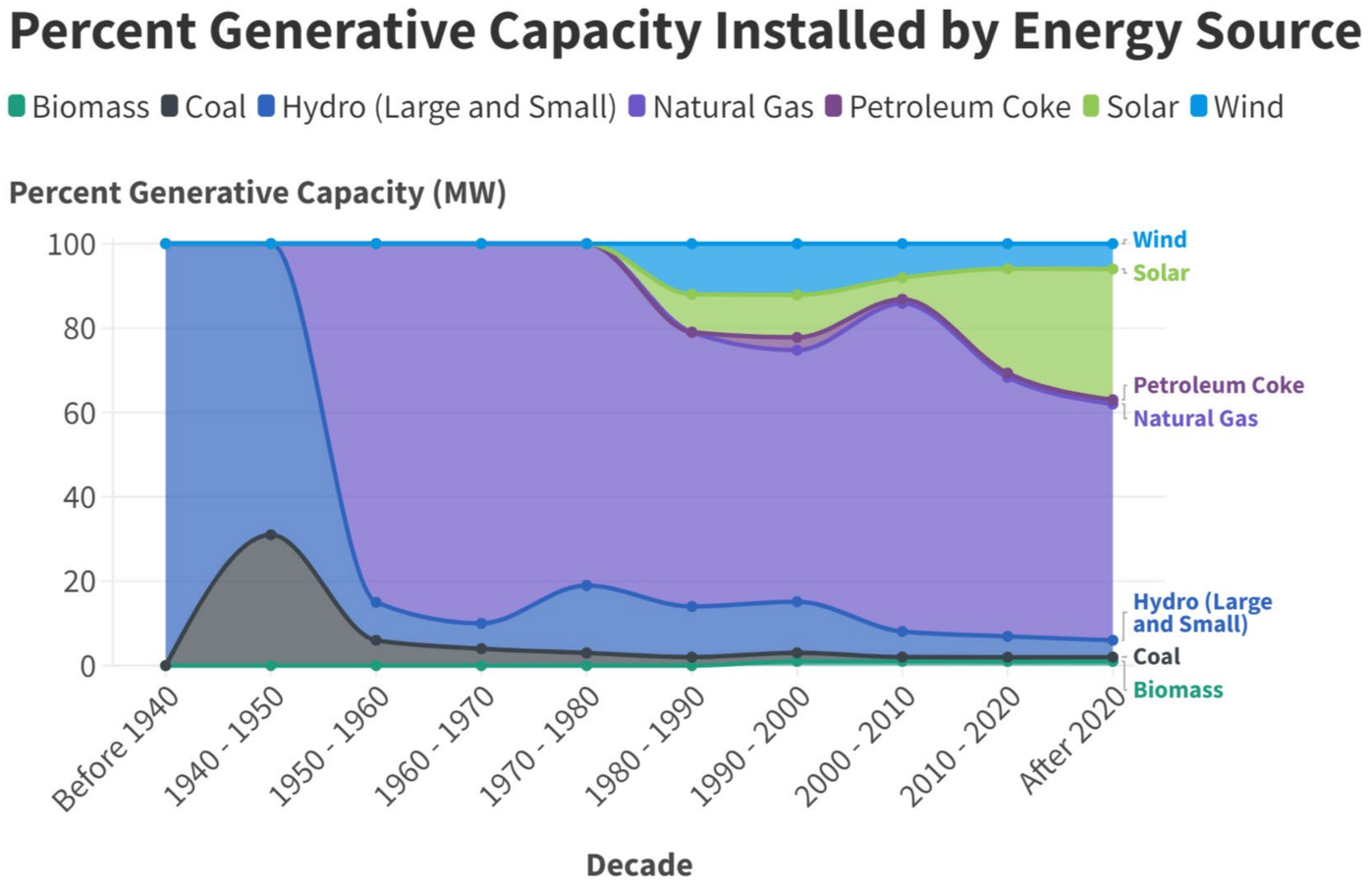
Energy – Capacity

Power generation has started to shift more toward renewable energy sources

- **Renewable energy** adoption is **gaining momentum** in Inland Southern California, with solar energy leading in recent decades
- **Natural gas** continues to generate a majority of power (approximately **60%**)

**caveat: installations inside Inland SoCal are not guaranteed to provide power to Inland SoCal residents



Source: California Energy Commission •
Power plant locations and characteristics as recorded in the Quarterly Fuel and Energy Report (QFER) database from the California Energy Commission (CEC). Last updated in May 2023

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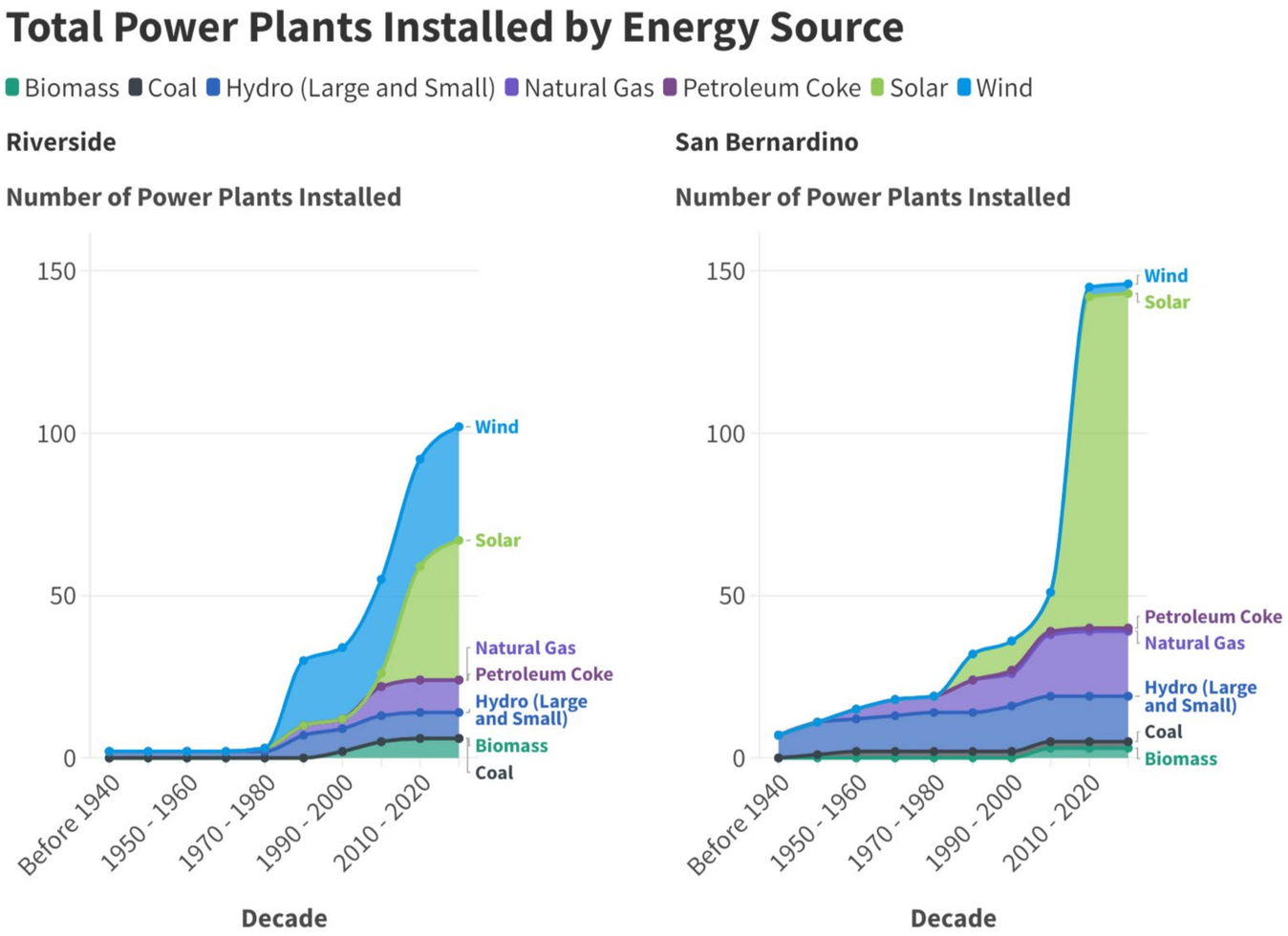
Energy – Power Plants

