

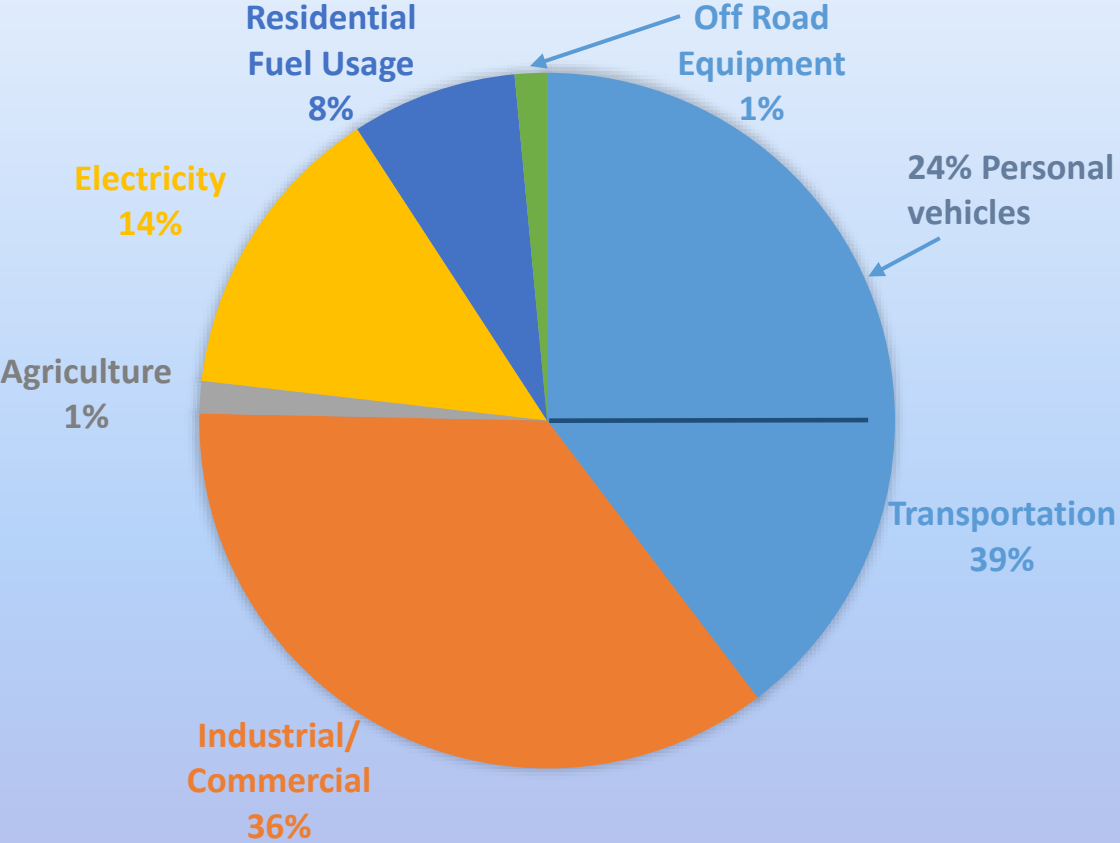


Our mission is to inspire, align, and mobilize action in response to the climate crisis.

