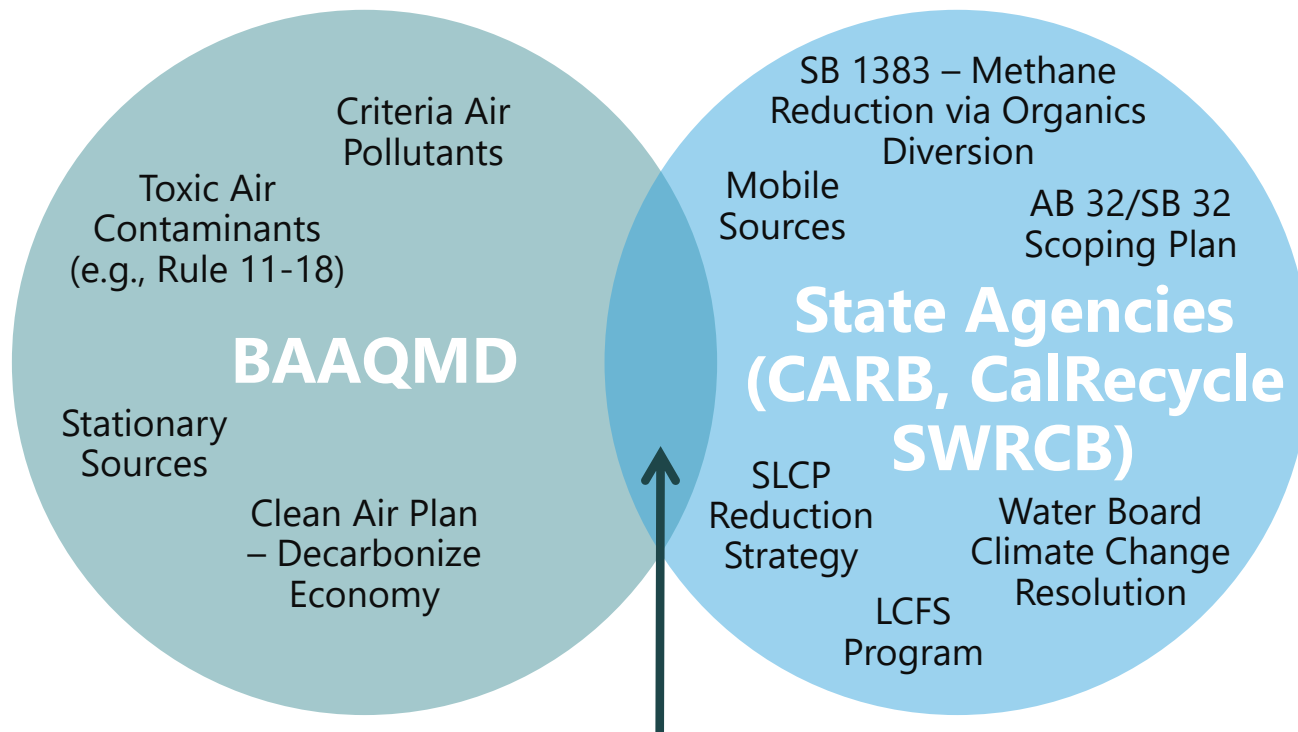




## **AIR ISSUES & REGULATIONS COMMITTEE**

**A Committee of the Bay Area Clean Water Agencies**

# **BACWA-BAAQMD Annual Meeting August 6, 2018**



### Goals Common to BAAQMD & State Agencies



### Impacts to & Opportunities at POTWs

- Methane Reduction.
- Support state/regional policy/goal development under AB 617.
- Support statewide GHG reducing programs - AB 32/SB 32.

- Receive organic waste.
- Boost biogas production/use.
- Potential interruptions to existing CIP.
- Require streamlined permit process to receive funding & prevent further CIP delays.

# BACWA AIR Committee-BAAQMD Annual Meeting

- 10:30-11:30 Basin-Wide Methane Strategy
- 11:30 – Noon Lunch
- 12:00 – 12:30 Rule 11-18 Update
- 12:30 – 12:45 Technology Implementation Loan Program
- 12:45 – 1:15 AB 617 Implementation Update
- 1:15 – 1:45 Standard Permit Conditions & Temporary Pilot Test Projects
- 1:45 – 2:00 Closing/Adjourn



AIR ISSUES & REGULATIONS COMMITTEE  
A Committee of the Bay Area Clean Water Agencies



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## ***Air District's Methane Strategy Update on Rulemaking Efforts***