More wind and solar energy power plants installed

In recent years, a **greater percentage** of power plants using **renewable** resources have been installed

- **Riverside** installed more **wind**
- **San Bernardino** installed more **solar**
- Number of **natural gas** and **hydro** (large and small) power plants has remained relatively **consistent** since 2000

**caveat: installations inside Inland SoCal are not guaranteed to provide power to Inland SoCal residents



Source: California Energy Commission •
Power plant locations and characteristics as recorded in the Quarterly Fuel and Energy Report (QFER) database from the California Energy Commission (CEC). Last updated in May 2023

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Energy – Electric Vehicle Infrastructure

In Inland SoCal region, **EV charging infrastructure** is expected to **grow**

- **Level 2 chargers** are expected to grow **600%** from 2023 to 2030 and **231%** from 2023 to 2050
- **DC fast chargers** are expected to grow **26%** from 2023 to 2030 and **59%** from 2023 to 2050

Across California, **barriers** to charging **at home** persist*

- **86%** of surveyed CVRP rebate recipients **charge at home**
  - **36%** rely on a **120-volt outlet** for home charging (a standard outlet that can be used for a toaster or hair dryer); **23%** have a Level 2 charger
- **56% rent** or have a **homeowners association** and are **not authorized** to make changes at their residence
  - **21%** said adding an **outlet** or **charging station** would be **too expensive**
  - **15%** said it would be **too complicated**

As **more EV charging** becomes available, **EV adoption** may further **increase****

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* Alvarez, F. (2023) "Incentives, Resources Guides can Expand Access to EV Charging"
**Okoma, M. (2023)"The impact of Electric Vehicle Charging Stations on Light Duty Electric Vehicle adoption and rebates California"

Energy – Clean Energy Jobs

Clean energy jobs **pay better**

- Nationally, median wages in clean energy are significantly (24.8 %) higher than national median wages in sectors such as retail, services, recreation, and accommodations, especially when it comes to entry-level wages. On average, in 2019:*

>$25/hr.	$24.48/hr.	$24.44/hr.	$24.37/hr.
Wind and grid modernization	Solar energy workers	Energy efficiency	Coal, natural gas and petroleum fuels pay less

Inland SoCal has **high rate** of clean energy employment - **42,574 jobs** (54.2% of all renewable and nonrenewable energy jobs)

- Riverside County - 7th in the state, 15th in the nation
- San Bernardino County - 9th in the state, 28th in the nation
- Of these jobs, 52.5% are associated with energy efficiency and 22% with renewable energy

Southern California has **7 programs** dedicated to **green energy jobs training**

- Riverside City College Advanced Hybrid and EV Technology
- San Bernardino Community College EV/Hybrid Automotive Repair
- Pre-Apprenticeship Training Programs Riverside and San Bernardino Counties
- Zero Emissions Vehicle Equity Training Project
- Grid Alternatives Clean Tech Training Center (Riverside)
- Southern California Regional Energy Network (SoCalREN) Workforce Education and Training Program
- SoCal IREN Green Path Careers

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*Source: Environmental Entrepreneurs [E2], et al., 2020. Analysis built on 2020 U.S. Energy and Employment Report (USEER) by the Energy Futures Initiative (EFI) in partnership with the National Association of State Energy Officials (NASEO)

State of Environment in Inland SoCal

Environment Key Findings

Significant land use change from **agriculture** to **urban** and **industrial development**

- **Cropland** has **decreased 32%** while urban/developed lands have nearly doubled
- **Warehouses** are identified as a key area of concern regarding **land use change** and **air quality**; in past decade 1/3 of urban area growth has been warehouses

Major pollutants are from **transportation**, particularly heavy-duty vehicles and port activity, as well as industrial activities, agricultural, and natural events (e.g., wildfire)

- Dense urban areas, warehousing districts, and areas near transportation corridors are in the top 20% of exposure to diesel particulate emissions and are also more likely to be classified as disadvantaged communities
- Ozone levels have in recent years have stopped their trend of improving

Rise in **extreme heat events** will likely lead to increased **drought** and increased frequency of **wildfire**

- Increased risk of degraded air quality, negative impact on water systems, post-fire rains triggering debris flow, negative impact on agriculture

Environment – Methods

- Data analysis
  - CARB air quality data
  - USDA soil survey data
  - California Department of Conservation Farmland Mapping and Monitoring Program data
  - Cal-Adapt data

- 8+ primary research interviews with government officials and environment experts

- 15+ secondary research of academic literature, regional reports, and other white papers

