



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

# Board of Directors Special Meeting / Retreat

Board of Directors Retreat • Wednesday, January 18, 2017



# RETREAT OVERVIEW

- Opening Comments by Board Chair, Liz Kniss
- Air District Background
- State of the Air District, Air Quality Summary, 2017  
Regulatory Agenda
- Air District Administrative Overview
- Clean Air Plan and Climate Protection Strategy
- New *“Technology Implementation Office”*
- Update on Community Programs
- Upcoming Committee Assignments & Goals



# Opening Comments by Board Chair

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**Chairperson Liz Kniss**

Board of Directors



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# Air District Background, State of the Air District, Air Quality Summary and 2017 Regulatory Agenda

**Jack P. Broadbent**

Executive Officer/Air Pollution Control Officer



# AIR DISTRICT BACKGROUND

- Oldest local air pollution agency: 1955
- Responsible for achieving and maintaining National and State standards
- Activities directed towards Stationary Sources
- 350 staff
- Regulations, Incentives and Education



# STATE OF THE AIR DISTRICT

## Overview

- Continued leadership critical
- Significant challenges remain
- Financially secure, need to remain mindful of resources
- Key Policy Initiatives

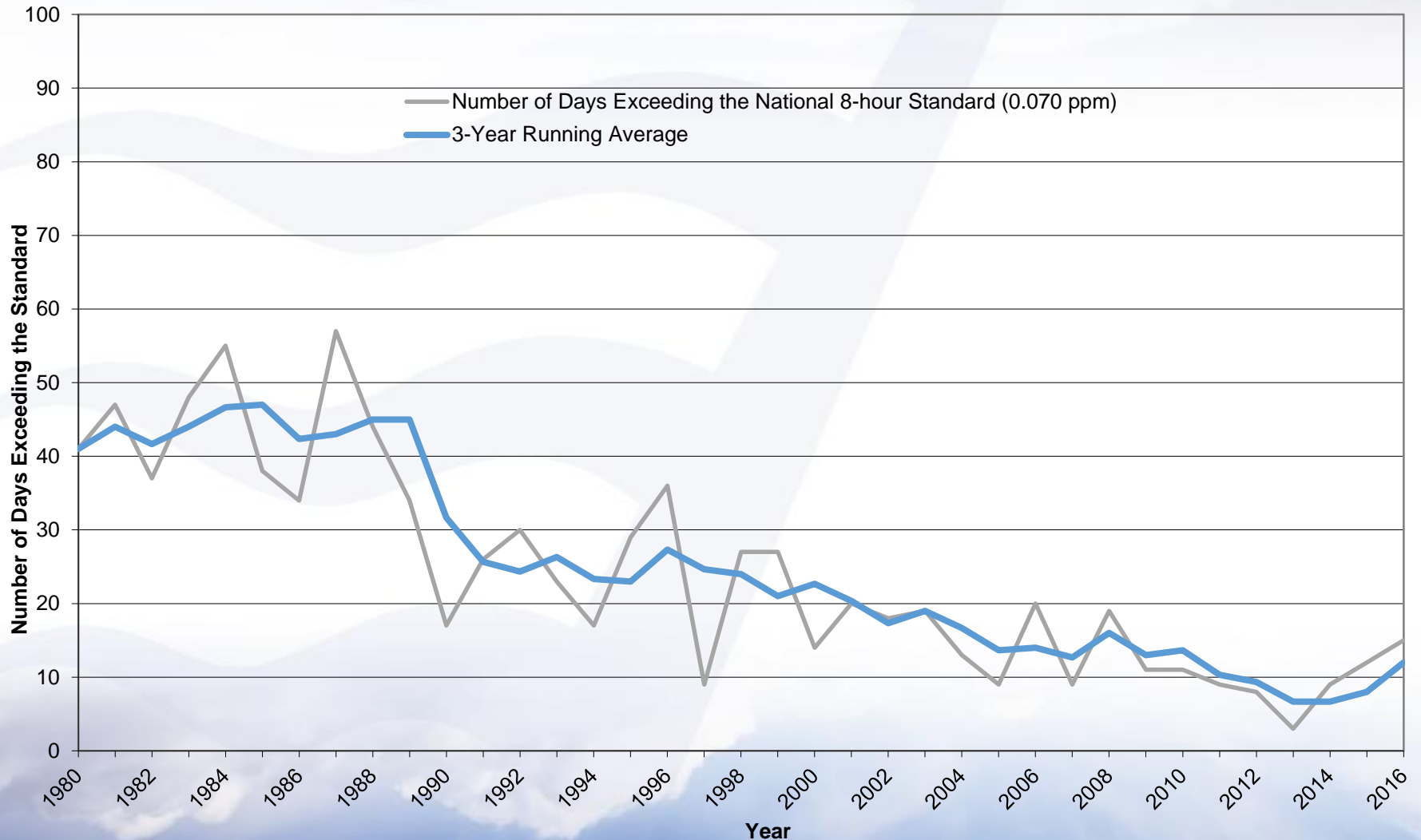


# BAY AREA AIR QUALITY CONCERNS

- Ozone (O<sub>3</sub>)
- Fine Particulate Matter (PM<sub>2.5</sub>)
- Toxic Air Contaminants (TACs)
- Climate Pollutants (e.g. GHG)



