

# 2016 Clean Air Plan/Regional Climate Protection Strategy Update



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## Advisory Council Meeting

July 19, 2016

Henry Hilken  
Director of Planning and Climate Protection  
Bay Area Air Quality Management District

An aerial photograph of a city, likely San Francisco, taken from a high vantage point. The city is densely packed with buildings, and the sky is a mix of orange, yellow, and blue, suggesting a sunset or sunrise. The title text is overlaid on the top right of this image.

# 2016 Clean Air Plan/Regional Climate Protection Strategy

- Multi-pollutant plan: reduce ozone, fine PM, air toxics, GHGs
- Update 2010 Plan: achieve State ozone standard
- Reduce PM and toxics in impacted communities
- Reduce GHGs toward long-range targets



# Planning Context

## State of California:

- California Clean Air Act
- Global Warming Solutions Act of 2006 (AB 32)
- Statewide Scoping Plan
- 5 “Pillars” of climate action

## Bay Area Regional Government:

- Regional Climate Protection Strategy
- Plan Bay Area (housing & transportation planning)
- Adapting to Rising Tides

## City/County Governments:

- 65 local climate action plans



# Overview of Climate Action

---

- 10-year Climate Protection Program draws on Air District's strengths:
  - Science & research
  - Regional planning: bridging state and local efforts
  - Implementation: grants, incentives & technical assistance
- 2013 Climate Protection Resolution reinvigorates program



# Climate Protection Resolution

## Air District Board Adopts Climate Protection Resolution (2013):

- Reduce Bay Area GHG emissions 80% below 1990 levels by 2050
- Develop a Regional Climate Protection Strategy to identify Air District actions to make progress toward long-term goal
- Develop near-term Work Program to make progress while strategy is in development