### **Annual BACWA AIR Committee**



August 6, 2018  
San Francisco, CA

**Idania Zamora, PhD**  
Office of Rules and Strategic Policy

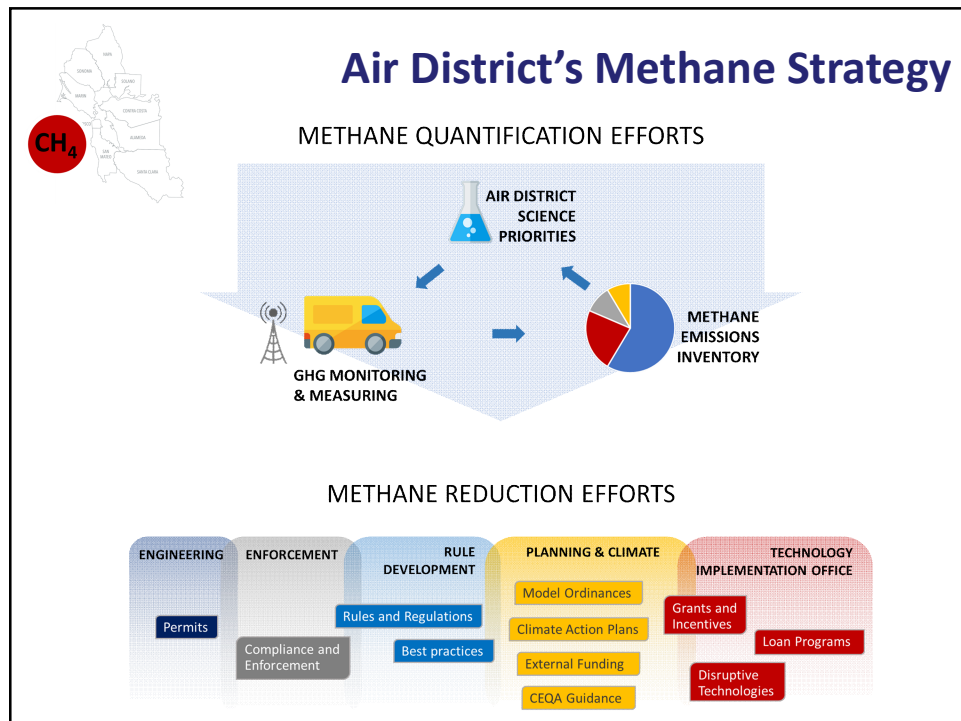
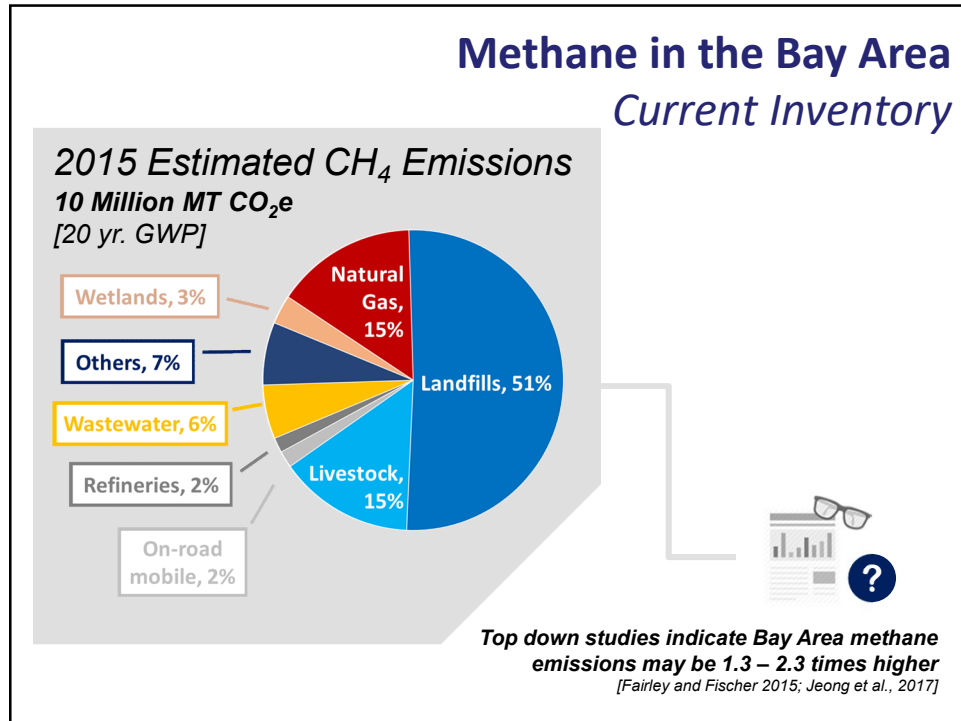


## **Why Focus on Methane?**

*It's A High Impact Strategy to  
Address Climate Change*

- Methane is 86 times more potent than carbon dioxide (CO<sub>2</sub>)  
*[on a 20-year horizon]*
- Methane is removed faster from the atmosphere
- Public health and further climate benefits may result from reduction of co-pollutants
- Economic benefits are expected from recovered energy and products
- Air Districts support State's CH<sub>4</sub> emissions reduction goal of 40% by 2030 (SB 1383)
- Air District has clear authority to regulate methane







## Organics Recovery Strategy

*Supporting the State's diversion goals  
while protecting public health*

### CORE VALUES

- Support 50% organics diversion by 2020, and 75% by 2025
- Methane reduction without net greenhouse gas increase
- Robust local infrastructure and resilient supply chains
- Healthy regional and neighborhood air quality
- Partnership and ongoing learning

### EVENTS AND NEXT STEPS

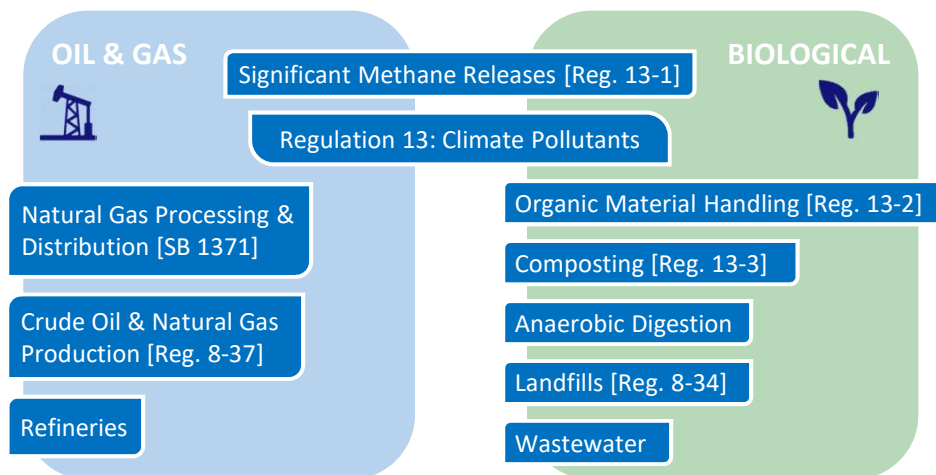
- Regional Convening – June 25, 2018
- Emerging Directions for the Organics Recovery Strategy
- Upcoming Methane Expert Panels – Fall 2018

5



## Methane Rule Development

*Map to systematically reduce methane emissions*



6

## Air District's Methane Strategy 2018 Methane Rules

### REGULATION 13 CLIMATE POLLUTANTS

**PURPOSE** To establish uniform definitions, standards, administrative requirements, monitoring and recordkeeping requirements, and test methods that apply to regulating climate pollutants in the District.

