



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

AGENDA: 8

Addressing Refinery Emissions

**Report of the Stationary Source
Committee Meeting of June 1, 2016**

**Greg Nudd
Rule Development Manager
June 15, 2016**



Overview

- Recent and upcoming rulemaking addressing refinery emissions
- Need for additional rulemaking
- Staff Evaluation
- Staff Recommendation
- Next Steps



Recent Rulemaking: Criteria and Toxic Pollutants

Five Rules Adopted

- **Rule 6-5: FCCUs**
 - Reduces PM_{2.5} emissions from the largest sources at the refineries.
- **Rule 8-18: Equipment Leaks**
 - Reduces emissions of hydrocarbons, including air toxics, from leaking equipment.
- **Rule 11-10: Cooling Towers**
 - Requires rapid detection of leaks in cooling towers reducing emissions of hydrocarbons, air toxics and PM_{2.5}.
- **Rule 9-14: Coke Calcining**
 - Reduces sulfur dioxide (SO₂) emissions from coke calcining reducing formation of PM_{2.5} in the atmosphere.
- **Rule 12-15: Emissions Tracking**
 - Requires more monitoring, better emissions calculations, and crude slate data.

Upcoming Rulemaking: Toxic Pollutants

- **Rule 2-5: Toxics New Source Review**
 - Incorporate new, more health protective guidelines from the Office of Environmental Health Hazard Assessment (OEHHA) into permit review for new facilities.
 - Board action in September 2016.
- **Toxics For Existing Facilities Rule**
 - Incorporate new OEHHA guidance into program for existing facilities.
 - Action required from all facilities (including refineries) with an estimated cancer health risk greater than 10/million.
 - Impacted facilities must install Toxic Best Available Retrofit Control Technology (TBARCT) on all significant sources of Air Toxics.
 - Board action in 4th Quarter of 2017.



Upcoming Rulemaking: Permitting

- **Require Best Available Control Technology (BACT) for new large sources of GHGs.**
 - Applies to new and modified sources
 - Significantly more stringent than EPA requirements
- **Require permit review for significant changes in crude oil physical characteristics.**
 - Proactive, requires review before changes are made.
 - Require toxics review, BACT and offsets for increases above already permitted levels.

Remaining Issues

- **Refinery GHG emissions are significant**
 - 16 million metric tons of CO₂ per year
 - Emissions are stable, but lower than when ARB data reporting started in 2008
 - Under current ARB rules, these emissions are allowed to increase in the Bay Area as long as there is a decrease of GHG globally
- **Changing crude slates may increase emissions of GHGs and criteria pollutants**
 - Refineries have permits for some projects and are pursuing additional projects due to decreases in crude oil from traditional oil fields
 - Rule 12-15 will monitor this issue
- **Rule 12-16 will focus on these issues**



Staff Evaluation of Options for Rule 12-16

Criteria	Refinery-Wide Combustion Reduction	BARCT Approach	Emissions Cap	Focus on Methane
Leveraging other GHG reduction goals	High	High	Low	Low
Simultaneous reductions of other pollutants	High	Medium	Low	Medium
Within Air District authority	Medium	High	Medium	High
CEQA Implications / Impacts	Medium	Medium	Medium	Medium
Process Transparency	Low	High	High	High
Implementation Speed / Complexity	Medium	Low	High	Medium
Technology Benefits / Innovation	Medium	High	Low	Medium



Staff Approach for Options

- **Refinery-Wide Emission Reductions**
 - Further analyze carbon/energy intensity limits as the preferred approach for Rule 12-16.
- **BARCT Approach**
 - Proceed with Bay Area-wide combustion emissions reduction rules for reducing GHG, criteria and toxic emissions from boilers and heaters, including at refineries.
- **Emission Caps**
 - Do not pursue due to legal challenges, interference with Cap and Trade.
- **Focus on Methane**
 - Proceed with Bay Area-wide approach for identifying and controlling methane emissions including at the refineries.

Recommended Approach for Rule 12-16

Energy Intensity/Carbon Intensity Limits:

- Ensures that GHG emissions per barrel do not increase
- Could prevent local refineries from focusing on heavier, more sulfurous crude oil sources
- Would have to be:
 - Technically and economically feasible
 - Legally defensible
 - Account for existing disparities in refinery efficiency
 - Complement and not conflict with Cap and Trade and the Low Carbon Fuel Standard



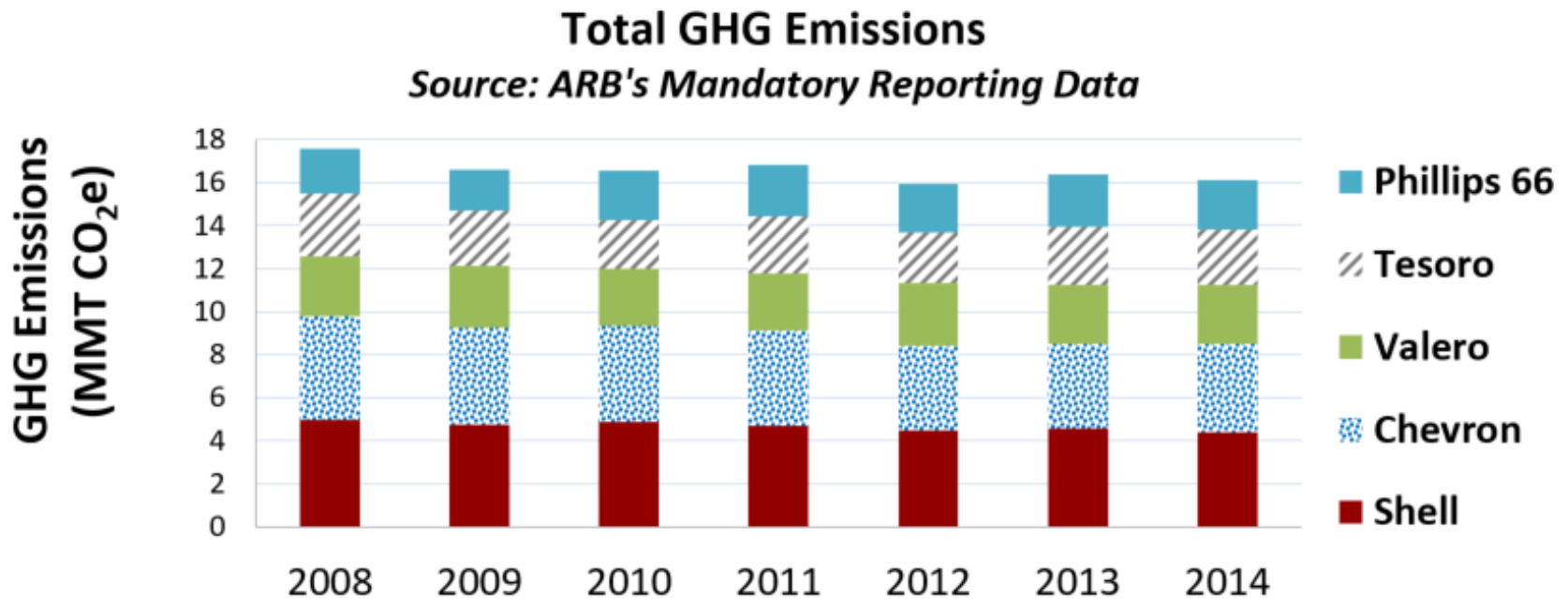


Next Steps

- Develop detailed engineering and legal analysis of proposed approach
- Participate in detailed discussions with ARB
- Continue stakeholder input and participation
- Publish draft rule language and supporting materials
- Prepare CEQA and socioeconomic reports
- Coordinate and host Workshops / Open Houses
- Recommend Board adoption

*June 15, 2016
Slide 10*

Refinery GHG Emission Trends

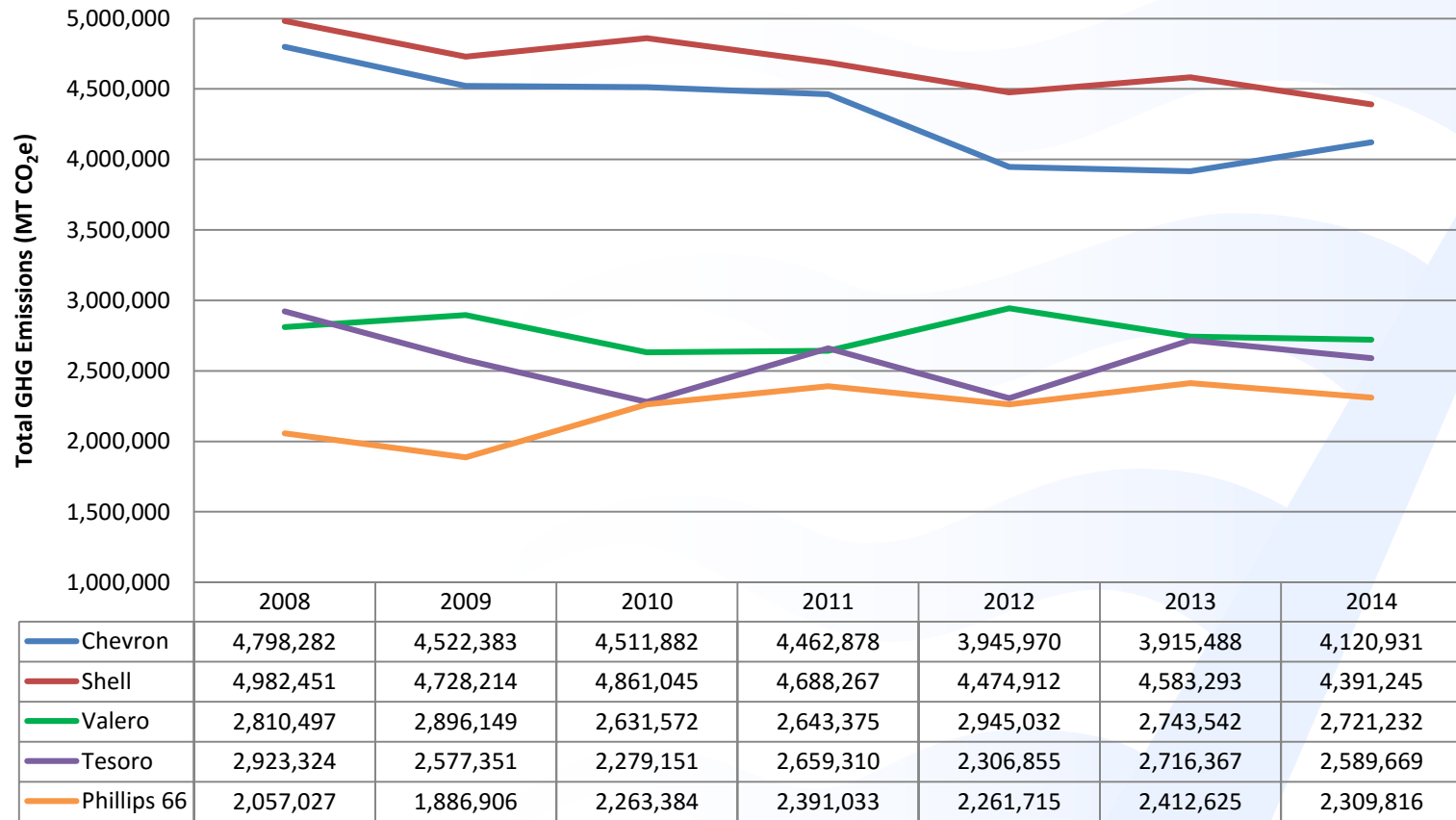


- GHG emissions from the refinery sector are stable; slightly lower than when ARB began the reporting program in 2008.
- The chart above includes emissions from supporting facilities such as hydrogen plants.

June 15, 2016
Slide 12

GHG Emission Trends by Refinery

ARB GHG Data: Total GHG Emissions



Addressing Community Concerns about Refinery Pollution

Concern	Air District Response
<p>1. Health impacts from fine particulate matter (PM_{2.5}) emissions</p>	<ul style="list-style-type: none"> • The largest sources of PM_{2.5} at the refineries are fluid catalytic cracking units. Rule 6-5, approved in December 2015 is designed to substantially reduce emissions from this equipment. • Additional community air monitors are being put in place and will be used to ensure health standards are not exceeded in refinery communities. • New rules focused on combustion emissions will further reduce emissions of PM_{2.5} and precursors by requiring energy-efficiency upgrades. • There is no evidence PM_{2.5} emissions are increasing. • However, a new approach may be needed to guard against PM_{2.5} increases due to significant changes in crude characteristics.
<p>2. Health impacts from toxic air pollutants</p>	<ul style="list-style-type: none"> • Fence-line monitoring, required under Rule 12-15 approved in April 2016, will help identify opportunities to further reduce emissions of benzene. Benzene emissions are the most significant toxic health risk from refineries. • All <u>new sources</u> will be subject to more stringent and protective permitting rules under an update to Rule 2-5, which will be brought to the Board in September. • For <u>existing sources</u>, a new, more stringent approach to toxics from existing sources will be brought to the Board in 2017. This rule will require significant pollution reductions from many facilities, including refineries.
<p>3. Refinery pollution may increase as refineries move to different sources of crude oil</p>	<ul style="list-style-type: none"> • Rule 12-15 will establish a baseline for emission-related crude characteristics and will track changes in crude composition and emissions on an ongoing basis. • Upcoming rulemaking will require permit review for significant changes in crude oil characteristics. • However, a new approach may be needed to guard against increases in ozone and particulate matter precursor pollution due to significant changes in crude characteristics.
<p>4. Refinery GHG emissions are high and may increase</p>	<ul style="list-style-type: none"> • GHG emissions from refinery operations are stable and are down from 2008 when ARB started collecting data. • New rules focused on combustion emissions will reduce GHG emissions from sources across the Bay Area, including the refineries. • However, a new approach may be needed to guard against increases in GHGs due to significant changes in crude characteristics.

