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BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

# ***Air Districts and Energy Efficiency***

California Energy Commission  
Energy Efficiency Plan Workshop

April 9, 2019

Abby Young  
*Climate Protection Manager*  
Bay Area Air Quality Management District



# Bay Area Air Quality Management District

## Regional air pollution control agency

- Regulate stationary sources of pollution
- 24-member Board of Directors, locally elected officials

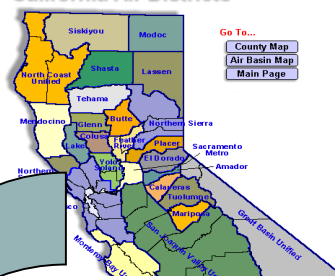
## Large, complex region

- 9 counties / 101 cities
- 7 million people
- 5 million vehicles

## Anticipated growth by 2040

- 9 million people
- 20% increase in driving

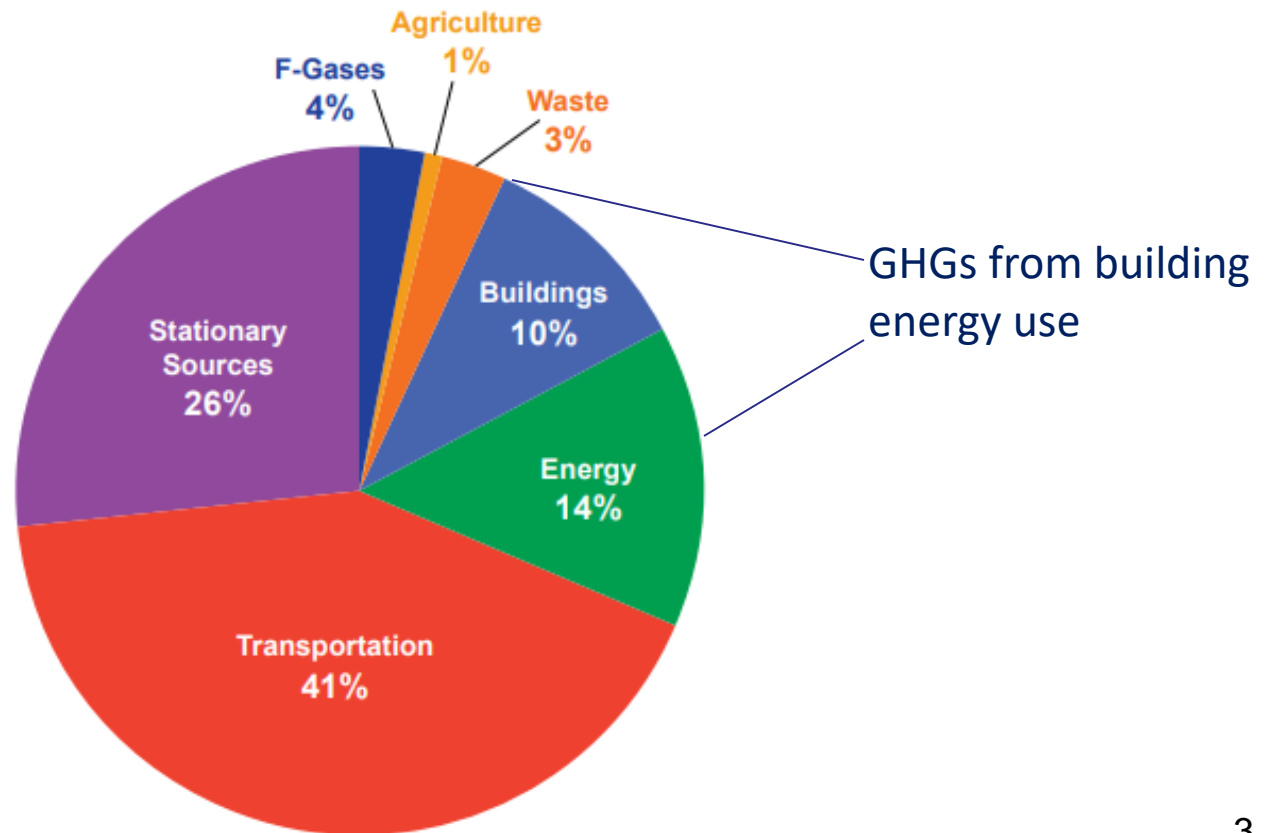
California Air Districts





# GHG Emissions in the Bay Area

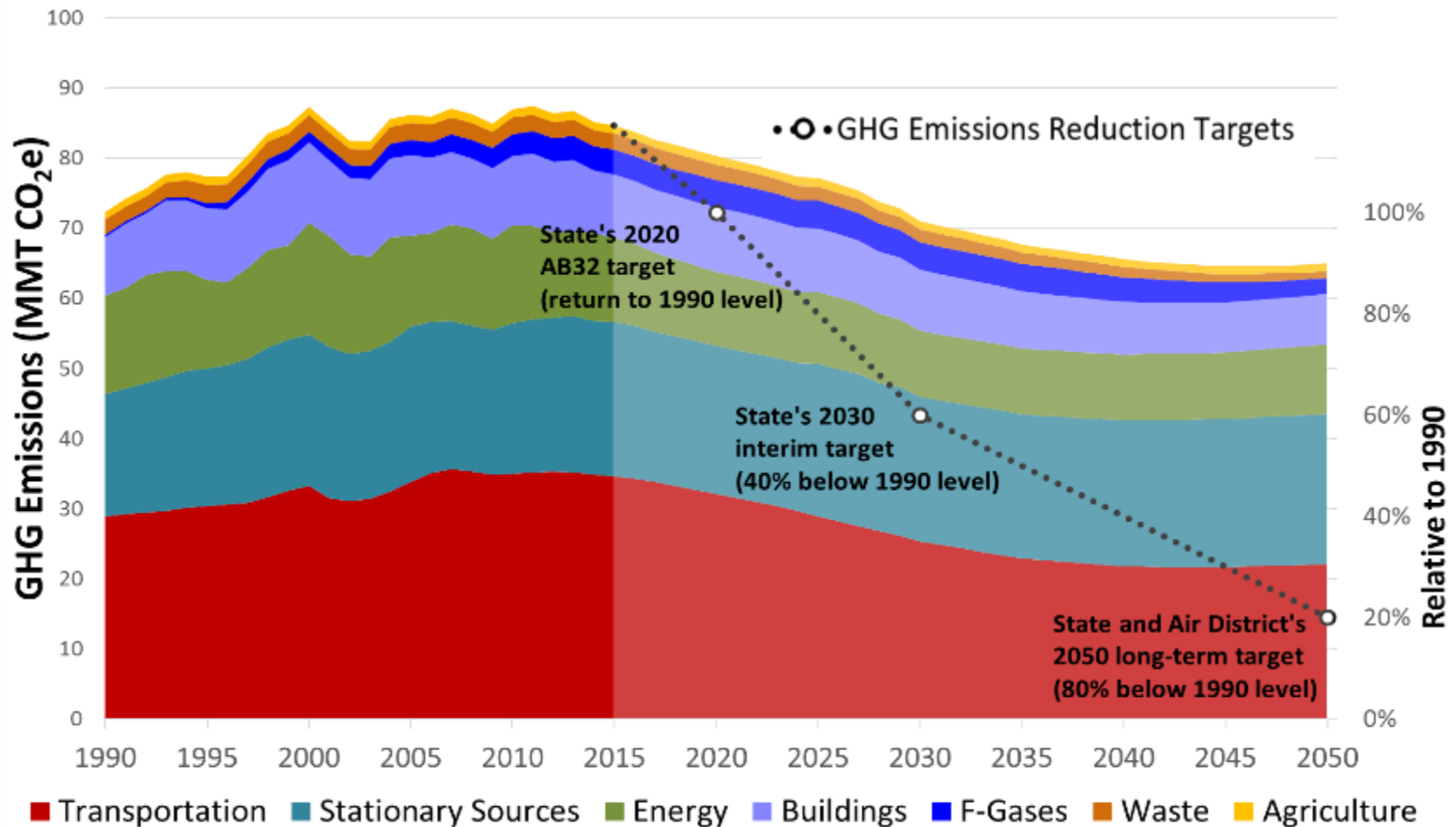
**2015 Bay Area GHG Emissions by Source Category,  
Based on 100-year GWP (Total = 85 MMT CO<sub>2</sub>e)**