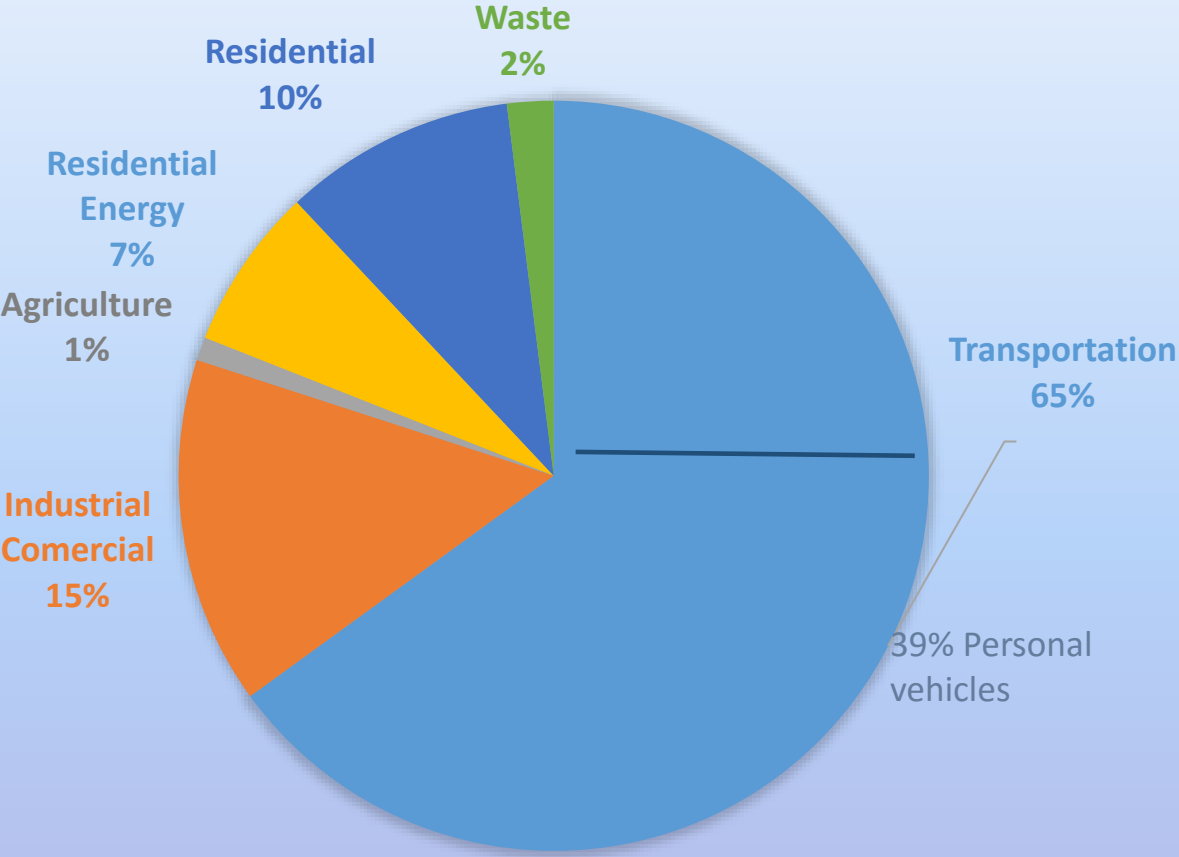
We work with business, government, youth and the broader community to advance practical, science-based solutions for significant greenhouse gas emission reductions.



# 2015 BAY AREA GHG INVENTORY



# 2014 SONOMA COUNTY GHG INVENTORY

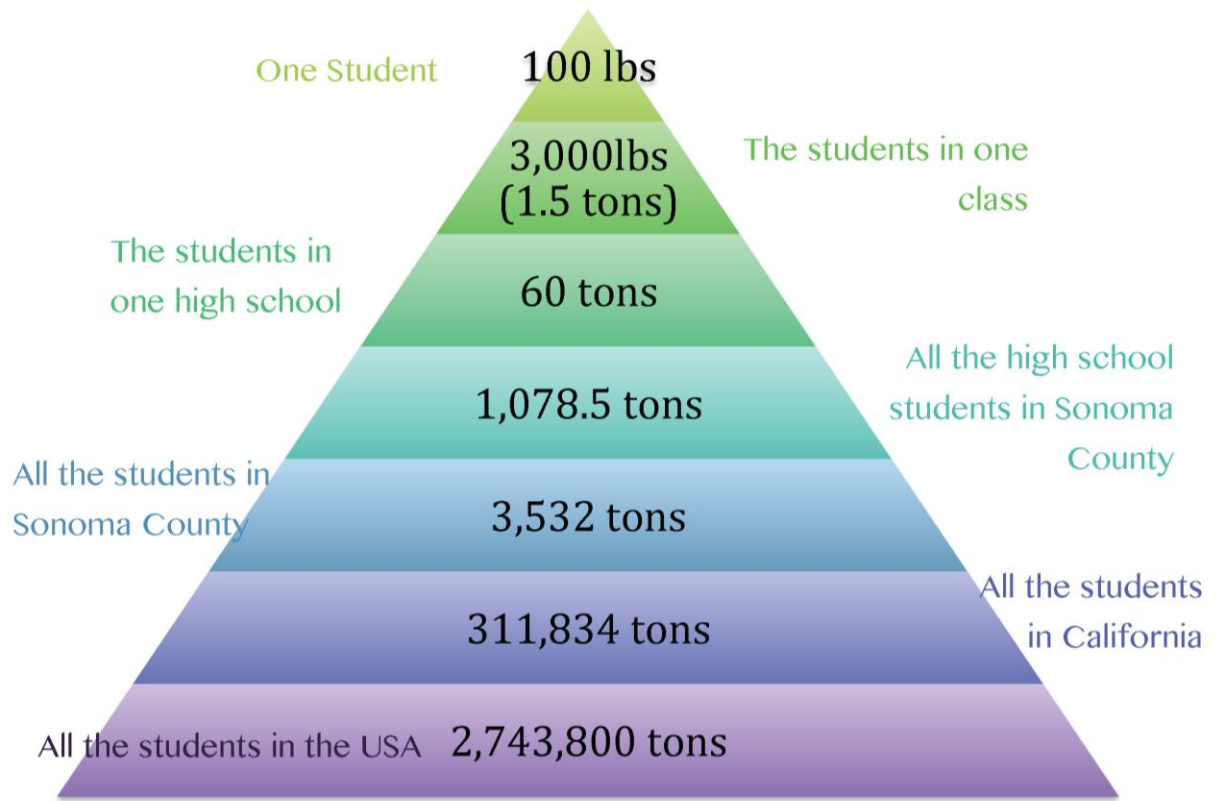


One student riding their bike to school one day a week  
can save 100lbs of carbon a year