#### SCHEDULE

**WORKSHOPS**  
2018/early 2019

**TO BOARD**  
2019



### NEW RULES COMPOSTING & ORGANIC RECOVERY OPERATIONS

**CONCEPT** Adopt a suite of rules that address emissions from storing, transferring and processing organic materials at composting, anaerobic digestion and other waste-related facilities such as landfills.

#### SCHEDULE (Rule 13-2)

**WORKSHOPS**  
2018

**TO BOARD**  
early 2019



7

## Air District's Methane Strategy 2018 Methane Rules (cont'd)

### SB 1371 NATURAL GAS LEAK ABATEMENT PROGRAM

**PURPOSE** Prevent methane leaks from the natural gas distribution system

**WORK WITH CALIFORNIA PUBLIC UTILITIES COMMISSION (CPUC)**  
during Phase II to achieve quantifiable methane emissions reductions

#### SCHEDULE

**PHASE I**  
Completed 2017

**PHASE II**  
2018 – 2020



### RULE 8-37 CRUDE OIL AND NATURAL GAS PRODUCTION

**PURPOSE** Address emissions from smaller oil and gas production facilities exempted by Air Resource Board's Oil & Gas Rule

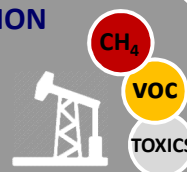
**CONCEPT** Consider a lower leak threshold to achieve cost-effective methane and VOC emissions reductions and protect public health

#### SCHEDULE


**OIL & GAS STUDY**  
JAN-JULY 2018

**WORKSHOPS**  
2018

**TO BOARD**  
2018/early 2019



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## Draft Regulation 13, Rule 1

### *General concepts*

### 13-1: Significant Methane Releases

**PURPOSE** *to compel facilities to mitigate major releases rapidly; will act as **backstop** while source-specific rules are adopted*


**CONCEPT** *Prohibits ongoing significant methane releases*

**SCHEDULE**

**WORKSHOPS**  
August 2018

**TO BOARD**  
Late 2018

9



## Draft Regulation 13, Rule 1

### *Regulatory Review*

### STANDARDS

*Methane releases shall be abated if*

**EMISSIONS**  
> 10,000 PPM

### FIX TIMES

*Releases*

**MINIMIZE RELEASE**  
WITHIN 3 DAYS

**ABATE RELEASE TO 500 PPM**  
WITHIN 14 DAYS


*Recurrent releases*

**MINIMIZE RELEASE**  
WITHIN 3 DAYS

**ABATE RELEASE TO 500 PPM**  
WITHIN 7 DAYS

10






## Draft Regulation 13, Rule 1 Regulatory Review (cont'd)

### LIMITED EXEMPTIONS

- **All sources:** if operator can show methane emissions < 10 lb/day for each of 5 consecutive days
- **Refinery flares:** if operator can show that each flare achieves 96.5% combustion efficiency (or 98% destruction efficiency)
- **Maintenance or repairs:** exempt if methane release is abated to < 500ppm within 3 days AND emissions < 100 lb/day for each of these days
- **Landfill working face:** exempt if methane release is abated to < 500ppm within 3 days AND emissions < 100 lb/day for each of these days

11



## Draft Regulation 13, Rule 1 Regulatory Review (cont'd)

### MONITORING

*May use a variety of portable methane gas detectors*

- *for release detection purposes*

If able to detect a **10,000 ppm** concentration or greater, with a maximum error of  $\pm 10\%$

**APCO-APPROVED ALTERNATIVE**
- *for compliance purposes*

If able to detect a **100 ppm** concentration or greater, with a max error of  $\pm 10\%$

### METHODS

*Operators can determine mass emissions with the following methods*

EPA PROTOCOL FOR EQUIPMENT RELEASE EMISSION ESTIMATES (Ch. 4, mass emission sampling)

**APCO-APPROVED ALTERNATIVE**

12

## Draft Regulation 13, Rule 1

### *Next Steps*

- Workshops and Comment Period

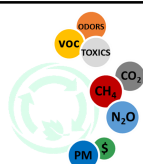
**Early Fall 2018**

Submit written comments  
to: [wsaltz@baaqmd.gov](mailto:wsaltz@baaqmd.gov)



- Amend Draft Rule as Appropriate
- Publish Proposed Rule and Staff Report
- Public Hearing in late 2018

13



## Draft Regulation 13, Rule 2

### *General concepts*

### 13-2: Organic Material Handling

**PURPOSE** *to limit methane and VOC emissions from the transfer and storage of organic material at all facilities*

#### CONCEPT

- Recordkeeping and Reporting
- Registration and Permitting
- Best Management Practices

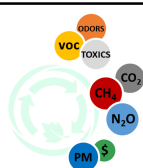
#### SCHEDULE

**WORKSHOPS**

Fall 2018

**TO BOARD**

2019



## Draft Regulation 13, Rule 3

### *General concepts*

### 13-3: Composting Operations

**PURPOSE** *to limit methane and VOC emissions from processes typically part of composting operations*

#### CONCEPT

- Best Management Practices
- Mitigation Measures
- Control Requirements

#### SCHEDULE

**WORKSHOPS**

Fall 2018

**TO BOARD**

2019



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AIR QUALITY  
MANAGEMENT  
DISTRICT

***Thank you for your participation!***



#### Methane Strategy

**Dr. Idania Zamora**

✉ [izamora@baaqmd.gov](mailto:izamora@baaqmd.gov)

☎ (415) 749 – 4683

#### Rule 13-1

**William Saltz**

✉ [wsaltz@baaqmd.gov](mailto:wsaltz@baaqmd.gov)