# OZONE EXCEEDANCE TRENDS 1980 TO PRESENT



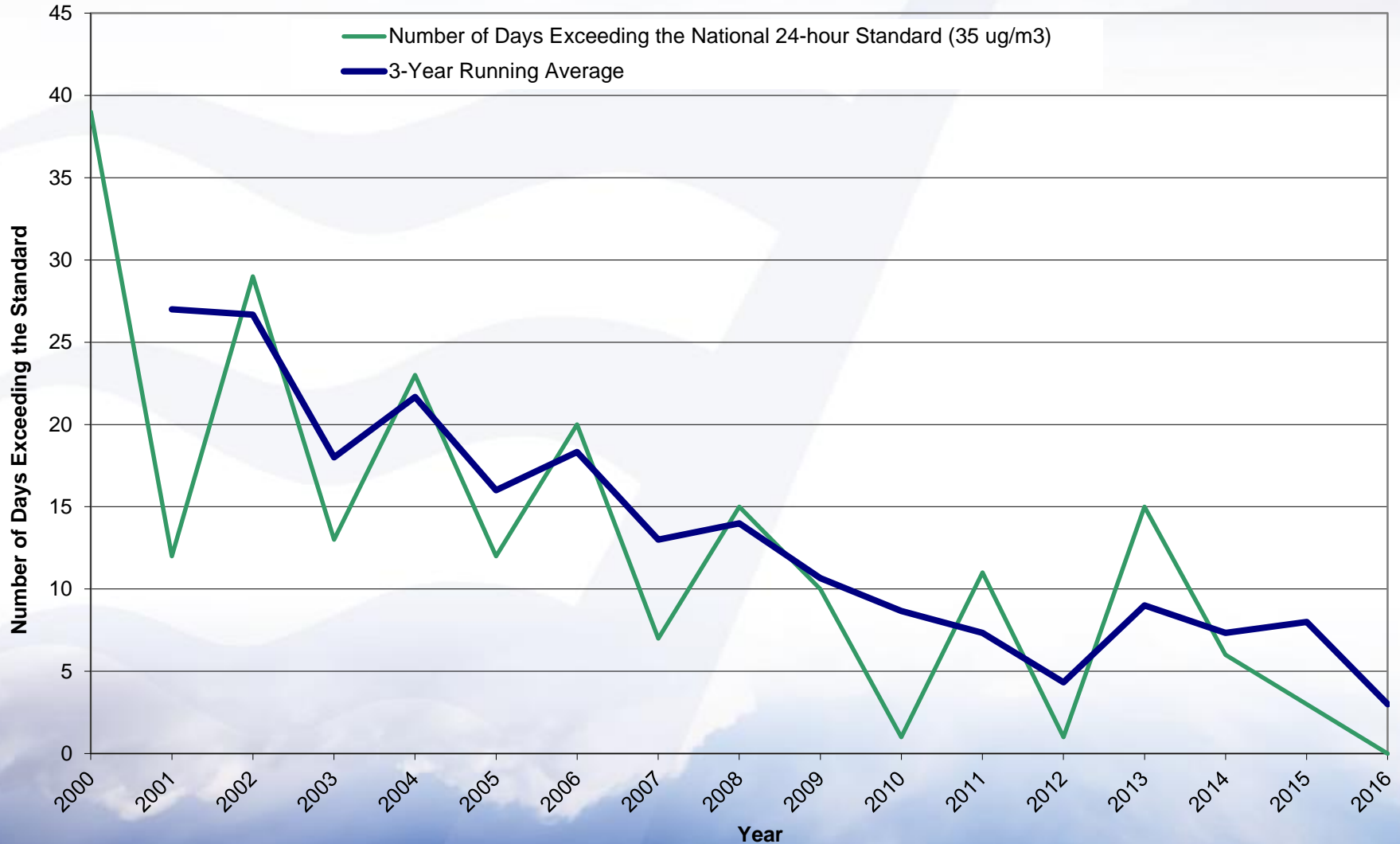




# PM<sub>2.5</sub> EXCEEDANCE TRENDS

## 2000 to Present

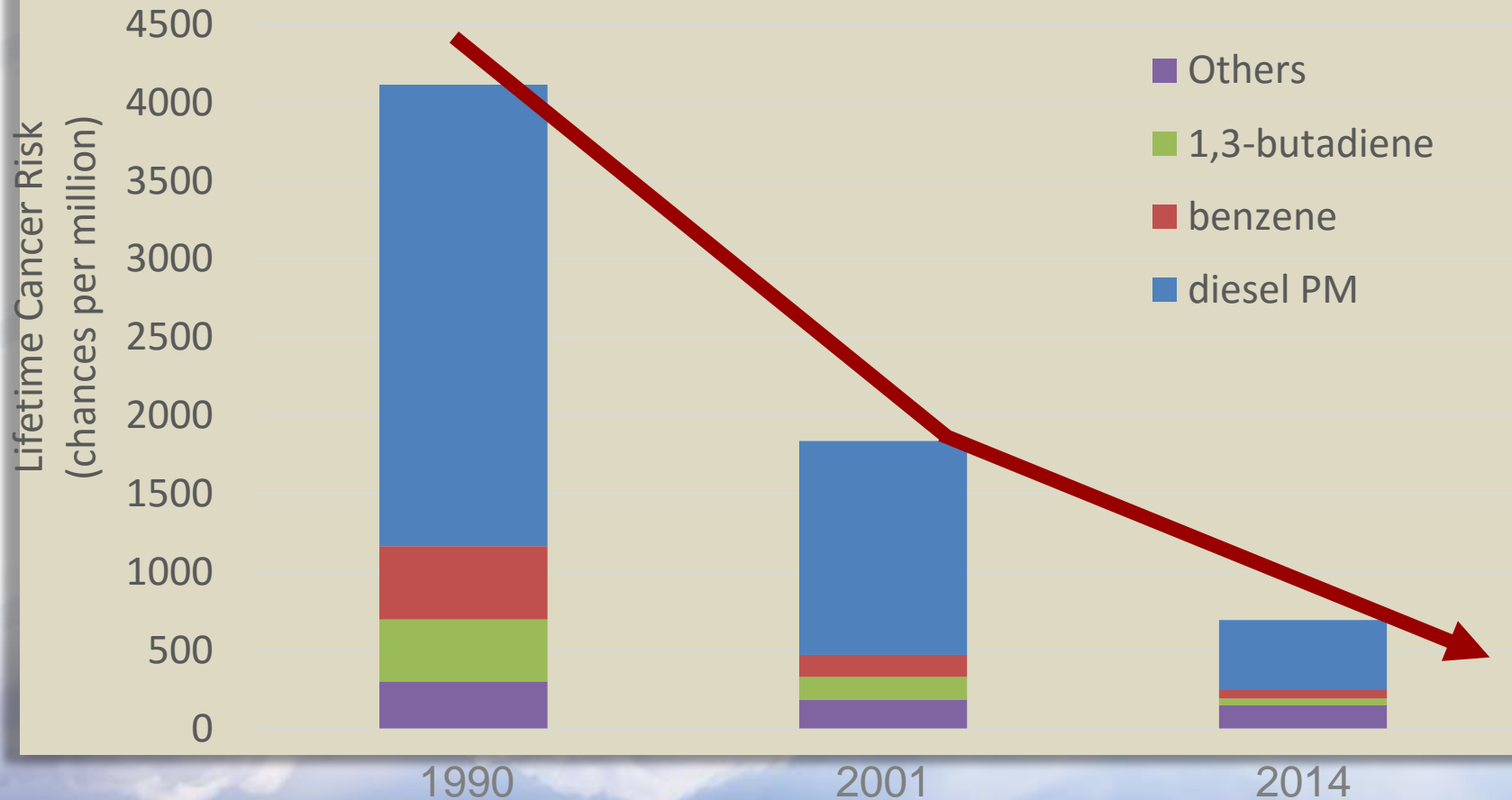
### Bay Area PM<sub>2.5</sub> Trend (March to February)