Proposed Approach for Rule 12-6

Air District staff's analysis of concerns about refinery pollution noted some potential gaps in the current regulatory program for refineries. So, in addition to the current and planned rule development to address refinery pollution, Air District staff recommends further detailed analysis of an additional approach:

Setting Refinery Energy Intensity or Carbon Intensity Limits

- Ensures that GHG emissions per barrel do not increase
- Could prevent local refineries from focusing on heavier, more sulfurous crude oil
- Would have to:
 - Be technically and economically feasible
 - Be legally defensible
 - Account for existing differences in refinery efficiency
 - Complement and not conflict with Cap and Trade and the Low Carbon Fuel Standard

Next Steps

- Develop detailed engineering and legal analysis of the approach
- Participate in detailed discussions with ARB
- Continue stakeholder input and participation
- Publish draft rule language and supporting materials
- Prepare California Environmental Quality Act (CEQA) and socioeconomic reports
- Coordinate and host Workshops / Open Houses
- Recommend Board adoption



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Efficacy of Refinery GHG Caps: Status Report

Presentation to Board of Directors
By BAAQMD Advisory Council
June 15, 2016



Advisory Council: Members

Member	Background	Air Pollution	Health	Climate
Stan Hayes	Member and former chair, Advisory Council (1995-2007, 2009-); Principal Emeritus, Ramboll Environ; 40 years, air research consulting	X	X	X
Severin Borenstein	Professor of Business Administration and Public Policy, Haas School of Business, University of California, Berkeley			X
Tam Doduc	Member and former chair, State Water Resources Control Board; served as Deputy Secretary, Cal/EPA, directed environmental justice	X	X	
Robert Harley	Professor, Civil Engineering, Chair, Energy, Civil Infrastructure and Climate Environmental Engineering, University of California, Berkeley; former member, Advisory Council	X		
Michael Kleinman	Professor, Environmental Toxicology, Co-Director, Air Pollution Health Effects Laboratory, Adjunct Professor, College of Medicine, University of California, Irvine	X	X	
Tim Lipman	Co-Director, Transportation Sustainability Research Center, energy and environmental technology, economics, and policy researcher and lecturer; University of California, Berkeley	X		X
Jane CS Long	Senior Contributing Scientist, Environmental Defense Fund; Chair, California's Energy Future Committee, California Council on Science and Technology			X



Advisory Council: Question



First Key Question:

What is the efficacy of imposing numeric caps on Greenhouse Gas emissions from Bay Area refineries?





Advisory Council: Meetings – Full Day

- **December 3**
 - Kick-off
 - Key Question
 - Regulatory Background (BAAQMD)
- **February 3**
 - Cap-and-Trade (CARB)
 - Bay Area Refinery Regulations (BAAQMD)
- **April 25**
 - Stakeholders: NGOs (CBE, 350 Bay Area letter), Industry (CCEEB, WSPA)
 - Crude Slate (CEC), Low Carbon Fuel Standard (CARB)
- **July 18**
 - Review of District alternatives to caps
 - Finalize recommendations



Advisory Council: Speakers & Discussion

- **Bay Area Air Quality Management District**
 - Jack Broadbent, Executive Officer
 - Brian Bunger, General Counsel
 - Jeff McKay, Deputy APCO
 - Jim Karas, Director of Engineering
 - Henry Hilken, Director of Planning and Climate Protection
- **California Air Resources Board**
 - Richard Corey, Executive Officer
 - Sam Wade, Chief, Transportation and Fuels Branch
 - Jason Gray, Manager, Climate Change Market Monitoring Section
- **California Energy Commission**
 - Gordon Schremp, Senior Fuels Specialist
- **Stakeholders**
 - Communities for a Better Environment (CBE) – Greg Karras
 - 350 Bay Area – Letter
 - California Council for Environmental and Economic Balance (CCEEB) and Western States Petroleum Association (WSPA) – Bill Quinn and Berman Olbaldia; Gary Rubenstein, Sierra Research on behalf of CCEEB and WSPA



Council Deliberations: Progress to Date

- **Background**
- Guiding **Principles**
- Preliminary **Conclusions**
- **Next** Steps



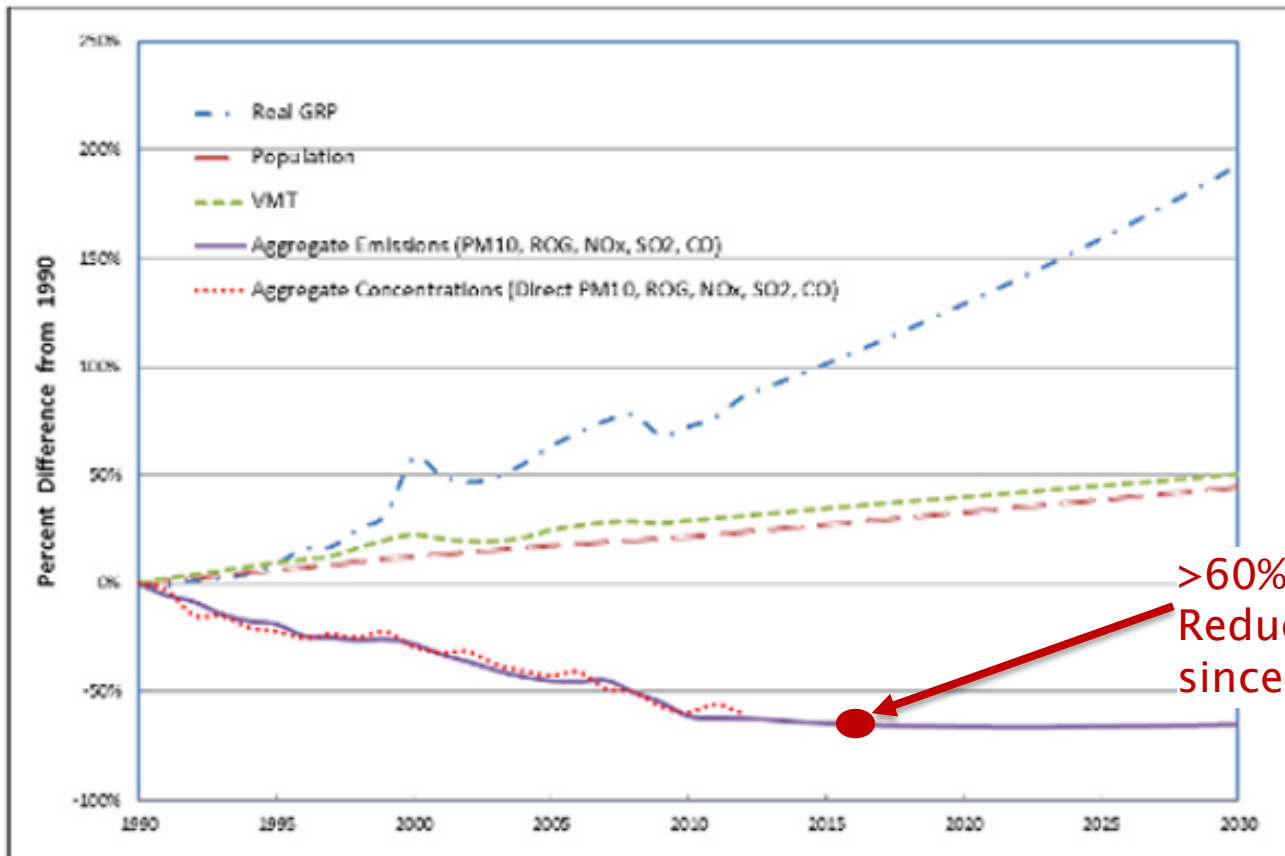
Background: District Mission

*“The Air District aims to **create a healthy breathing environment** for every Bay Area resident while protecting and improving public health, air quality, and the global climate.”*