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Environment – Air Quality

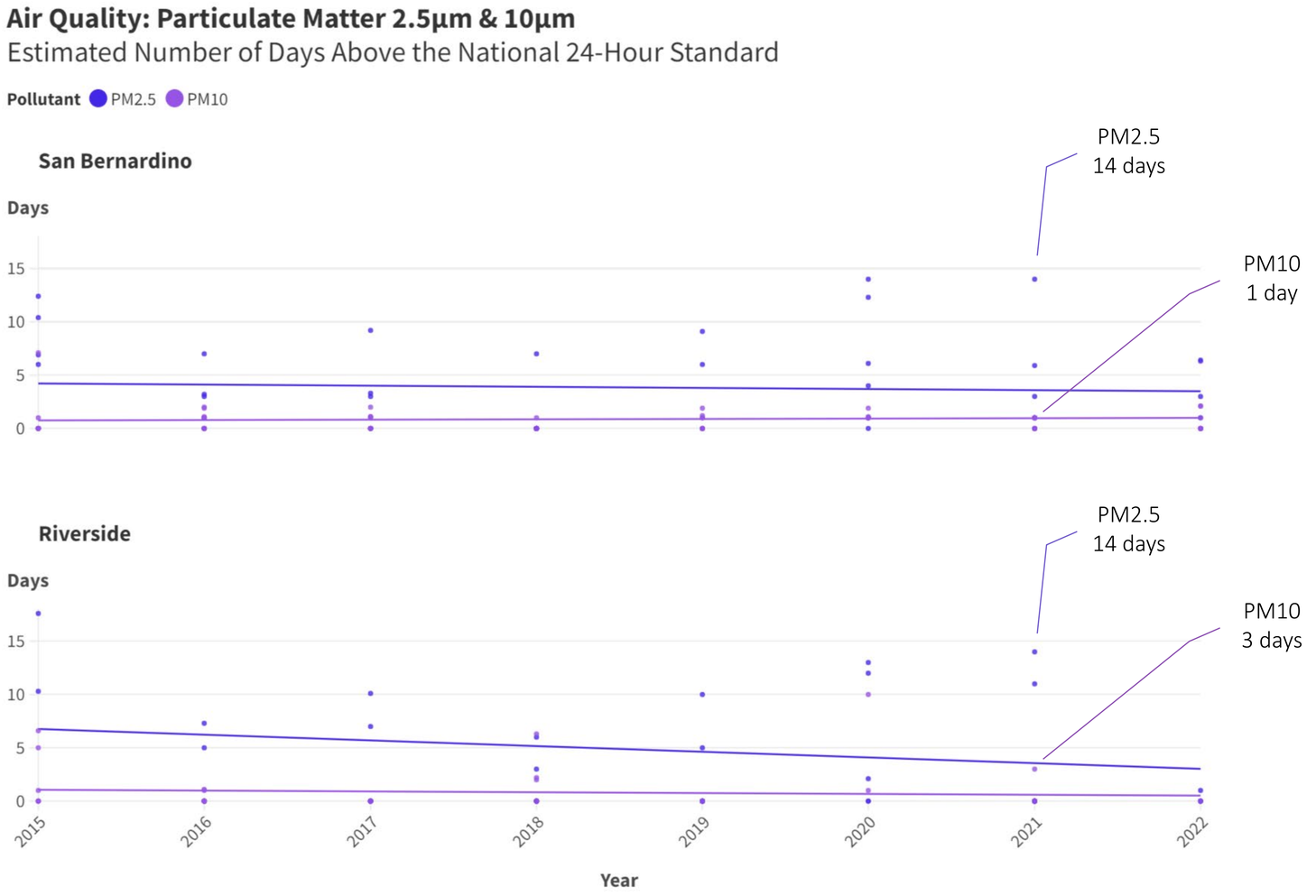
Inland SoCal primary **air pollutants**:

- Ozone
- Particulate matter (both PM10 and PM2.5)
- Nitrogen dioxide (NO2)
- Sulfur dioxide (SO2)
- Carbon monoxide (CO)

Inconsistent air quality **monitoring** makes it difficult to assess true pollution burden

In recent years, **ozone levels have stalled or worsened** trends in specific areas, signaling need for more robust interventions

Rise in **temperatures** and continued **poor air quality** (PM2.5, PM10, ozone) compound **public health risks**



Source: California Air Resources Board (CARB) Select 8 Summary

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How CSE-administered Programs and Community Outreach Help Inland SoCal

CSE's Impact via Programs & Outreach

Nationally, the **programs CSE administers** will reduce nearly **13 million metric tons** of carbon dioxide equivalent over lifetime of programs

- Equivalent of saving emissions from driving a gasoline-powered car around the Earth 1.3 million times

Within Inland SoCal, CSE administers key programs that help decarbonize transportation and buildings

- Electric vehicle rebates: CVRP, SCE Pre-Owned Electric Vehicle
- Electric vehicle infrastructure incentives: CALeVIP
- Distributed energy: SOMAH

We partner and fund CBOs that work in the Inland SoCal communities to create capacity building for the CBO organizations and provide tools and training for the CBOs to have strong outreach and engagement with our community members

In SoCal, CSE supports tribal climate action plans, workforce development, and CBO capacity building

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CARB Electric Vehicle Programs 2010-2024

CARB EV rebate statistics in Riverside and San Bernardino counties

https://calzevinsights.org/

Inland SoCal EV buyers benefited from California Air Resources Board (CARB) incentives over past 14 years

- Over $102.6M in incentives for Inland SoCal EV buyers
- 26.5% of incentives to DAC/LIC residents
- 95% of incentives from CVRP

Disadvantaged communities (DAC) as determined by CalEnviroScreen 4.0 refers to the areas throughout California which most suffer from a combination of economic, health, and environmental burdens. These burdens include poverty, high unemployment, air and water pollution, presence of hazardous wastes as well as high incidence of asthma and heart disease.

Low-income communities (LIC) and households are defined as the census tracts and households, respectively, that are either at or below 80 percent of the statewide median income, or at or below the threshold designated as low-income by the California Department of Housing and Community Development's (HCD) Annual State Income Limits

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SCE Pre-Owned EV Rebate Program

Provides post-purchase incentives on used EVs purchased through individuals or dealerships

- $1,000 – standard
- $4,000 – Rebate Plus (income qualified)

Application must be submitted within 180 days from purchase

- Must be a SCE customer to qualify
- For more information please visit: https://evrebates.sce.com/

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SOUTHERN CALIFORNIA EDISON®
Energy for What's Ahead℠

CALeVIP – Inland SoCal

CALeVIP provides funding for installing publicly available EV charging stations to support the rapid adoption of electric vehicles across California

CALeVIP includes project-specific equity requirements:

- First regional projects were 25% focused on low-income and disadvantaged communities
- Current program is focused 100% on equity communities

	Riverside County	San Bernardino County
L2 chargers:	200+ in progress	23 completed, 150+ in progress
DCFCs:	47 completed, 14 in progress	19 completed, 6 in progress
High-Speed DCFCs:	2 in progress (total 4 ports)	32 in progress (total 36 ports)
Funding First Offered:	DCFC in 2018 L2 in 2022 High-Speed DCFC in 2023	DCFC in 2018 L2 in 2022 High-Speed DCFC in 2023

CALeVIP funded the Level 2 chargers at this Multifamily Housing in San Bernardino

CALeVIP funded chargers at San Bernardino Valley College

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SOMAH Benefits to the Community