# The power of collective action

**How much CO<sub>2</sub> can you save by walking or riding your bike to school one day a week?**



**The Power of Collective Action**

# Peer to Peer Education



# Solutions are out there



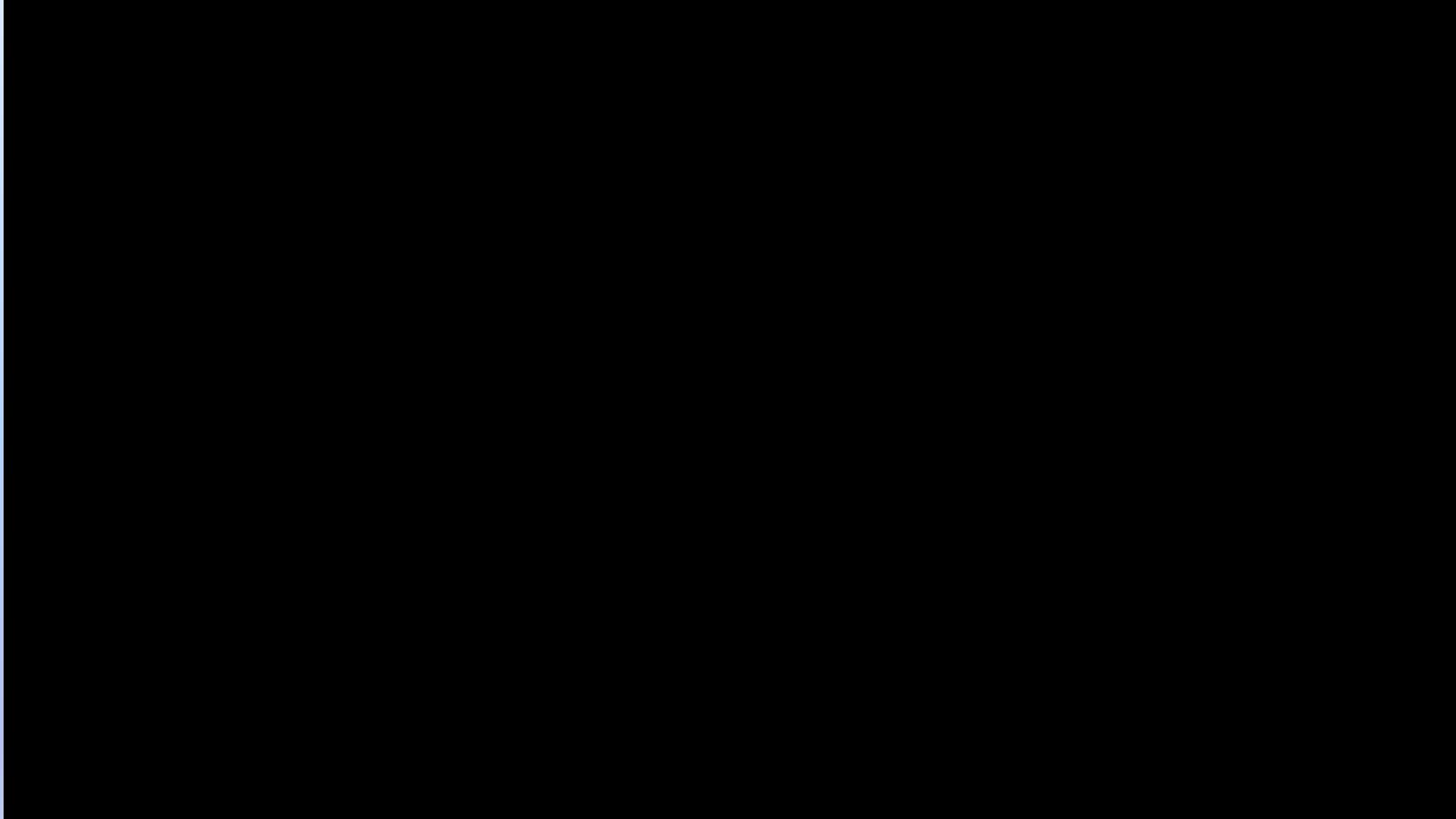
center for  
climate  
protection

# Innovation





# Green Teen Presentation



# Leadership



# Who do we serve



# Reach

Leadership

15 students

Volunteerism

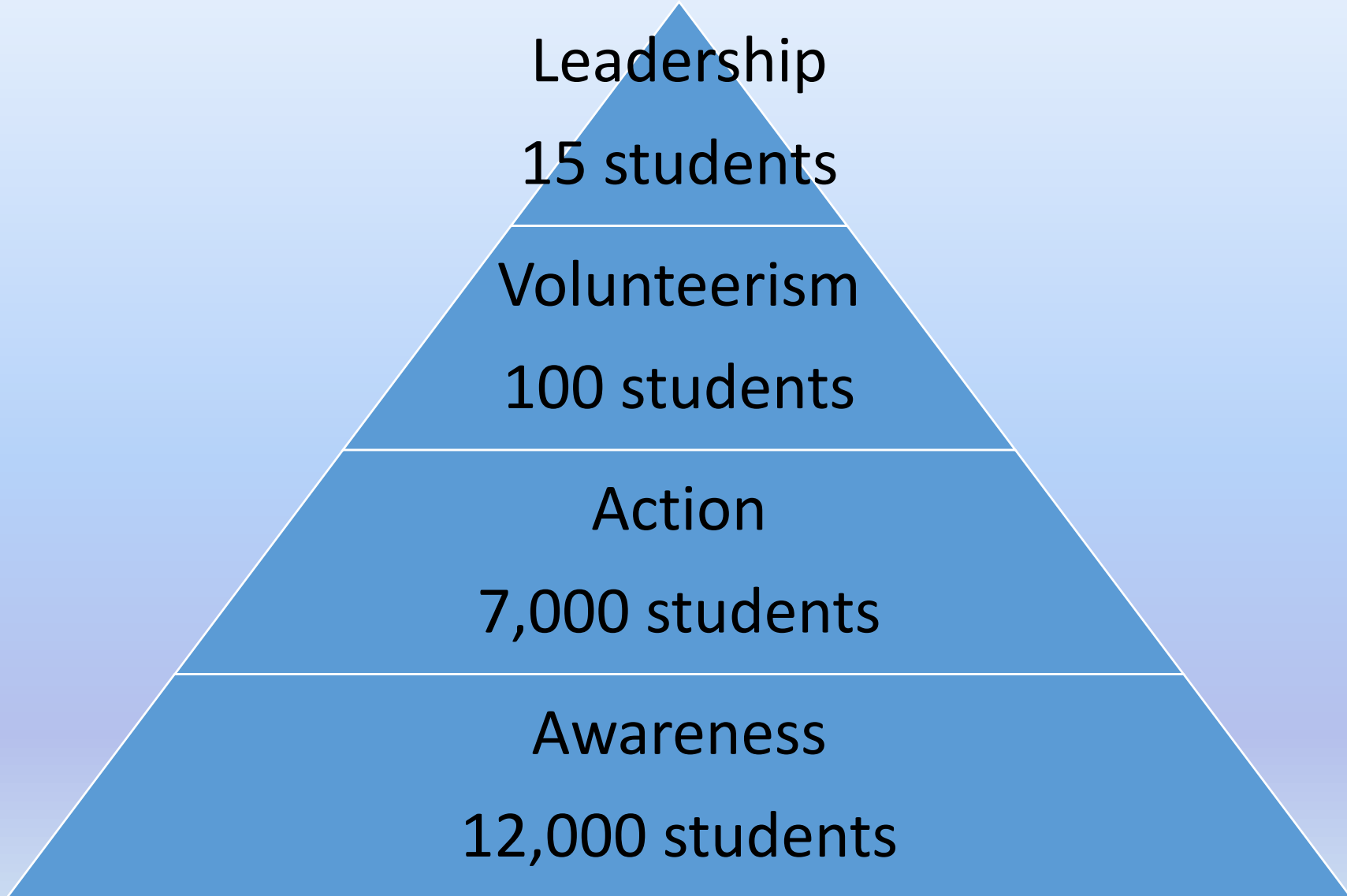
100 students

Action

7,000 students

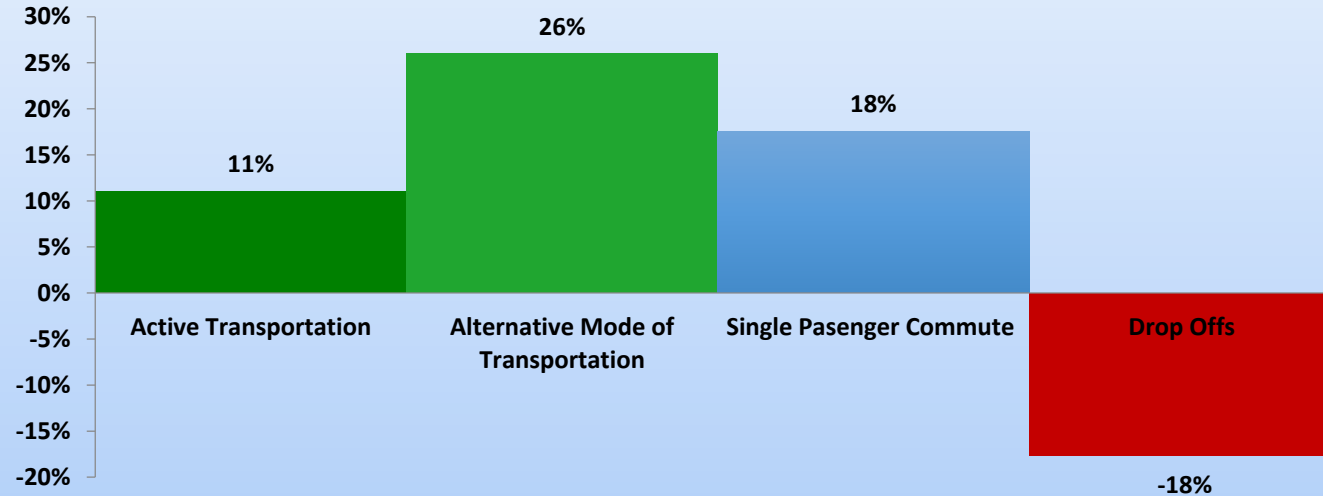
Awareness