- **Criteria Pollutants**
- **Toxics**
- **GHG**

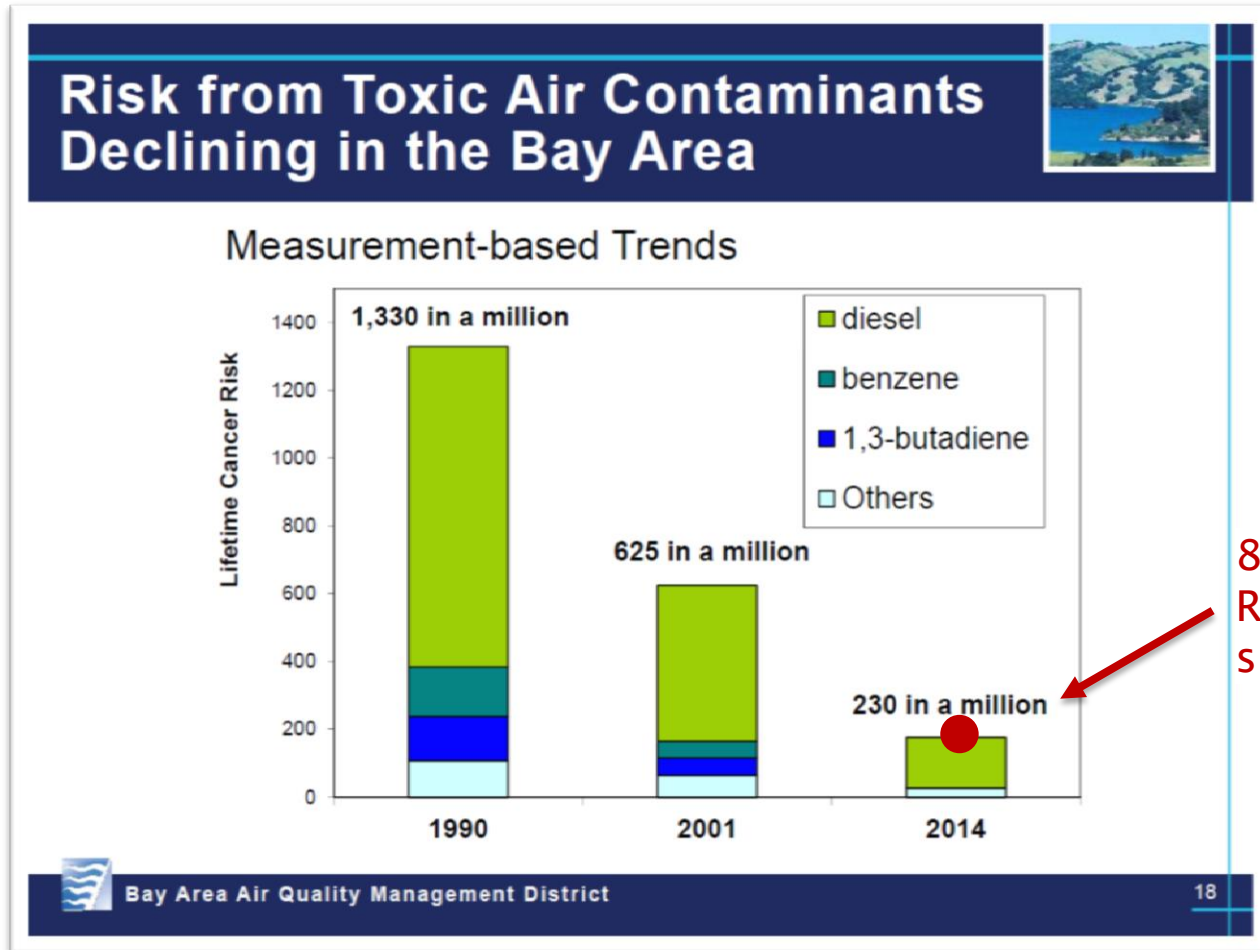


Background: Criteria Pollutants



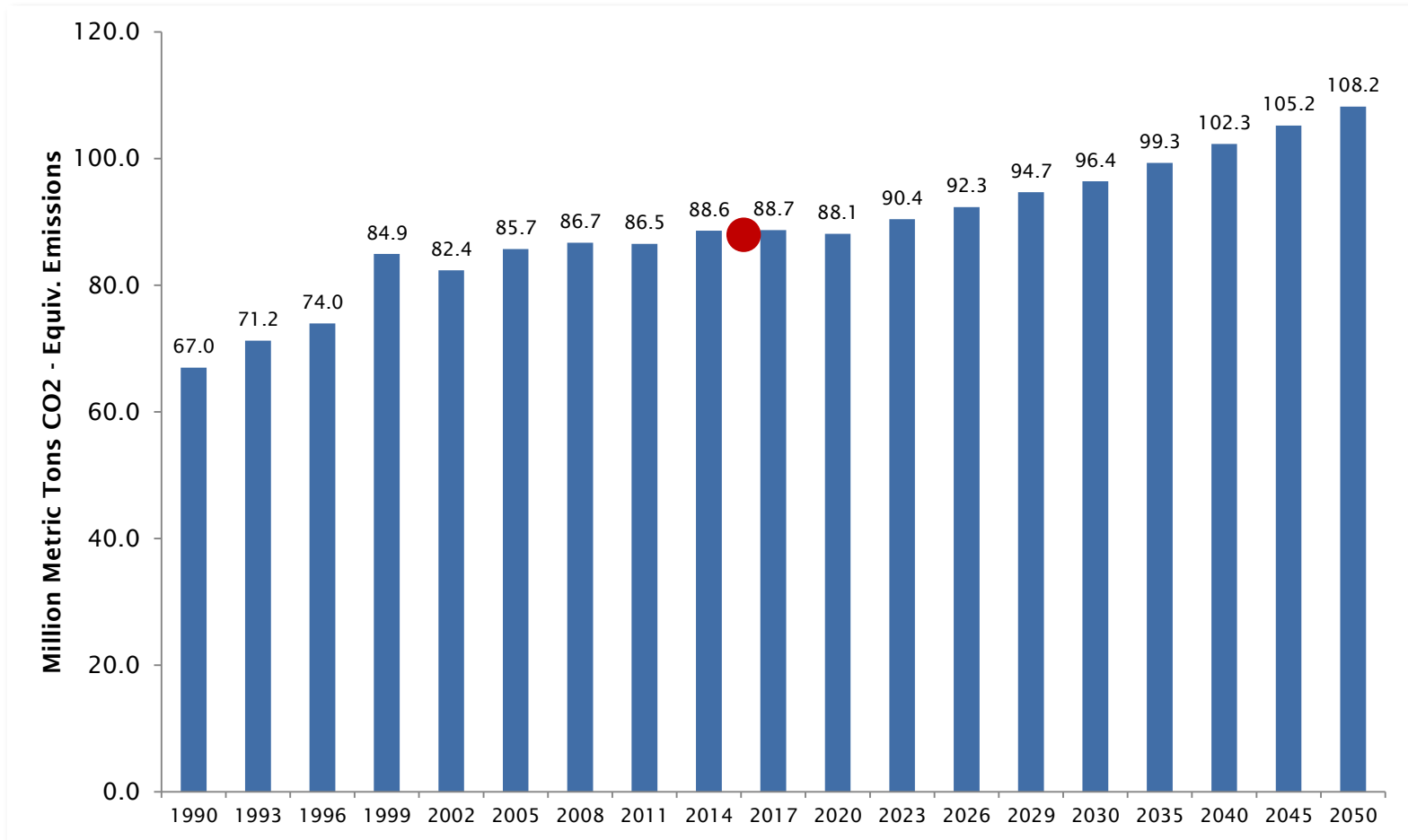


Background: Toxics





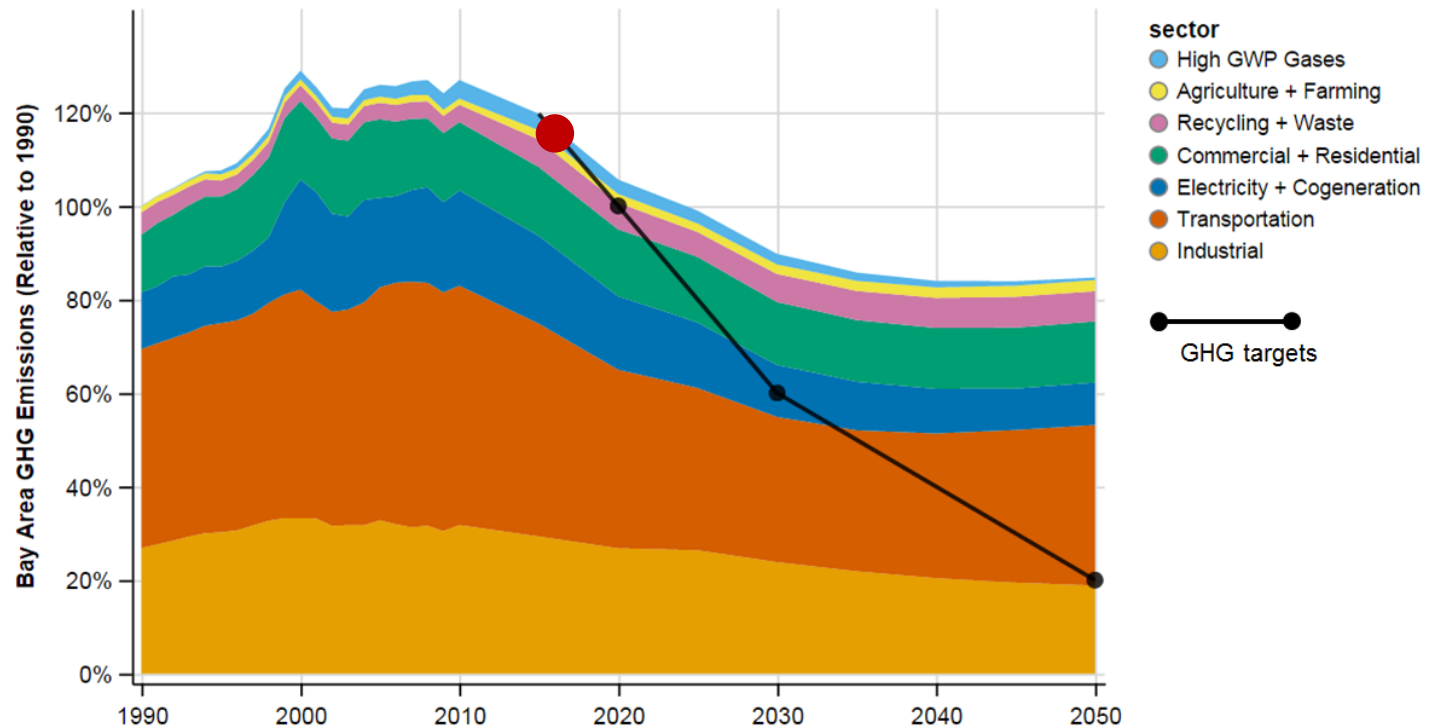
Background: GHG – **Without** Action





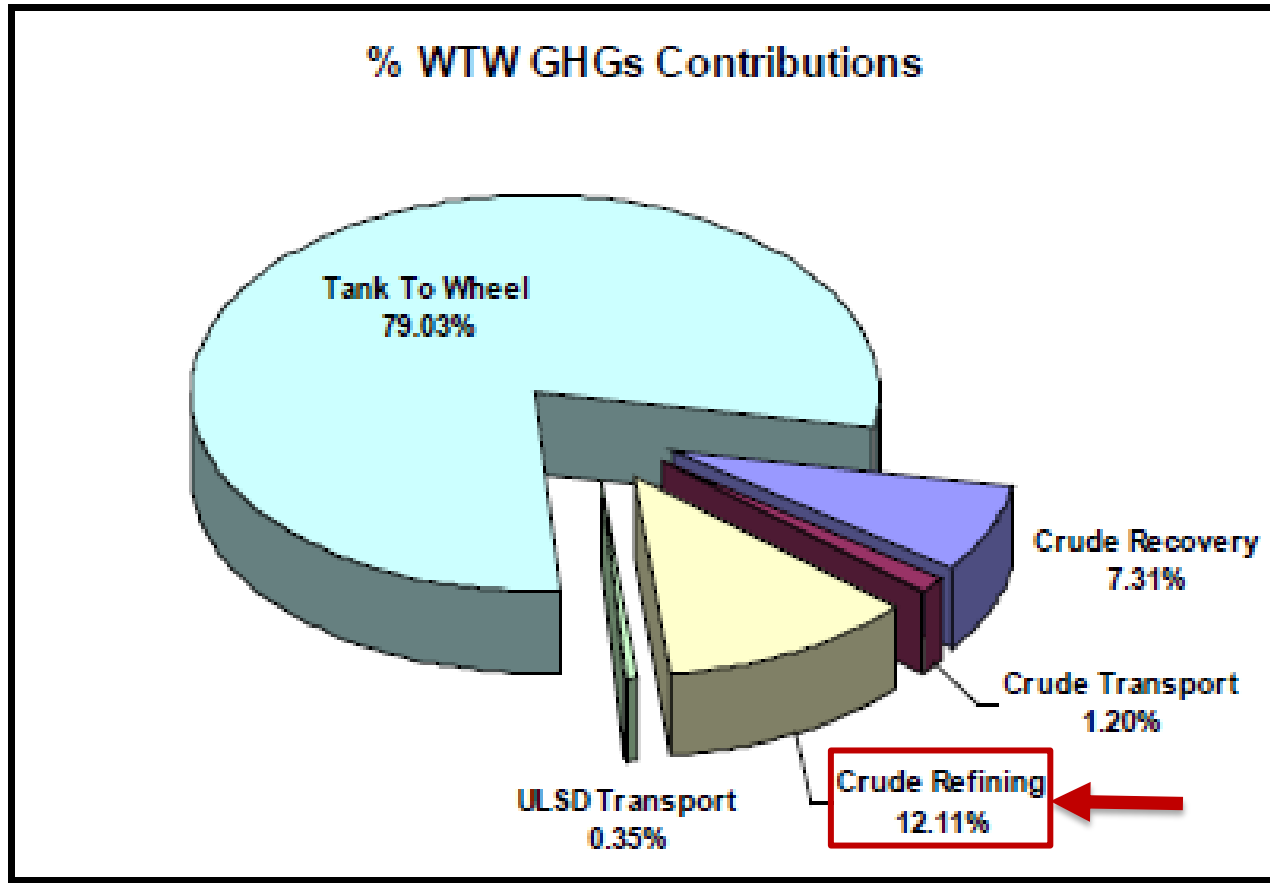
Background: GHG – **With** Action

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





Background: Refineries



Crude Refining: 12% of Well-To-Wheel GHG



Background: Refineries

Bay Area Refinery Locations

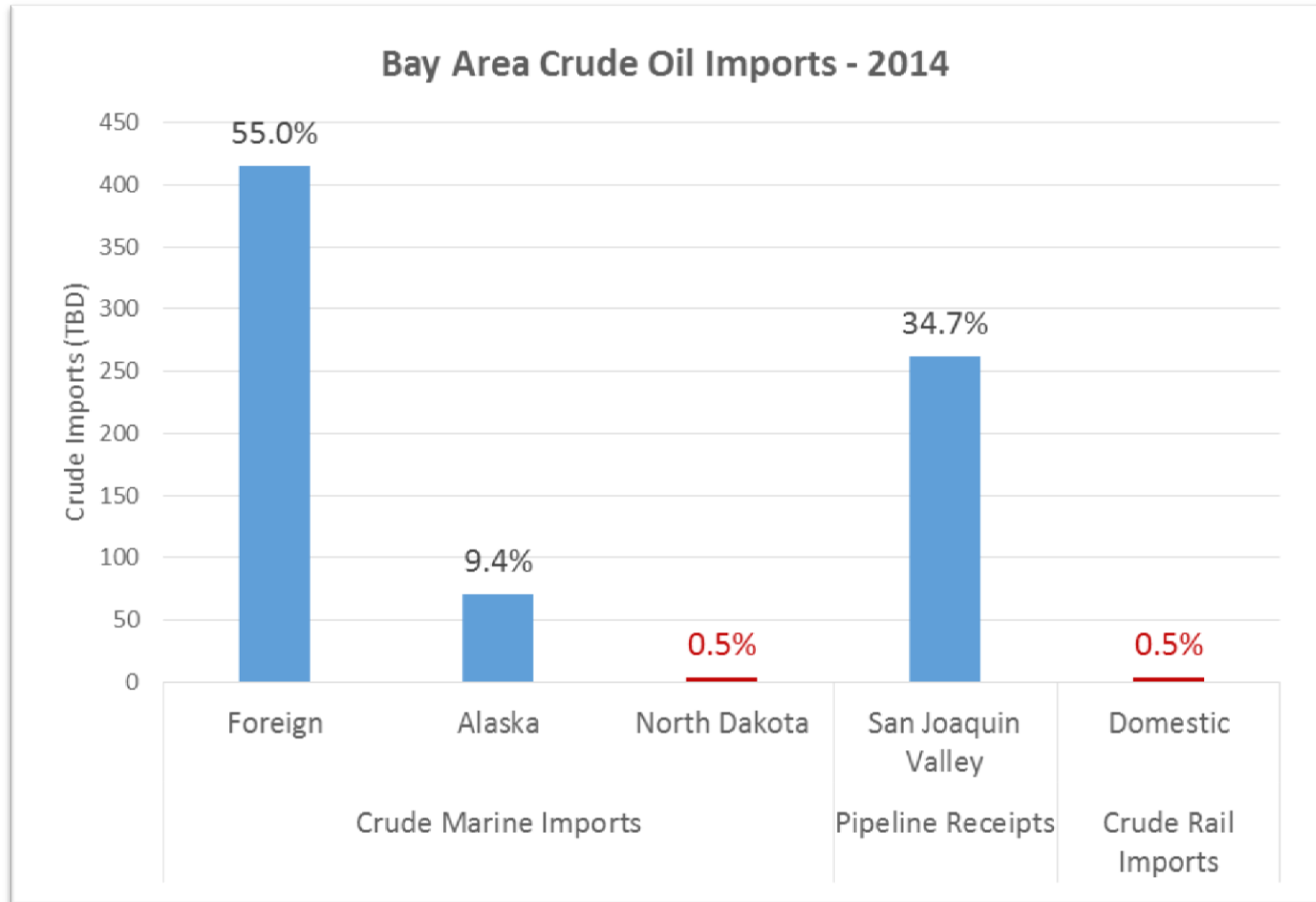


Bay Area Air Quality Management District