SOMAH is dedicated to equity through a community-based approach that amplifies the voices of those most burdened by social and environmental factors and ensures the program listens to and is responsive to the communities it serves

Incentivize solar adoption on multifamily affordable housing

Install **300 megawatts** of generation capacity **by 2032**

Benefit **owners and tenants**

Increase energy efficiency + **offset emissions**

Creates **local jobs**

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SOMAH

SOMAH - A Commitment to Equity

Energy and Environmental Justice are in SOMAH's DNA

Created largely by the advocacy efforts of environmental justice groups and funded by greenhouse gas auction proceeds through California's Cap-and-Trade Program, SOMAH's work to expand clean energy access to low-income and environmental justice communities in particular has clear restorative and environmental justice implications

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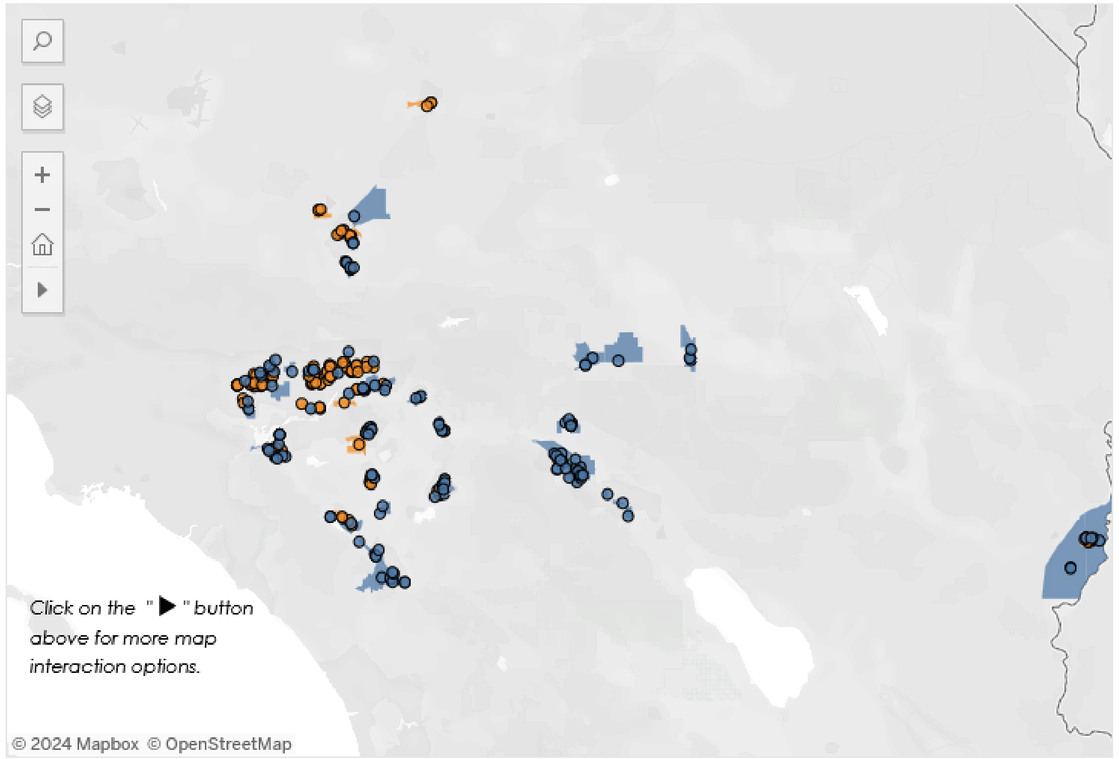
SOMAH

SOMAH Eligible Inland SoCal Properties

Property Locations by DAC Status



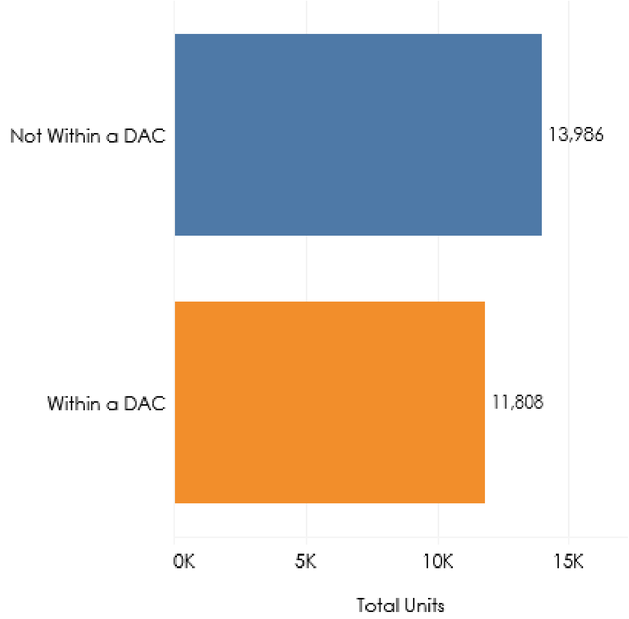
The **Property Locations by [1] Disadvantaged Community Status** map displays the location of properties eligible for the SOMAH program. The color shows details about Disadvantaged Community (DAC) Census Tracts, which are defined based on CalEnviroScreen 4.0 criteria.

Eligible Property Summary

Total Properties: **290**

Active SOMAH Properties: **53 (18%)**

Total Units by DAC Status



This chart shows the number of affordable housing units by disadvantaged community status.

Data on properties with active SOMAH applications updated as of 1/4/2024
Data on likely eligible properties updated as of 10/1/2023

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SOMAH

Thrive Inland SoCal

THRIVE Inland SoCal

Mission: To build an equitable and inclusive region where all residents have a say in shaping our collective economic future and addressing historical inequities.

Vision: Our collaborative envisions an Inland Region where everyone, regardless of background or circumstance, has access to the resources and opportunities necessary to thrive.

Inland Empire
LABOR
INSTITUTE

IEGO
Inland Economic
GROWTH &
OPPORTUNITY

- The Inland Empire Labor Institute and the Inland Economic Growth and Opportunity are the Co-Conveners of the Inland Empire Region CA Jobs First Initiative.