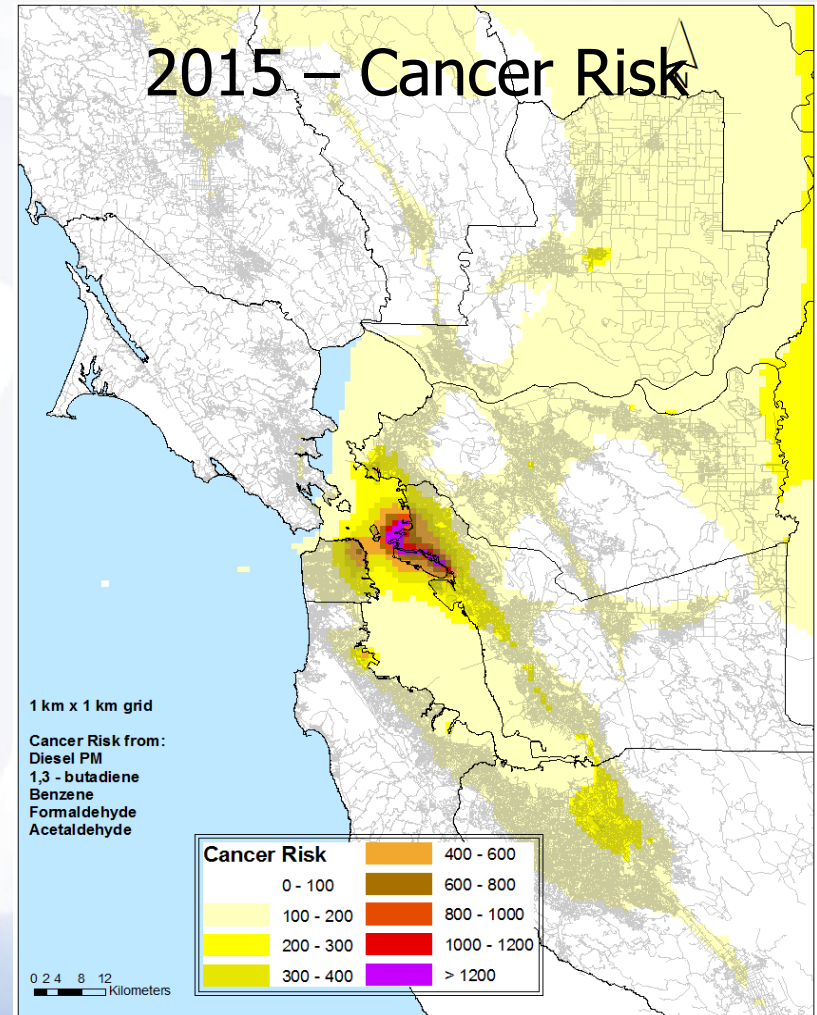
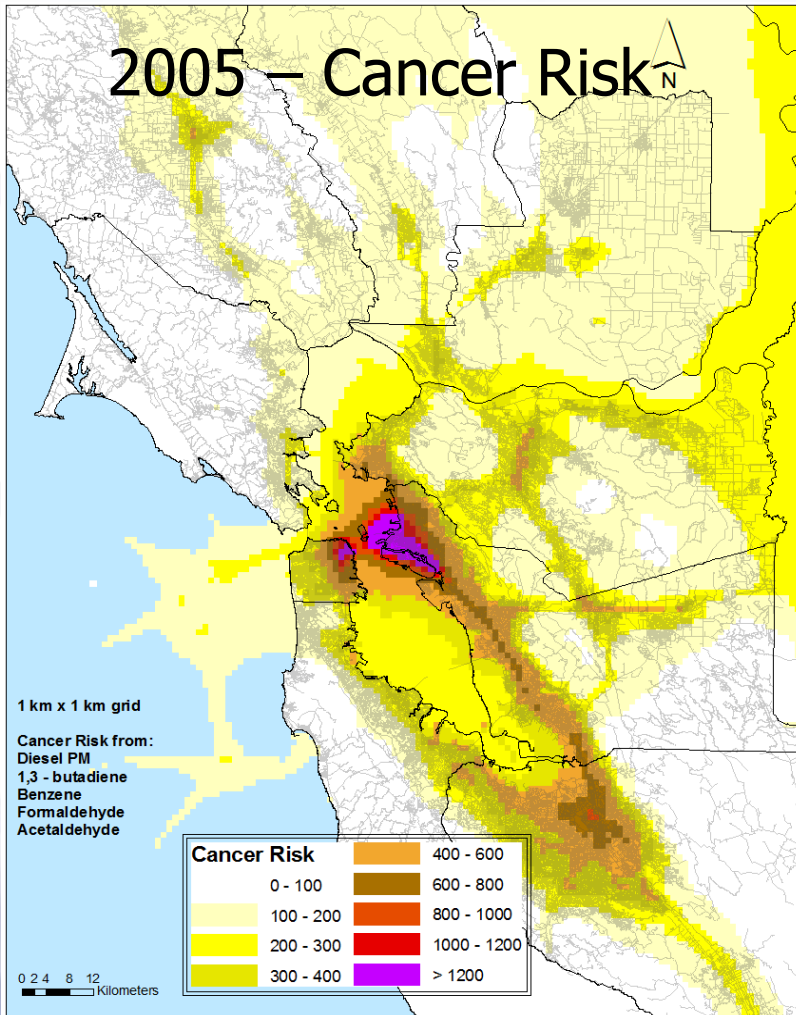
# TOXIC AIR CONTAMINANTS