50

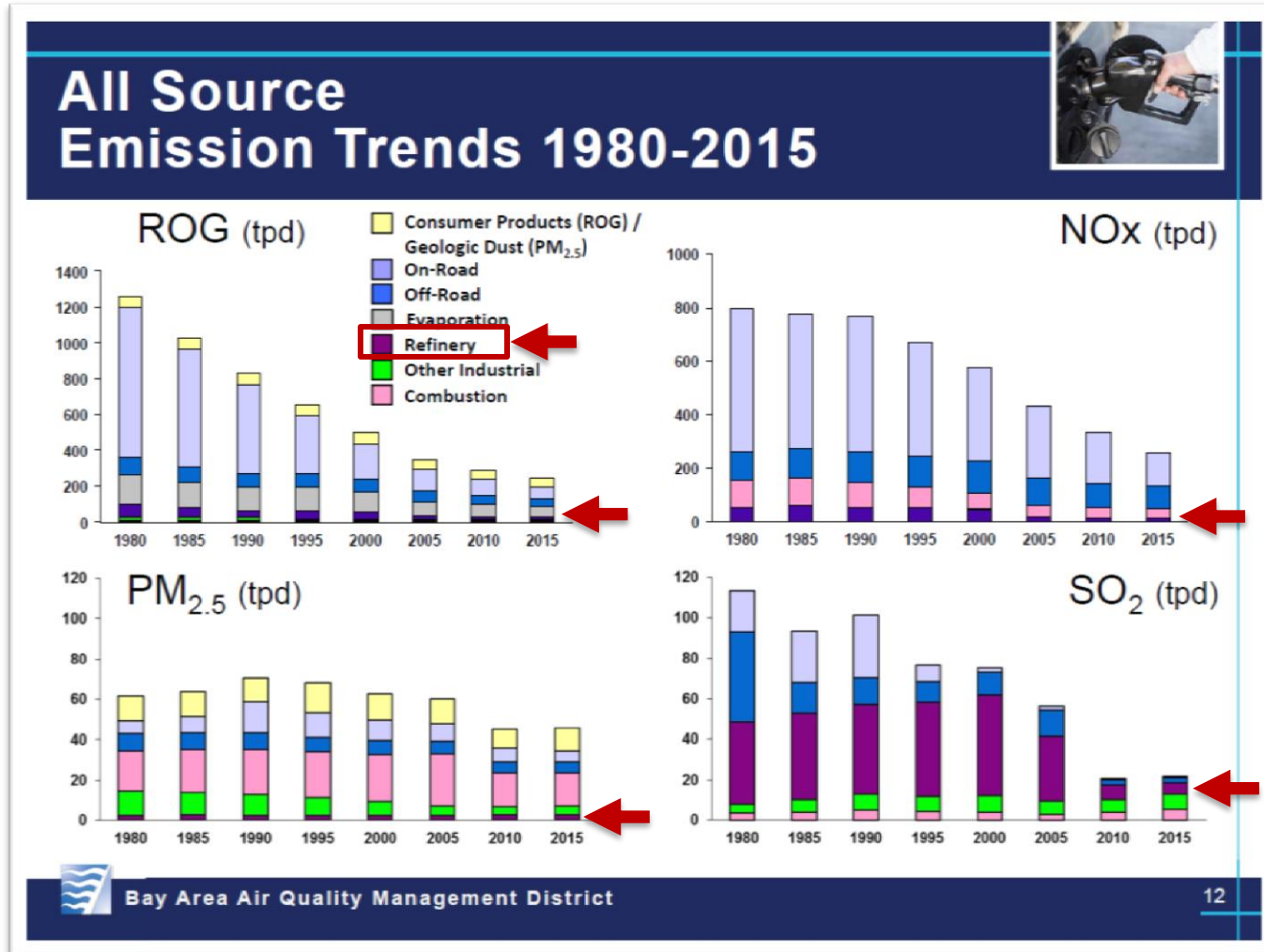


Background: Refineries



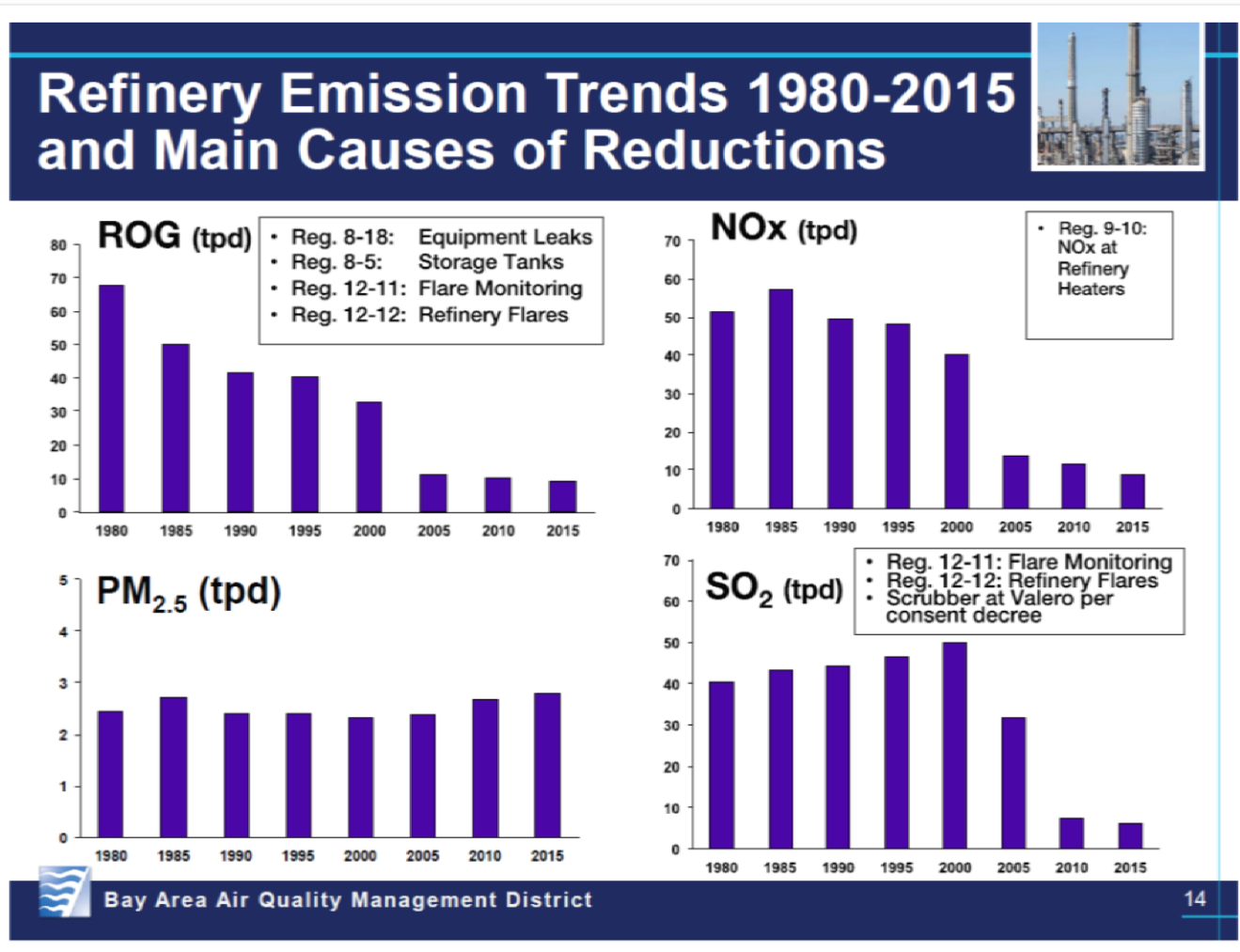


Background: Refineries





Background: Refineries



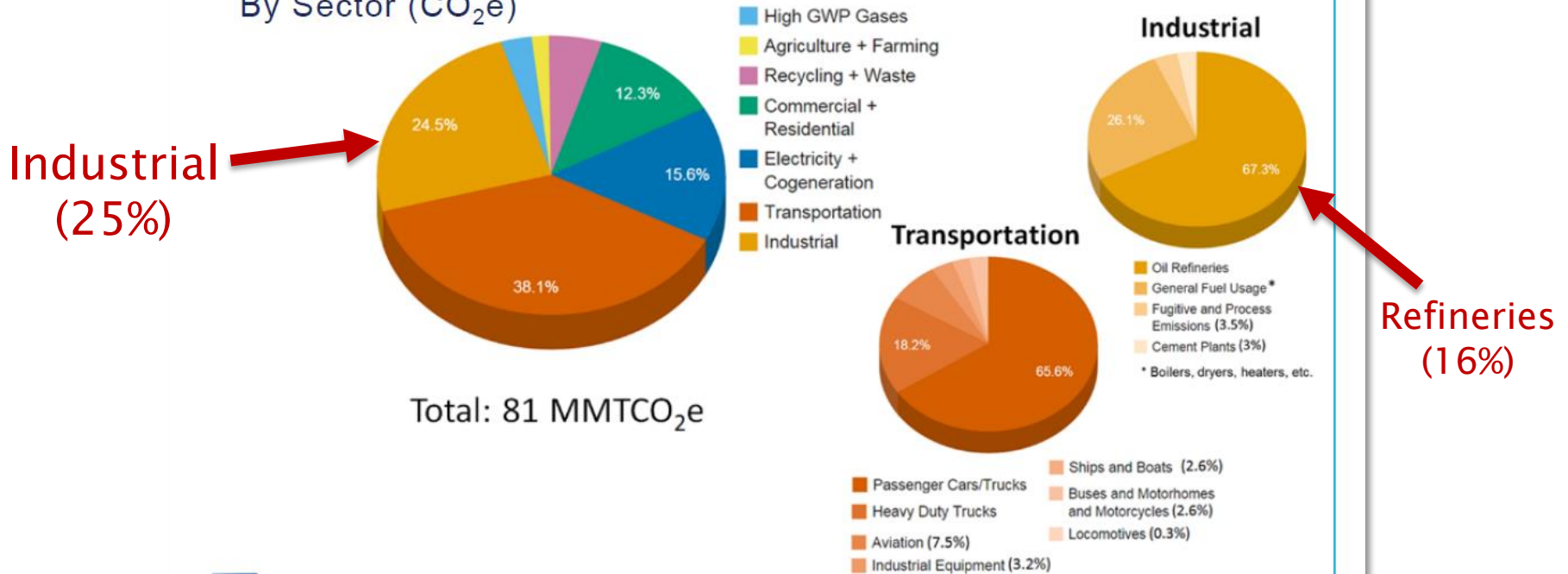


Background: Refineries

Bay Area GHG Emissions



2015 Bay Area GHG Emissions
By Sector (CO₂e)



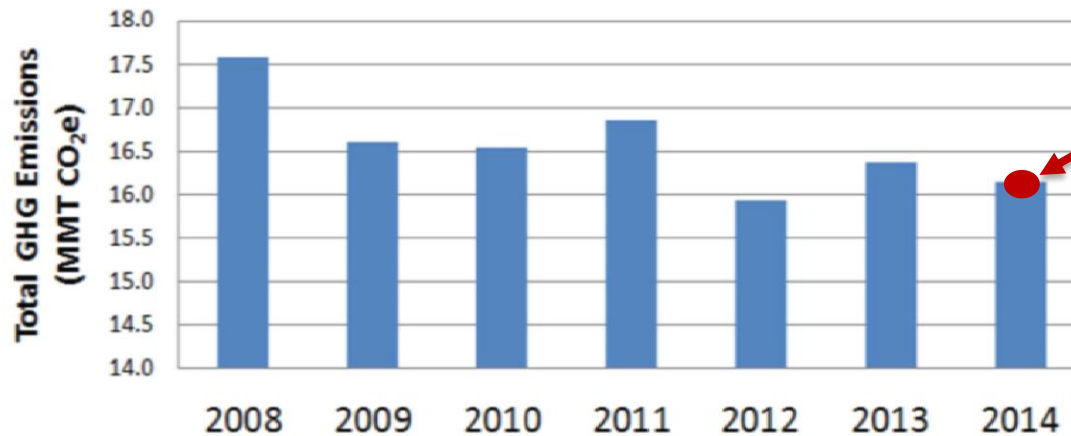


Background: Refineries

Bay Area Refinery GHG Emission Trends



Bay Area Refinery GHG Emissions
(Source: ARB)



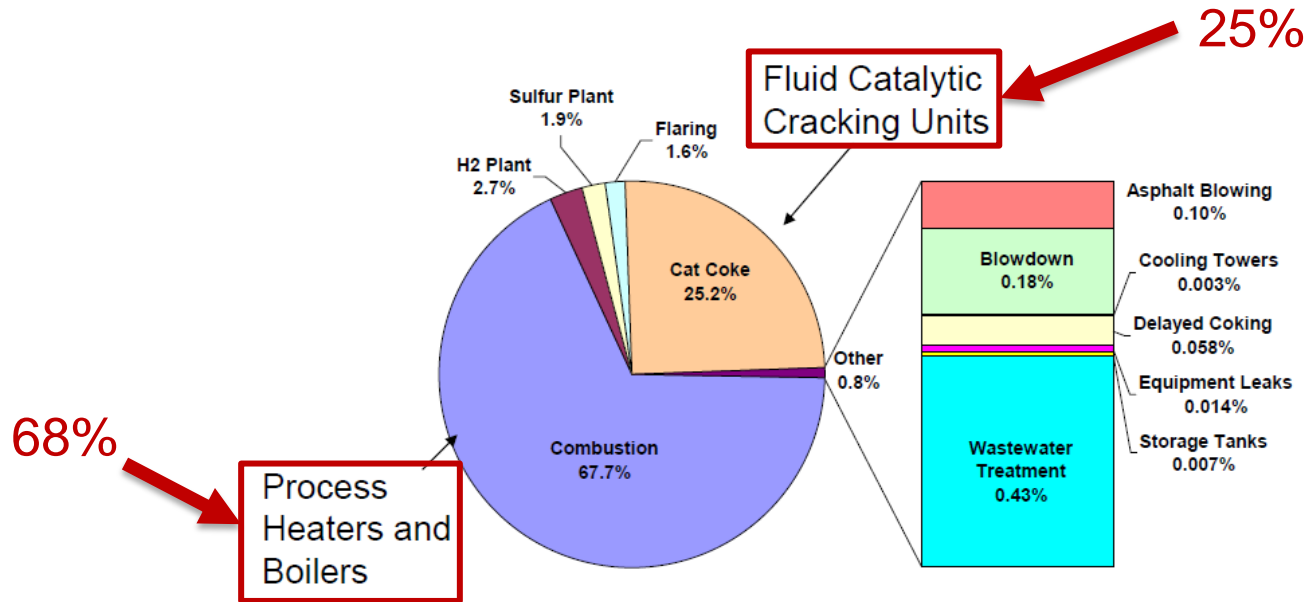
9%
Reduction
since 2008





Background: Refinery GHG

How much GHG do these sources emit?