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➔ *Where did CA Jobs First come from?*

- 2021 American Rescue Plan Act Coronavirus Fiscal Recovery Fund of 2021
- 2022 SB 115 - One-time state general funds

➔ *What is the purpose?*

- To support equitable, sustainable, inclusive and low-carbon economic development
- To support new plans and strategies to diversify local economies
- Develop sustainable industries
- Create high-quality and accessible jobs for all

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Thrive Inland SoCal Subregional Tables

Six Subregional Tables:

High Desert

- Inland Coalition for Immigrant Justice

Western San Bernardino

- Reach Out

Greater San Bernardino

- San Bernardino Superintendent of Schools

Greater Riverside

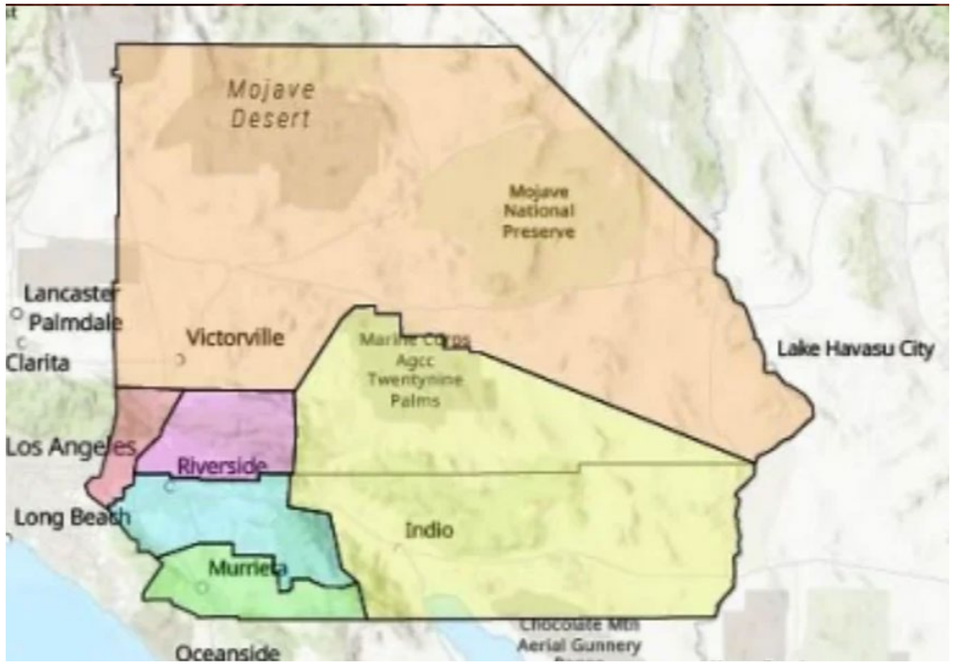
- Amplify Communities – National Core

Southwest Riverside

- The Economic Development Coalition

Coachella Valley

- International Brotherhood of Electrical Workers, Local 440



Invited to Join:

- Labor
- Business
- Community Government
- Indigenous communities
- Economic Development
- Philanthropy
- Education
- Workforce
- Community Organizations
- Grassroot Organizations
- Youth
- Residents

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Questions & Answers

What questions do you have about CSE's work or about Thrive Inland SoCal?

What organizations do a good job of supporting environmental justice in Inland SoCal?

How to Get Involved

1. Attend Thrive Inland SoCal subregional table meetings in April – June 2024 https://www.thriveinlandsocal.org/

2. Follow CSE
   - Thought leadership https://energycenter.org/thought-leadership
   - Energy Loop Newsletter https://energycenter.org/energy-loop-newsletter

3. Investigate clean energy incentives for your community or your family
   - SCE Pre-Owned EV Program
   - SCE solar programs https://www.sce.com/residential/generating-your-own-power
   - DriveClean https://driveclean.ca.gov/

4. Become an IREN Energy Fellow https://www.iren.gov/163/Energy-Fellowship

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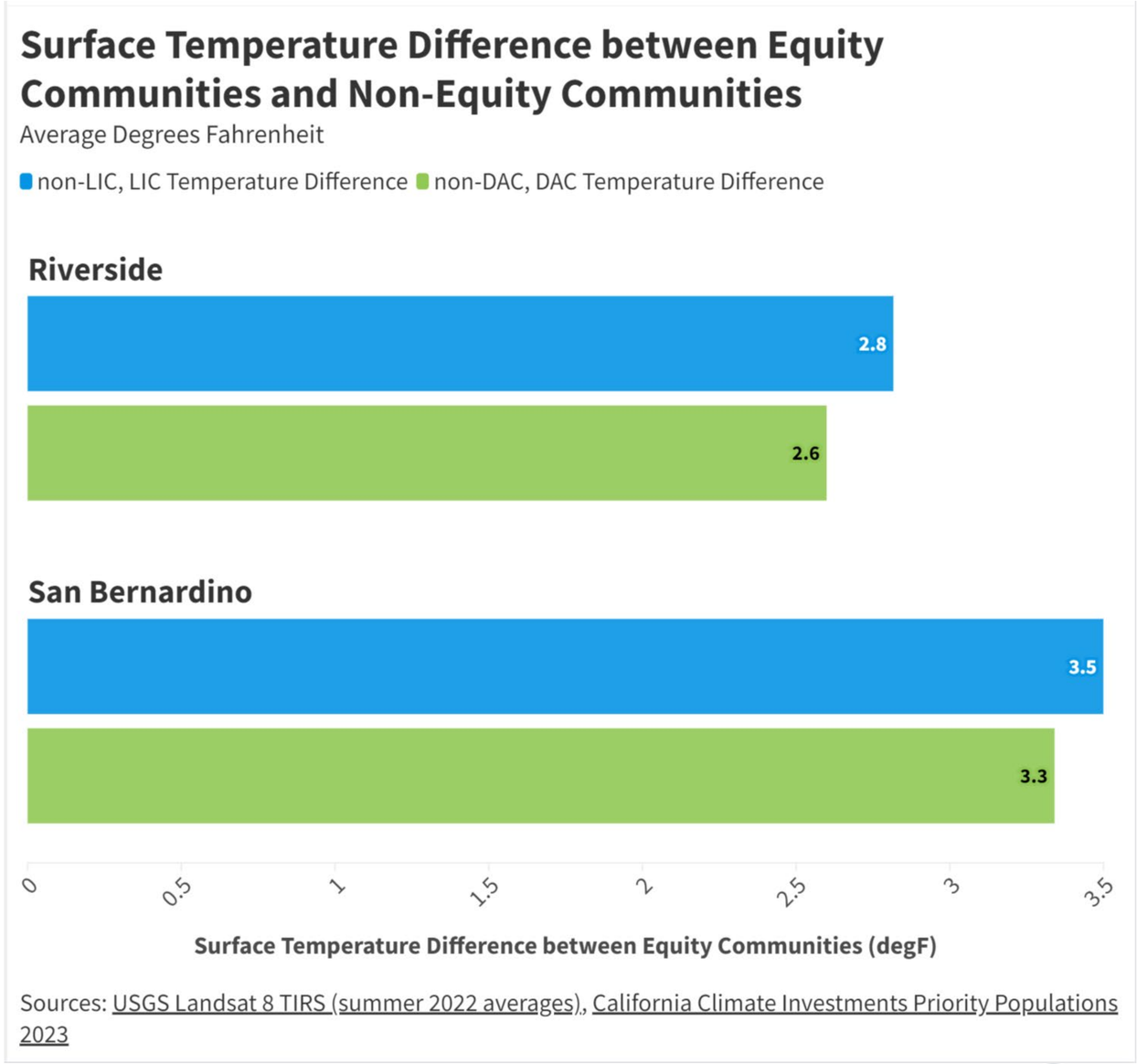
Extra Slides From Research