☎ (415) 749 – 4698

#### Rules 13-2 and 13-3

**Robert Cave**

✉ [rcave@baaqmd.gov](mailto:rcave@baaqmd.gov)

☎ (415) 749 – 5048



BACWA

August 2018

**Bay Area Air Quality Management District**  
**RULE 11-18 UPDATE**  
**FOR BACWA AIR COMMITTEE**

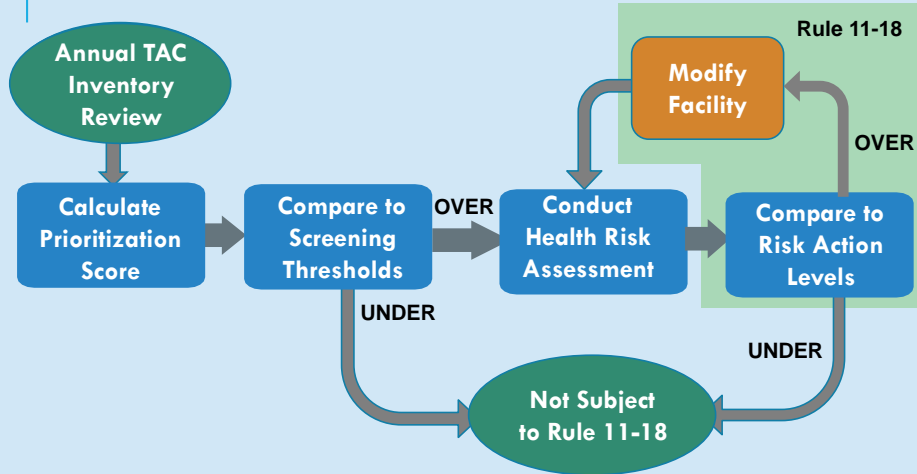
**Carol Allen**  
Assistant Manager,  
Engineering Division

**OUTLINE**

- **Review Process for Existing Facilities**
- **Rule 11-18 Requirements**
- **Draft Implementation Schedule**
- **Example Information Request**

Slide 2

## TOXIC EMISSIONS REVIEW PROCESS FOR EXISTING FACILITIES



Slide 3

4

## PRIORITIZATION SCORE SCREENING THRESHOLDS

Prioritization Score Type	Screening Thresholds for Phase I Sites	Screening Thresholds for Phase II Sites
Cancer Risk	250	10
Non-Cancer Hazard Index (Chronic HI or Acute HI)	10	1.0
District Review Begins:	2018	2020

Slide 4

## RISK ACTION LEVELS FOR EXISTING FACILITIES

Health Risk Type	Source Risk Meet TBARCT	Facility Risk Or Risk Limits *
Cancer Risk	1 per million	10 per million
Non-Cancer Hazard Index (Chronic HI or Acute HI)	0.2	1.0

\* Effective January 1, 2020

Slide 5

## REGULATION 11, RULE 18 – KEY REQUIREMENTS

### Facilities above a risk action level must

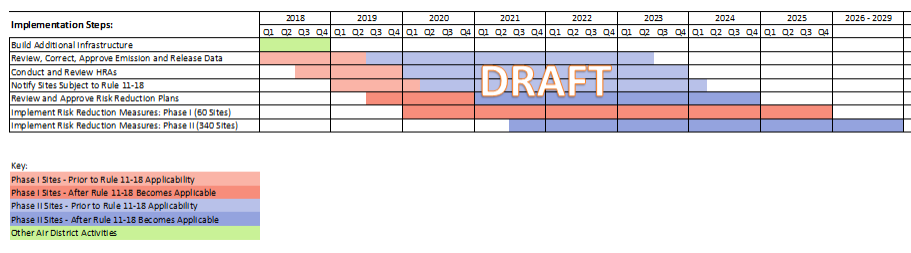
- Develop a risk reduction plan for Air District approval
- Execute plan according to plan schedule
- 5-10 Years to Implement Plan

### Risk reduction measures include

- Installation of Best Available Retrofit Control Technologies for Toxics (TBARCT) – considers control costs
- Modification of operating hours and activity levels
- Modification of emissions point characteristics

Slide 6

# DRAFT IMPLEMENTATION SCHEDULE



7

# INFORMATION REQUESTS

Facility Information	Information	Facility Requested Corrections
Facility Number:		
Legacy Site Number:		
Facility Name:		
Facility Address:		
NAICS:		
Adjusted Prioritization Score:		
Proximity Adjustment Factor - Resident:		
Proximity Adjustment Factor - Workers:		
Facility Engineer:		
Facility Inspector:		
Facility Contact:		
Contact Title:		
Contact Company:		
Contact Address:		
Contact Phone:		
Contact Email:		
Additional Info:		

Slide 8

INFORMATION REQUESTS

			Facility Changes to Operating Schedule				Air Pollutant Emission Train
Plant#	Source#	Source Description	Continuous Operation	Hours/ day	Days/ week	Weeks/ year	

Slide 9

INFORMATION REQUESTS

				2017 Inventory Completed by Facility		
Pollutant Key	Toxic Compound	CAS#	Source # Facility Source Description	2017 Emissions lb/yr	2017 Emissions lb/hour (max)	Entry Date
7	ALLYL CHLORIDE	107-05-1				
8	2-AMINOANTHRAQUINONE	117-79-3				
9	AMMONIA	7664-41-7				
10	ANILINE	62-53-3				
11	ARSENIC AND COMPOUNDS (INORG/	7440-38-2				
12	ARSINE	7784-42-1				
13	ASBESTOS	1332-21-4				
14	BENZENE	71-43-2				

Slide 10



INFORMATION REQUESTS

			UTM NAD 83	UTM NAD 83			
Facility#	Emission Point #	Facility Stack ID	East_X (m)	North_Y (m)	Root Dev#	% flow of Root Device to EmisPt	Root Device Trains