August 8, 2008; TECHNICAL SUPPORT DOCUMENT FOR THE PETROLEUM REFINING SECTOR: PROPOSED RULE FOR MANDATORY REPORTING OF GREENHOUSE GASES

Largest: Process Heaters & Boilers, FCCUs



Council Deliberations: Question



First Key Question:

What is the efficacy of imposing numeric caps on Greenhouse Gas emissions from Bay Area refineries?





Council Deliberations: Guiding Principles

- Fairness is important, but make sure measures work, that is, global GHG emissions are **actually reduced**
- Beware of **leakage**
 - GHG may just be emitted elsewhere
 - GHG may increase from additional transportation
- Should be grounded in **plausible pathways**, with alignment between **goals and methods**
- Regulatory landscape is complicated; GHG regulations should be **complementary and non-conflicting** with CARB and other programs



Council Deliberations: Guiding Principles (cont'd)

- Effectiveness of GHG reduction options should be **evaluated systematically**
- Simple co-benefits between **GHG, toxics and criteria pollutant** reduction cannot be assumed
- **More real data** is needed (e.g., integrated top-down monitoring, FCCUs)



Efficacy of Refinery GHG Caps: Preliminary Conclusions

- Advisory Council is **not convinced** that facility-level caps on GHG emissions would be effective in mitigating climate change
- GHG reduction measures effective **only if global GHG emissions are reduced**, and it is unclear that Refinery GHG caps would do so, leakage is likely
- Use multi-pollutant strategies because toxics and criteria pollutant **co-benefits do not necessarily result** from Refinery GHG caps



Efficacy of Refinery GHG Caps: Preliminary Conclusions (cont'd)

- Effectiveness of Air District GHG reduction options should be **evaluated more systematically**
 - Must reduce global GHG emissions
 - Should complement, not conflict with CARB
- Air District has an **important role** to play, including:
 - Demand decreases, VMT reduction, public education
 - Collaboration with CARB to address fugitive methane emissions
 - Encourage or require refineries to reduce GHG emissions by methods other than a cap and that
 - Ensure reduction in global GHG emissions
 - Focus on largest sources, such as process boilers and heaters and FCCUs
 - Incorporate increased GHG emission monitoring data



Council Deliberations: Next Steps

- **June 1** – Stationary Source Committee
- **June 15** – Board of Directors
- **July 18** – Advisory Council
 - Review of District alternatives to caps
 - Finalize recommendations
- **July 20** – Board of Directors
- **TBD** – Report



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AGENDA: 9

Public Hearing to Consider Adoption of Proposed Amendments to Air District Regulation 3: Fees

Board of Directors Meeting
June 15, 2016

Jaime A. Williams
Director of Engineering



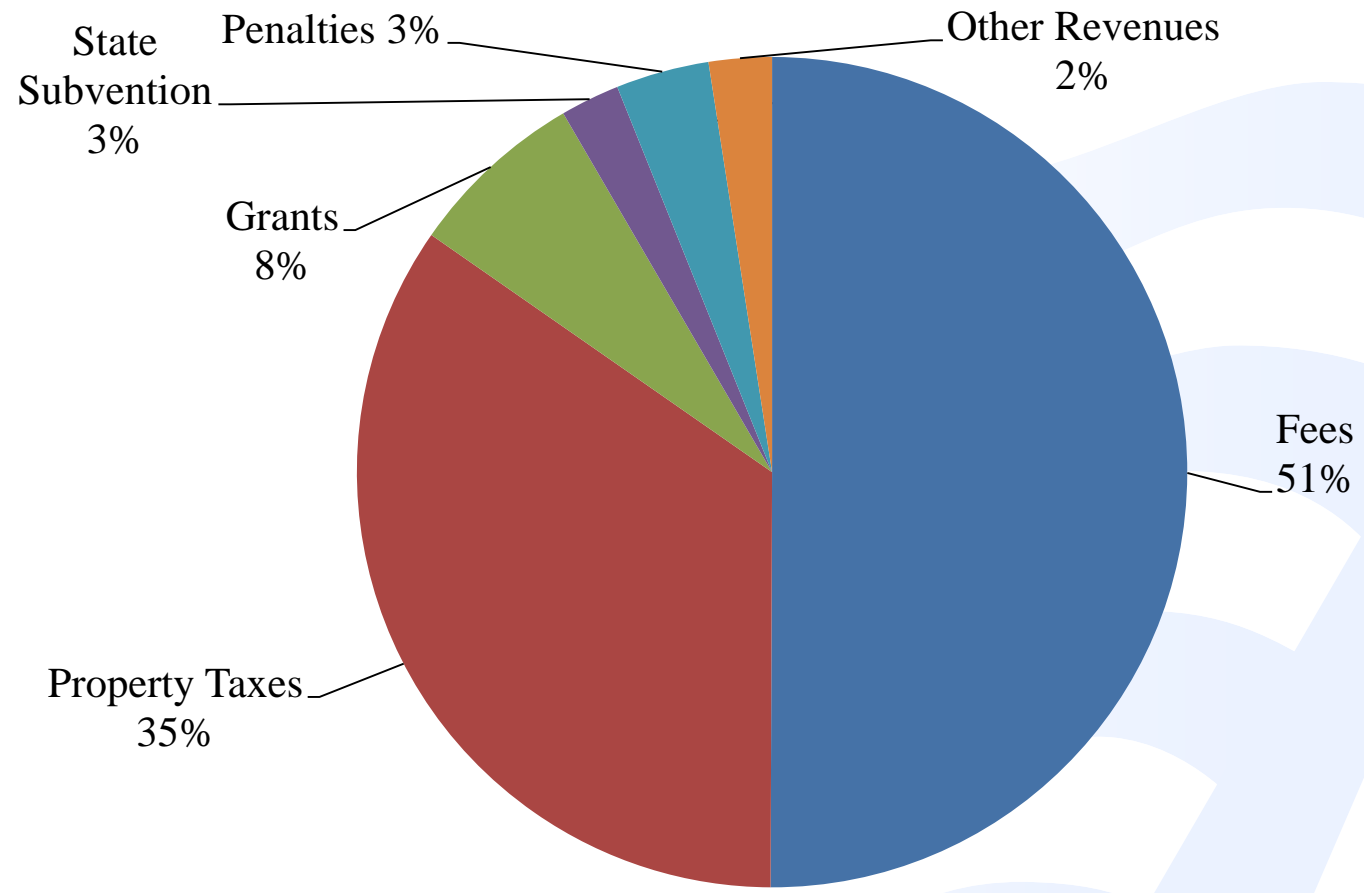
Presentation Outline

1. Cost Recovery Background
2. Draft Fee Amendments
3. Public Comments Received
4. Rule Development Schedule





Revenue Sources - FYE 2015





Trends in Cost Recovery

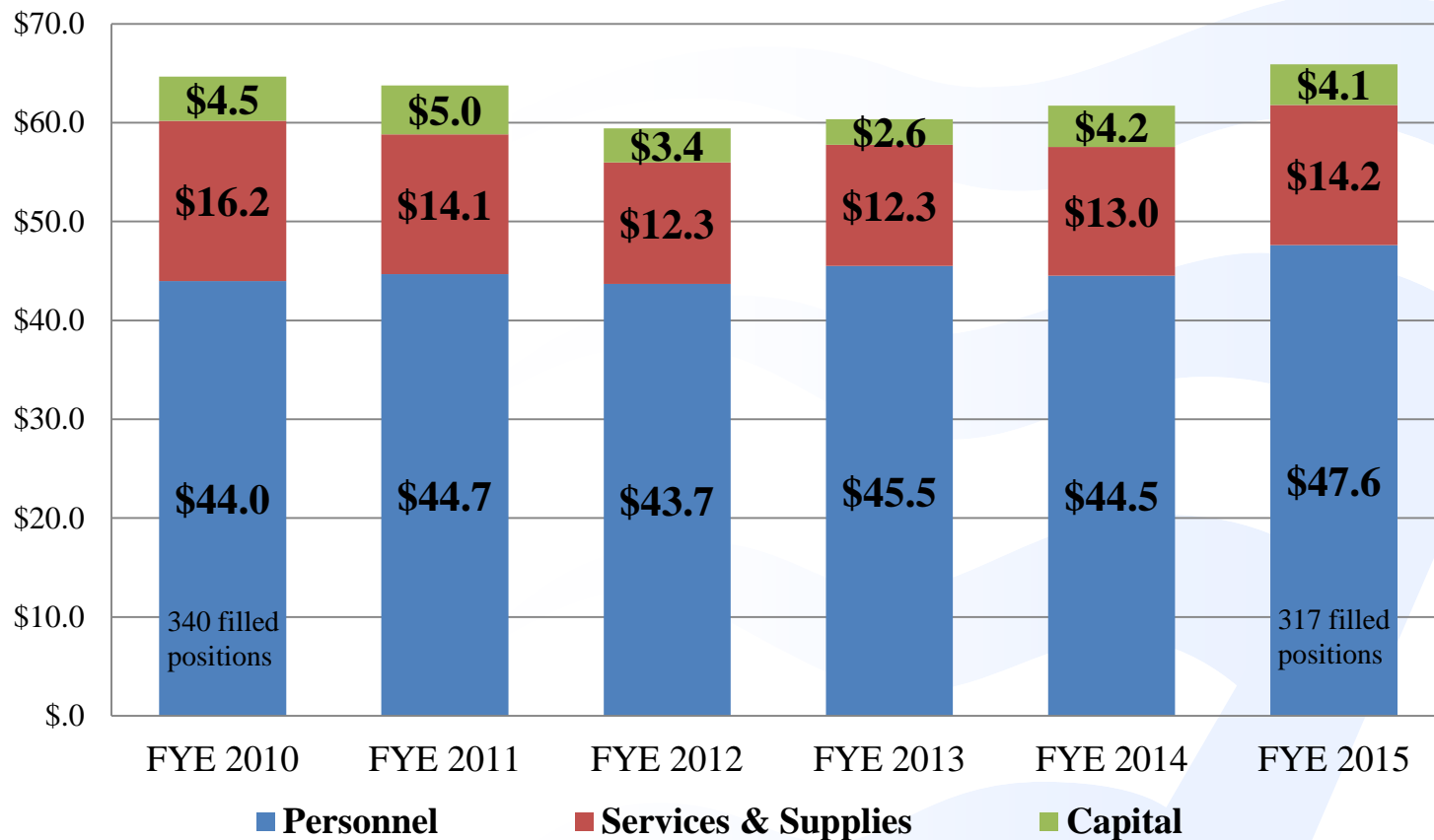
- Sets goal of increasing cost recovery to **85%** over four years FYE 2013 through FYE 2016
- Fee revenue falls short of overall full cost recovery
 - FYE 2011: Cost recovery = 65%
 - FYE 2012: Cost recovery = 75%
 - FYE 2013: Cost recovery = 80%
 - FYE 2014: Cost recovery = 80%
 - FYE 2015: Cost recovery = 83%
 - *FYE 2016: Cost recovery = 80% Projected*
- Cost recovery gap is filled by county tax revenue





Trends in Cost Containment

Audited General Fund Expenditures (millions)





Proposed Changes to Fee Schedules

Revenue from Fee Schedule	Change in Fees	Fee Schedules
Exceeds 95% of costs	2.2% increase (CPI-W)*	B, C, G-5, L, M, N, Q, U
85 – 95% of costs	7% increase	T
75 – 84% of costs	8% increase	F, G-3, P
Less than 75% of costs	9% increase	A, D, E, G-1, G-2, G-4, H, I, K, R, S, V

- The annual Consumer Price Index for Bay Area Urban Wage Earners and Clerical Workers (CPI-W) increased 2.2% from 2014 to 2015

Petroleum Refining Emissions Tracking Fees – Schedule W

Proposed Schedule W

- Applies to the five Bay Area refineries and five support facilities
- To help recover the District's costs associated with proposed Regulation 12, Rule 15
- Emissions inventory and Crude slate report evaluation & review
 - Refineries: \$54,000 initially and \$27,000 annually thereafter
 - Support Facilities: \$3,300 initially and \$1,650 annually thereafter
- Air monitoring plans
 - \$7,500 initially



Major Facility Community Air Monitoring Fees

New Schedule X

- Applies to major facilities emitting > 35 TPY criteria pollutants within the vicinity of District proposed community air monitor locations.
- To help recover the District's costs of the community air monitoring program.
- To start, the District is proposing community air monitor locations within the vicinities of each of the refineries.
- The fee is \$60.61 per ton of organic compounds, sulfur oxides, NO_x, CO, and/or PM₁₀.



Other Proposed Amendments

Section 3-302.3: Fees for Abatement Devices

- A maximum cap of \$10,000 is proposed for these applications.