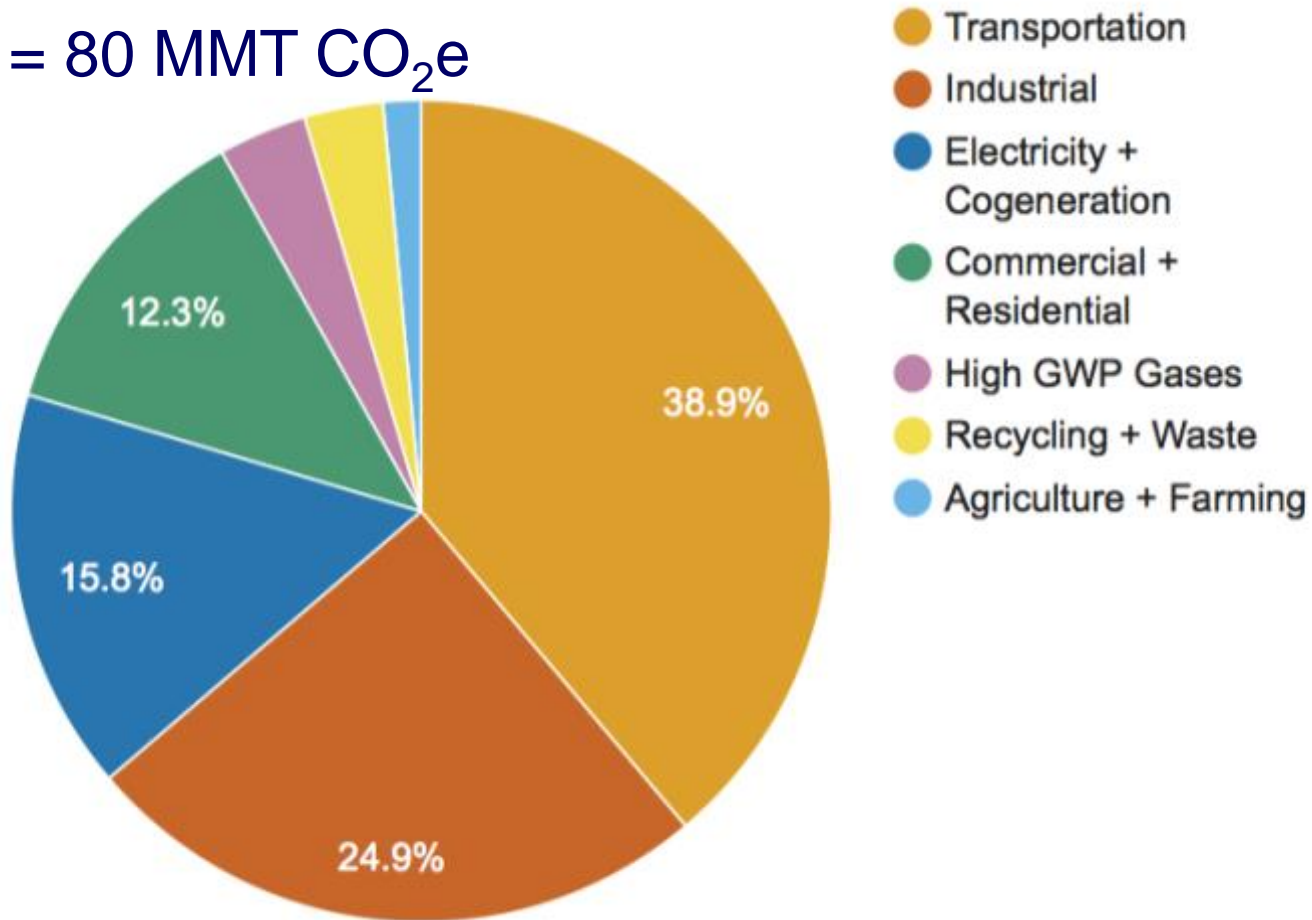


# Bay Area GHG Emissions

## 2015 GHG Emissions by Sector

100-year global warming potentials (GWPs)