12,000 students



# Results

## Percent Change in Student Transportation



### ***Overall Impact***

- 40,763 fewer pounds of CO<sub>2</sub> were emitted

### ***Single Day Events***

- 12,613 fewer pounds of CO<sub>2</sub> were emitted

### ***The ECO<sub>2</sub>school Challenge***

- 28,150 fewer pounds of CO<sub>2</sub> were emitted
- 33,577 fewer miles were driven
- 1,520 fewer gallons of gas were consumed, thus saving \$3,771

# Student Leaders





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DISTRICT

# 10-Point Climate Action Work Program Implementation

Climate Protection Committee  
March 17, 2016

Geraldina Grünbaum  
Senior Environmental Planner



# History

## **2013: Board adopted resolution that:**

- ✓ Set 2050 GHG reduction goal: 80% below 1990 levels
- ✓ Committed Air District to developing regional climate protection strategy to support GHG goal
- ✓ Directed staff to develop work program to guide and document the Air District's climate protection activities in the near term

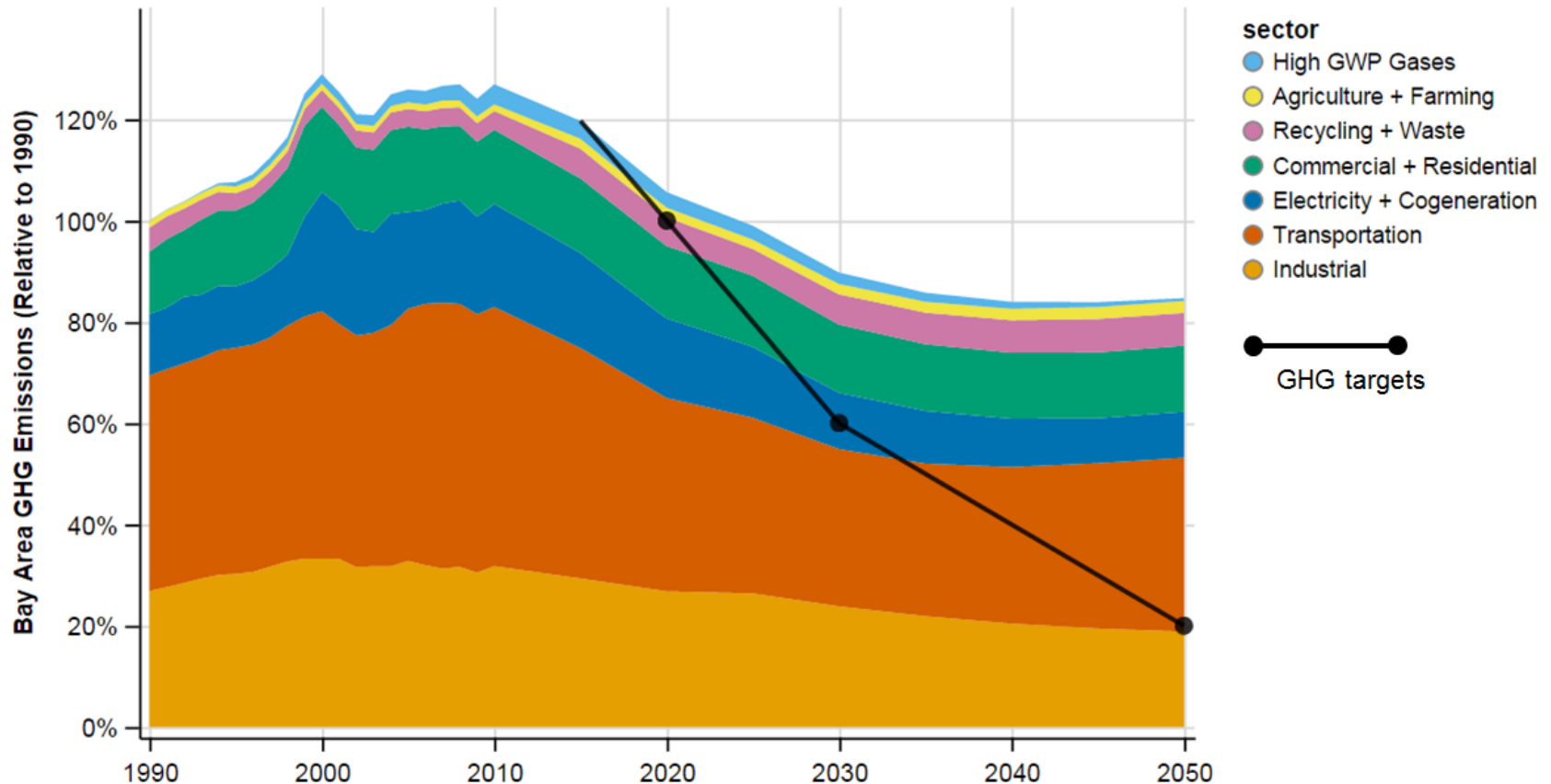
## **2014: 10-Point Climate Action Work Program adopted**