# Climate Challenge in the Bay Area

## Bay Area GHG Projections to 2050 with Key State Programs





# Clean Air Disparity

Community Air Risk Evaluation (CARE) Program identifies Bay Area communities most impacted by air pollution

Regional goal: *reduce ozone and PM emissions* to assure long-term compliance with air quality standards

Local goal: *eliminate disparities* in local exposure to air pollution

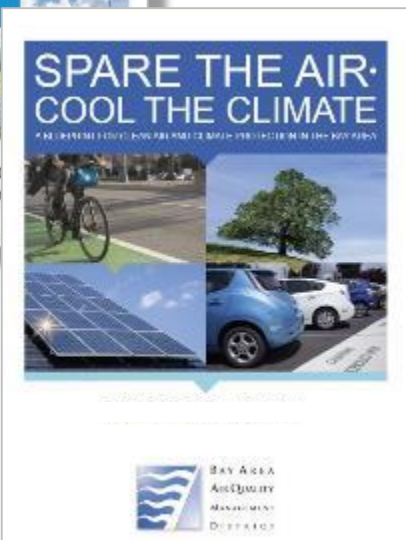


# Spare the Air - Cool the Climate

A *multi-pollutant* regional clean air plan featuring a comprehensive strategy of 85 measures across 9 sectors

## Goals:

- GHG emissions reductions of **80% by 2050** (below 1990 levels)
- Eliminate disparities in health risk from air pollution



Stationary (Industrial) Sources

Transportation

Energy

Buildings

Agriculture

Natural & Working Lands

Waste Management

Water

Super-GHG Pollutants



# Priorities

## Key Objectives:

Reduce  
“Super-GHGs”

Reduce Fossil Fuel  
Combustion

Increase Efficiency  
/ Reduce Demand  
for Fossil Fuels

Decarbonize the  
Energy System /  
Increase  
Renewable Energy

## Approaches:

Permits

Rules

Local  
Government  
Support

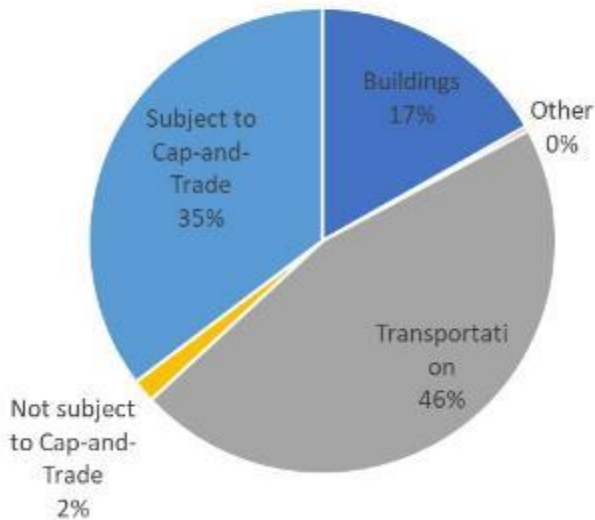
Partnerships

Grants and  
Incentives

Research  
and Science

# Clean Air Plan Building Measures

CO2 Emissions by Sector



## BL1: Green Buildings

- "...increase energy efficiency and the use of onsite renewable energy—as well as decarbonize existing end uses—for all types of...buildings.

