

Regional Decarbonization Framework

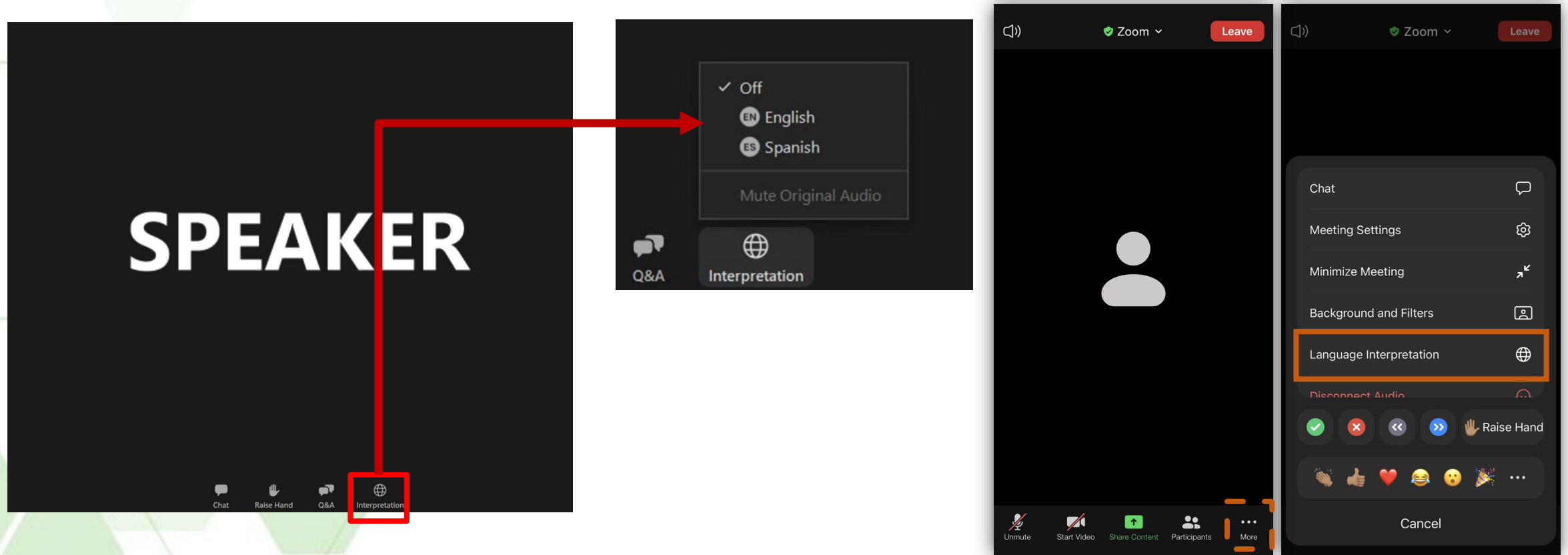
**A Collaborative Effort
to Lower the Region's
Carbon Footprint**

Community Meeting

April 19, 2022

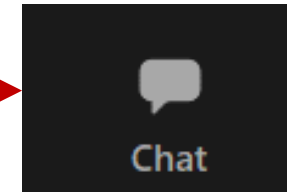
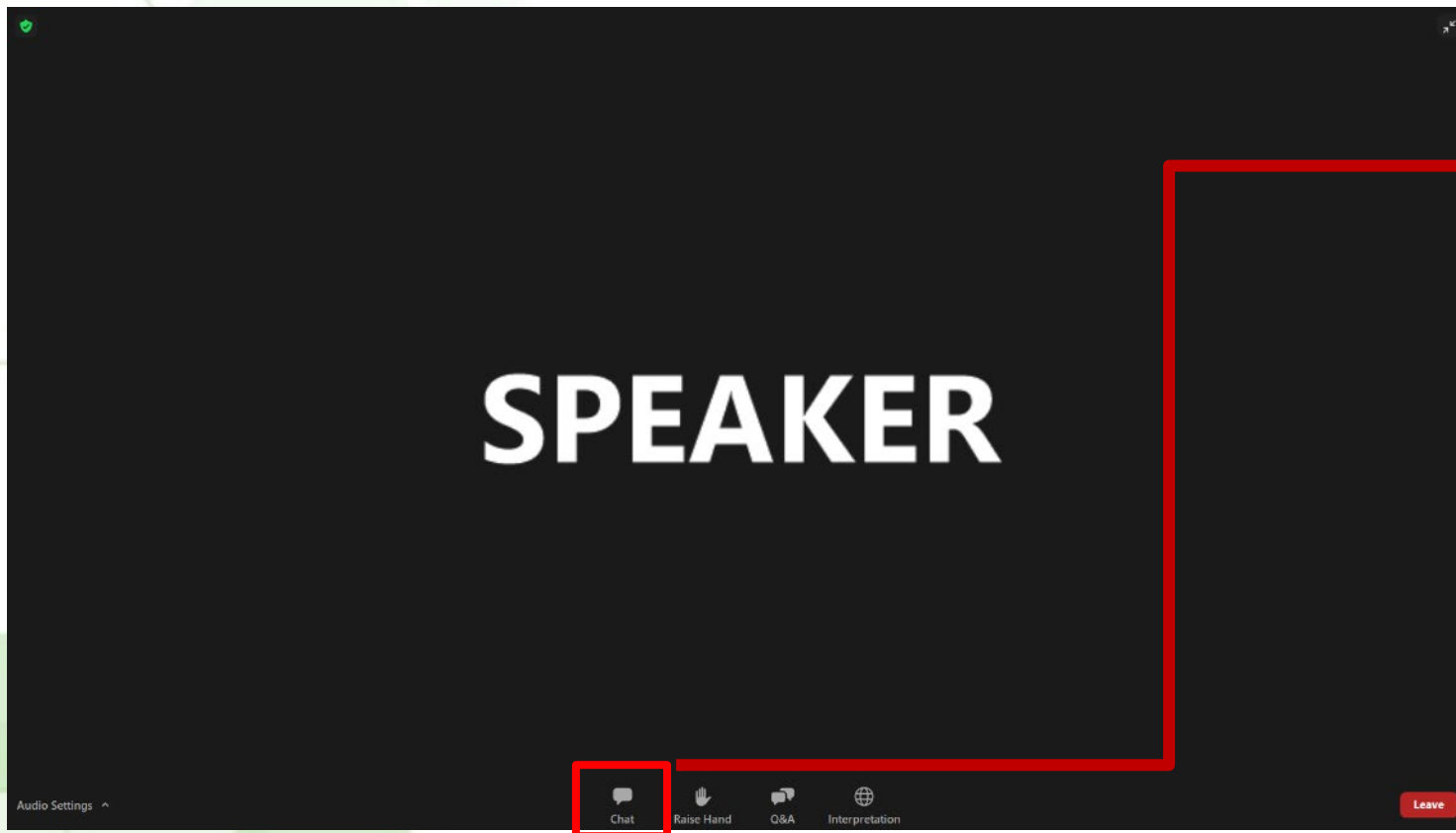


How to use Zoom // *Cómo Usar Zoom*



Please select your language of choice (you must select one option)
Debe seleccionar el idioma de su preferencia (Tiene que escoger un idioma)

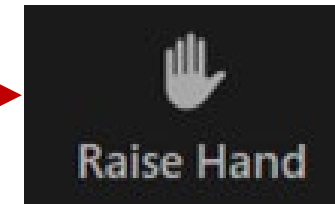
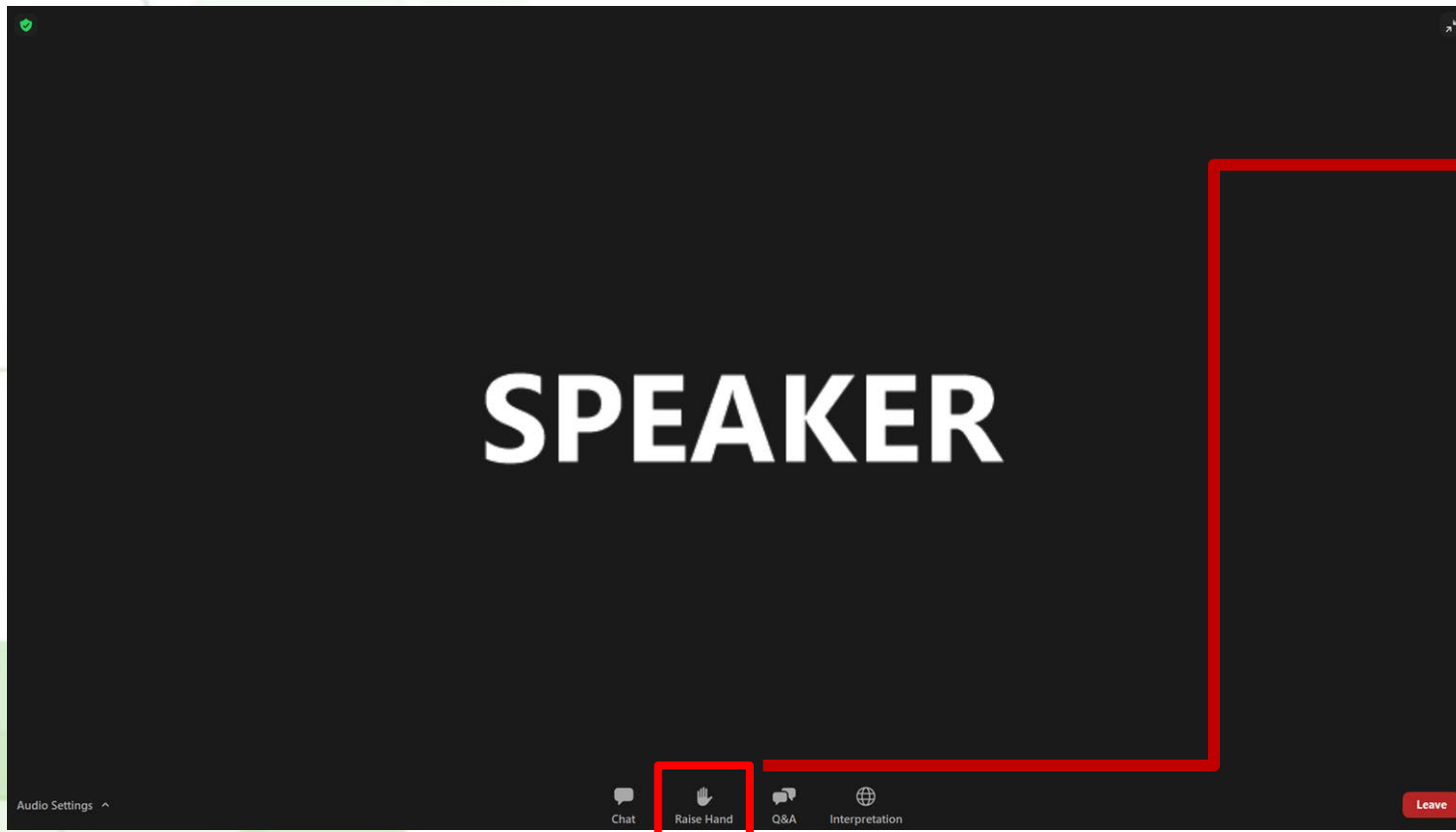
How to use Zoom // *Cómo Usar Zoom*