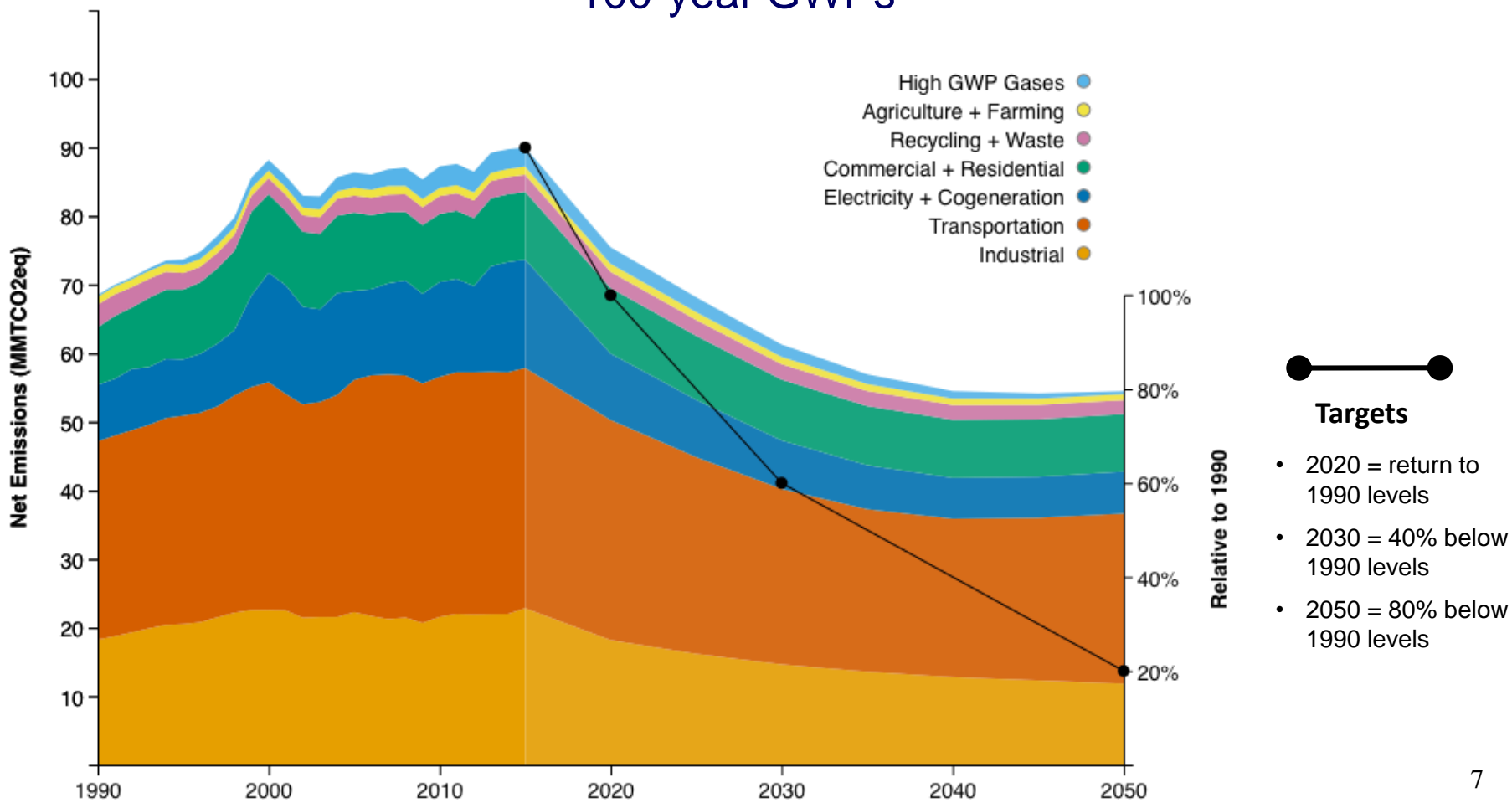
Total = 80 MMT CO<sub>2</sub>e





# Bay Area GHG Projection to 2050 with Key State Programs

## Committed and Expected Policies 100-year GWPs





# Economic Sector Analysis

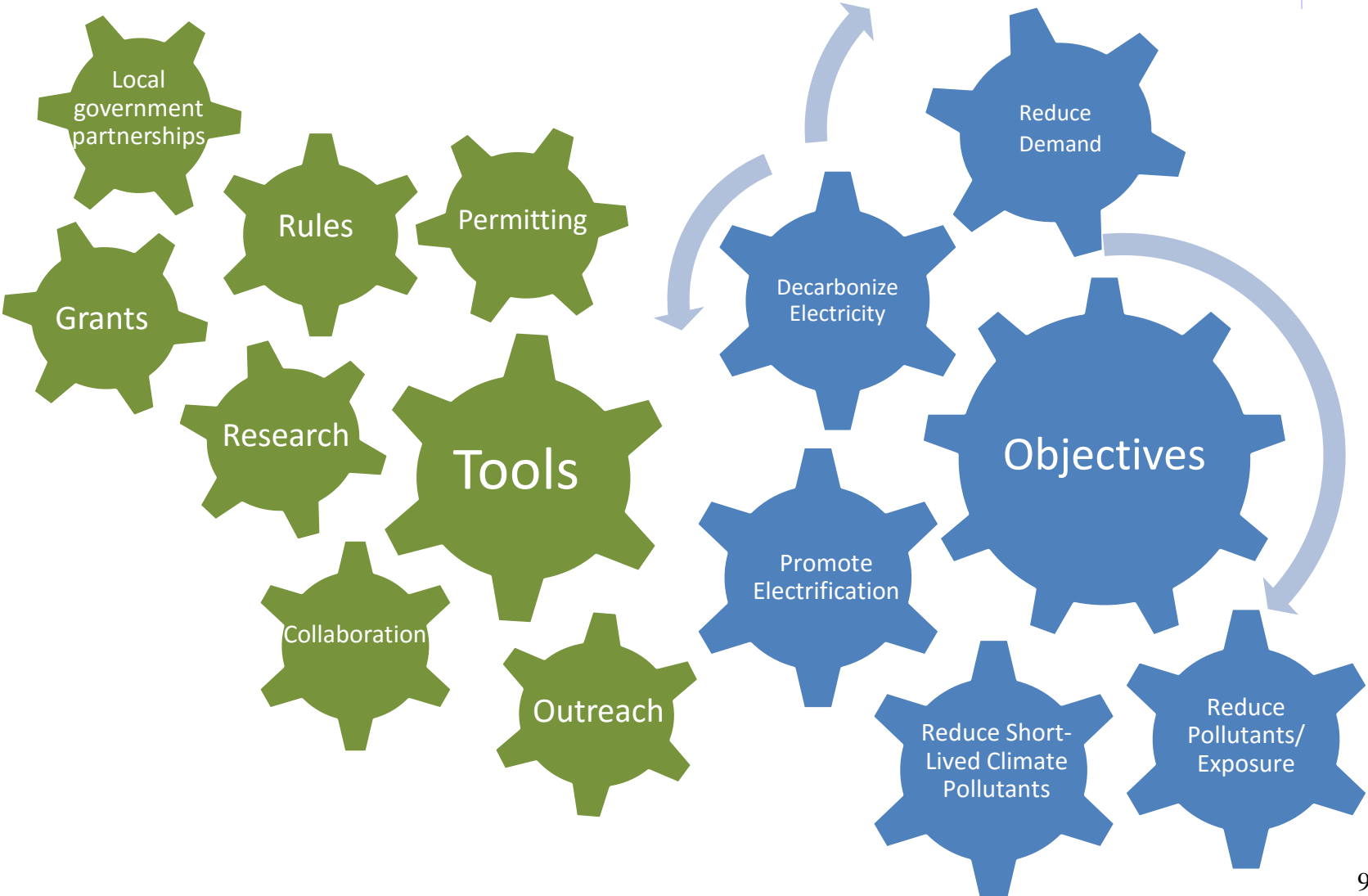
Identify Air District actions that complement aggressive State programs in all economic sectors