Climate - Temperature

- Surface temperatures are **2.6°F - 3.5°F higher in equity communities** - Disadvantaged (DAC) and low-income (LIC) communities

- LICs have a **greater magnitude of difference** than DACs
  - LICs: on average 2.8°F - 3.5°F hotter than non-LICs
  - DACs: on average 2.6°F - 3.3°F hotter than non-DACs

- Places with higher temperatures (surface & air)
  - Have lower vegetation
  - Correlated with **lower household income** & **greater** proportion of **non-white residents**



Sources: USGS Landsat 8 TIRS (summer 2022 averages), California Climate Investments Priority Populations 2023

How to read the chart:
The bars here indicate, on average, how much warmer equity communities are than non-equity communities. For example, the first bar indicates that low-income communities in Riverside are - on average - 2.8°F hotter than more well-off communities

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Climate - Precipitation

Inland SoCal precipitation projected to become **more extreme** over time

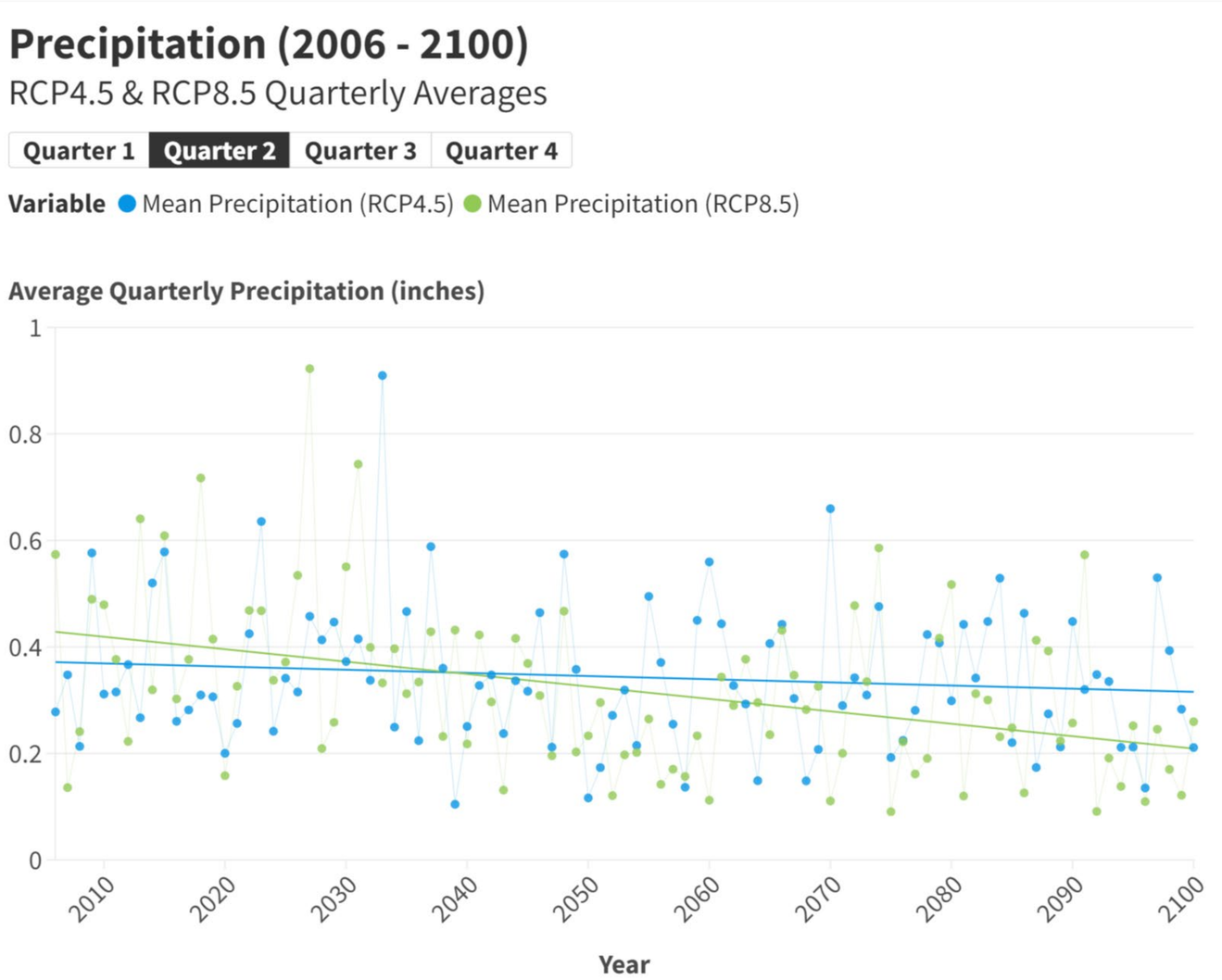
- Wet months will be wetter
- Dry months will be dryer
- Precipitation amounts in events typically seen once every 20 years could increase by over 50% by the end of the century.

Relative **humidity** projected to **decrease**

Precipitation may **decrease more** if **emissions** continue to **rise**

- For each climate variable, RCP* 8.5 has a greater magnitude than RCP 4.5

Reduced snowpack likely to lead to **more frequent water shortages** and less water available to State Water Project and other water supply systems



Source: Cal-Adapt

- RCP 4.5 & 8.5 - Representative Concentration Pathway (RCP) greenhouse gas concentration trajectories. Each pathway describes different climate change scenarios and are labeled after a possible range of radiative forcing values in the year 2100 (4.5, 8.5 W/m^2).
- RCP 4.5 is the IPCC's intermediate scenario, RCP 8.5 assumes that emissions continue to rise throughout the 21st century. Originally published in IPCC's Fifth Assessment