Section 3-304: Alterations

- For alteration applications, gasoline dispensing facilities will pay 1.75 times the filing fee (approximately \$800 total).

Schedule T: Greenhouse Gas Fees

- Update the Global Warming Potential Values per the IPCC 5th Assessment Report
- Add several GHG compounds from ARB's most recent list of GHGs and that we currently track



Impact on Large Facilities: Petroleum Refineries

	Annual % Permit Fee Increase (Fiscal Year Ending)					Current Permit Fee (in millions)
	2014	2015	2016	2017 Projected Without Schedule X	2017 Projected With Schedule X	
Chevron	3.4	12.1	9.3	7.2	14.7	\$2.90
Shell	1.2	12.4	5.8	7.6	15.0	\$2.51
Phillips 66	1.2	9.3	3.4	10.1	15.0	\$1.34
Valero	7.2	8.4	11.9	9.4	15.0	\$1.38
Tesoro	5.5	13.0	21.7	7.9	15.0	\$1.76

June 15, 2016
Slide 10



Impact on Small Businesses

➤ Proposed FYE 2017 Fee Increases:

Facility Type	Facility Description	Fee Increase	Total Fee
Gas Station	10 multi-product gasoline nozzles	\$272	\$3,402
Dry Cleaner (permitted)	One machine: 1,400 lb/yr Perc emissions	\$42	\$627
Dry Cleaner (registered)	One machine: 800 lb/yr VOC emissions	\$17	\$206
Auto Body Shop	One spray booth: 400 gal/yr paint	\$42	\$576
Back-up Generator	One 365 hp engine	\$7	\$330





Rule Development Schedule

- **February 18, 2016**
 - Public workshop
- **March 16, 2016**
 - Written comments due
- **March 23, 2016**
 - Budget & Finance Committee briefing
- **April 20, 2016**
 - Board of Directors first public hearing to receive testimony only
- **June 15, 2016**
 - Board of Directors second public hearing to consider adoption
- **July 1, 2016**
 - Proposed effective date of fee amendments

*June 15, 2016
Slide 12*

A background image of a forest with tall trees and green ferns in the foreground.

Recommended Action

- Approve amendments to Regulation 3: Fees

The Board of Directors will consider adoption of proposed amendments to Air District Regulation 3: Fees that would become effective on July 1, 2016 and approval of a Notice of Exemption from the California Environmental Quality Act.





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AGENDA: 10

**Public Hearing to Consider Adoption
of the Air District's Proposed Budget
for Fiscal Year Ending (FYE) 2017**

**Jeff McKay
Deputy Air Pollution Control Officer**

June 15, 2016



OUTLINE

- Status of Current Year (Fiscal Year Ending 2016)
- Overview of Revenue and Expenditure FYE 2017
- Proposed Budget Recommendations



PROJECTIONS FOR CURRENT FISCAL YEAR ENDING (FYE) 2016

Out of \$72.5 M Budget

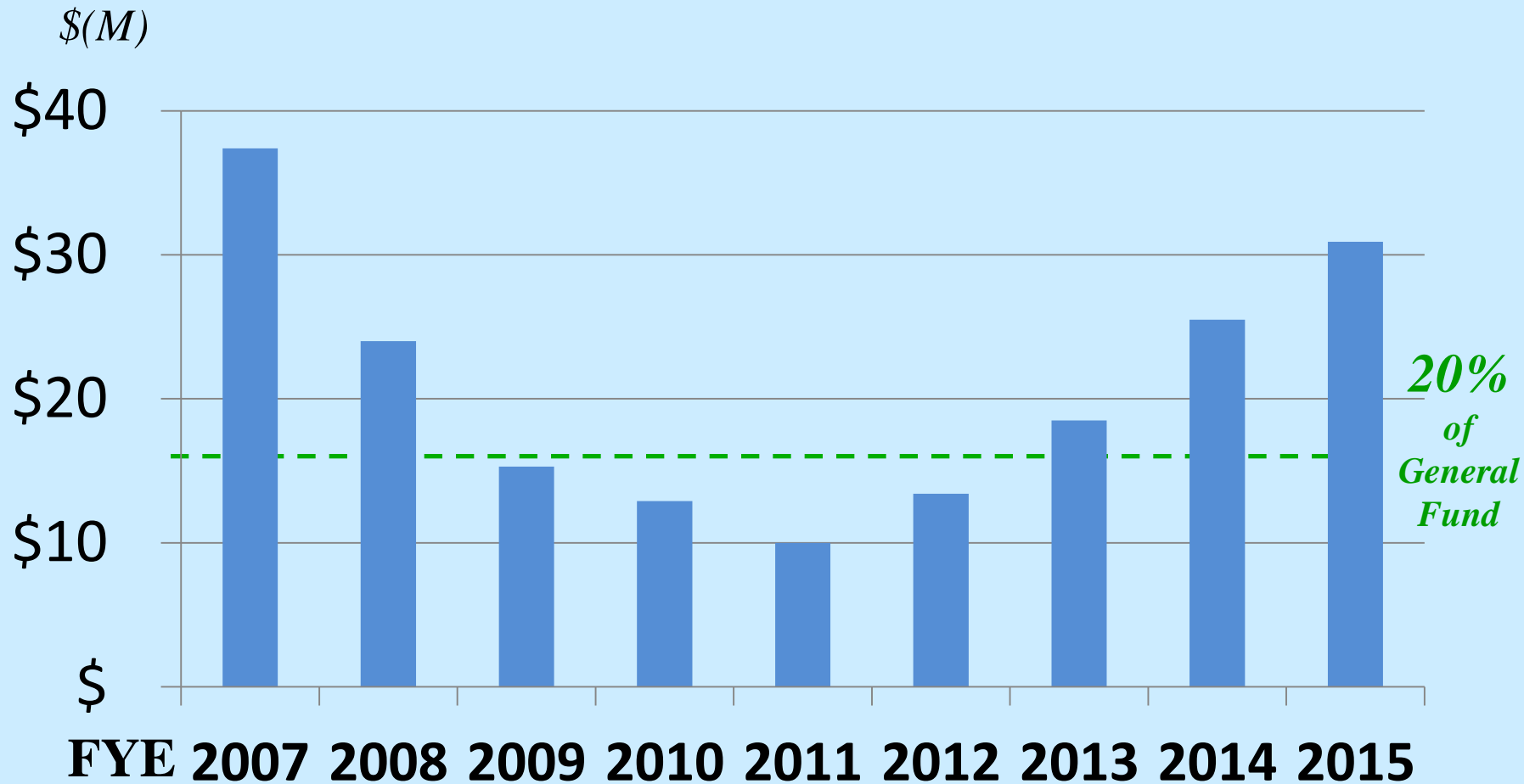
As of March 2016:

- Revenues on Target = \$58.8 M
- Expenditures on Target = \$58.5 M



DISTRICT RESERVE FUNDS

Audited Values Excluding Building Proceeds





APPROVED RESERVE TRANSFERS FYE 2016

- During FYE 2016 Board Approved Transfers:
 - \$1.3 M for Information Technology & Lab Equipment
 - \$3 M for Wood Smoke Program
 - \$3 M for Parking Infrastructure
 - \$1.4 M for IT Technology Infrastructure
 - \$200 K for Wood Smoke Outreach



OVERVIEW

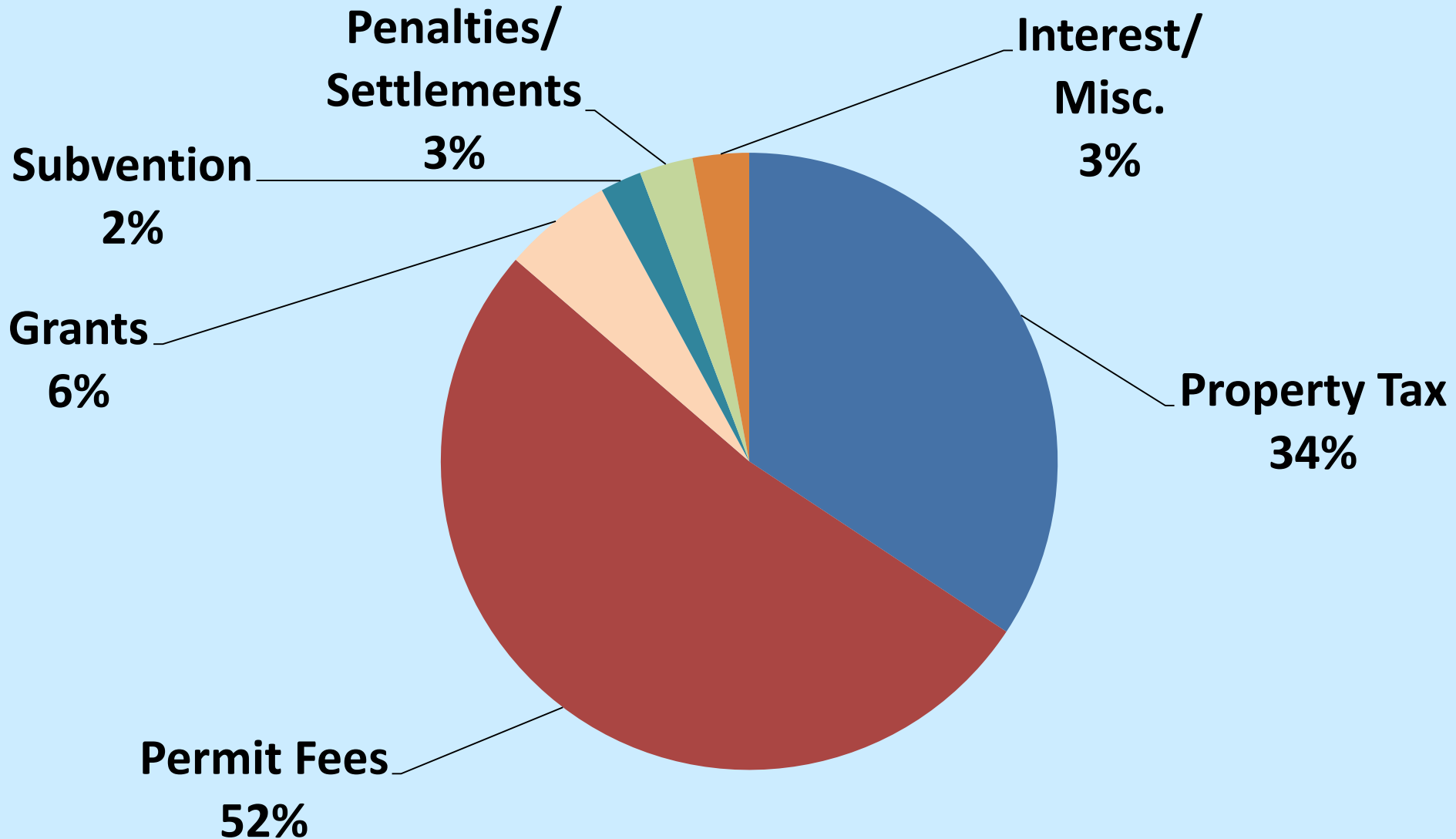
Proposed Budget for FYE 2017

- \$137.9 M Consolidated Budget
- \$78.4 M General Fund Budget
- Incorporates Cost Recovery Policy
- 375 Beale Cost Commitments
- Hire Staff: From 334 to 345 filled positions
- Addresses Retirement Liabilities
- Includes 2.2% COLA
- Use of Reserves for Capital Equipment



GENERAL FUND REVENUE SOURCES

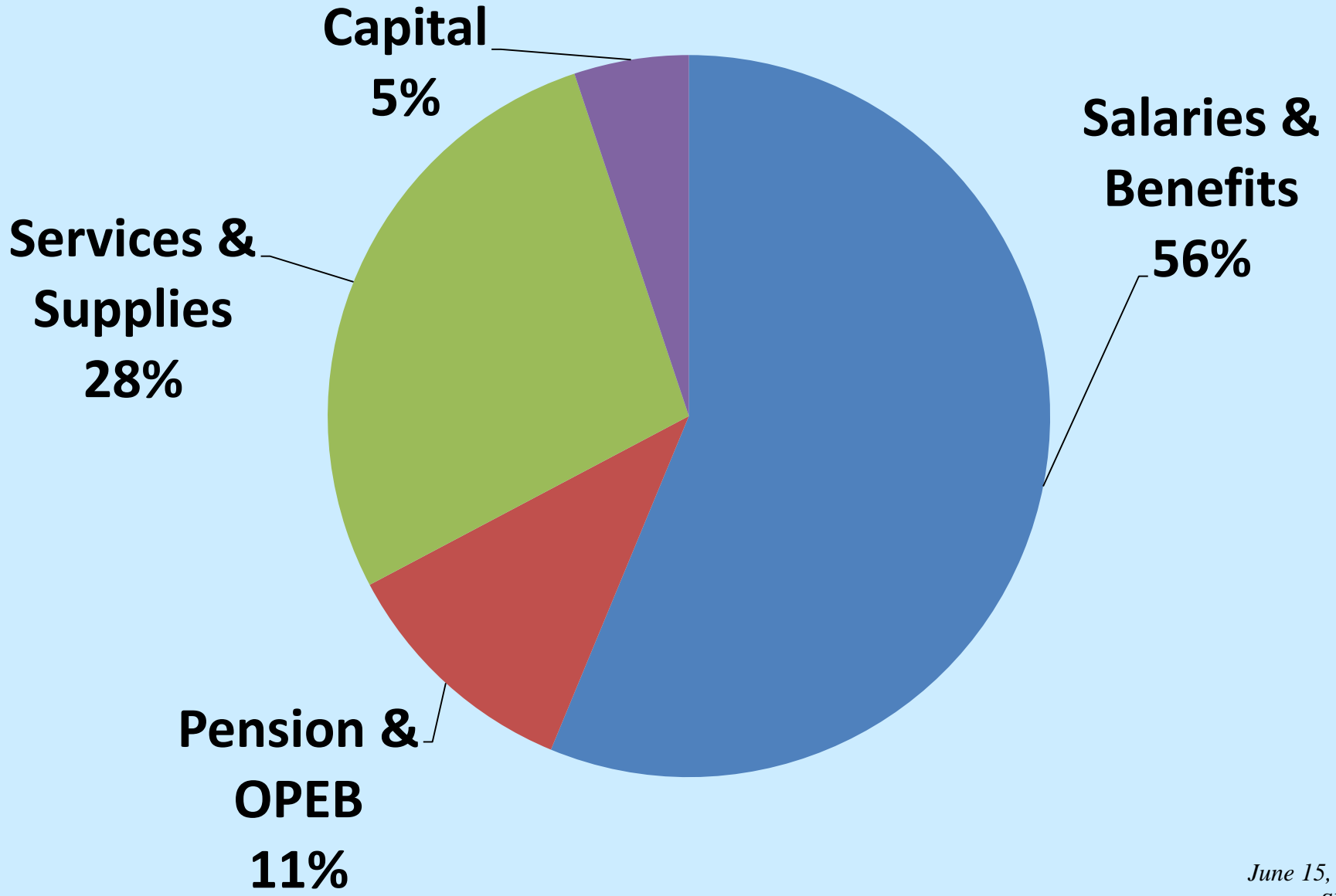
(FYE 2017 Proposed Budget)