- Transportation
- Energy
- Agriculture
- Water
- Waste
- Buildings
- Stationary Sources
- Short-lived Climate Pollutants
- Natural & Working Lands





# Tools & Objectives



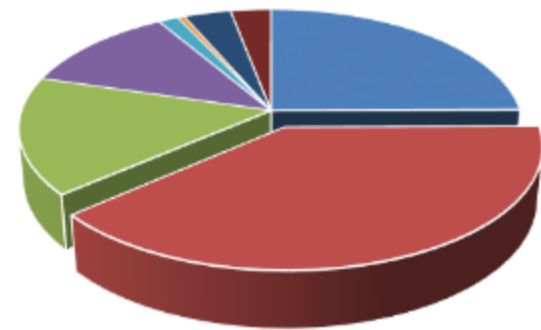
# Transportation

## Promote Electrification

- Fund electric vehicles (EVs) & charging stations
- Promote EV readiness in new development
- Fund low-carbon freight movement
  - hybrid drive trains for trucks
  - electric shore power for ships
- Electrify Caltrain regional commuter rail

## Reduce Travel Demand & Promote Efficiency

- Fund and promote public transit
- Expand ride-sharing, car-sharing, bike-sharing
- Require large employers to offer “commuter benefits”
- Fund bicycle and pedestrian facilities
- Fund Safe Routes to Schools and Safe Routes to Transit
- Promote parking and pricing strategies that reduce travel demand
- Direct future development to “Priority Development Areas”



39%



# Stationary Sources

## Reduce GHGs via Permitting (*New Source Review*)

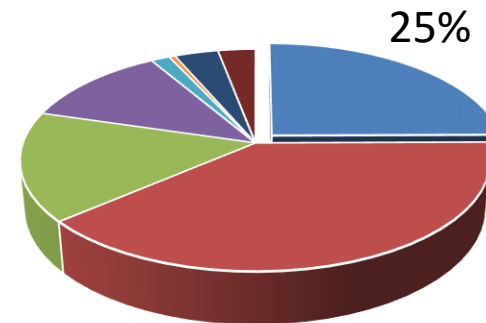
- Limit GHG emissions in permits

## Reduce GHG Emissions from Oil Refineries

- Complement State Cap & Trade regulation for large sources
- Investigate options to achieve GHG reductions from refineries
- Adopt source specific rules