Climate - Mitigation

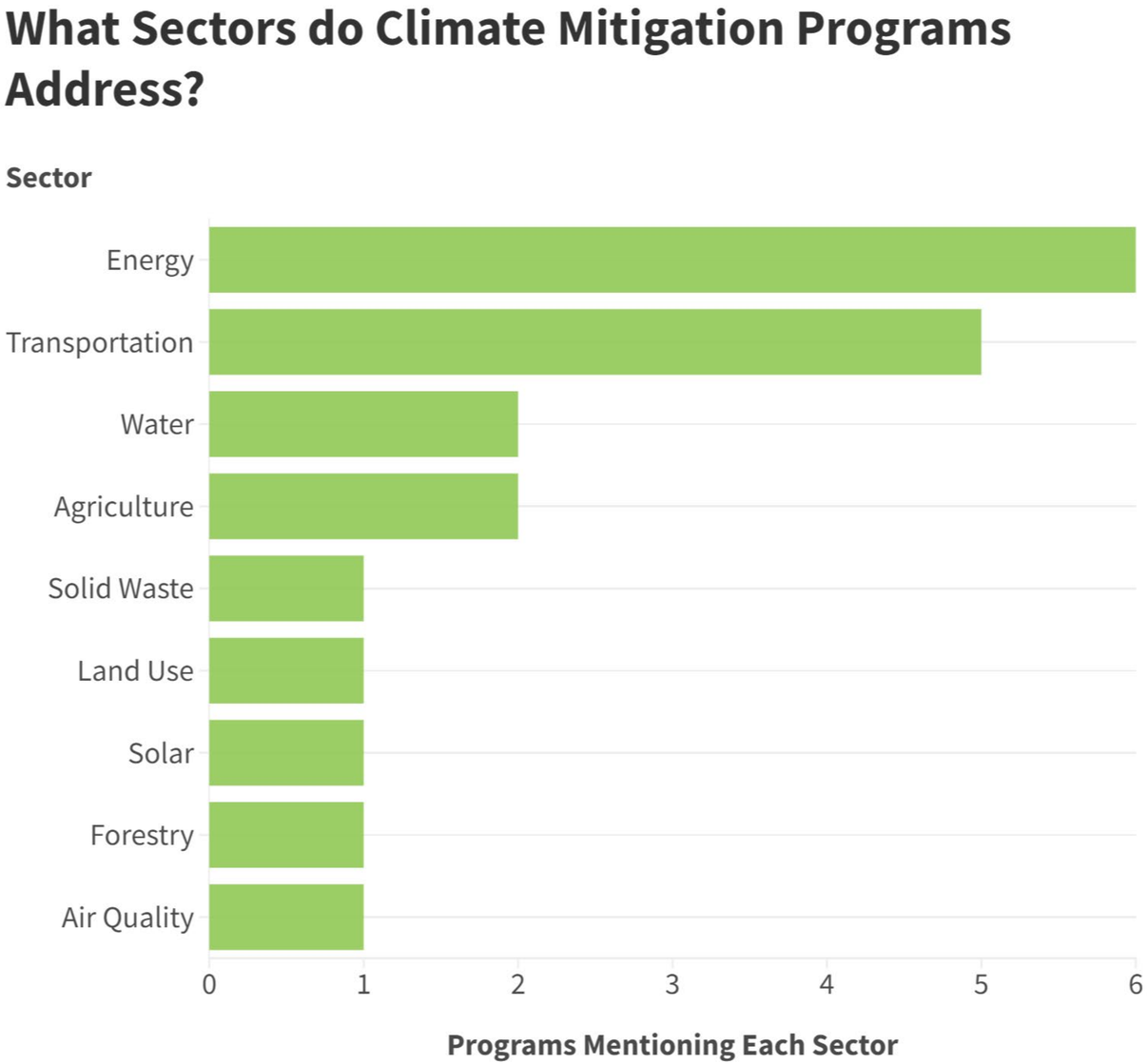
Climate mitigation **strategies** primarily target the **energy** and **transportation** sectors

- 32% of reviewed programs addressed these sectors

83% of mitigation **policies** that call out **equity communities*** in the program scope

These programs are usually **not standardized nor continued long-term**

- Results and impact are often unavailable or unqualified

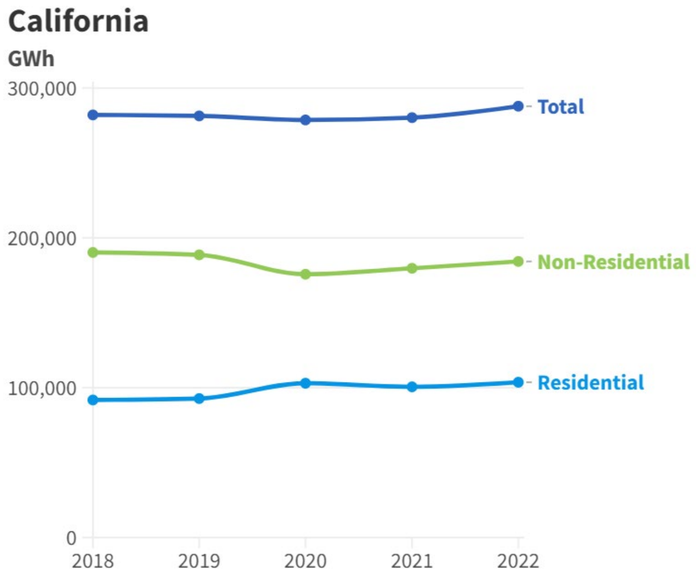


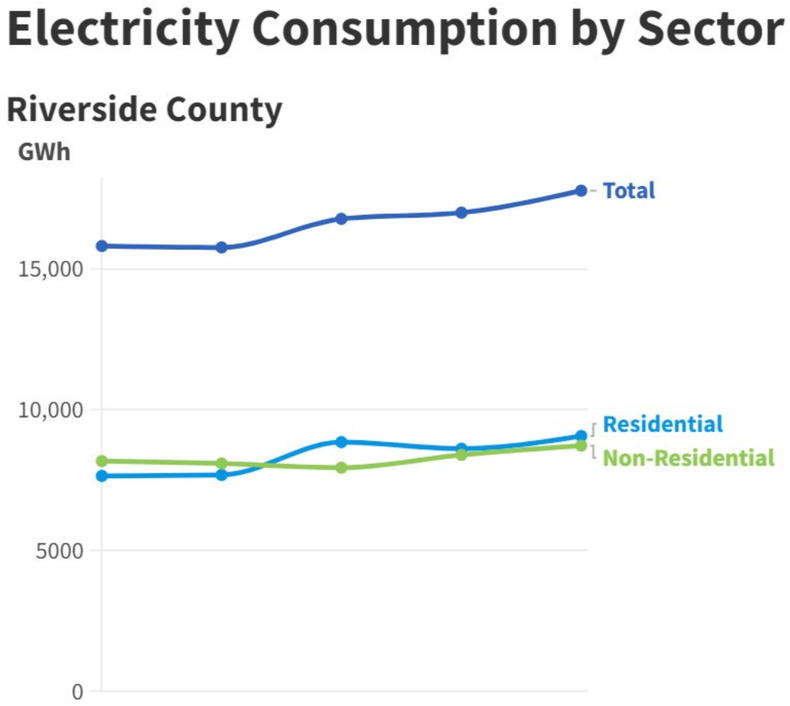
*Mitigation efforts often aim to support ethnic minorities, low-income and disadvantaged neighborhoods, long-term unhoused, labor organizations, California Native American Tribes, and workforce entities. Definitions of these groups are inconsistent and little data exists on effectiveness of mitigation programs.