## Bay Area health risk levels decline since 1990





# CARE Maps





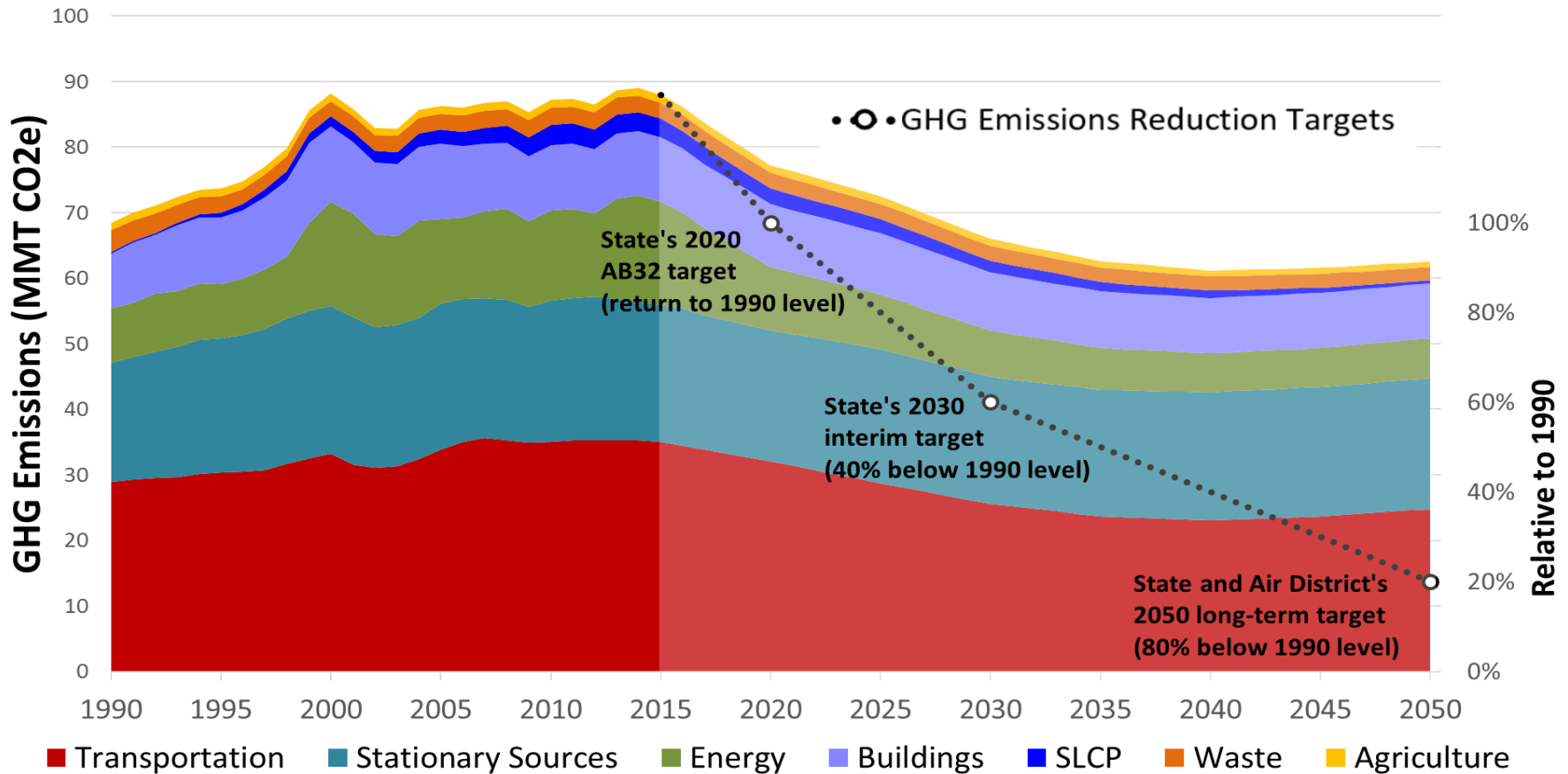
# HEALTH BENEFITS OF CLEANER AIR

- Air quality improvements have greatly benefited public health in the Bay Area
- Reduced ozone, reduced PM, reduced air toxics
- Bay Area health benefits of cleaner air since 1990:
  - Cancer risk from air pollution decreased six-fold, from 4,100 in a million to 690 in a million
  - Reduced health impacts from air pollution, including three-fold decrease in hospital admissions, ER visits for asthma, and premature deaths
  - Average life expectancy increased by one year



# BAY AREA GHG EMISSIONS TRENDS 1990 – 2050

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





# 2017 REGULATORY AGENDA

RULE	Date
Toxics Risk Cap (Reg. 11-18)	May 2017
Refinery Emissions Cap (Reg. 12-16)	May 2017
Fees (Reg. 3)	June 2017
Particulate Matter (Reg. 6, 6-1, 6-6, 6-7, 6-8)	July 2017
Oil and Gas (Reg. 8-37)	September 2017
Refinery Carbon Intensity Limits (Reg. 13-1)	October 2017
Permits (Reg. 2-1, 2-2)	November 2017





# Questions & Discussion

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# Air District Administrative Overview

**Jack P. Broadbent**

Executive Officer/Air Pollution Control Officer

**Jeff McKay**

Deputy Air Pollution Control Officer





# FINANCIAL SUMMARY

## RECENT HISTORY

- New Policy: 90% Funding Target for CalPers
- New Policy: 90% Funding Target for OPEB (Medical)
- CalPers Pre-fund in 2016 and 2017 Budget
- Careful Re-Staffing after years of attrition
- Revenue Exceeded Projections