## Reduce GHG Emissions from Other Sources

- Natural gas and crude oil wells
- Natural gas transmission and distribution
- Residential space and water heating
- Emergency back up generators



# Energy

## Promote Energy Efficiency & Conservation

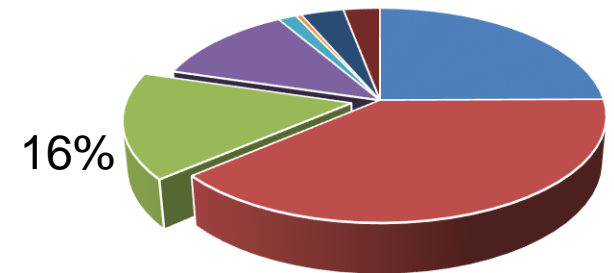
- Increase consumer awareness about energy efficiency through education and outreach
- Promote best practices, model ordinances

## Decarbonize Electricity Production

- Collaborate with community choice aggregation programs and public utilities to expand renewable energy portfolio
- Collaborate with energy providers to increase use of low carbon alternatives and combined heat and power
- Identify funding opportunities for new technologies and applications

## Expand Electrification

- Electrify motor vehicle fleet
- Electrify space heating and water heating in buildings





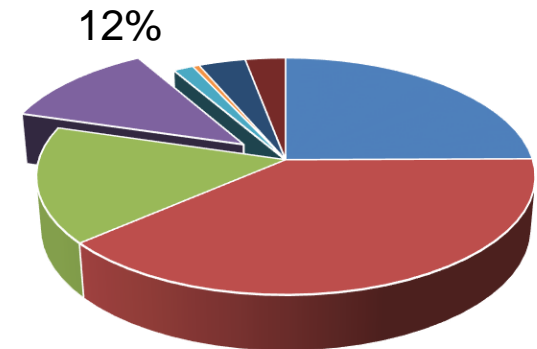
# Buildings

## Increase Energy Efficiency in Buildings

- Develop model ordinances requiring energy assessments and/or upgrades at time of sale
- Help local governments and school districts obtain funding for energy efficiency programs
- Help property owners identify funding for efficiency upgrades
- Promote measures such as cool roofs, cool parking, and shade trees to reduce urban heat island effects

## Decarbonize Building Energy Use

- Provide best practices, model ordinances, and incentives to promote low carbon technologies such as rooftop solar, solar water heating, and electric heat pumps
- Facilitate on-site renewable energy at schools







# Waste & Water

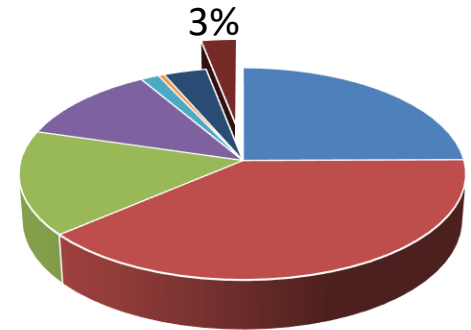
## Waste

### Decrease Emissions from Landfills/Composting

- Develop rule to reduce methane from composting facilities
- Revise existing landfill rule to tighten standards for gas collection and fugitive leaks

### Divert Waste and Recycle

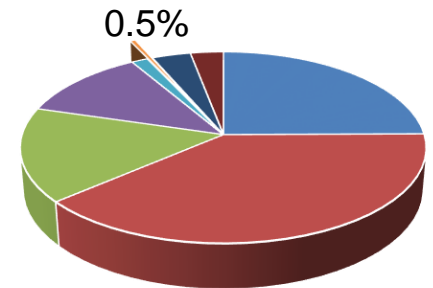
- Develop model ordinances/best practices on zero waste and diversion