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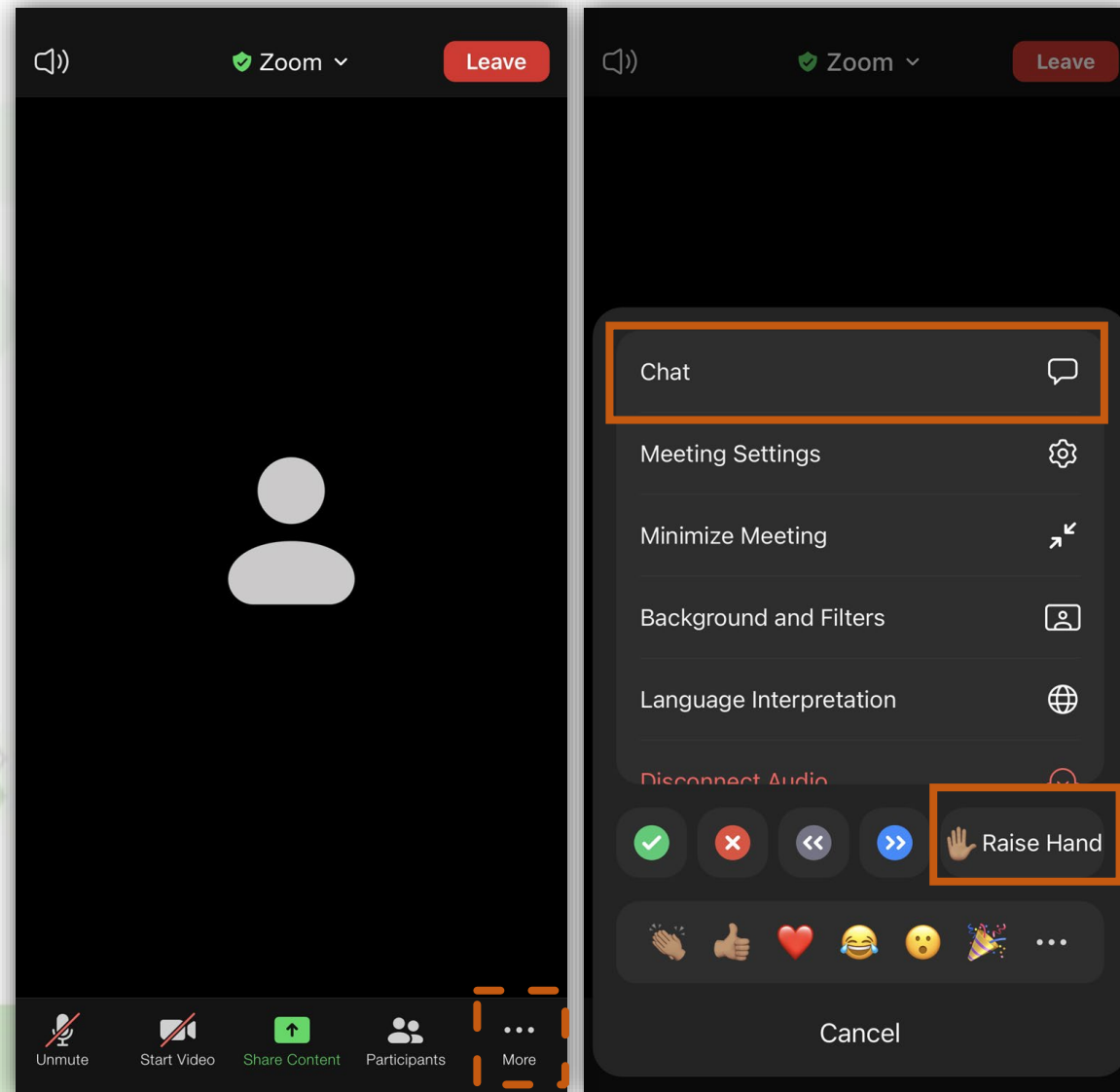
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During the discussion, if you would like to speak over the audio, please raise your hand (otherwise questions and comments can be submitted through the Chat window)

Durante el debate, si desea participar de manera oral, por favor, levante la mano (de lo contrario, las preguntas y comentarios pueden presentarse a través de la ventana de Chat)

On your Phone // *En su teléfono móvil*



Regional Decarbonization Framework

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Learning from Our Past

There is harmony between land, nature and its people. While true for all neighborhoods, one specific group of people have endured displacement from their lands, persecution, and systemic oppression and deserve special recognition today.

As we begin our journey of regional decarbonization, we acknowledge the unceded territory and homelands of the 17 tribal nations in the region – the most in any county in the United States.