# FINANCIAL SUMMARY

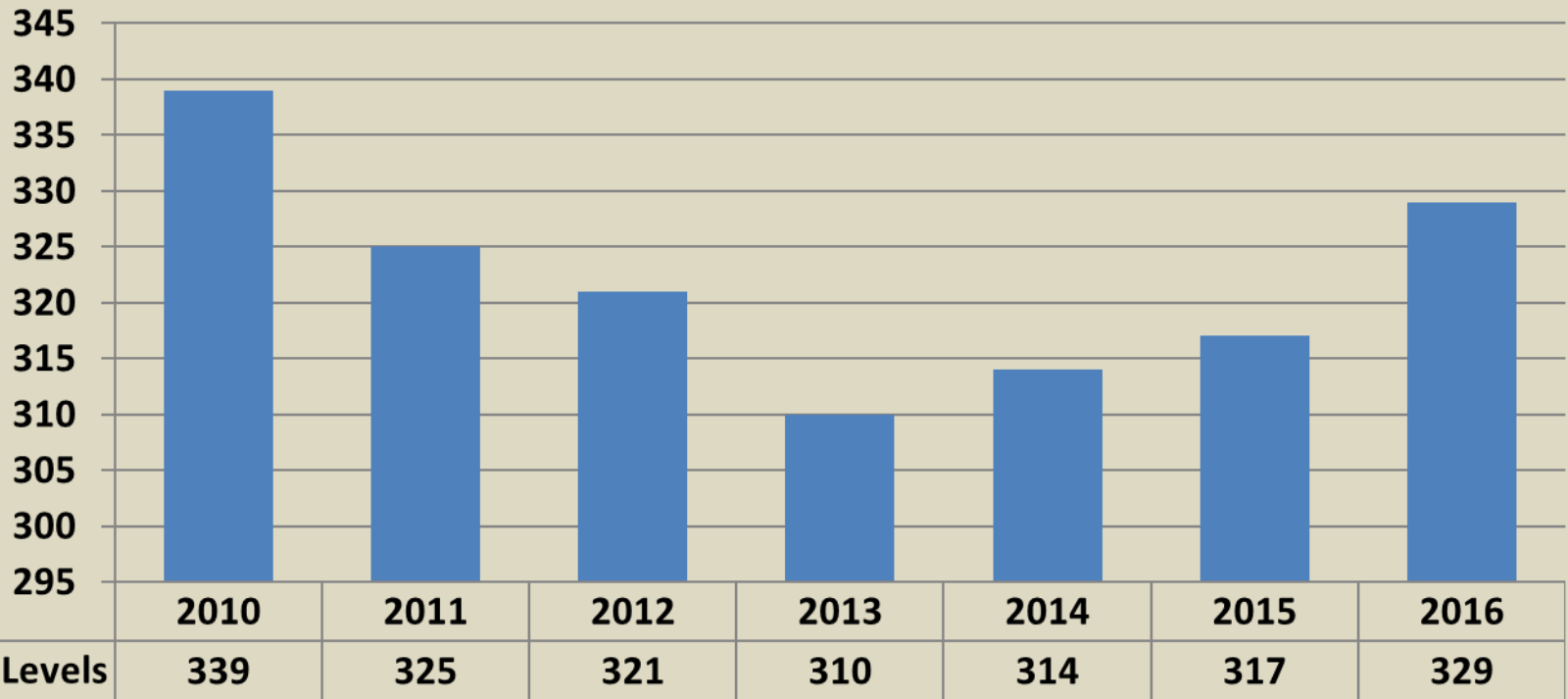
## TOPICS FOR FYE 2018 BUDGET

- Hiring for New and Enhanced Programs
- Movement towards Cost Recovery Enables Hiring
- Continue Funding Retirement Medical
  - (approximately \$30M unfunded)
- Continue CalPers Pre-Fund
  - (approximately \$60M unfunded)
- Transition from Lease to Mortgage and Condo Fees



# STAFFING UPDATE

Budgeted Positions	Vacancies	Percentage
345	15	4%



Staffing Levels



# PURCHASE OF 375 BEALE STREET

- Currently under Lease/Purchase Agreement
- Air District Financing completed November 2013
- Purchase Expected in first quarter 2017
  - 75,000 square feet at \$385 / square foot
- MTC, the Air District and ABAG will co-habit under terms of a Condominium Agreement
- A subsequent purchase of an additional 10,000 square feet may be brought to the Board



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# Clean Air Plan and Climate Protection Strategy

**Jack P. Broadbent**

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**Jean Roggenkamp**

Deputy Executive Officer



# CRITICAL CHALLENGES

## Climate Change

- The greatest common global challenge
- The biggest threat to our environment, economy, health and quality of life

## Health Inequities

- Equal access to healthy air is a fundamental right that still eludes many Bay Area residents

This Plan focuses on strategies that will help us meet both of these challenges



# WHAT IS THIS PLAN?

Multi-pollutant plan to update 2010 Clean Air Plan

A comprehensive strategy of 85 measures to:

- reduce ozone and PM throughout the region
- reduce toxics in impacted communities
- reduce GHGs toward long-range targets
  - 40% below 1990 levels by 2030
  - 80% below 1990 levels by 2050