Facility Proposed Revisions to Stack Parameters								
Direction Vertical or Horizontal	OutletType Rain Cap or Open (or Hinged Rain Flap)	Height (ft)	Exit Diameter (ft)	Cross Sectional Area (Use if not round, sq ft)	Typical Exhaust Gas Flow Rate (Actual, wet cfm)	Typical Exhaust Temperature (degrees F)	Maximum Exhaust Gas Flow (Actual, wet cfm)	Maximum Exhaust Temperature (degrees F)

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# Technology Loan Program for Bay Area Facilities



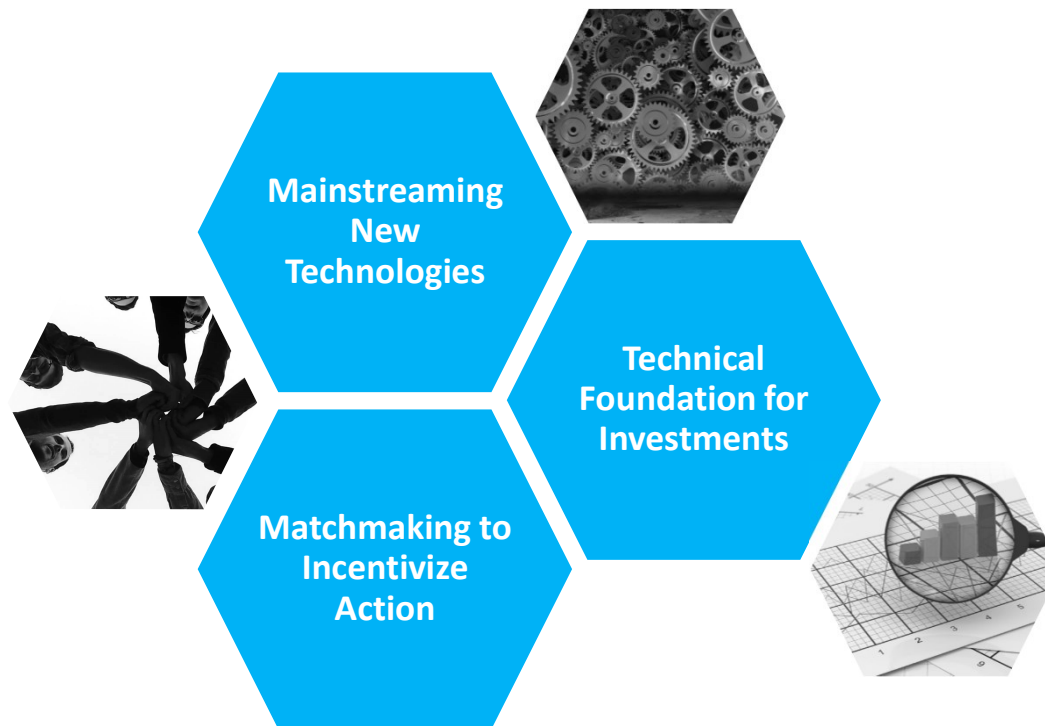
August 6, 2018  
Derrick Tang, Manager  
Technology Implementation Office

# Technology Implementation Office



## Mission Statement

*Catalyze innovation to combat climate change by **incentivizing** disruptive, low-cost technologies that **reduce greenhouse gas emissions** for mobile and stationary sources*



# Benefits to TIO Partners



## Technology Developers and Companies

Accelerated awareness and mainstreaming of new technologies

## Stationary Facilities

Information about technology and financing opportunities

Access loans for technology upgrades

Getting out in front of permitting and regulatory requirements

## Financing Authorities

Expanded customer base

Co-funding to cover higher risk or newer technologies

Increased confidence in project technical viability and payback periods to enable more investment



# Facilities: Needs & Wants



## Awareness

- A **clearinghouse** of emissions-reducing technologies
- Events and opportunities for **matchmaking**

## Technology Fit

- Target facilities that have **current or planned** construction or rehabilitation
- New technologies should be **low-maintenance**

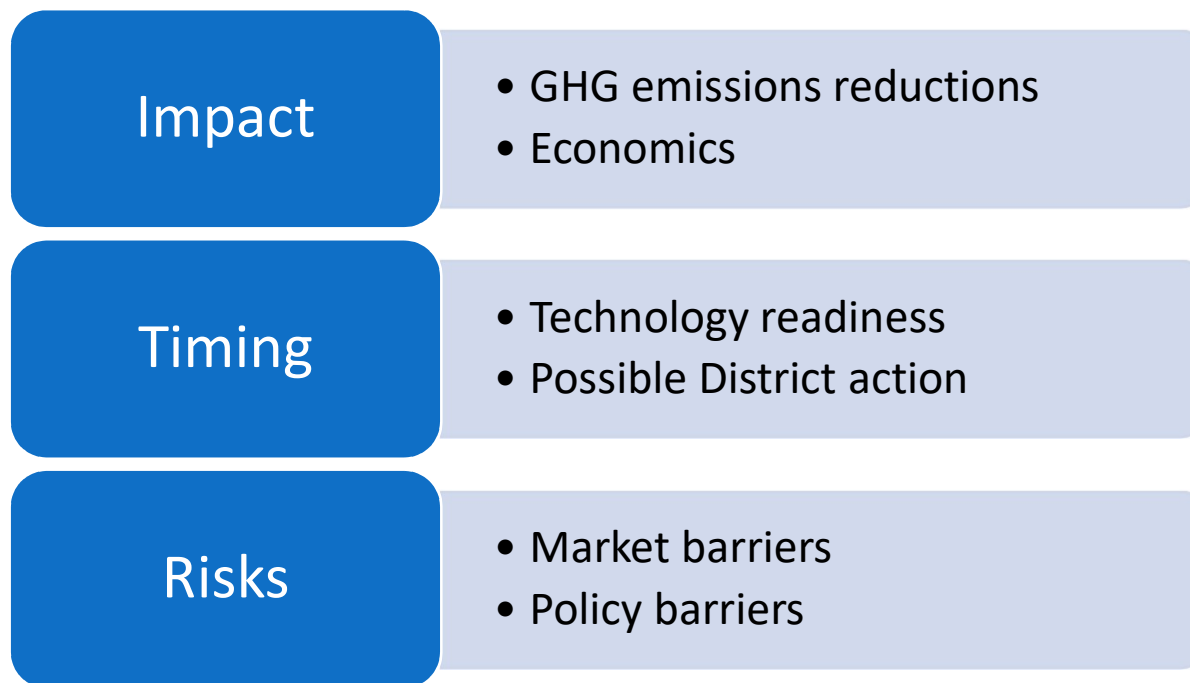
## Financing

- **Public** facilities are interested in financing options
- **Private** facilities may have internal financing but are still interested in technology assessment and matchmaking
- **Longer loan terms** preferred (~30 years)