Kumeyaay/Diegueño

Luißeño

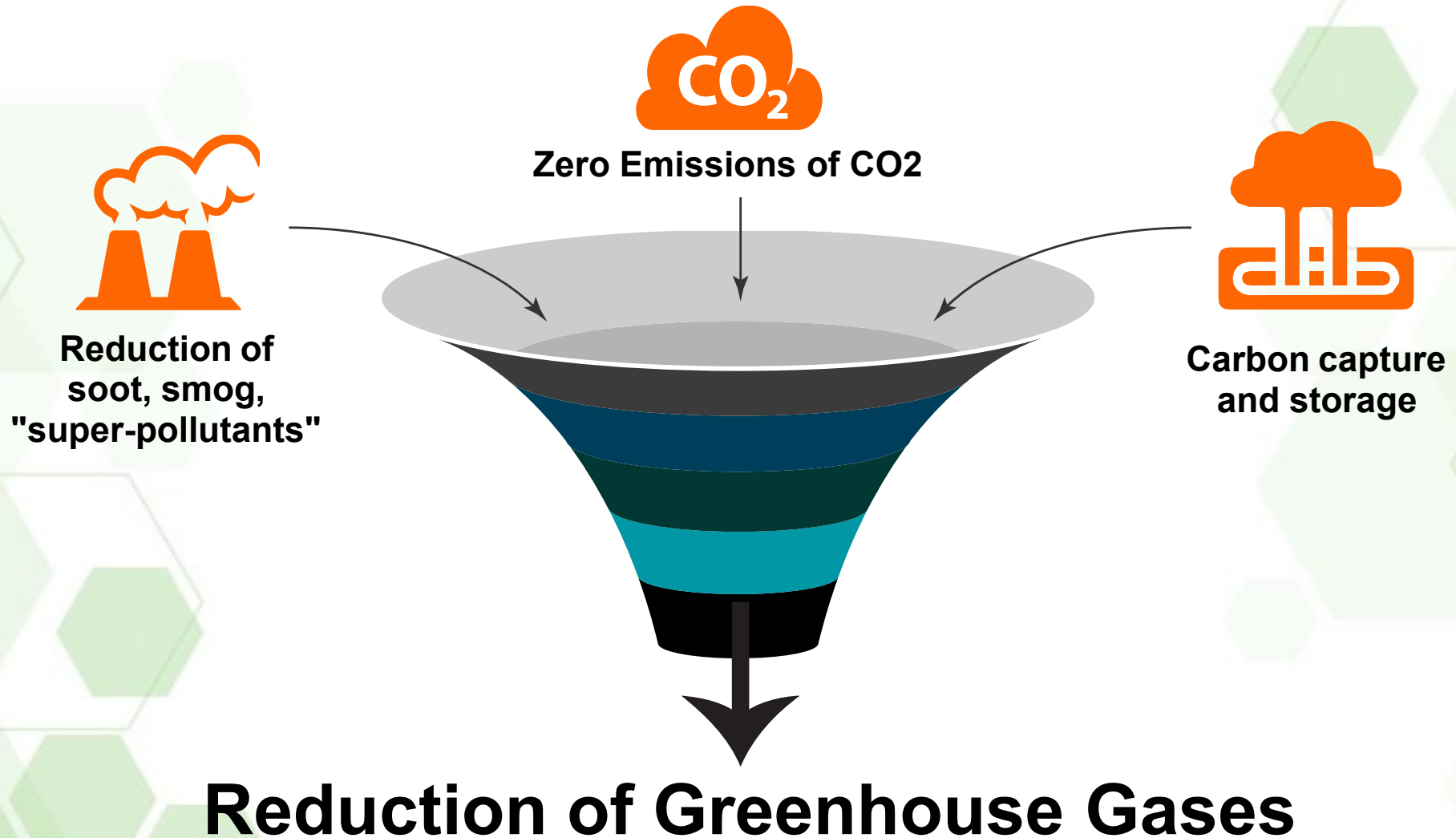
Cupeño

Cahuilla

Regional Decarbonization Framework



Decarbonization Defined



Three Guiding Principles

1

**DATA-DRIVEN
APPROACH**

2

**COMMUNITY
OUTREACH**

3

**REGIONAL
COLLABORATION**



Integrated Regional Decarbonization Framework



**Technical Report
led by UC San Diego**



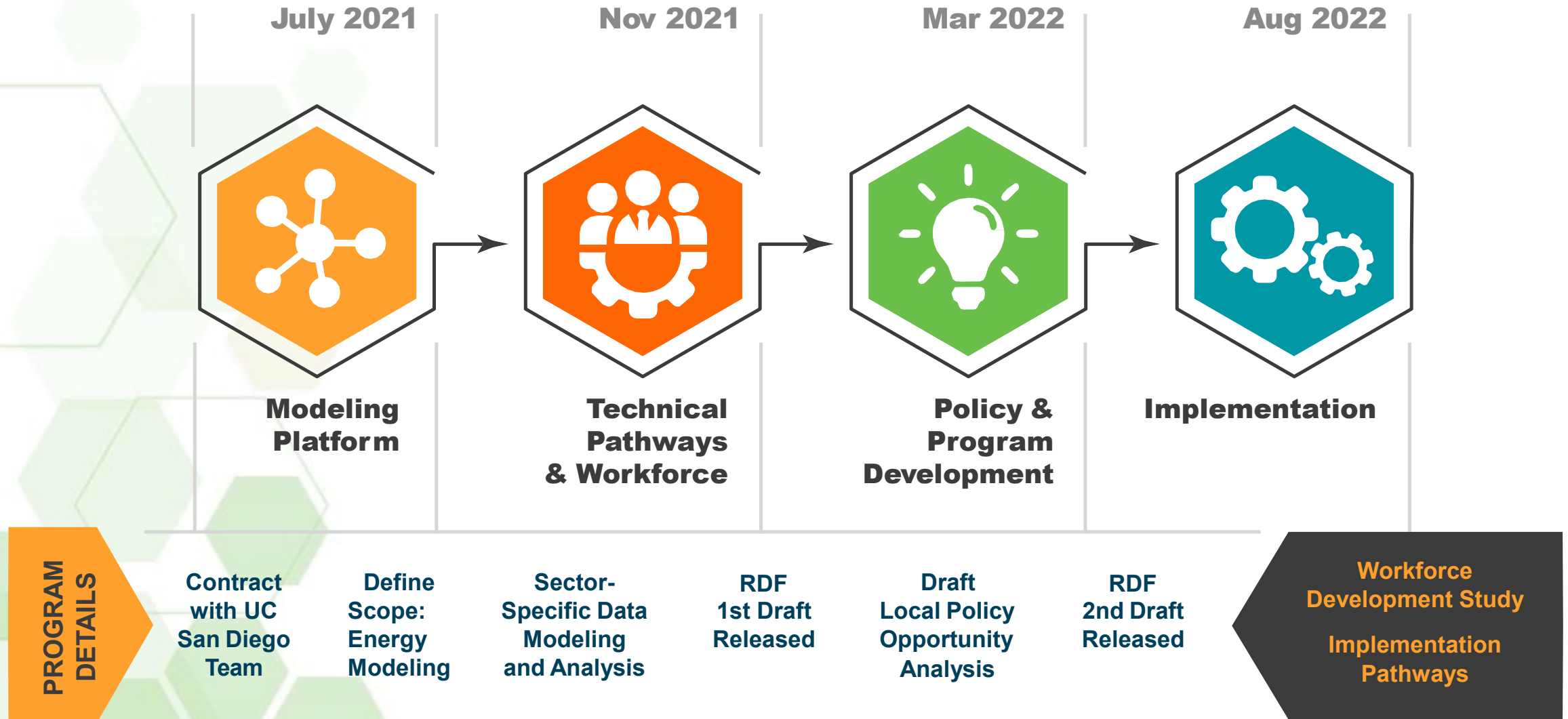
**Workforce Development
Study by Inclusive
Economics**



**Implementation
Pathways**

← The components of the
Integrated Regional Decarbonization Framework →

Timeline



Public Outreach Plan

Community Meetings



5 total:
March 24
April 19
May 17
June 28
July 26

Sector Workshops



5 total:
April 7
April 14
April 21
April 28
May 5

Speaker Series



4 depending on availability of guest speakers:
June 2
June 16
July 7
July 21

Direct Engagement Meetings & Presentations



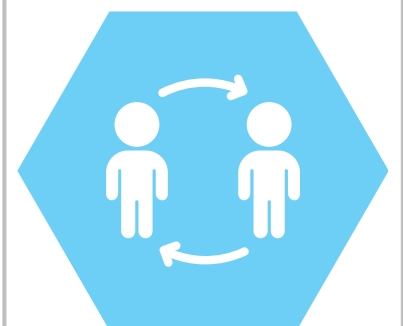
One-on-one meetings/ presentations
Ongoing through late summer

Pop-Up Community Events



Various opportunities to educate a general audience
Ongoing through late summer

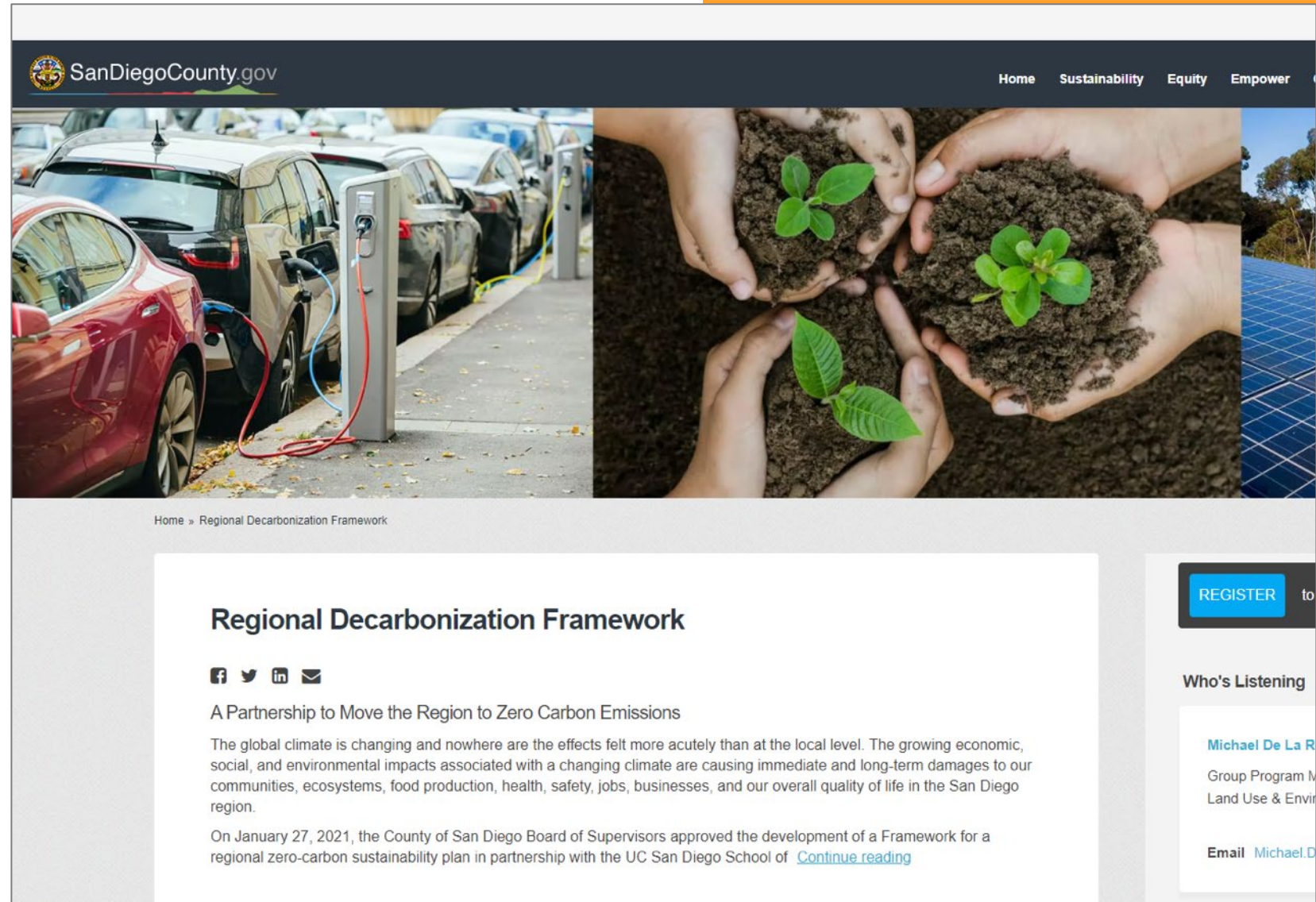
Regional Convenings for Implementation



Events with public officials and stakeholders on implementation pathways
Ongoing through late summer

New Engagement Tool

- Learn about the project, ask questions, comment directly on draft documents, and connect with the project team
- Documents available for comment through May 31, 2022



The screenshot displays the San Diego County website's 'Regional Decarbonization Framework' page. The header features the San Diego County logo and navigation links for Home, Sustainability, Equity, and Empower. Below the header is a large banner image divided into two parts: the left side shows several cars plugged into charging stations, and the right side shows hands holding soil with small green seedlings. Below the banner, the page title 'Regional Decarbonization Framework' is followed by social media icons for Facebook, Twitter, LinkedIn, and Email. The main text describes a partnership to move the region to zero carbon emissions, highlighting the global climate impact and the County's commitment. It mentions that on January 27, 2021, the County Board of Supervisors approved the development of a Framework for a regional zero-carbon sustainability plan in partnership with the UC San Diego School of Environment and Urban Planning. A 'Continue reading' link is provided at the end of the text. On the right side of the page, there is a 'REGISTER' button and a 'Who's Listening' section listing Michael De La Riva as a Group Program Manager for Land Use & Environment, with an email contact link.

SanDiegoCounty.gov

Home Sustainability Equity Empower

Home » Regional Decarbonization Framework

Regional Decarbonization Framework

[f](#) [t](#) [in](#) [✉](#)

A Partnership to Move the Region to Zero Carbon Emissions

The global climate is changing and nowhere are the effects felt more acutely than at the local level. The growing economic, social, and environmental impacts associated with a changing climate are causing immediate and long-term damages to our communities, ecosystems, food production, health, safety, jobs, businesses, and our overall quality of life in the San Diego region.