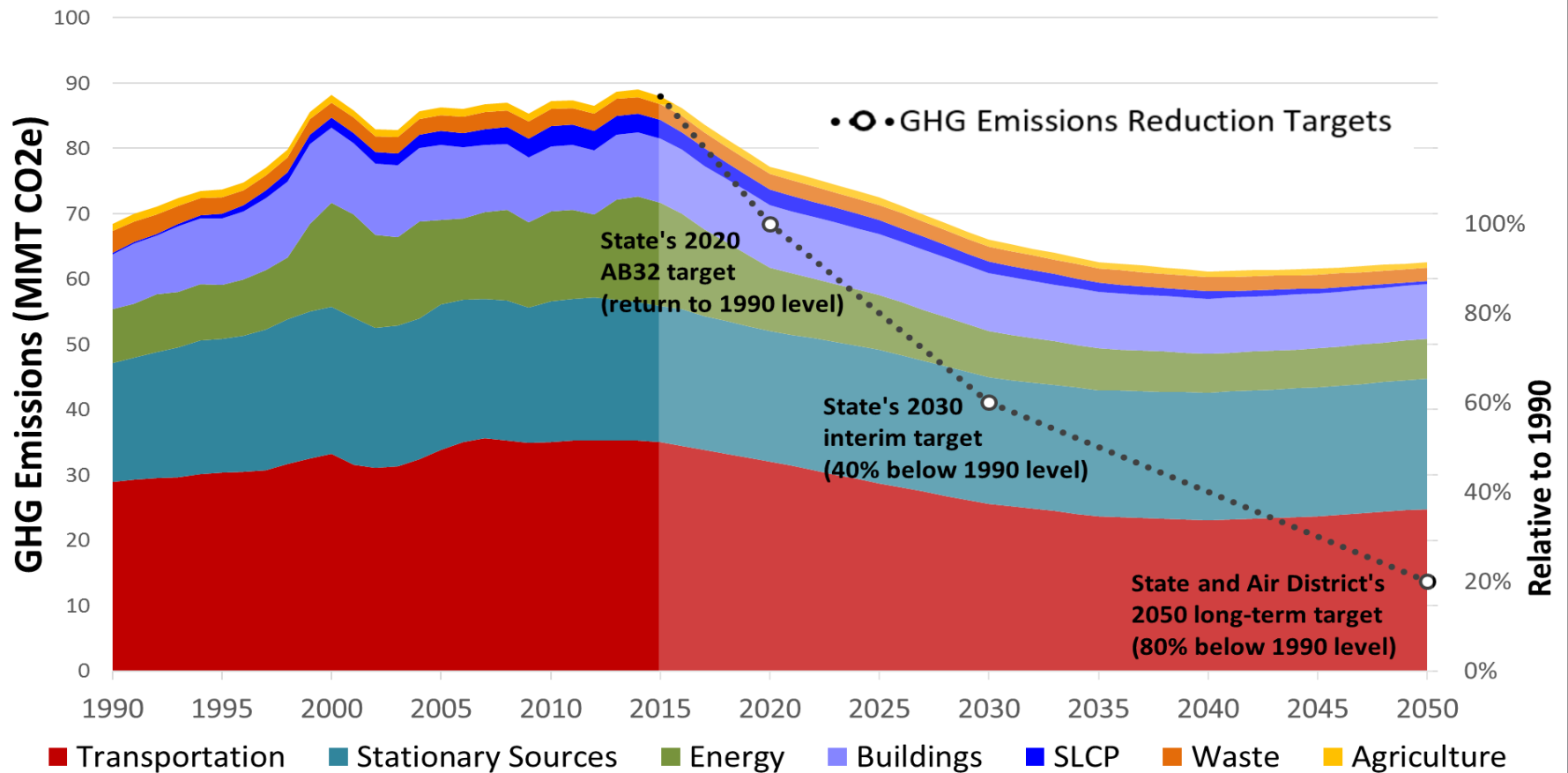
This Plan lays out a Bold Vision for a future Bay Area with a thriving economy, truly equitable access to healthy air, and a healthy, secure environment





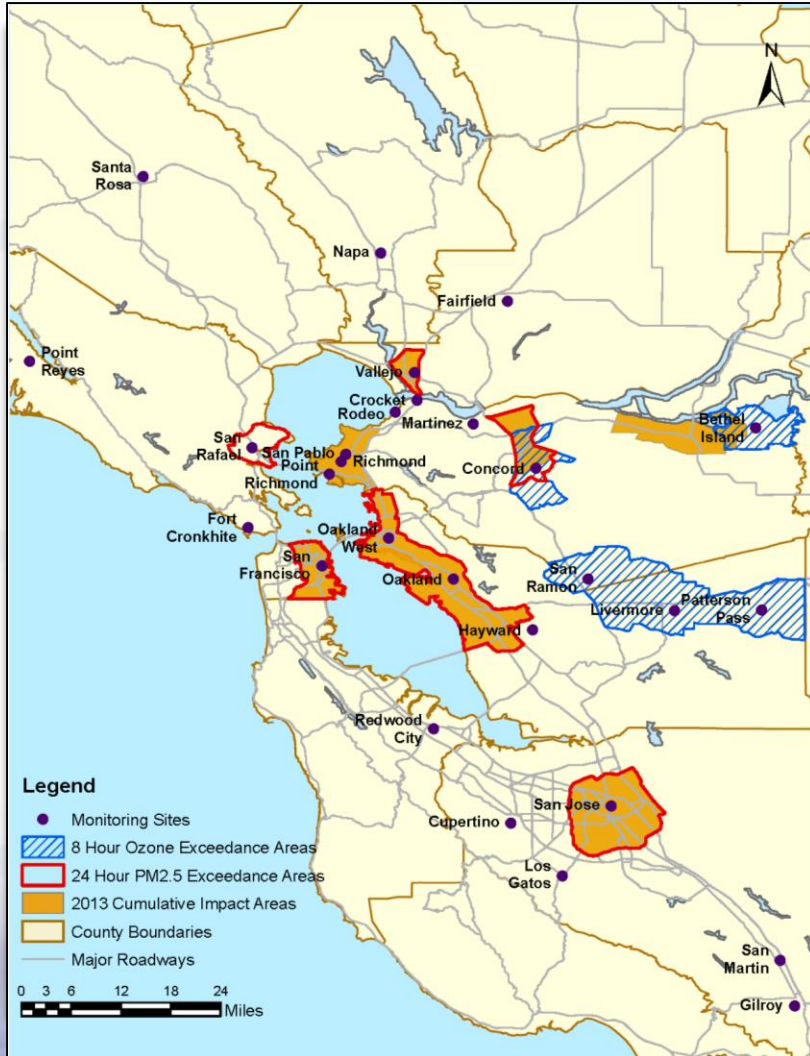
# CLIMATE CHALLENGE IN THE BAY AREA

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





# HEALTHY AIR FOR ALL BAY AREA RESIDENTS



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

Locally: *eliminate disparities* in local exposure to air pollution

# WHERE DO WE WANT TO BE IN 2050?



## Laying out a Bold Vision for a future Bay Area

- GHG emissions have been reduced by over 80%
- Disparities in health risk from air pollution have been eliminated
- Buildings are fossil-fuel free
- Transportation based on EVs and renewable diesel
- Half of all trips are via transit, biking or walking
- Power supply is nearly 100% renewable
- Oil companies/refineries become clean energy companies
- Organics are cut from waste stream and put to productive use