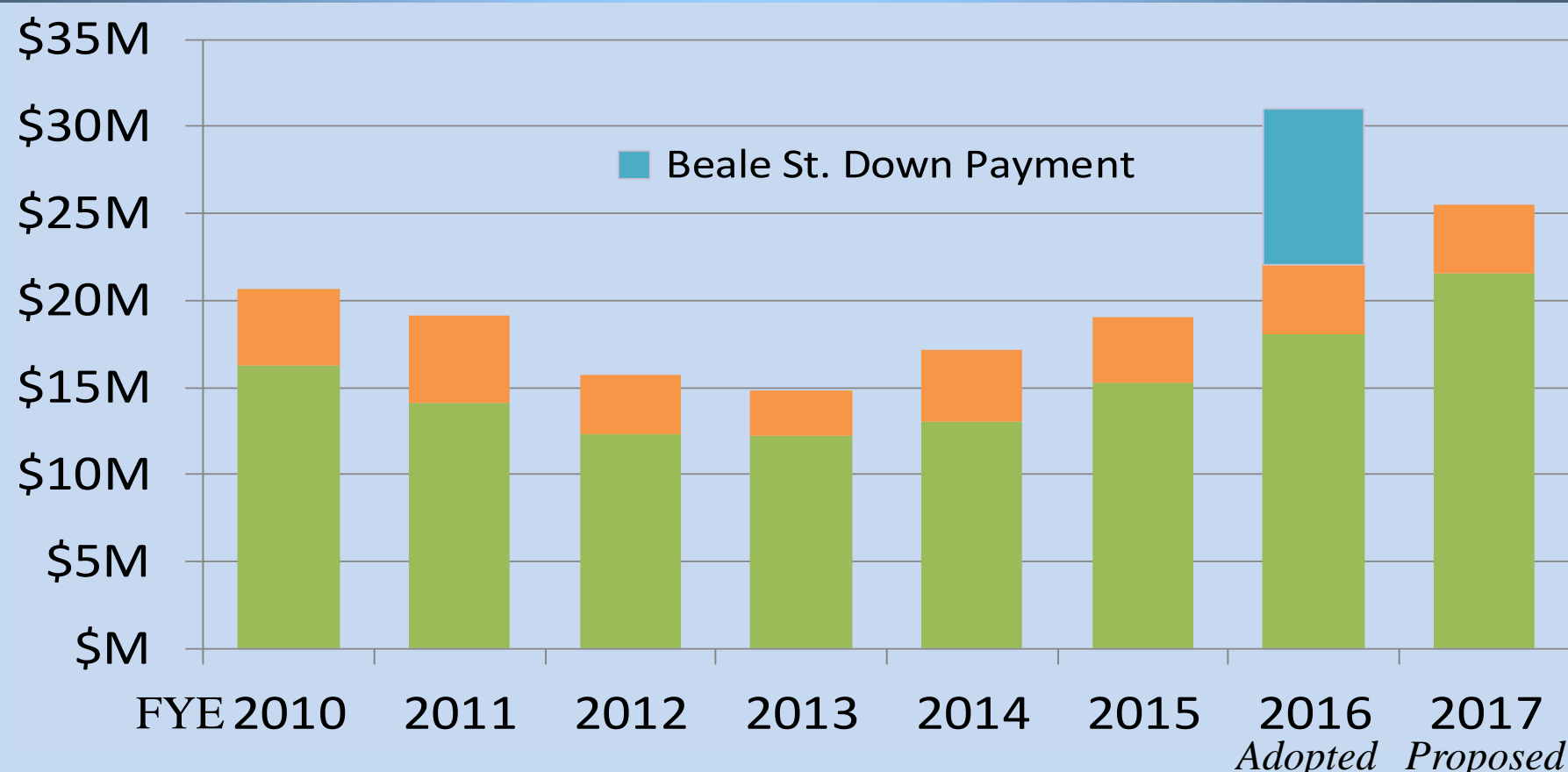
GENERAL FUND EXPENDITURES

(FYE 2017 Proposed Budget)





SERVICES & SUPPLIES and CAPITAL



Beale St.							\$9.0	
Capital	\$4.5	\$5.0	\$3.4	\$2.6	\$4.2	\$3.8	\$4.0	\$4.0
Svs & Supplies	\$16.2	\$14.1	\$12.3	\$12.3	\$13.0	\$15.3	\$18.1	\$21.5
Total	\$20.7	\$19.1	\$15.7	\$14.8	\$17.2	\$19.0	\$31.1	\$25.5



FYE 2017 PROPOSED FEES

- Fifth year of Cost Recovery Policy
 - Average 6.2% Fee increase in FYE 2017 budget
 - Two new Fee Schedules
 - Strong involvement by Regulated Community



FYE 2017 FTE STAFFING LEVEL

FYE 2016 Budgeted Positions	334
FYE 2017 Recommended Positions	11
Total Budgeted Positions	345



ADDITIONAL STAFFING

- 11 Positions
 - Enforcement (3)
 - Meteorology, Measurement & Rules (4)
 - Community Engagement (1)
 - Information Technology (1)
 - Legal (1)
 - Administration (1)



FYE 2017 FUND BALANCE SUMMARY

FUND BALANCES	6/30/2015 Audited	6/30/2016 Projected	6/30/2017 Projected
Reserve for Capital Equipment Contingency	\$1,000,000	\$1,360,000	\$860,000
Reserve for Economic Contingency	\$10,114,309	\$15,159,959	\$15,754,025
Reserve for IT-Desktop Equipment	\$500,000		
Reserve for IT- Event Response	\$500,000	\$500,000	\$500,000
Reserve for Parking Infrastructure		\$500,000	\$500,000
Reserve for Pension & Post Employment Liability	\$1,800,000	\$1,600,000	\$800,000
Reserve for Tech- Meterological Network Equipment	\$417,100	\$417,100	\$417,100
Reserve for Tech- Mobile Monitoring Instruments	\$450,000	\$450,000	\$450,000
Reserve for GHG Abatement Technology Study		\$1,500,000	\$1,500,000
Reserve for Worker's Comp Self -Funding	\$1,000,000	\$1,000,000	\$1,000,000
	\$15,781,409	\$22,487,059	\$21,781,125
Use of Fund Balance		(\$8,416,825)	(\$705,934)
Undesignated Fund Balance	\$15,122,475	\$8,416,825	\$705,934
TOTAL SPECIAL RESERVES	\$30,903,884	\$22,487,059	\$21,781,125
Building Proceeds	\$14,168,200	\$5,168,200	\$5,168,200
TOTAL BUILDING PROCEEDS	\$14,168,200	\$5,168,200	\$5,168,200
TOTAL FUND BALANCE	\$45,072,084	\$27,655,259	\$26,949,325



FYE 2017 USE OF FUND BALANCE

LAB AND MONITORING EQUIPMENT \$ 705,934

- Twenty-five (25) Toxic Samplers
- Five (5) Calibrators
- Two (2) Carbon Monoxide Analysers
- Two (2) BTEX Analysers
- Four (4) Source Test Analysers
- One (1) Particulate Testing Van
- Two (2) Photometric Ozone Calibrators
- One (1) Performance Evaluation Vehicle
- Three (3) TVA 2020 FID, enhance probe & water filter



FUND BALANCE POLICY

- Fund Balance Policy: 20% of General Fund Expenditures
 - FYE 2017 Budget of \$78 M => \$16 M (minimum)
 - 2017 Projected Fund Balance = \$26.4 M
(including remaining Building Sale proceeds)



UNFUNDED LIABILITIES

➤ CalPERS Retirement (6/30/14 Valuation)

- \$256 M Obligation – 81% Funded
- \$48 M Unfunded

➤ OPEB Medical (6/30/15 Valuation)

- \$62 M Obligation – 47% Funded
- \$33 M Unfunded



UNFUNDED LIABILITIES

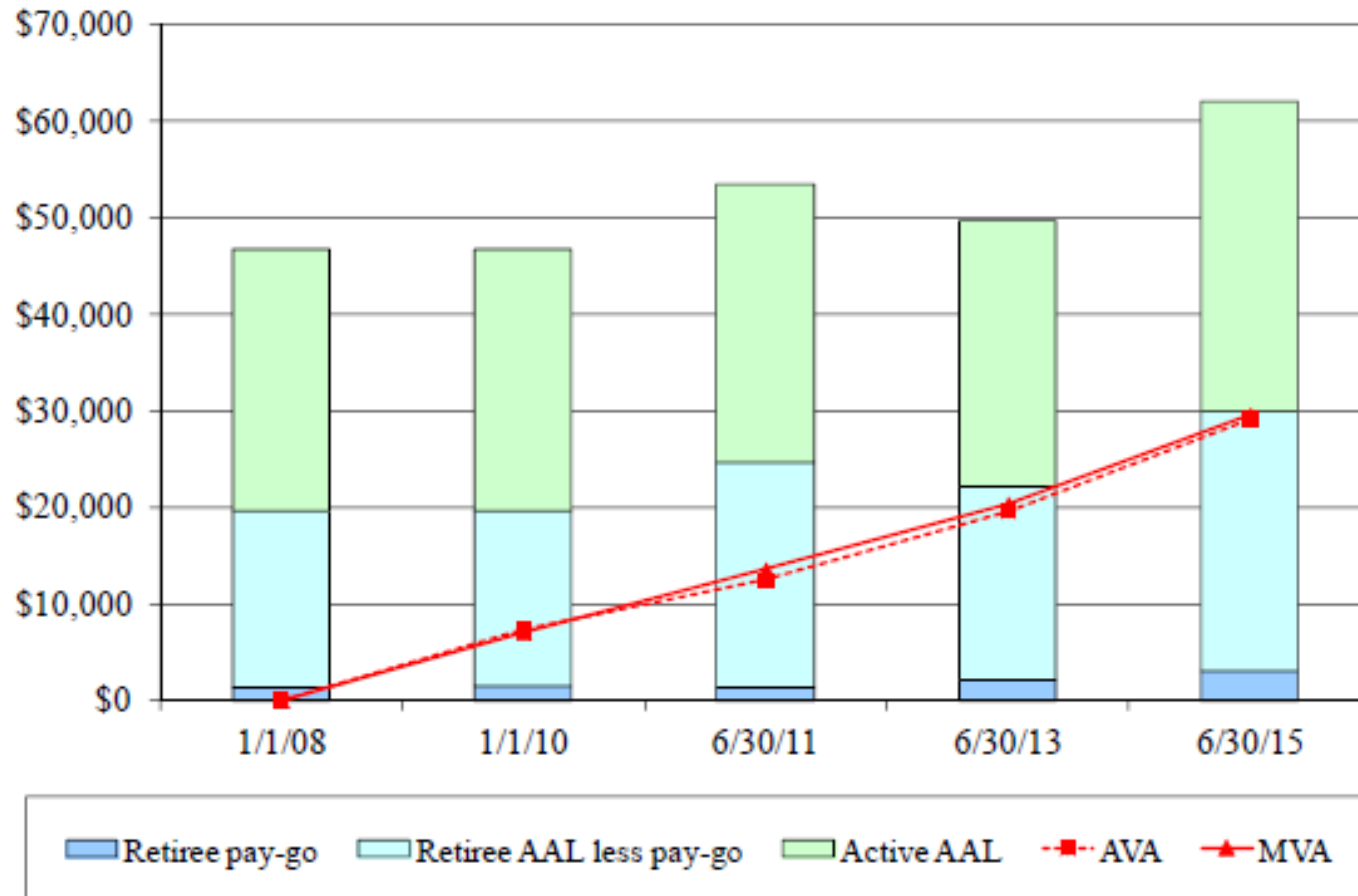
RESPONSE for OPEB

- Unfunded Liability = \$33 M
- Propose continuation of prefund amount = \$3 M
- Adopted Policy: 90% minimum target funded level