On January 27, 2021, the County of San Diego Board of Supervisors approved the development of a Framework for a regional zero-carbon sustainability plan in partnership with the UC San Diego School of [Continue reading](#)

REGISTER to

Who's Listening

Michael De La Riva
Group Program Manager
Land Use & Environment

Email [Michael.DelaRiva@sdco.net](#)

RDF Technical Report



**Montara
Mountain
Energy**



EVOLVED
ENERGY
RESEARCH



Four Decarbonization Pathways



TRANSPORTATION



BUILDINGS



ELECTRICITY



LAND USE

Key Takeaways — Decarbonization Pathways

- Geospatial analysis of energy
- Transportation
- Buildings
- Natural climate solutions



Regional Decarbonization Framework Project

Local Policy Opportunity

April 19, 2022

EPIC Contributors

- **Scott Anders, Director**
 - Decarbonize Buildings, Decarbonize Electricity Supply
- **Nilmini Silva-Send, Associate Director**
 - Decarbonize Transportation, Scenario Analysis of CAPs
- **Joe Kaatz, Staff Attorney**
 - Local Authority to Act, Natural Climate Solutions
- **Yichao Gu, Technical Policy Analyst II**
 - Scenario Analysis of CAPs
- **Marc Steele, Technical Policy Analyst II**
 - Comparative Analysis of CAPs, Natural Climate Solutions

Regional Decarbonization Technical Report

1. Study Framework
2. Geospatial Analysis of Renewable Energy Production
3. Accelerating Deep Decarbonization in the Transportation Sector
4. Natural Climate Solutions and Other Land Use Considerations
5. Decarbonization of Buildings
6. Employment Impacts through Decarbonization for the San Diego Region
7. Key Policy Considerations for the San Diego Region
8. Local Policy Opportunity
9. San Diego as a Model

Project Approach

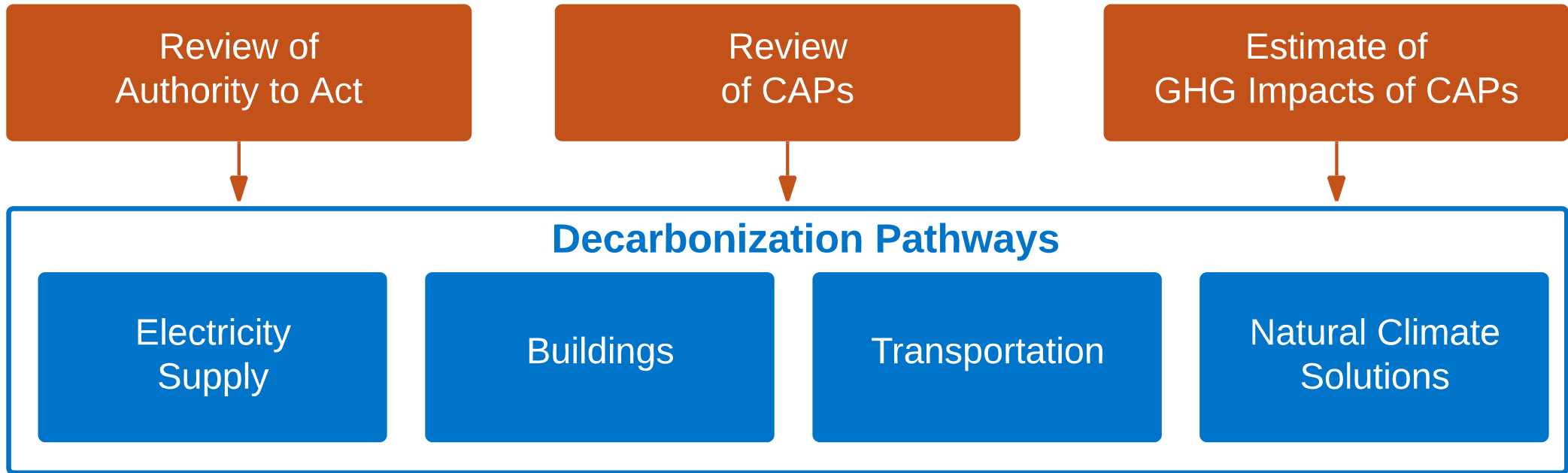
Project Approach

Review of
Authority to Act

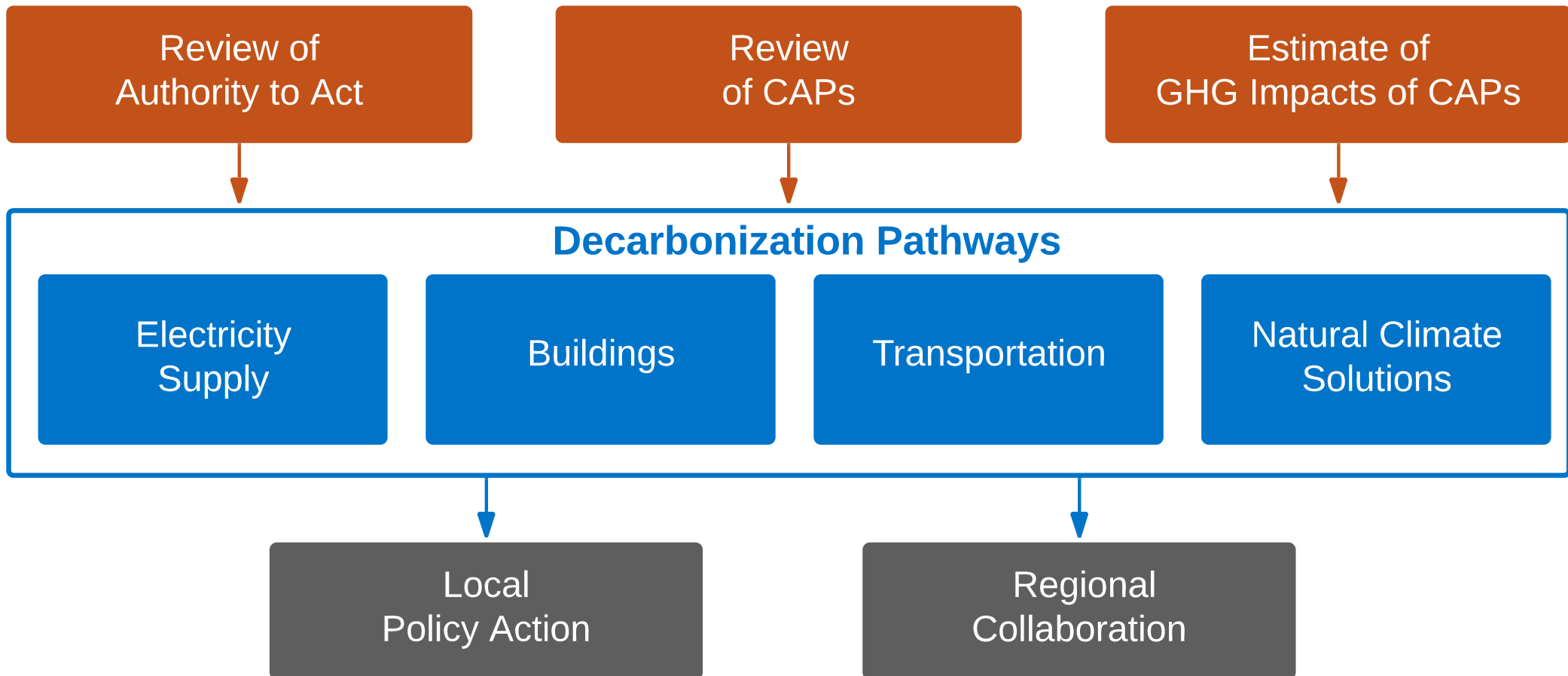
Review
of CAPs

Estimate of
GHG Impacts of CAPs

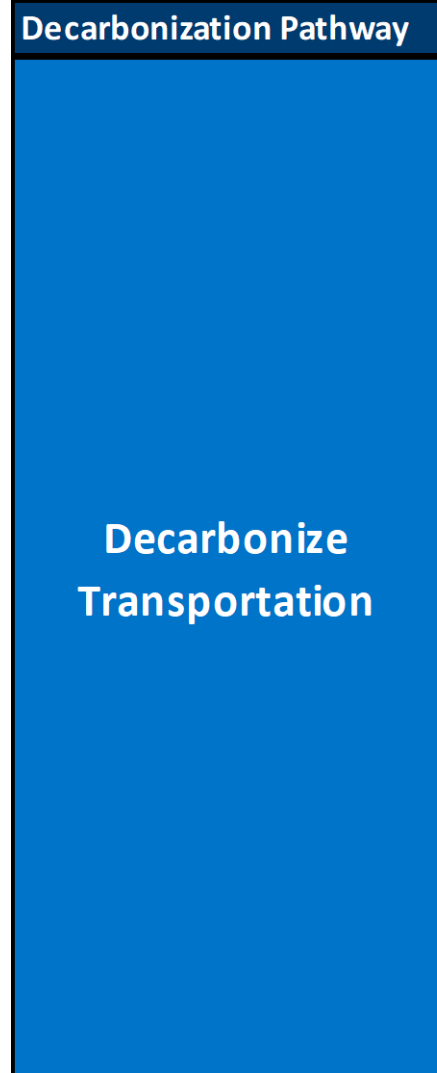
Project Approach



Project Approach



Policy Framework



Policy Framework

Decarbonization Pathway	Policy Category
Decarbonize Transportation	VMT Reductions
	Fuel Use Reductions
	Alternative Fuel Vehicles and Equipment

Policy Framework

Decarbonization Pathway	Policy Category	Policy Subcategory
Decarbonize Transportation	VMT Reductions	Bike, Walk, & Complete Streets
		Mass Transit
		Parking Reductions
		Commuter TDM
		Smart Growth Development
		Micromobility (excluding bicycles)
	Fuel Use Reductions	
	Alternative Fuel Vehicles and Equipment	

Policy Framework

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		Mass Transit
		Parking Reductions
		Commuter TDM
		Smart Growth Development
		Micromobility (excluding bicycles)
	Fuel Use Reductions	Traffic Signal Synchronization
		Traffic Calming Infrastructure
		Vehicle Retirement
		Driver Behavior
	Alternative Fuel Vehicles and Equipment	Electric Vehicles
		Low Carbon Fuel Vehicles
		Hybrid Vehicles
		Preferred Parking
		EV Charging Infrastructure
		Low Carbon Fuel Infrastructure
		Low Carbon Fuel Equipment (Off-Road)
		Electric Equipment (Off-Road)