## BL2: Decarbonize Buildings

- "...limiting the installation of space- and water-heating systems and appliances powered by fossil fuels."

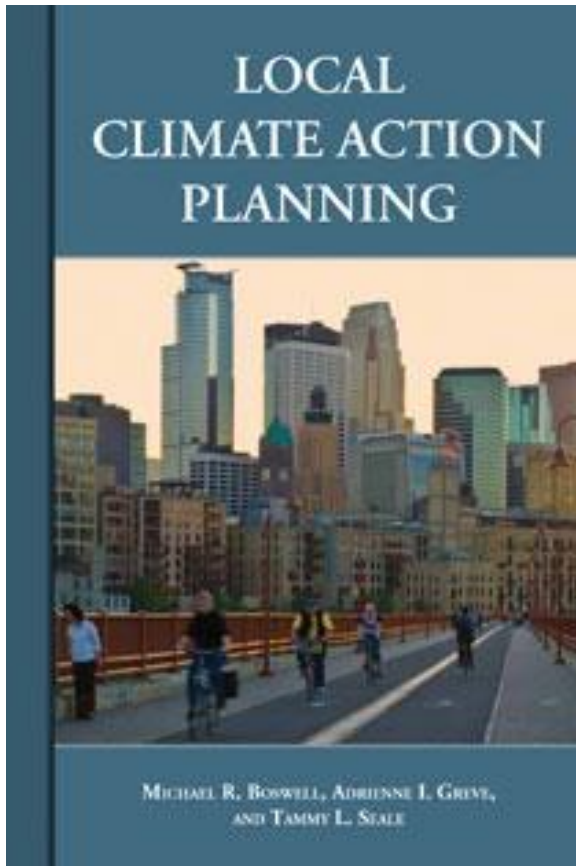
## BL3: Market-Based Solutions

- "...facilitate market-based solutions to reduce emissions from existing residential, commercial, institutional and industrial buildings."