# Technology Assessment



*The TIO has developed a tool to evaluate technologies across several key metrics:*



# Technology Example: Shortcut Nitrogen Removal (“Anammox”)



- Replaces nitrification and denitrification with a single-step process
- Eliminates the need to aerate and lowers sludge volumes
- Sharply reduces energy use
- Can result in a net consumption of  $\text{CO}_2$
- Potential for quick return on investment



# Technology Loan Program with IBank



## Co-lending program

**Subsidized Loans and Loan Guarantees  
for Greenhouse Gas Reductions**



### **Loans for Public Sector** (Municipalities, Universities, Schools, Hospitals)

- From \$500k to \$30M
- Up to 30-year terms
- Below-market interest rates and subsidized lender fees
- Engineering evaluation and technical assistance

### **Loan Guarantees for Small Businesses**

- For loans up to \$20M
- Up to 90% guarantee
- Subsidized fees
- Engineering evaluation and technical assistance



# Climate Tech Marketplace 9/13



## Climate Tech Marketplace

Thursday, September 13, 2018

*Showcasing emerging technologies for  
process improvements, energy efficiency,  
and emissions reductions*

### Attendees:

- **Technology developers:** Showcasing technologies, identifying partners and customers
- **Global Summit participants:** Representatives from around the world
- **Governments and businesses:** Identifying new technologies that can help them improve operations and meet climate commitments

For more information, contact [climatetech@baaqmd.gov](mailto:climatetech@baaqmd.gov)



## AB 617 Community Health Protection Program and Expedited BARCT Implementation Schedule

David Joe  
Senior Air Quality Engineer, Rule Development  
Bay Area Clean Water Agencies  
August 6, 2018

- 1 AB 617 Overview
- 2 Community Health Protection Program
- 3 BARCT Implementation Schedule
- 4 What's Next

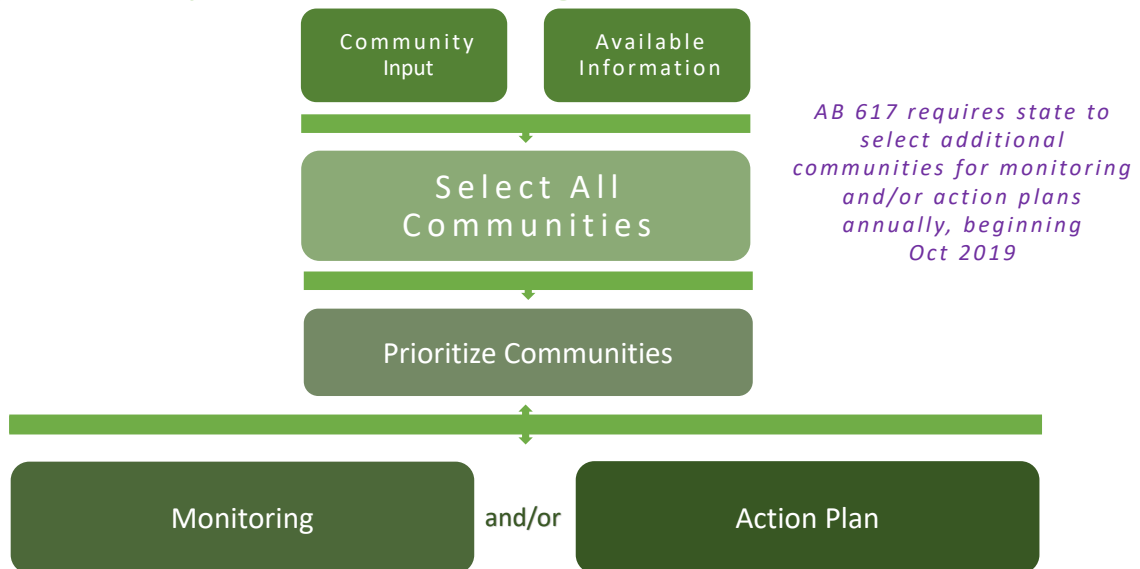
## 1 AB 617 Overview

### Program Goals

- Community Participation
- Eliminate Air Quality Disparities
- Reduce Health Burdens
- Continuous Evaluation and Improvement
- **Community Health Protection Program**
  - Community Emission Reduction Plans
  - Community-Level Air Monitoring
- **Best Available Retrofit Control Technologies**
  - Expedited BARCT Implementation Schedule

3

## 2 Community Health Protection Program

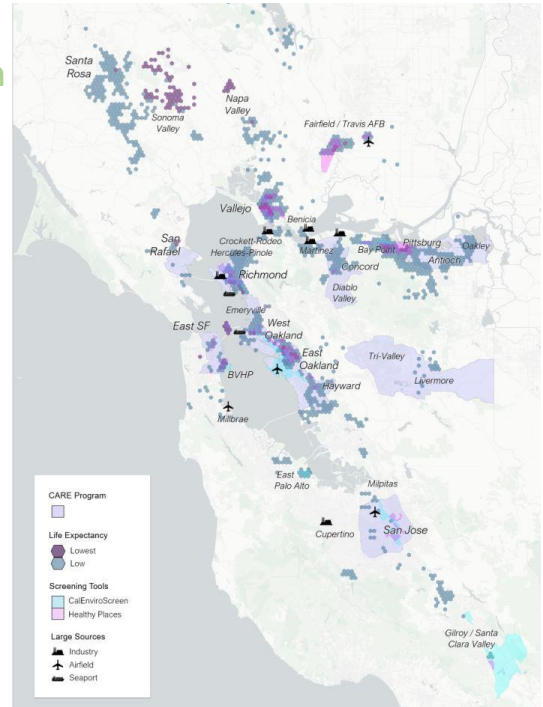


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## 2 Community Health Protection Program