Climate Action Plans Included

Adopted and Pending CAPs

- 14 adopted
- 1 pending
- County of San Diego 2018 CAP
- City of El Cajon Sustainability Plan

Not Included

- City of National City
 - 2011 CAP with 2020 target year
- City of San Diego 2021 CAP update
 - Draft for comment released Nov. 2021

No CAP

- City of Poway

Jurisdiction	Year Adopted	Included?
Carlsbad	2020	Y
Chula Vista	2017	Y
Coronado	Pending	Y
County of San Diego	2018*	Y
Del Mar	2016	Y
El Cajon	2020	Y
Encinitas	2020	Y
Escondido	2021	Y
Imperial Beach	2019	Y
La Mesa	2018	Y
Lemon Grove	2020	Y
National City	2011	N
Oceanside	2019	Y
Poway	N/A	N/A
San Diego	2015*	Y
San Marcos	2020	Y
Santee	2020	Y
Solana Beach	2017	Y
Vista	2021	Y

*Update in progress

Analysis of Authority

Analysis of Authority

California
Constitution

Statutes

Regulations

Agencies

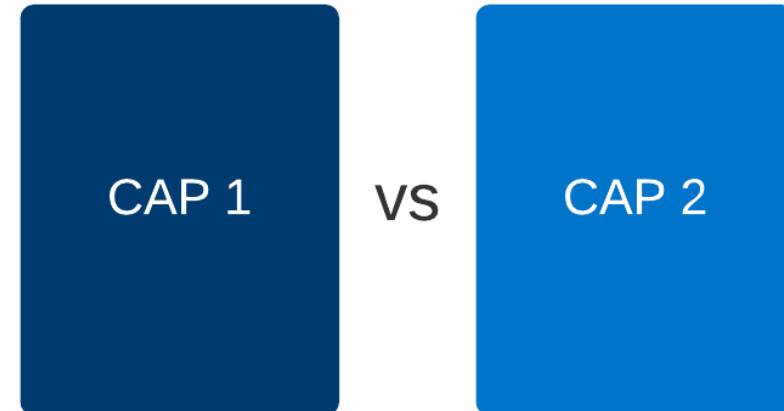
Analysis of Local Authority – Key Takeaways

- **Local Jurisdictions have Authority to Influence and Regulate GHG Emissions**
 - Broad constitutionally-derived authority related to health, safety, and general welfare
 - primacy over land use
 - Delegated authority under state or federal law
 - Some authority is subject to state and federal preemption
- **Full Extent of Constitutional Authority is Unclear**
 - Challenge against City of Berkeley's natural gas ban in 9th Circuit
- **Based on CAP Analysis, Local Jurisdictions are not Exercising Full Authority**
 - Additional opportunities exist using known authority to act locally in all pathways
 - Natural climate solutions pathway requires additional effort to develop options
- **Opportunity to Accelerate State and Federal Efforts Under Existing Authority**
 - e.g., increasing renewable electricity supplies and electric vehicle uptake

Review of Climate Action Plans

Comparative Analysis

- Used EPIC CAP Mitigation Database to Compare Across CAPs
 - Update year
 - Targets
 - Implementation mechanisms
 - e.g., requirements, education, incentives
 - Decarbonization pathways
 - electric supply, buildings, transportation
 - Policy categories and subcategories
 - How often CAP measures are used
 - GHG reductions in CAPs
 - % contribution to local CAP reduction

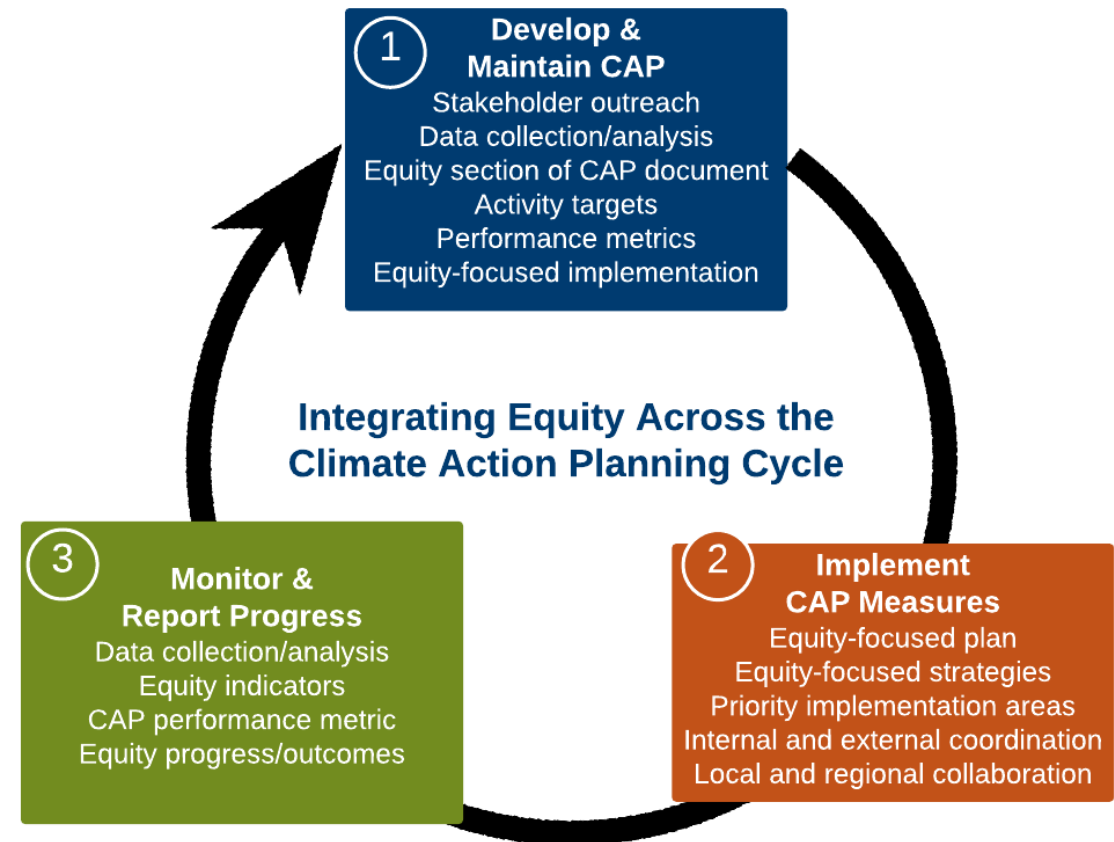


Review of Climate Action Plans – Key Takeaways

- Eight CAPs are Scheduled to be Updated between 2021 and 2025
- No Adopted or Pending CAP has a Net Zero GHG Emissions Target
- GHG Impact of Decarbonization Pathways Varies Across CAPs
- GHG Reductions in CAPs not always Proportionate to Emissions
 - Decarbonize electricity represents about 45% of reductions but 20% of emissions
 - On-road transportation represents about 28% of reductions but 45% of emissions
- CAP Measures Use a Combination of Implementation Mechanisms
 - Education, outreach, and collaboration
 - Financial incentives and financing
 - Plans or programs
 - Requirements

Review of Climate Action Plans – Key Takeaways

- **Social Equity in CAPs**
 - Limited, inconsistent, lacks specificity
 - No clear definition of “equity” in CAPs
- **Opportunities**
 - Social equity across climate planning cycle
 - e.g., shade trees
 - Regional support and guidance
 - Support for smaller jurisdictions
 - Guidance document for equity
 - Regional social equity data and indicators
 - Regular reporting on climate equity issues
 - Local and regional levels