# #1: GHG Goals

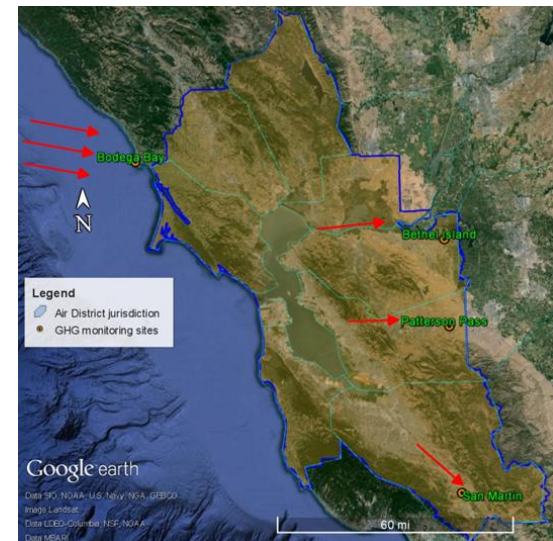
## #2: Inventory & Forecast

### GHG Emissions & Projections (Relative to 1990) with Committed & Expected Policies



# #3: GHG Emissions Monitoring

- **Why monitoring is important:**
  - ✓ To track trends over long-term
  - ✓ To improve emissions inventory
  - ✓ To inform policy making
- **Integrating GHG (esp. methane) monitoring into current air monitoring network**
- **Enhanced methane measurements:**
  - ✓ Measure methane at background downwind sites
  - ✓ Regional mobile monitoring





## #5: Support & Enhance Local Action

- **Web-based delivery of VMT data (with MTC)**
- **Monthly updates on Cap & Trade funding**
- **Consumption-based GHG emissions inventory**
- **Ongoing review & support of climate action plans**
  - ✓ Database of over 2,000 local GHG reduction measures
- **Regional Climate Protection Strategy (RCPS):**
  - ✓ Model ordinances, best practices, guidance, technical assistance, etc.

# #6: Rule Development

Regulations	Timeline
Limit GHGs in Permits (New Source Review)	Q3 2016
Options for GHG Reductions at Refineries	TBD
Further Reduce Emissions from Back-up Diesel Generators	TBD
Further Reduce Methane from Capped Wells	TBD
Further Reduce Fugitive Methane from Oil & Gas Production (w/ ARB)	Q3 2016
Further Reduce Methane Leaks from Natural Gas Transmission & Distribution (w/CPUC, ARB)	TBD
Further Reduce Methane from Landfills	2017
Reduce Emissions from Composting Operations	2017
Reduce Emissions from Wastewater Treatment Facilities	TBD
Further Reduce Black Carbon from Wood Burning	Q4 2015
Regulations Under Evaluation	Timeline
Options for GHG Reductions at Other Sources	TBD
Require New Construction to be EV Ready	TBD
Limit Fossil Fuel Combustion from Furnaces, Water Heaters	TBD