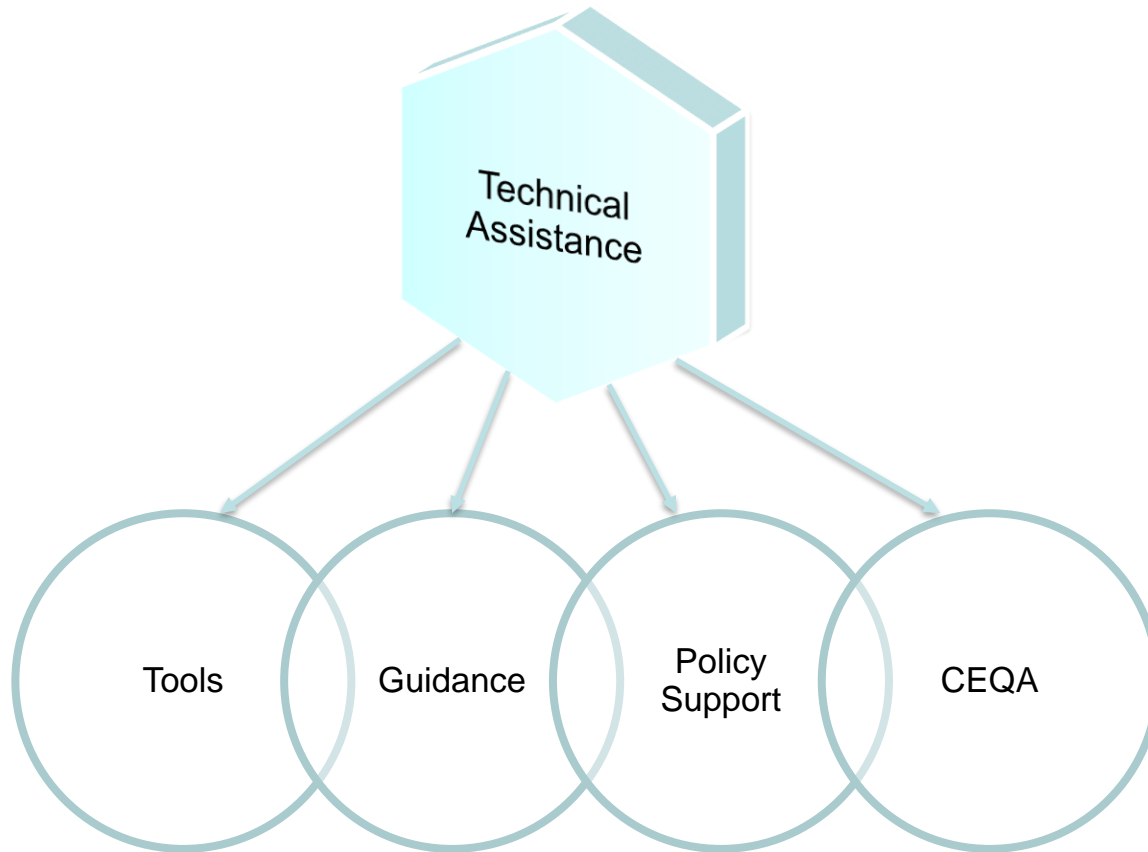
## BL4: Urban Heat Island Mitigation

- "...increasing the application of "cool roofing" and 'cool paving' technologies, as well as increasing the prevalence of urban forests and vegetation..."

# Work with Local Governments: Tools and Approaches



# Tools and Approaches: Technical Assistance





# Building Sector Actions

- Climate Protection Grant Program

Model Ordinances

Building Decarbonization Strategy



# Climate Protection Grant Program

## \$4.5 million Climate Protection Grant Program

- Decarbonizing existing buildings: heat pumps, solar, battery storage, electrification
- Innovation across sectors: low-carbon building materials, organics recovery, e-bikes, reducing “super-GHGs”



### Low-Carbon ADUs

*San Mateo Housing Endowment and Regional Trust*

Producing architectural designs and guidance to facilitate accessory dwelling unit development that is exclusively green.



### Heat Pump Water Heaters

*BayREN, StopWaste, San Jose and Silicon Valley Clean Energy*

Building a regional market for heat-pump water heaters by addressing key barriers at every point in the supply chain.



### Energy efficiency in existing Buildings

*City of Brisbane*

Developing a local ordinance requiring energy audits, benchmarking and retro-commissioning of commercial buildings.

# Climate Protection Grant Program cont'd

## \$4.5 million Climate Protection Grant Program

- Decarbonizing existing buildings: heat pumps, solar, battery storage, electrification
- Innovation across sectors: low-carbon building materials, organics recovery, e-bikes, reducing “super-GHGs”



### Energy Efficiency and Super-GHGs in Markets

*San Francisco*

Provide funding to small businesses to improve refrigeration and energy efficiency.



### Low Carbon Concrete

*Marin County*

Establish best practices, specifications, and model policies for using low-carbon concrete.



### Appliance Recycling

*City of Palo Alto Utilities*

Develop an appliance recycling program that exceeds the GHG emissions reduction capabilities of local recycling facilities.