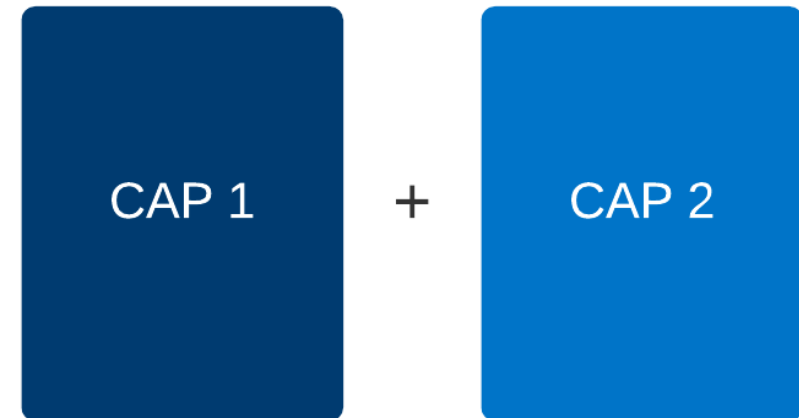


Energy Policy Initiatives Center, 2021

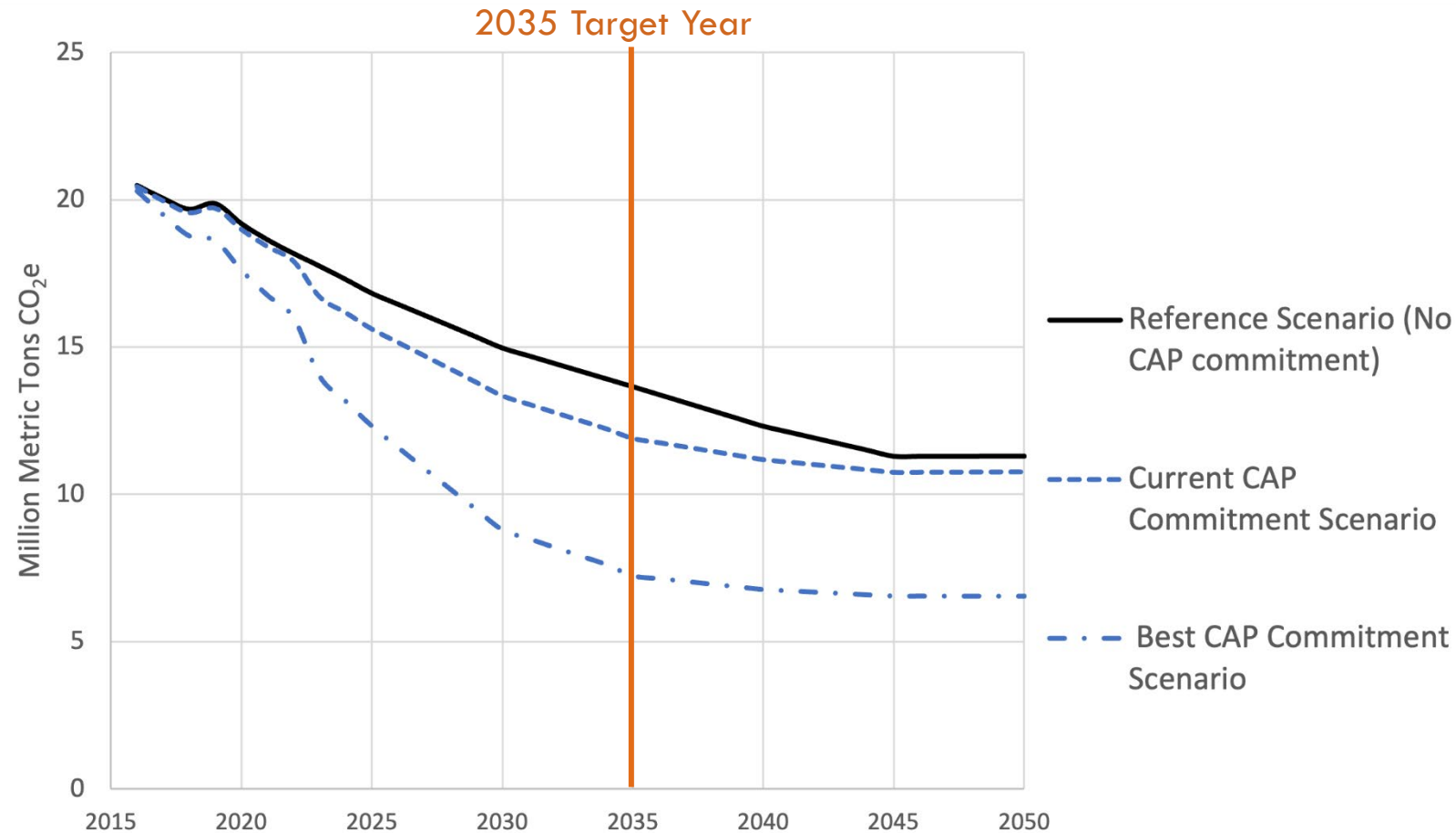
Scenario Analysis

Scenario Analysis

- **Estimates Combined GHG Reduction Impact of All CAPs**
 - Only considers GHG emissions
 - From a subset of total emissions
 - On-road transportation, electricity, natural gas
 - 80% of total regional emissions 2016
 - 90%+ of typical city and county inventories
 - Aggregated CAP commitments
 - e.g., total VMT reduction from all CAPs
 - Recalculated GHG impacts
 - Using same method across all jurisdictions
 - Avoids challenges of summing CAPs



Scenario Analysis



Projected GHG emissions from on-road transportation, electricity, and natural gas after accounting for state and federal policies in place in 2021

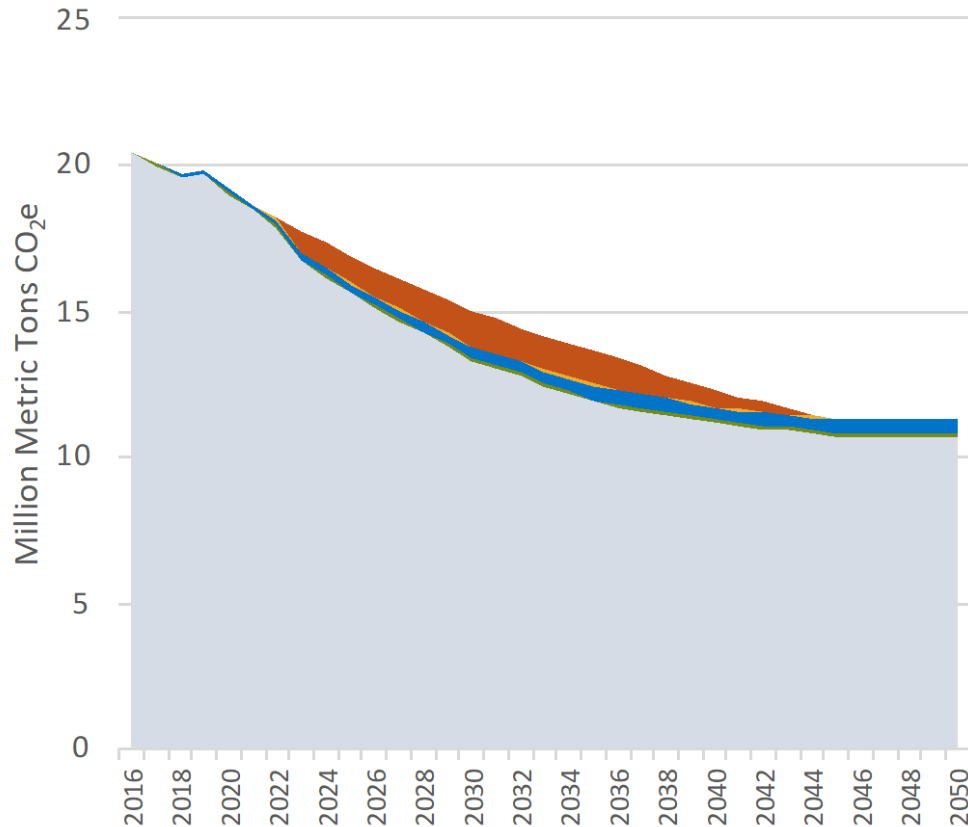
Combined GHG impact of 17 adopted and pending CAPs

Applies the most aggressive policy to all jurisdictions

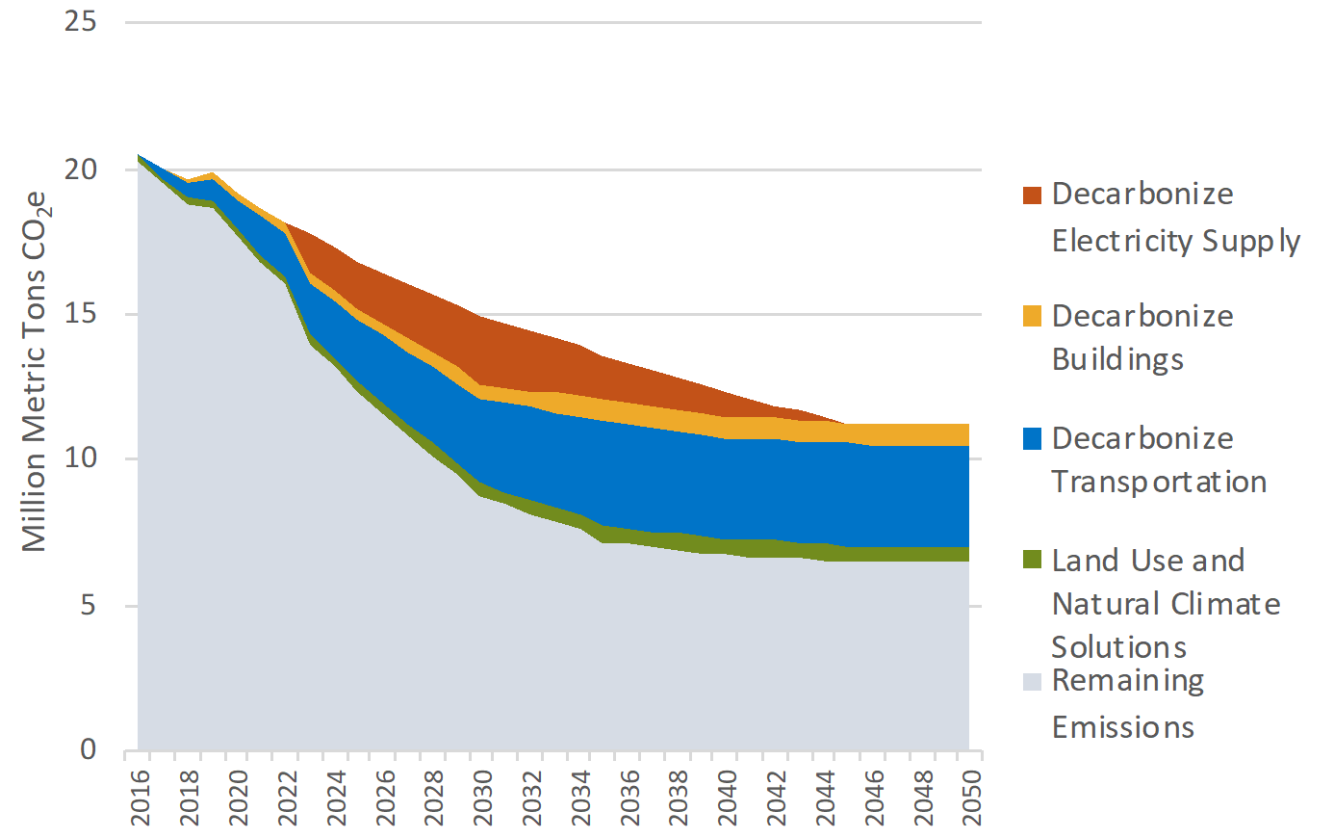
Note: This figure does not include all GHG emitting activities in San Diego Region, or future state and federal actions

Scenario Analysis – Reductions by Decarbonization Pathway

On-Road Transportation, Electric, and Natural Gas Emissions with Current CAP Commitment