# #7: Expand Enforcement

# #8: Climate Change & Public Health

## Expand Enforcement

- MOUs with ARB for enforcement related to regulation of short-lived climate pollutants:
  - ✓ Landfills (*methane*)
  - ✓ Refrigerants (*fluorinated gases*)
  - ✓ Heavy-duty diesel trucks (*black carbon*)
- Working with ARB to expand enforcement

## Launch Climate Change & Public Health Initiative

- Met with and presented to:
  - ✓ Bay Area Regional Health Inequities Initiative
  - ✓ American Lung Association
- Developing content for RCPS



# #9: Report Progress to Public #10: Bay Area's Energy Future

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## Report Progress to the Public

- RCPS will include tracking of many indicators of progress
- Exploring opportunities to work with various organizations on tracking indicators

## Bay Area's Energy Future – Advisory Council

- 2014/2015:
  - Sustainable energy pathways
  - Urban heat island effects
- 2016: Efficacy of GHG caps on refineries



## Next Steps

- 10-point Climate Action Work Program serves as bridge to development of RCPS
- Incorporate all action items from this program into RCPS



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Agenda: 6

# Regional Climate Protection Strategy Update

David Burch  
Principal Planner



# Background

## ***November 2013 Board Resolution directed staff to develop Regional Climate Protection Strategy (RCPS):***

- Key element of the 2016 Clean Air Plan/Regional Climate Protection Strategy
- Roadmap to help achieve greenhouse gas (GHG) emission reduction targets
  - 40% below 1990 by 2030 (Governor's interim target)
  - 80% below 1990 by 2050 (adopted by Air District Board)
- Reflect State priorities as embodied in AB 32, SB 350, and Governor's Executive Orders
- Comprehensive strategy to address all economic sectors



# CAP/RCPS Framework

## **Economic Sector Approach:**

- Organize control strategy based on key economic sectors, consistent with ARB's AB 32 Scoping Plan
- Analyze emissions inventory & projected emissions trend for each sector
- Review federal, state, local policies, as well as Air District regulations & program for each sector
- Develop proposed control measures by identifying opportunities and gaps in each sector



# Outreach & Progress to Date

- Compiled & reviewed list of measures in air quality plans and climate action plans
- Met with planners & stakeholders in all 9 counties
- Prepared gap analyses and met with experts in each economic sector
- Developed proposed control measures
- Hosted six Open Houses in Jan/Feb 2016
- Will meet with stakeholder Working Group in April to seek additional input



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# Tools & Objectives





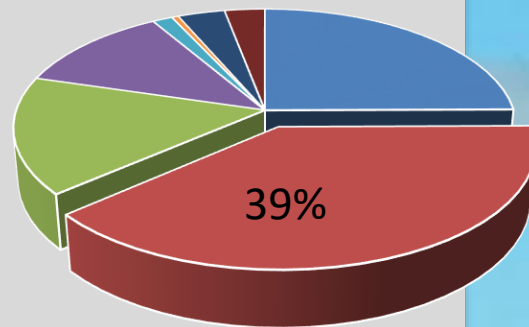
# Transportation

## Promote Electrification

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

## Reduce Travel Demand & Promote Efficiency

- Promote public transit
- Expand ride-sharing, car-sharing, and bike-sharing
- Reduce commute trips by reauthorizing Bay Area Commuter Benefit Program
- Fund bicycle and pedestrian facilities
- Fund Safe Routes to Schools and Safe Routes to Transit
- Promote parking policies and pricing strategies that reduce travel demand
- Direct future development to Priority Development Areas (PDAs)





# Stationary Sources

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

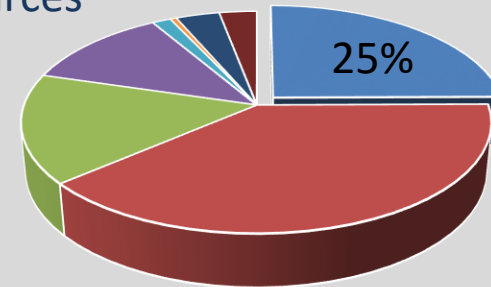
- Limit GHG emissions in permits

## Reduce GHG Emissions from Oil Refineries

- Require energy audits to identify best practices
- Investigate options to achieve GHG reductions from refineries
- Adopt source specific rules

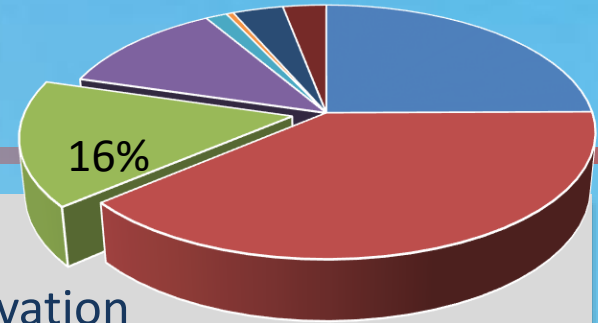
## Reduce GHG Emissions from Other Sources