RETIREMENT MEDICAL OPEB LIABILITY

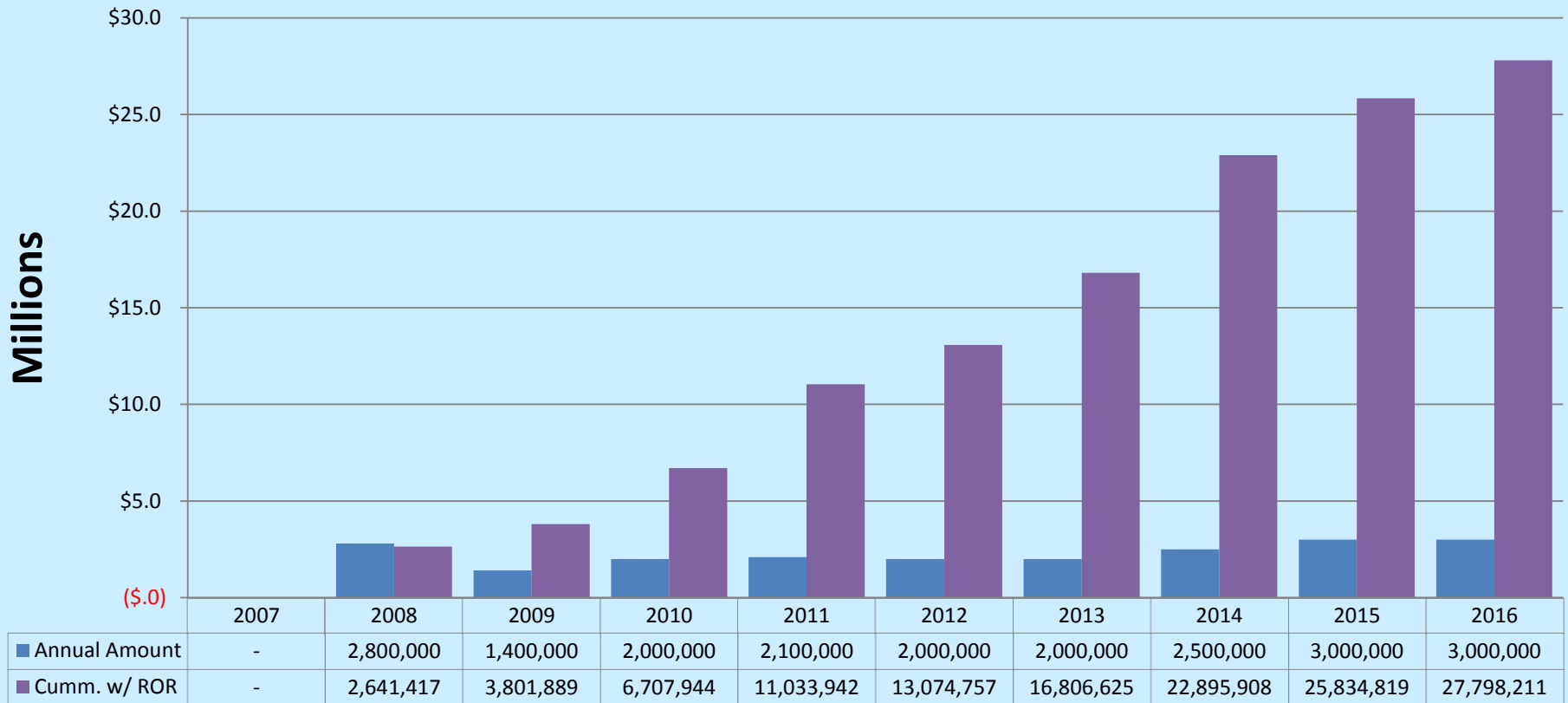
Historical Funded Status
(000's Omitted)





OPEB Annual Prefund Contributions As of December 31, 2015

OPEB Funding over 10 Years



Net Investment Returns = \$7M



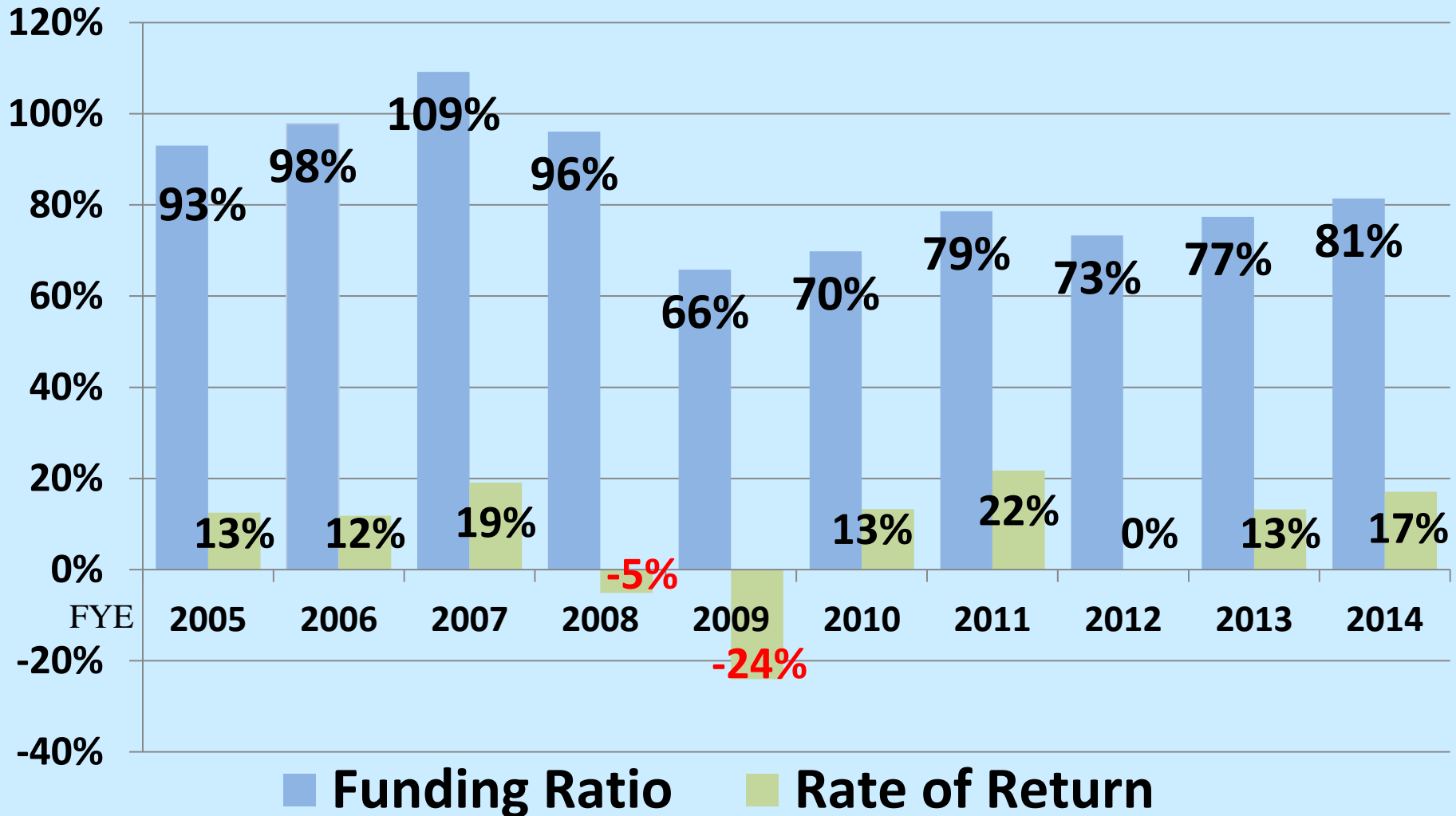
UNFUNDED LIABILITIES RESPONSE for CalPERS PENSION

- CalPERS contributions will increase from about 17% of salary to 21% of salary over five years.
- Required contribution FYE 2017 = \$6 M
- Proposed FYE 2017 Prefund = \$280,000:
105% of required contribution = \$6.3 M



UNFUNDED LIABILITIES

CalPERS Funding Ratio & Rate of Return





PROPOSED FUNDING POLICIES

for CalPERS PENSION

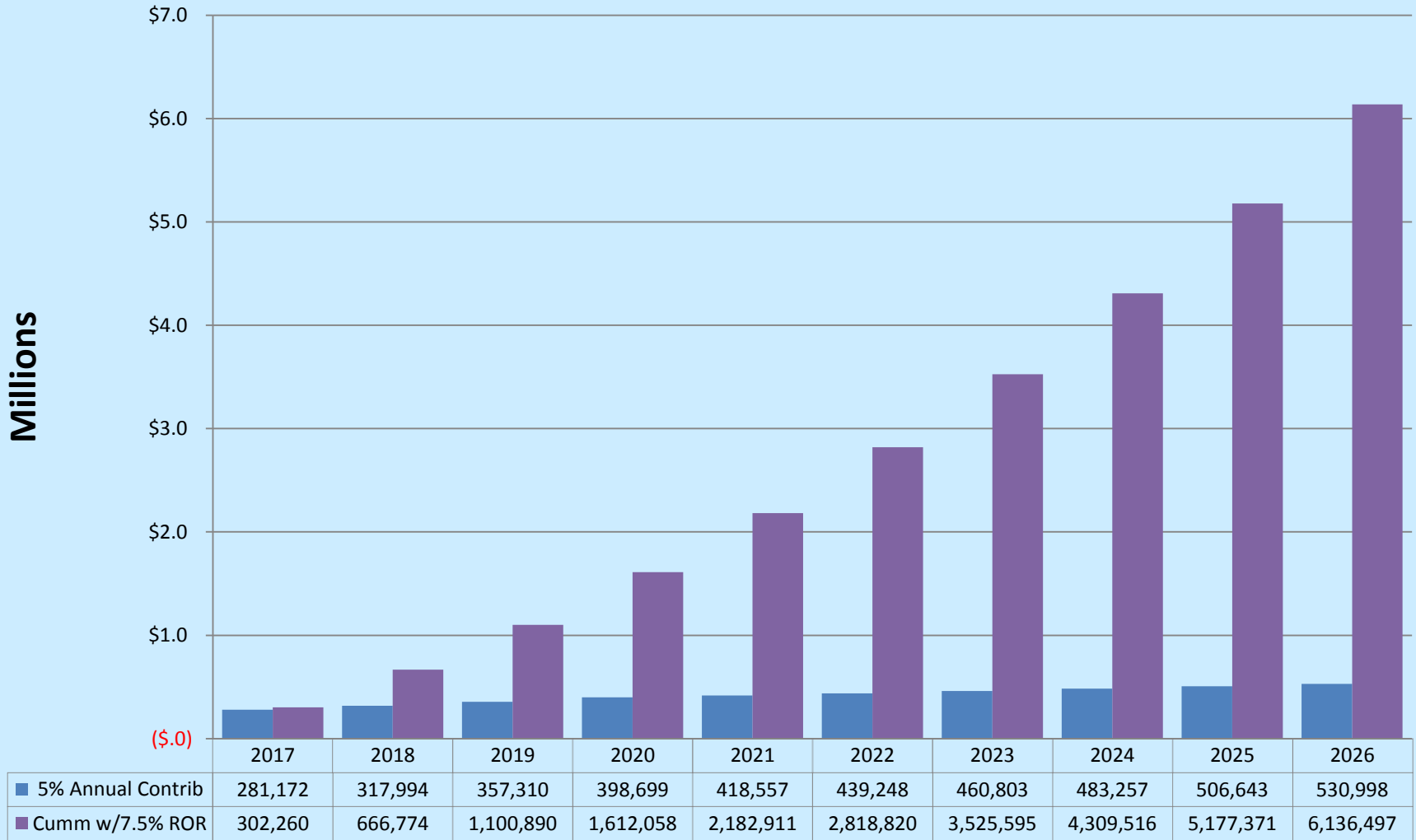
- Minimum Funding Target Level: 90%
- Pay 105% of the Annual Required Contribution



PROPOSED PENSION POLICY

105% OF ARC

Proposed Policy over 10 Years





OFFICE BUILDING OBLIGATIONS

- 375 Beale projected Move-in date: May 2016
 - Contribution of \$9 M; reducing obligation
 - Monthly Mortgage Payment (COP) is \$100,000

- 939 Ellis Street monthly lease of \$114,906
 - Ellis lease ends June 24, 2016



375 Beale Street Financing Terms

- Finance entire Air District Cost (\$30 M)
- Pay down with proceeds from 939 Ellis sale (\$9 M)
- Floating interest rate with graduated caps (SIFMA +1.20)
 - Years 1-5: 3.20%
 - Years 6-10: 4.20%
 - Years 11-30: 5.20%
- Maximum annual payments:
 - \$1.2 M for the first 10 years
 - \$1.4 M for the remaining years
- Lower interest rates reduce number of payments



Debt Service With Interest Rate Caps

(\$ in millions)

Annual Debt Service Detail





2017 PROPOSED BUDGET SUMMARY

- Budget balanced
- Reserve drawdown of \$706 K
- Budgeted positions increased to 345
- Other Post-Employment Benefits (OPEB):
 - Contribution remains at \$3 M
 - 90% Funding Target
- CalPERS Pension
 - 105% of ARC
 - 90% Funding Target



BUDGET SCHEDULE

- April 20 - Held 1st Public Hearing on Proposed Fees
- April 27 – Budget & Finance recommends Budget
- May 18 – 1st Public Hearing on Proposed Budget
- June 15 – 2nd Public Hearing and Adoption of:
 1. Proposed Fees
 2. Proposed Budget



RECOMMENDED ACTION

➤ Approve Proposed FYE 2017 Budget

The Board of Directors will hold a final public hearing and will consider the adoption of a resolution to approve the Proposed Budget for FYE 2017 and various budget related actions.