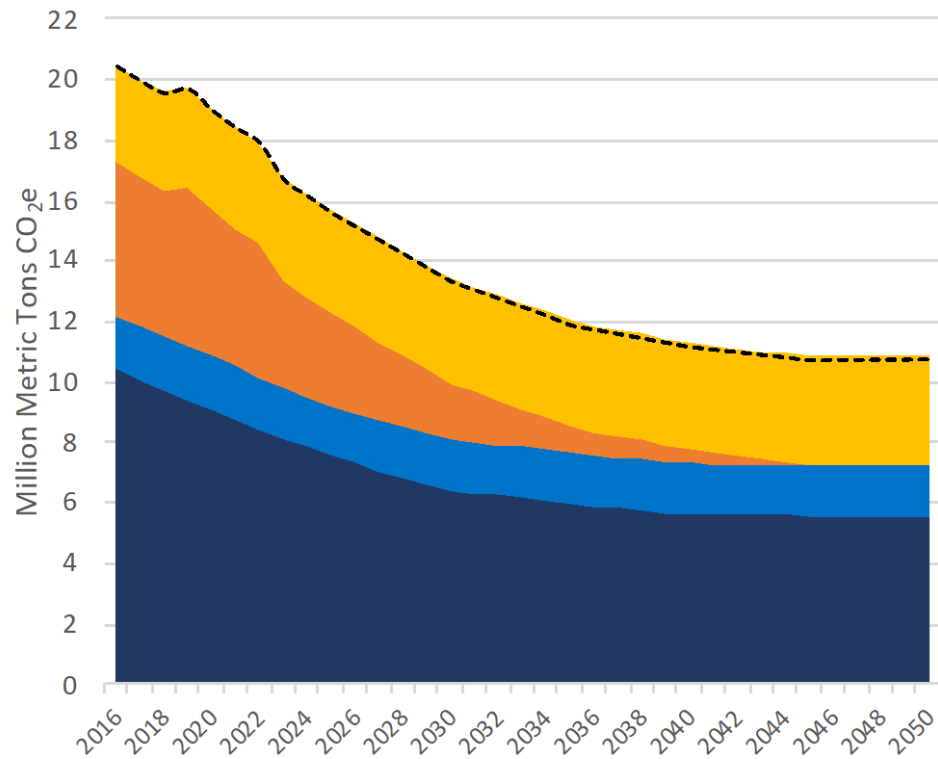
On-Road Transportation, Electric, and Natural Gas Emissions with Best CAP Commitment Applied to All Jurisdictions



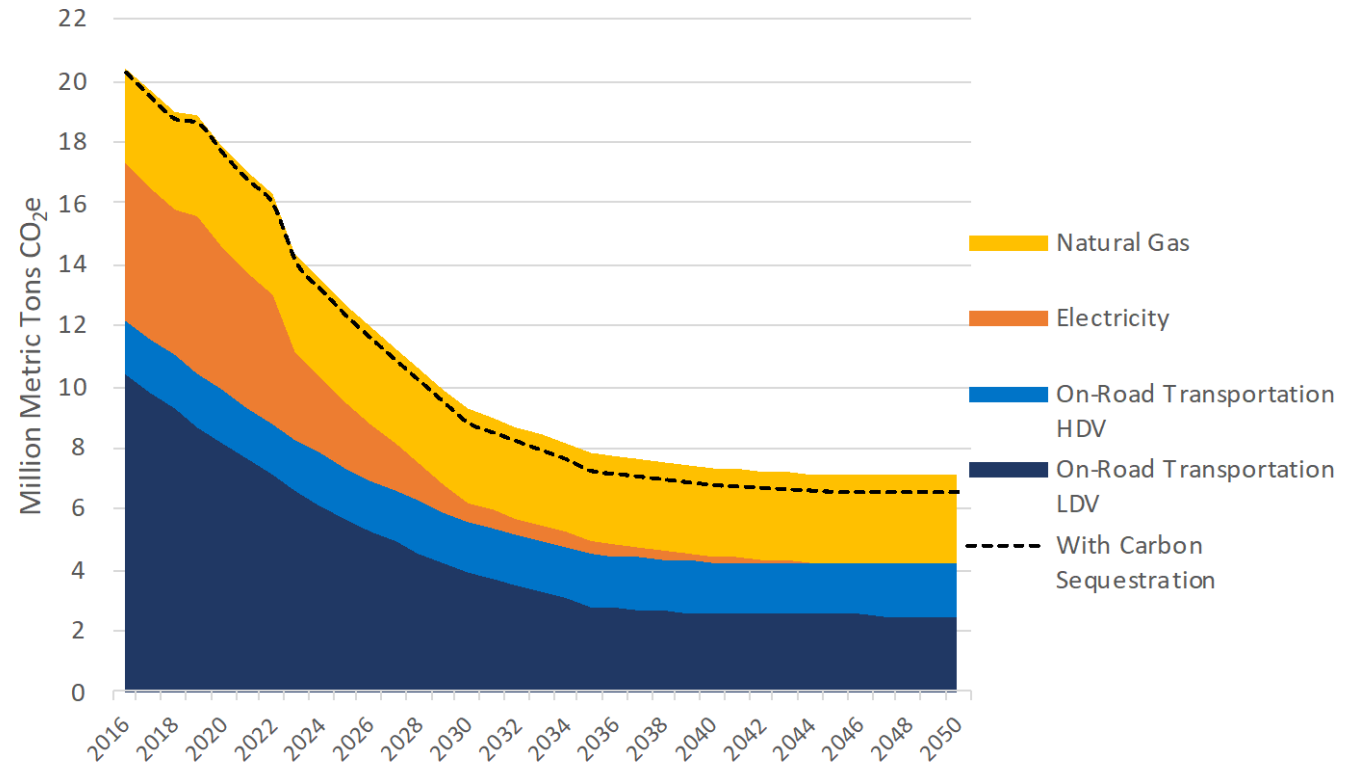
Note: These figures do not include all GHG emitting activities in San Diego Region, or future state and federal actions

Scenario Analysis – Remaining Emissions

GHG Emissions from On-road Transportation, Electricity, and Natural Gas in San Diego Region with Current CAP Commitments



GHG Emissions from On-road Transportation, Electricity, and Natural Gas in San Diego Region with Best CAP Commitment Applied to All Jurisdictions



Note: These figures do not include all GHG emitting activities in San Diego Region, or future state and federal actions

Scenario Analysis – Key Takeaways

- **Current Local CAP Commitments are not Sufficient for Deep Decarbonization Goals**
 - Transportation, electricity, and natural gas emissions only
- **CAP Measures to Decarbonize Electric Supply Reduce Most GHG Emissions**
 - Measures to increase renewable electricity to 80–100%, mainly through CCA programs
 - Early achievement of statewide goal leads to larger cumulative GHG reduction
- **Even with the Most Aggressive CAP Measures, Significant Emissions Remain**
 - Mostly from natural gas combustion and cars and trucks
 - Reducing VMT has the largest impact on GHGs in this scenario
 - Limited GHG reductions from building electrification in Best CAP Commitment Scenario
 - City of San Diego draft CAP building electrification measure would affect results

Opportunities in the Decarbonization Pathways

Decarbonize Transportation Pathway

- **Reduce Vehicles Miles Traveled**
 - Promote mass transit
 - Increase bike/walk infrastructure
 - Increase connectivity through land use changes
 - Manage transportation demand
 - e.g., density bonuses for reduced parking, voluntary trip reduction, cash out parking
- **Decrease Fuel Use**
 - Traffic calming
 - e.g., roundabouts, traffic signal synchronization
 - Anti-idling
 - Accelerate vehicle retirement

Decarbonize Transportation Pathway

- **Increase Use of Alternative Fuels and Vehicles**
 - Increase use of alternative fuel vehicles in municipal fleets
 - Assess the social equity tradeoffs between ZEVs and mass transit
 - Assess the use of LCFS funding to promote transition to lower carbon fuels
 - Develop a regional ZEV implementation plan to meet state targets
- **Regional Collaboration**
 - Assess transportation system efficiency and improvements
 - Explore expansion of regional mechanisms
 - CCAs and/or other JPAs
 - e.g., to support EV uptake, etc.
 - Increase regional cooperation to integrate social equity
 - e.g., CAPs and ZEV implementation plans

Decarbonize Buildings Pathway

- **Decarbonize New Buildings**
 - Local ordinances for energy efficiency and electrification
- **Decarbonize Existing Buildings**
 - Audits, Benchmarking, and Disclosure
 - Encourage/Require Energy Efficiency and/or Electrification
 - e.g., building performance standards
 - Retro-commissioning or building tune ups
- **Decarbonize Municipal Facilities**
- **Regional Support of Building Decarbonization**
 - e.g., policy development and implementation, technical support, regional data analysis, etc.
- **Regional Capacity and Tools to Assess Social Equity Considerations**
 - e.g., data collection, indicators, monitoring, cost implications, etc.

80% of buildings that will
exist in 2050, already exist
today

Decarbonize Electricity Supply Pathway

- **Increase Carbon-Free Grid Supply**
 - More jurisdictions can join CCA programs
 - Commit to 100% carbon-free default service option for municipal accounts and community
- **Increase Customer-Side Supply**
 - Solar requirement for new nonresidential and existing buildings
 - CCAs can encourage customer side projects via net metering, financial incentives, etc.
 - Encourage solar plus energy storage projects
- **Additional Work to Make Access to Renewable Electricity More Equitable**
 - Incentive and financing options for customer side supply projects
 - Increasing access to 100% carbon-free grid supplies
 - Communities Solar Green Tariff Program
 - Subsidizing CARE and FERA customers to opt up to 100% carbon

Natural Climate Solutions Pathway

- **Regional Analysis to Identify Suitable Tree Planting Locations**
 - Considering many factors, including social equity
- **Continue to Develop/Integrate both State/Local Research on Carbon Valuation**
 - Estimate carbon stocks and rates of removal
 - Including blue carbon
 - Integrate natural and working lands into CAPs and other land use plans
- **Identify Land for Conservation, Preservation, and Restoration Projects**
 - Collaboration with tribes, state and federal land managers, and private land owners
 - California is developing a natural and working lands project registry
- **Develop and Regularly Update a Regional Carbon Stock Inventory**
 - Integrate San Diego specific values