- 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
- Collaborate with public utilities to track electricity use

## Decarbonize Electricity Production

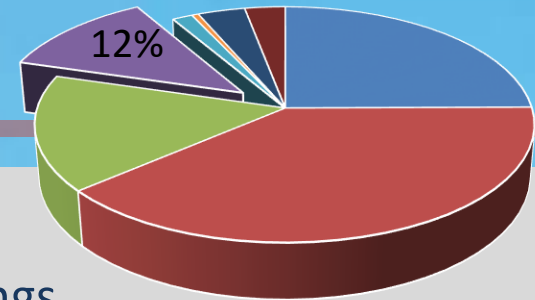
- Collaborate with community choice aggregation programs and public utilities to expand renewable energy portfolio
- Collaborate with energy providers to increase use of low carbon alternatives and combined heat and power
- Identify funding opportunities for new technologies and applications

## Expand Electrification

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



# Buildings



## Increase Energy Efficiency in Buildings

- Help local governments and school districts obtain funding for energy efficiency programs
- Develop model ordinances requiring energy assessments and/or upgrades at time of sale
- 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

## Decrease Emissions from Landfills/Composting

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

## Divert Waste and Recycle

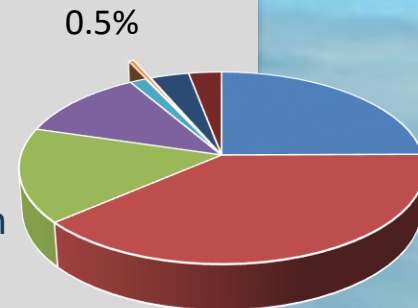
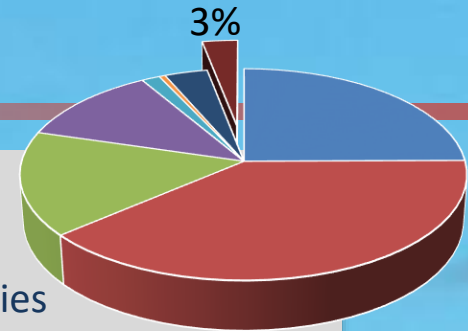
- Develop model ordinances/best practices on zero waste and diversion

## Reduce Water Use

- Develop 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 Air District rules to reduce GHG emissions from water treatment plants





# Agriculture & Natural/Working Lands

## Increase Carbon Sequestration

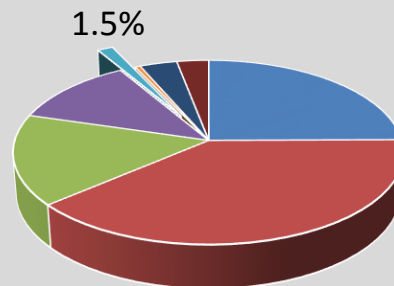
- Develop best practices on low carbon soil management
- Work with local farms, resource conservation districts and others to apply compost on rangelands

## Reduce Emissions from Agriculture Waste

- Explore the feasibility of biogas recovery/anaerobic digester systems
- Develop best practices for dairy digesters and animal dietary changes

## Plant Trees

- Encourage local government efforts to expand tree canopy

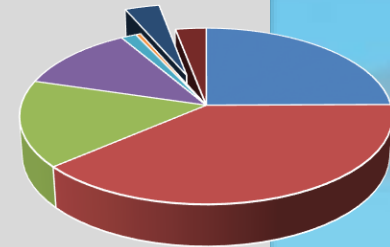




# Short-Lived Climate Pollutants

## Reduce Methane

- Measures in the stationary source, agriculture and waste sectors **3.5%**
  - equipment leaks at oil refineries
  - landfill gas collection control requirements
  - waste diversion
  - biogas recovery



## Reduce Black Carbon

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

## 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



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# Open Houses

## Six Open Houses Held Across Region

- Redwood City
- San Jose
- Santa Rosa
- Richmond
- Pleasanton
- Oakland





# What We Heard



- Reduce and/or set caps on emissions from refineries
- Stop crude oil and coal by rail in the Bay Area
- Improve safety and increase funding for bike and pedestrian facilities
- Encourage energy efficiency and reduce consumer demand
- Promote electric vehicles and electric heating
  - Promote solar installations in buildings



# Next Steps

Meetings with  
Stakeholder  
Working Group:  
April 2016

Draft Plan, EIR,  
Socio-Economic  
Analysis:  
Spring 2016

2<sup>nd</sup> Round  
Open Houses:  
Summer 2016

Final Plan to  
Board:  
Fall 2016