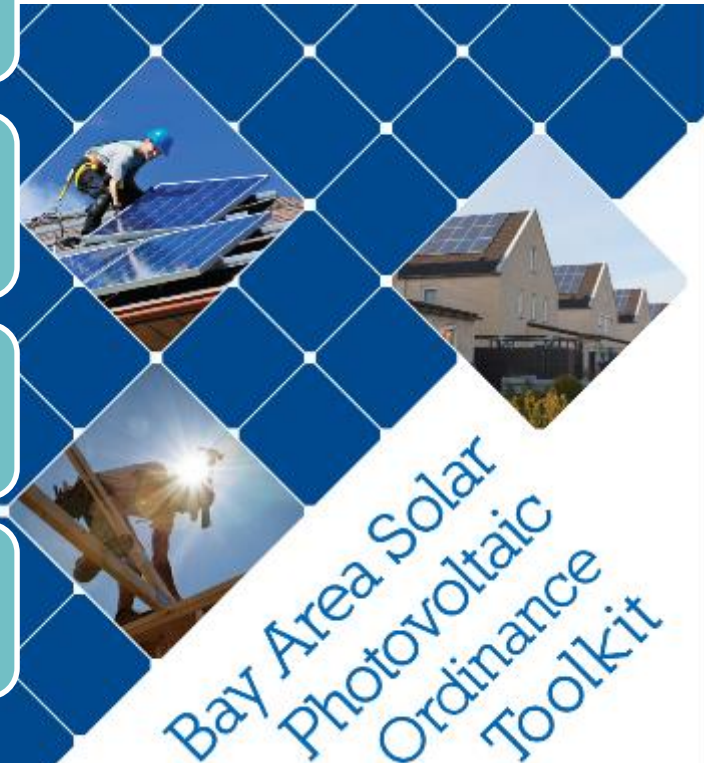
# Model Ordinances and Policy Guidance

Model ordinances and policies

Local Climate Action Plan guidance and review

Climate Action Plan database of local GHG reduction measures

Environmental review/CEQA GHG thresholds of significance and guidance





# Building Decarbonization Strategy

BAAQMD is developing a strategy to support energy efficiency and decarbonization in existing residential and commercial buildings.

High GHG  
reduction  
potential

Fills a gap

Equitable

Likelihood of  
success

Co-benefits

Cost

**Potential  
Strategies**

Incentives

Municipal  
Policy  
Resources

Scaling  
Grant  
Projects



# Local Climate Action Plan Database: Trends

## > 3,000 GHG Emissions Reduction Measures

### Themes:

Audit and Efficiency Upgrade Campaigns / Outreach to Building Owners

Technical Assistance to Homeowners

Green Building Ordinance / Reach Code Adoption

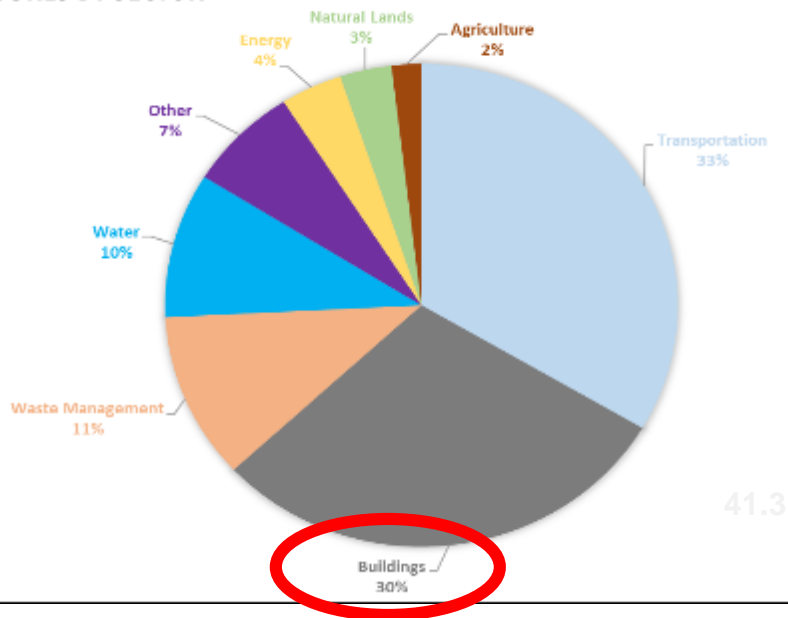
Improved Enforcement with Permitting and Inspection