## Water

### Reduce Water Use

- Disseminate best practices for water recycling in new and existing buildings
- Work with local governments to develop water conservation ordinances



### Reduce Emissions from Water Treatment Plants

- Consider new rule to reduce GHG emissions from waste water treatment plants

# Agriculture & Natural & Working Lands

## Increase Carbon Sequestration

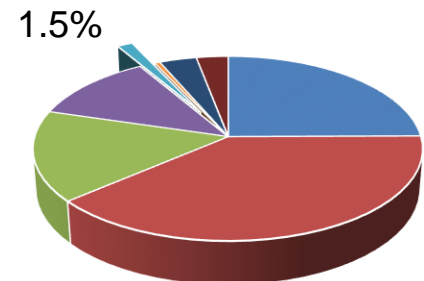
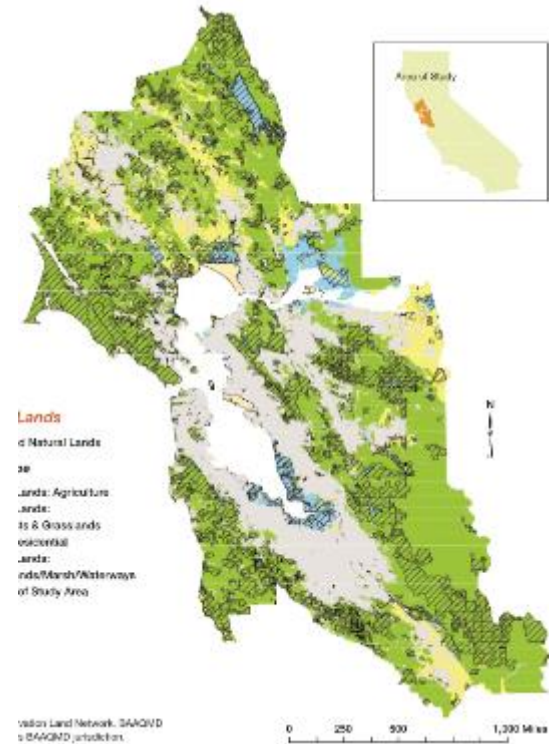
- Develop best practices on low carbon soil management
- Work with local farms/ranches, resource conservation districts and others to apply compost on rangelands

## Reduce Emissions from Agriculture Waste

- Support biogas recovery/anaerobic digester systems
- Disseminate best practices for dairy digesters and animal dietary changes

## Plant Trees

- Support local government efforts to expand tree canopy





# Short-lived Climate Pollutants

## Reduce Methane

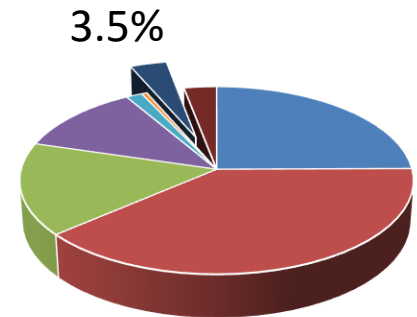
- Measures in the stationary source, agriculture and waste sectors
  - leaks at oil refineries and natural gas distribution system
  - landfill gas collection control requirements
  - waste diversion
  - biogas recovery

## Reduce Black Carbon

- Measures in the stationary source and transportation sectors
  - residential wood burning
  - cleaner engines to reduce diesel emissions
  - back-up generators

## Reduce Hydrofluorocarbons (HFCs)

- Enforce regulations on leaks from refrigerants systems
- Enforce regulations on the servicing of auto air conditioning units
- Support more stringent HFC standards





# Key Questions

## How Do We Determine Progress?

- What quantitative and/or qualitative metrics should we use to track progress towards 2030 and 2050 goals?
- How do tracked metrics reconcile with projected emissions trends over time?

## How Do We Maximize the Impact of Bay Area Leadership?

- How might we identify and prioritize programs outlined in the climate strategy that show the most promise for affecting other regions and states?

## Other Key Questions?