### All Communities

- Community Air Risk Evaluation (CARE)
- Areas with large sources
- Areas with health and pollution impacts
- Areas with low life expectancy

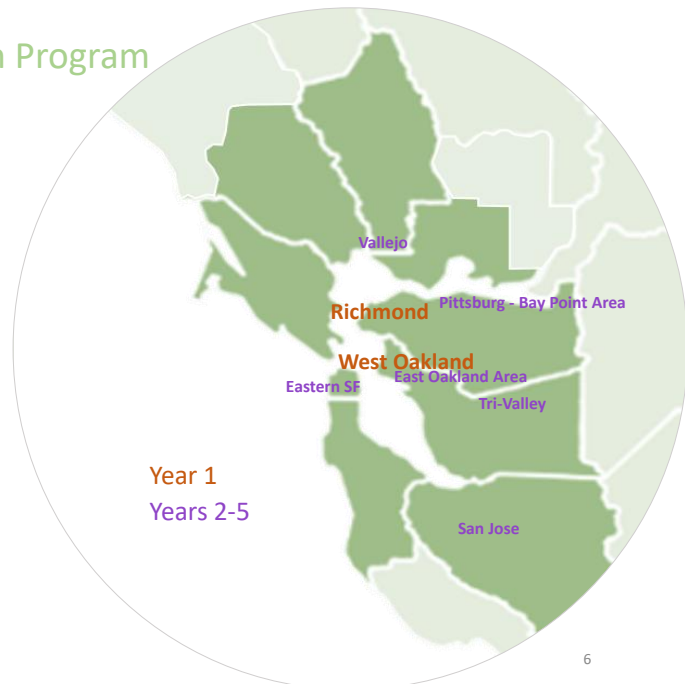


## 2 Community Health Protection Program

Year 1

West Oakland – action plan

Richmond – monitoring plan



## 2 Community Air Protection Program

- West Oakland Community Action Plan Steering Committee
  - West Oakland Environmental Indicators Project (WOEIP) and Air District
  - Residents, health organizations, businesses, schools, government agencies
- Steering Committee will inform the development of the plan, which may propose measures to address:
  - Mobile and stationary sources of air pollution
  - Land-use decisions
  - Targeted enforcement
  - Incentives
  - Other identified measures to reduce exposure to air pollution

7

## BARCT Implementation Schedule

AB 617

- AB 617 requires adoption of expedited schedule by 1/1/2019
- Implementation of BARCT by earliest feasible date, no later than 12/31/2023
- Schedule applies to sources at industrial Cap-and-Trade facilities
- Best Available Retrofit Control Technology
  - An emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source
- Does not apply to sources that have implemented BARCT since 2007
- Priority for sources that have not modified emissions limits for longest period of time

8

# BARCT Implementation Schedule

AB 617

- Developed draft BARCT Schedule
  - Identified the sources to evaluate
  - Determined preliminary BARCT levels for each pollutant and source
  - Prioritized potential rule development projects
- Released concept paper and project scopes in May 2018
- Conducted stakeholder meetings, received public comments, continued coordination with ARB, further technical assessment/research, review and analysis of AB 617 requirements
- Developed revised draft BARCT Schedule – Six potential rule development projects
- Upcoming Workshop Report and public outreach

9

# BARCT Implementation Schedule

AB 617

<u>Rule Development Projects</u>	PM	NO <sub>x</sub>	ROG	SO <sub>2</sub>
Organic Liquid Storage Tanks			X	
Petroleum Wastewater Treating			X	
Portland Cement Manufacturing	X			X
Refinery Fluid Catalytic Crackers and CO Boilers	X			X
Refinery Heavy Liquid Leaks			X	
Petroleum Coke Calcining		X		

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4

## What's Next

- **Community Air Protection Program**
  - Work with communities to prepare for action and/or monitoring plans
  - West Oakland Community Action Plan Steering Committee
  - Selecting partners for Richmond monitoring plan
  - Coordination with CARB for on-going implementation
- **Expedited BARCT Implementation Schedule**
  - Upcoming workshop report and workshops
  - Rule development process for each individual rulemaking effort

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4

## What's Next

**Questions?**

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## CENTRAL SAN'S APPROACH TO REGULATION 11, RULE 18 COMPLIANCE

Annual BAAQMD/BACWA Meeting  
August 6, 2018

Central Contra Costa Sanitary District  
Randy Schmidt  
Senior Engineer



## RULE 11-18 IMPLEMENTATION SCHEDULE

**BAAQMD committed to include all POTWs in Phase 2**

PHASE	CRITERION	Est. HRA SCHEDULE	Est. RISK REDUCITON PLAN SCHEDULE	Est. PLAN IMPLEMENTATION SCHEDULE
Phase 1	PS>250 Cancer Risk; OR PS>2.5 Noncancer	2017-2018	2018-2019	2019-2022
Phase 2	PS>10 Cancer Risk; OR PS>1.0 Noncancer	2019-2021	2021-2022	2022-2025





## CENTRAL SAN'S APPROACH



- Determine Rule 11-18 applicability
- Be proactive - gather upfront intelligence to comply with Rule 11-18
- Internal HRA to determine if health risks exceed risk action levels
- Early identification of risk reduction strategies
- Planning of risk reduction improvement projects