# HOW DOES THIS PLAN GET US THERE?

It sets us on a path to 2050 by laying out specific actions the Air District will take over the next 3-5 years

## Key Priorities in the Plan:

- Reduce emissions of criteria pollutants and toxic air contaminants from all sources
- Reduce emissions of “super-GHGs” such as methane
- Reduce demand for fossil fuels
- Decarbonize the energy system



# PRIORITY ACTIONS

- Develop region-wide rule-making approach to reduce risk and emissions from many sources comprehensively
  - Health risk from toxic air contaminants
  - Methane and fossil fuel combustion
- Limit GHG and criteria pollutant emissions from refineries
- Provide guidance, model ordinances, best practices and other tools to local gov'ts for low carbon buildings, waste reduction, etc.
- Work with MTC/local governments to reduce VMT
- Implement a comprehensive approach to transition energy use in buildings from natural gas to efficiency and renewable energy
- Continue to incentivize EVs & EV infrastructure



# INPUT INTO THIS PLAN

## Outreach

- Convened stakeholder meetings in each county
- Met with subject matter experts
- Convened external working groups
- Convened open houses and workshops
- Posted draft control measures for public review and comment
- Incorporated Advisory Council recommendations

## Research

- Researched state, regional and local air quality and climate plans
- Considered Plan Bay Area land-use and transportation strategies
- Considered key State documents and programs





# BAY AREA LEADERSHIP

We are embarking on an unprecedented journey to lead the Bay Area to a better future

- Every household, business and individual has tremendous power to make a difference
- We can do this together! The Bay Area has:
  - The brightest minds
  - A culture of innovation
  - The most committed populace
  - A blueprint for the first leg of this journey



# NEXT STEPS

- January 11 – February 28: Public comment period on Draft Plan and Draft EIR
- January 30 – February 8: Eight Open Houses
- February – March: Revisions to Draft Plan and Draft EIR per public comments
- April 19: Board Hearing on 2017 Plan and Final EIR

*Implementation on many control measures has already begun and is moving forward concurrently with this plan adoption schedule.*





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# Technology Implementation Office

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Executive Officer/Air Pollution Control Officer

**Damian Breen**

Deputy Air Pollution Control Officer



# THE VISION

- Draft Clean Air Plan proposes a post-carbon Bay Area by 2050
- To achieve this vision, significant changes will be needed in:
  - Where we live and work
  - How and where we travel
  - What we produce
  - What we consume
- Regulated facilities will need to change how they operate in order to achieve this vision



# THE NEED

- Implementation of lower carbon intensity practices has lagged at regulated facilities
- Heavy industry has not bounced back as quickly as the rest of the economy
- A “knowledge gap” exists relative to cost effective CO<sub>2</sub> emissions reductions technologies
- Energy efficiency has not been embraced as quickly as necessary to meet CAP 2050 goals
- Zero emissions vehicle deployment and smart/connective technologies still require support



# WHY IMPLEMENTATION VERSUS DEVELOPMENT

## Development

- Technology experimental and not commercially available
- Additional testing and pilots needed for proof of concept
- Higher cost
- Higher proportion of start up companies

## Implementation

- Technology commercially available
- Technologies demonstrated in practice
- Lower cost
- Higher proportion of major manufactures



# TIO MISSION STATEMENT

*Establish the Air District as a catalyst for innovation in the field of greenhouse gas emissions reduction by deploying disruptive, low-cost solutions in the areas of zero emissions vehicles and smart/connected technologies; and zero emissions energy generation and efficiency technologies.*



# TIO CONCEPTS

## Resource Requirements

- 6 FTE led by an Officer Level Position
- Consider use of several million dollars in general fund reserves to seed the TIO
- Seek matching funding via the Air District's Foundation from private industry based on the concept of "challenge grants to implement disruptive greenhouse gas reduction technologies"
- Harness the Silicon Valley innovation machine relative to green technology
- Investigate the feasibility of a revolving fund using general fund seed monies



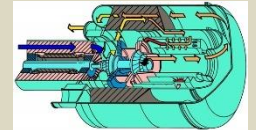


# IMPLEMENTATION PROJECTS - EXAMPLES

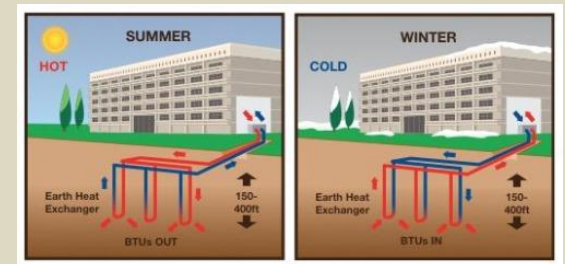
- Gas micro turbines for combined heat and power
- Hydrogen fuel cells for combined heat and power
- Carbon sequestration/hydrogen generation from natural gas
- Renewable diesel from renewable natural gas
- Battery storage for renewable power
- Geothermal water heating and cooling



Source – Fuel Cell and Hydrogen Energy Association



Source – PESwiki.com - PowerPedia:Gas turbine



Source – Advance Heat and Air Company





# NEXT STEPS

- Hire Officer Level Position
- Further refine the resource need in the fiscal year ending 2018 budget
- Consider retooling the Foundation to assist the TIO
- Check-in with Board of Directors on TIO development



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# Update on Community Programs