### Innovative Ideas:

Require Energy Audit / Upgrade at Point of Sale or Rental (Piedmont)

Collaborate with Architects and Builders to Ensure all Builds and Retrofits are Green (Danville)

MEASURES BY SECTOR





# What Do Local Governments Need?

Funding and financing

Addressing equity - renters

Getting information to energy decision-makers

Getting clarity on legal authority





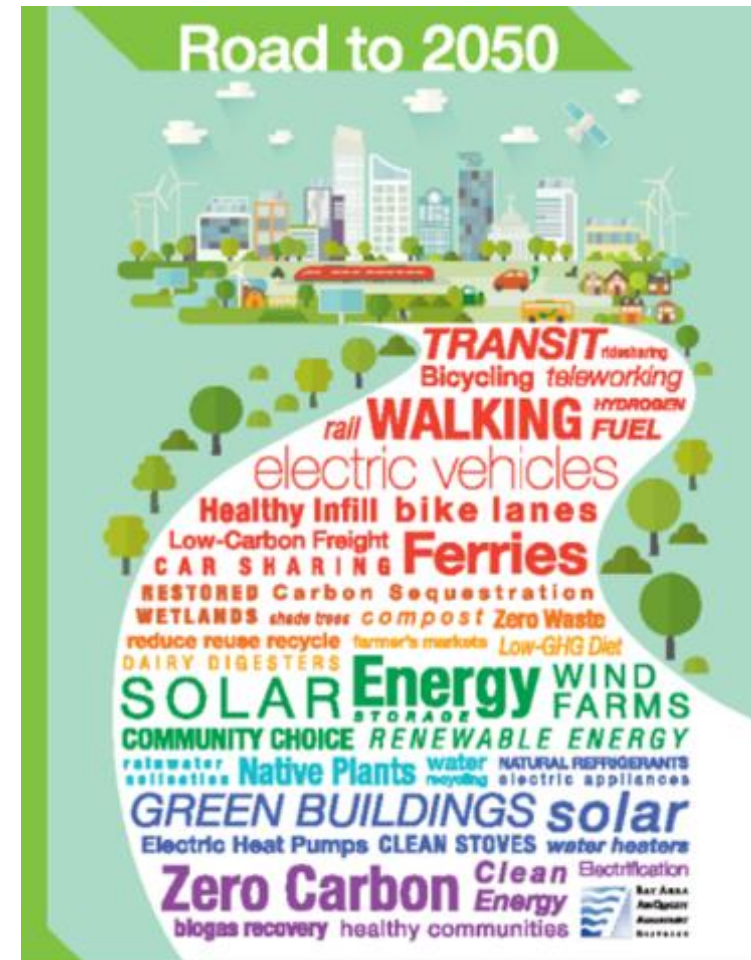
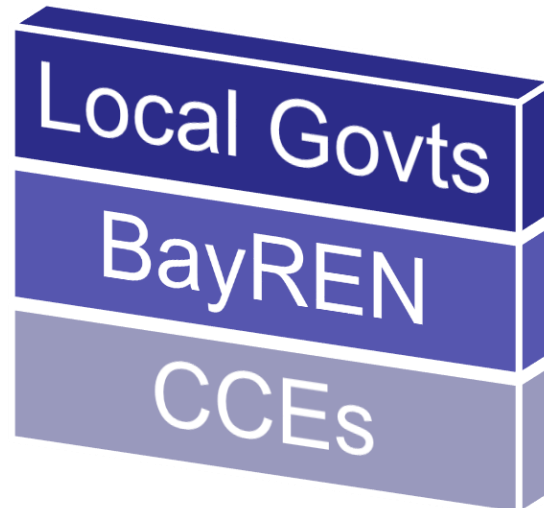
# Moving Forward

•Surveying Needs

Convening

Leveraging Resources

Key  
Partners



# Thank you!

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