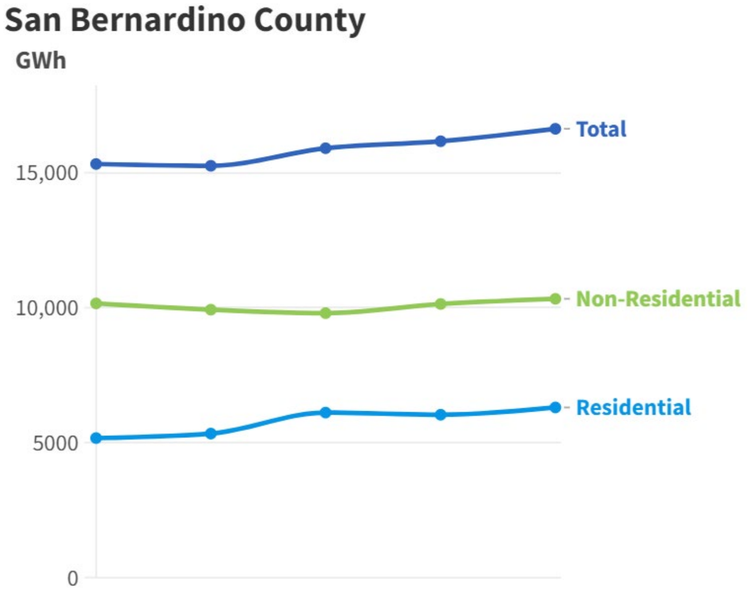
Energy - Consumption

Electricity consumption has risen over time

- In 2020, non-residential electricity consumption decreased and residential energy use increased







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Slide being updated

Energy - Hydrogen

Hydrogen Hub Announcement

- **Project sites** will be in both **Inland Region** counties
- **Cuts** up to 2 million metric tons of **carbon emissions** every year statewide
- Creates an estimated 220,000 new jobs, including 130,000 in construction and 90,000 permanent jobs statewide
- 40% of the benefits from projects will flow to disadvantaged communities

SoCal Hydrogen Hub approved on 10.13.23: https://newsroom.socalgas.com/press-release/us-department-of-energy-makes-historic-award-for-a-regional-clean-hydrogen-hub-in

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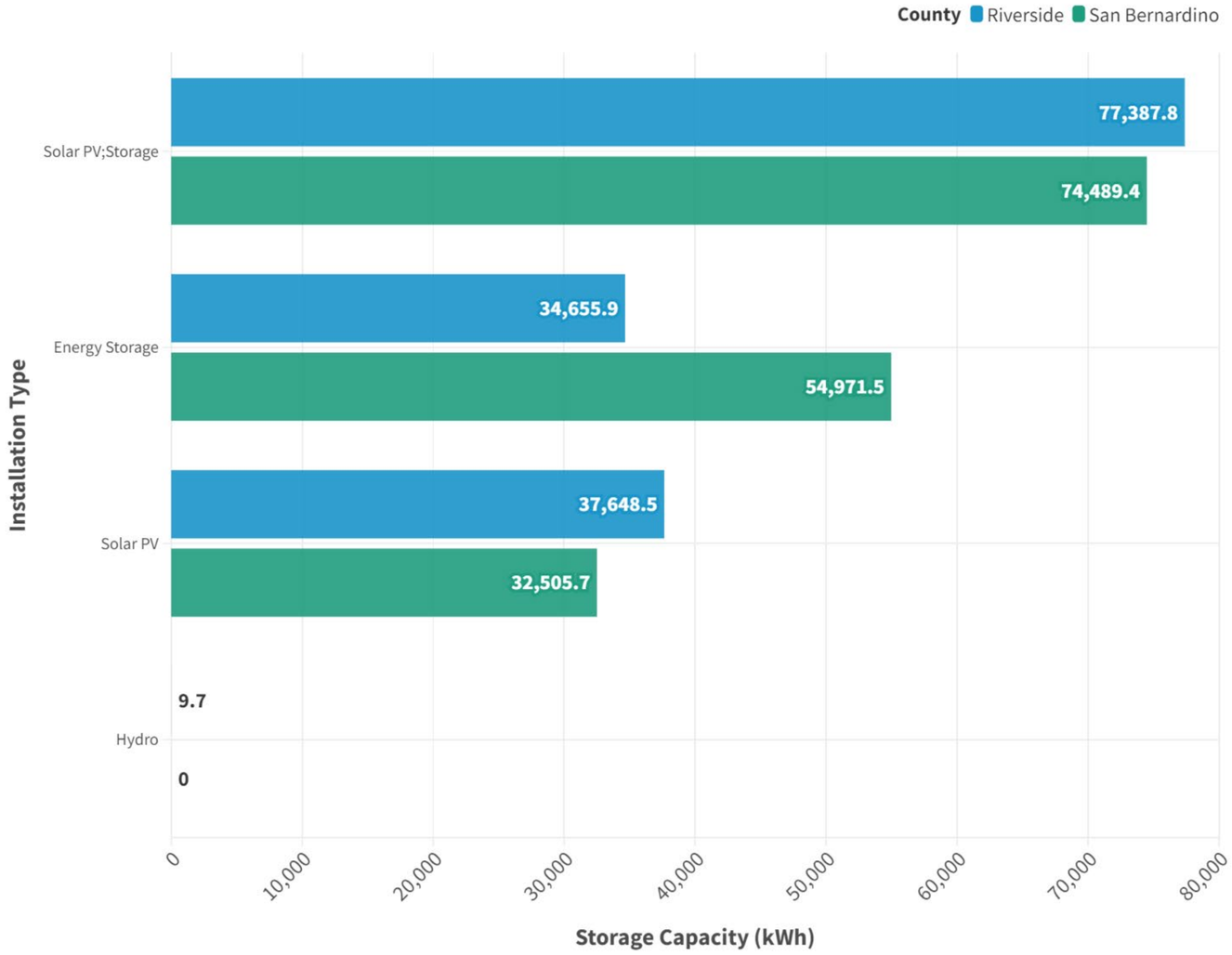
Energy Resiliency

- Distributed energy resources (DERs), such as **small-scale generation** and storage facilities (**battery storage**) pivotal to energy resilience

- **DERs** reduce reliance on centralized grids, are crucial in **managing peak load** demands, and enhance overall **grid efficiency**

- Transformation of the **Inland Empire Energy Center** into a large-scale energy storage facility and the **Crimson Energy Project**, a 350-megawatt battery storage system set to enhance regional energy reliability.

Behind the Meter Generation and Storage Installation Storage Capacity in the Inland Empire



Source: California DG Stats (2023)

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