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# **ENGAGEMENT WITHIN OUR DIVERSE COMMUNITIES**



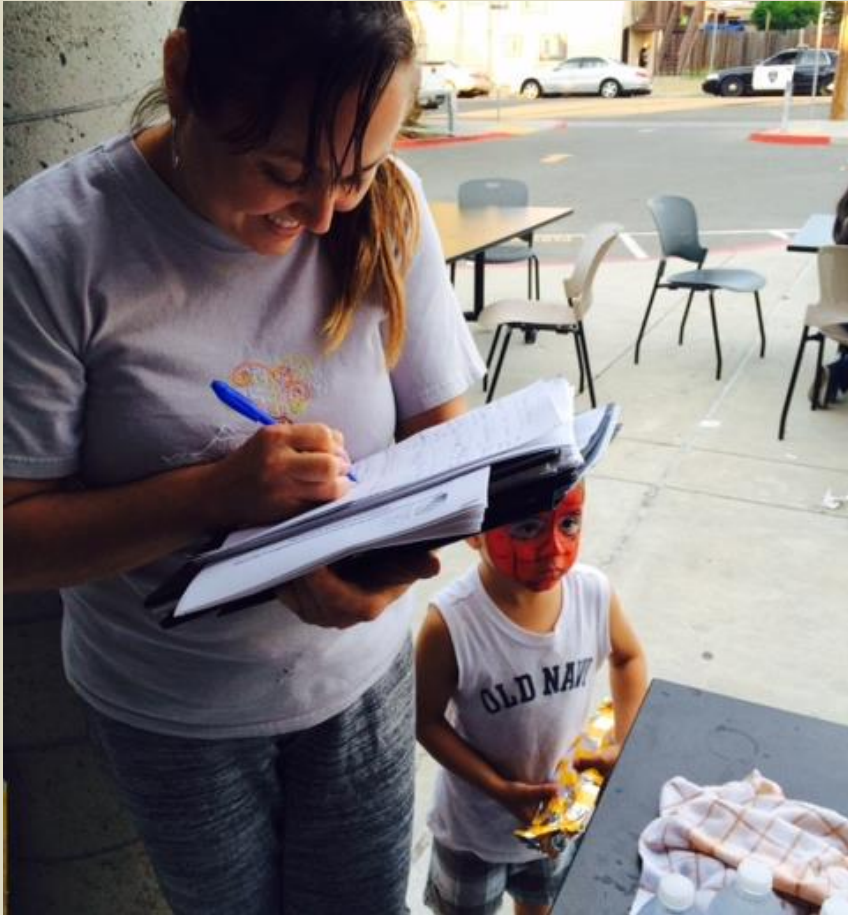
# ADVISORY BODIES AND COMMUNITY LISTENING SESSION







# COMMUNITY STAKEHOLDER MEETINGS – IVAN (INTERVIEW W/BRADLEY AND MARIE)





# RESOURCE TEAMS







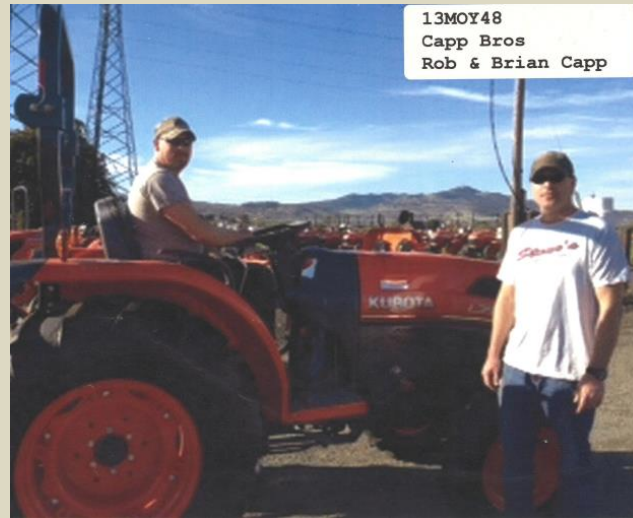
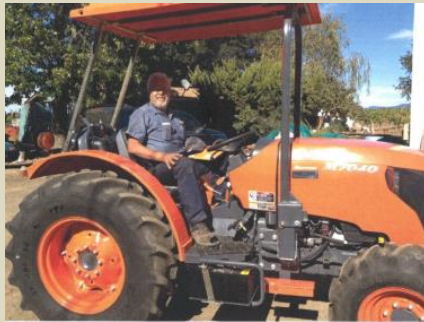
# PITTSBURG - FREEDOM BREATHERS

- Clip – Pamela Arruz – Freedom Breather's





# MARIN/NAPA – SID INVESTMENTS





# JAMES CARY SMITH COMMUNITY GRANTS PROGRAM





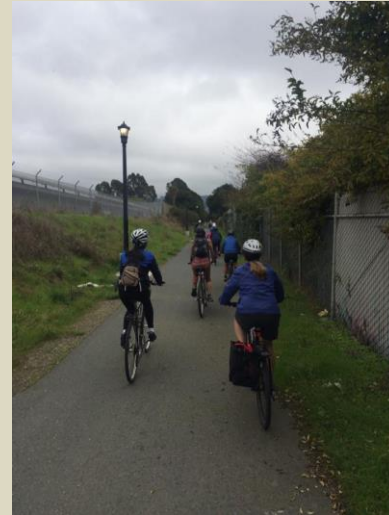
# Oakland - Rose Foundation/Bay Localize/Emilia Zapata Street Academy







# RICHMOND/RICH CITY RIDES





# **REGIONAL ENGAGEMENT EFFORTS**



# 2016 YES CONFERENCE







**“The entirety of the conference made me feel  
EMPOWERED by CONNECTING ME with others who CARE  
ABOUT THE ENVIRONMENT.” – Rachel Jackson, YMCA  
Diablo Valley Youth & Government**







# CUMULATIVE IMPACT FORUM







# CLIMATE FORWARD AND CLEAN AIR OPEN HOUSES





# PUBLIC PARTICIPATION PLAN – COMMUNITY AIR RISK EVALUATION TO COMMUNITY AIR RISK ENGAGEMENT





# **NEXT STEPS ON THE ROAD**



# COMMUNITY SCIENCE PARTNERSHIPS - BANRS







# KYOTO USA – BAY AREA SCHOOL PARTNERSHIPS





# VEGETATIVE BUFFER PROJECT – BROOKFIELD SCHOOL





# ENGAGING FOR A DIFFERENCE: BEFORE AND AFTER







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# Questions & Discussion Update on Community Programs

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# Upcoming Committee Assignments and Goals

**Chairperson Liz Kniss**  
Board of Directors

# Winter PM<sub>2.5</sub> Seasons

Year	Days > 35 μg/m <sup>3</sup>	Winter Spare the Air Alerts
2013/2014	15	30
2014/2015	6	23
2015/2016	0	1
2016/2017	0	5

- **Spare the Air Alert Called for:** 12/19/16, 12/20/16, 12/21/16, 12/22/16, 1/17/17
- **Days > 35 μg/m<sup>3</sup> 24-hr NAAQS:**