Regional Decarbonization Framework

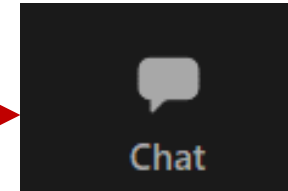
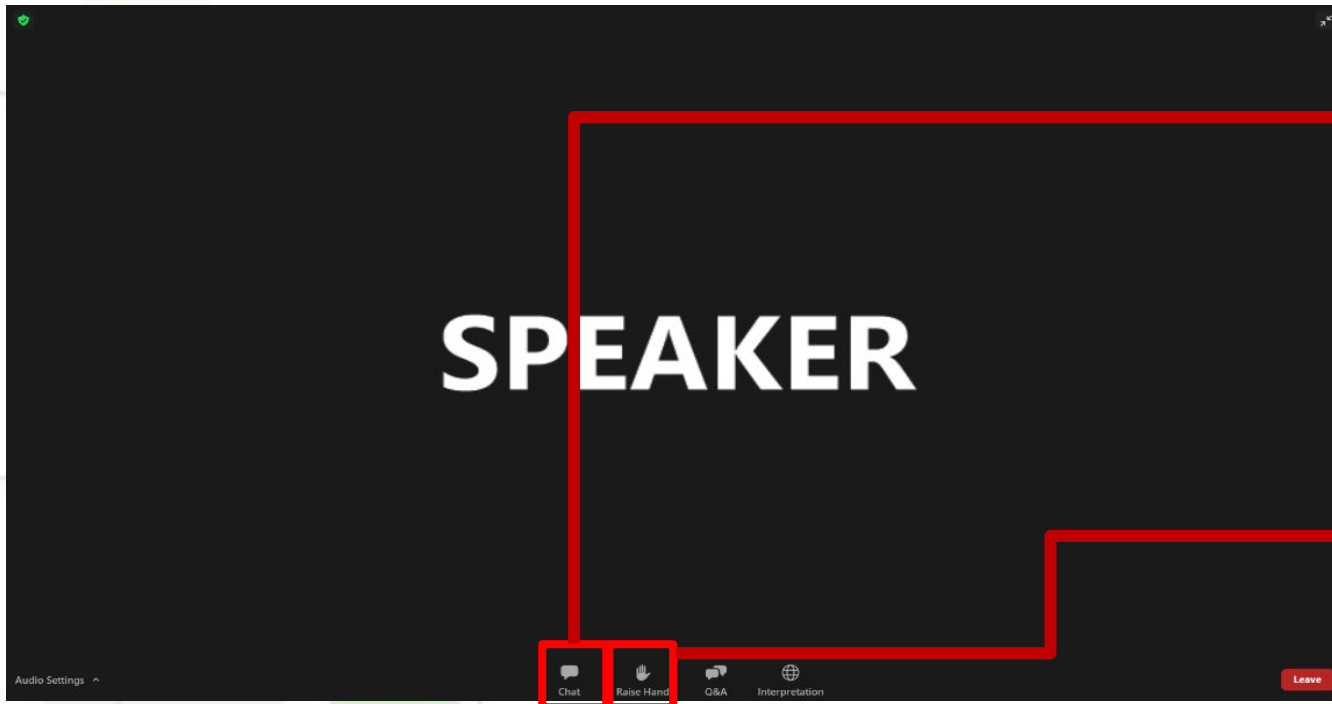
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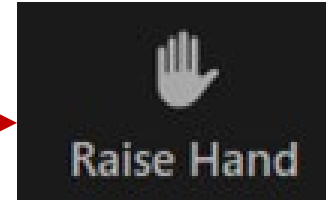


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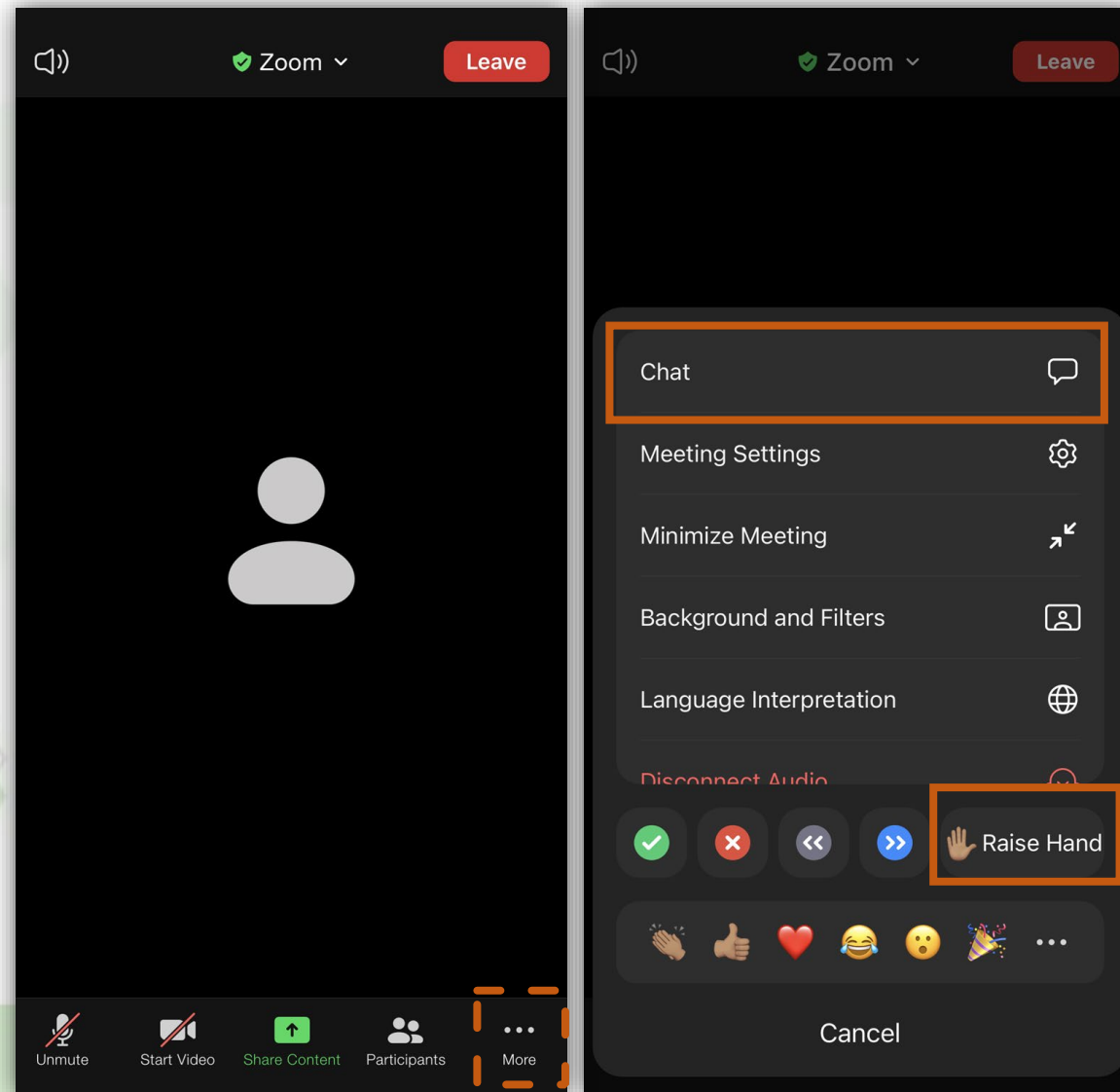
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QUESTION #1 – (ZOOM POLL AND DISCUSSION)

What building decarbonization tools are most important for local action?
(Select all that apply.)

- A. Financing
- B. Financial Incentives (e.g., rebates)
- C. Requirements (e.g., local ordinances)
- D. Education
- E. Other (please type into Zoom chat or raise hand to speak)

QUESTION #2 – (ZOOM POLL AND DISCUSSION)

Which of these is most important to advance existing building electrification?
(Choose one.)

- A. Collecting and analyzing existing building data
- B. Developing tools like mapping to inform policies and programs
- C. Expanding the amount of funding available to subsidize equipment and installation
- D. Enhancing City/County staff capacity
- E. Educating decision makers
- F. Educating the public
- G. Other (please type into Zoom chat or raise hand to speak)



QUESTION #3 – (DISCUSSION)

Do you know of other innovative approaches to decarbonizing existing buildings?
(Please type into Zoom chat or raise hand to speak)

QUESTION #4 – (ZOOM POLL AND DISCUSSION)

Where should local governments focus their attention to reduce GHG emissions in the transportation sector? (Choose one.)

- A. Increasing the number of electric vehicles
- B. Increasing EV charging infrastructure
- C. Increasing the percentage of commuters that use public transit
- D. Increasing the amount and quality of bike lanes
- E. Focus urban development and increasing housing in areas that are already developed
- F. Other (please type into Zoom chat or raise hand to speak)



QUESTION #5 – (DISCUSSION)

Do you know of other innovative approaches to decarbonize the transportation sector? (Please type into Zoom chat or raise hand to speak)

QUESTION #6 – (ZOOM POLL AND DISCUSSION)

Which of the following do you think are most important for communities of concern? (Choose one.)

- A. Shade trees
- B. Public electric vehicle chargers
- C. Financial incentives for electric vehicles
- D. Financial incentives for electric appliances
- E. Financial incentives for rooftop solar
- F. Increased renewable content electricity from the grid
- G. Reduced cost or free public transportation options
- H. Other (please type into Zoom chat or raise hand to speak)



QUESTION #7 – (DISCUSSION)

What does continuous engagement from a social equity perspective look like?
(Please type into Zoom chat or raise hand to speak)

QUESTION #8 – (DISCUSSION)

Do you have other ideas for how the RDF can ensure equity is integrated in the steps we take to reach net zero? (Please type into Zoom chat or raise hand to speak)

Next Steps

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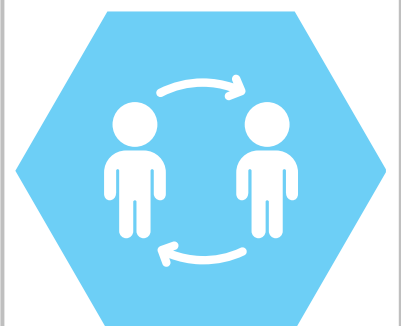
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Pop-Up Community Events



**Various
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Regional Convenings for Implementation



**Events with public
officials and
stakeholders on
implementation
pathways**
Ongoing through
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