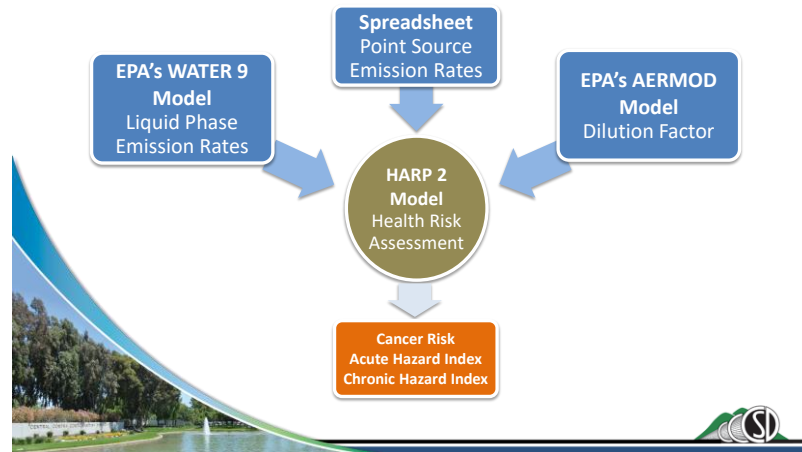


## WHERE ARE WE IN THE PROCESS?

- Site-specific meteorological data compiled
- Completed treatment plant survey to create a mathematical model for use in dispersion modeling
- Validated stack parameters
- Collecting site-specific emissions factors
- Validating emissions factors and influent data
- Working with BAAQMD to update:
  - BAAQMD's emissions inventory
  - On-site meteorological data
  - Physical layout of treatment plant and stack characteristics for use in dispersion model
- Developing baseline HRA with consultant



## GENERAL PROCESS TO CALCULATE HEALTH RISK VALUES



## FACILITY REPRESENTED IN AIR DISPERSION MODEL



## INTERNAL HEALTH RISK ASSESSMENT

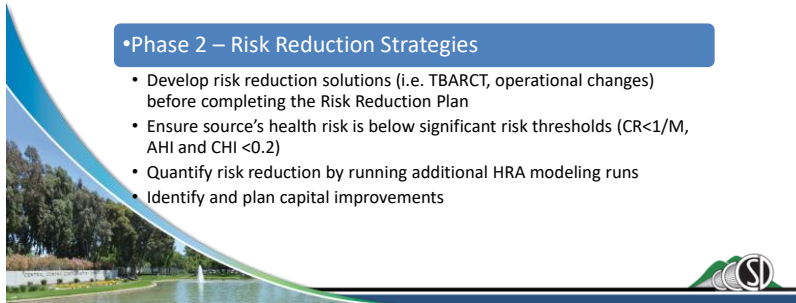
### •Phase 1 - Baseline Health Risk Assessment

- Estimate baseline cancer risk, acute hazard index, and chronic hazard index.
- Identify the MEIR and MEIW receptors
- Distinguish top-contributing sources and pollutants
- Collect site-specific emissions factors

### •Phase 2 – Risk Reduction Strategies

- Develop risk reduction solutions (i.e. TBARCT, operational changes) before completing the Risk Reduction Plan
- Ensure source's health risk is below significant risk thresholds (CR<1/M, AHI and CHI <0.2)
- Quantify risk reduction by running additional HRA modeling runs
- Identify and plan capital improvements

## QUESTIONS





BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## Temporary Operation Permit to Operate Overview

Bay Area Clean Water Agencies  
Air Committee  
August 6, 2018

**Alfonso Borja**

Air Quality Engineer  
Engineering Division



## OVERVIEW

- Purpose of Temporary Operation Permit
- Temporary Operation Permit Submittal
- Temporary Operation Permit Regulatory Requirements
- Offset Emission Credit Considerations
- Questions and Answers



## PURPOSE OF TEMPORARY OPERATION PERMIT

- Allows an operator to test the following:
  - Equipment
  - Processes
  - Formulations
- Allows for the operation of a temporary source which replaces critical equipment during schedule maintenance
- 3-Month Duration



## TEMPORARY OPERATION PERMIT SUBMITTAL

- Submit Application Forms
  - **P-101B Form**: Application for Authority to Construct/Permit to Operate
  - **Data Form G**: General air pollution source supplemental form (miscellaneous equipment)
  - **Data Form A**: Abatement device supplemental form



## TEMPORARY OPERATION PERMIT SUBMITTAL (CONTINUED)

- Submit Application Forms (Continued)
  - **Data Form C:** Fuel combustion unit supplemental form (combustion source/abatement device)
  - **Data Form P:** Stack supplemental form (if source/abatement device has a stack)
  - **Form HRA:** Health risk assessment supplemental form (if project requires a health risk assessment)



## TEMPORARY OPERATION PERMIT SUBMITTAL (CONTINUED)

- Provide Specifications/Informative Documentation
  - Project Description
  - Emission Factors
  - Equipment Specifications
  - Throughput Information



## **TEMPORARY OPERATION PERMIT SUBMITTAL (CONTINUED)**

- Operator certify one of the following:
  - Equipment Testing
  - Process Testing
  - Temporary Replacement (Existing Source)
- Submit Application Fees (if known)



## **TEMPORARY OPERATION PERMIT REGULATORY REQUIREMENTS**

- Compliance with:
  - BAAQMD Regulation 1
  - BAAQMD Regulations 5 through 12
- Offsets at 1.15 to 1 for all emission increases
- Best Available Control Technology (BACT)
  - Short Duration Cost-Effectiveness



## OFFSET EMISSION CREDIT CONSIDERATIONS

- Contact Emission Reduction Credit Broker
  - Emission Reduction Credit Availability
  - Emission Reduction Credit Cost (\$)
  - Processing Time
- Prior to issuing temporary operation permit:
  - Certificate In Facility's Possession
  - Compliance with Certificate Conditions



## QUESTIONS AND ANSWERS

For further information on your specific situation,  
please contact your assigned permit engineer.