



Update on Methane Strategy Rule Development Efforts

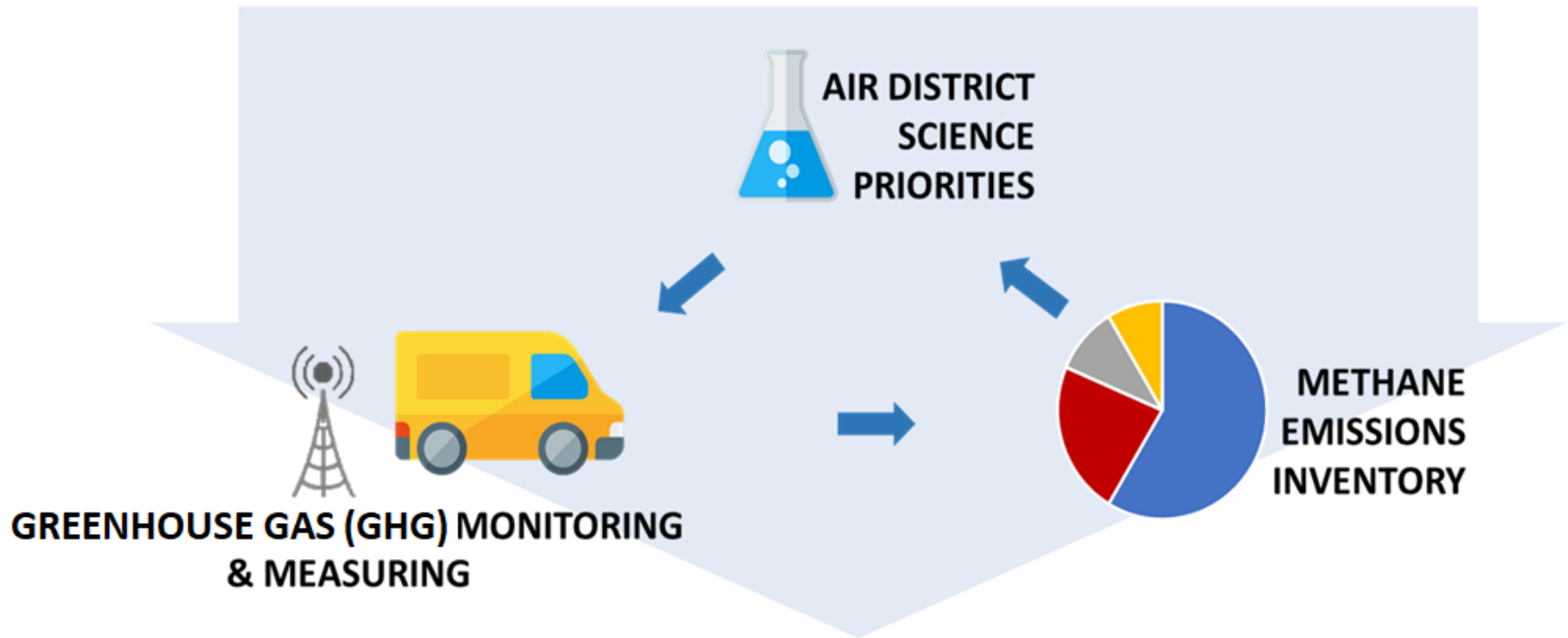
Jacob Finkle
Senior Air Quality Specialist

Climate Protection Committee Meeting
April 22, 2019

- Methane Strategy Overview
- Update on Key Efforts
 - Methane Emissions Inventory
 - Organics Recovery Strategy
 - Regulatory Efforts
- Rule Development Timeline

Air District's Methane Strategy

METHANE QUANTIFICATION EFFORTS



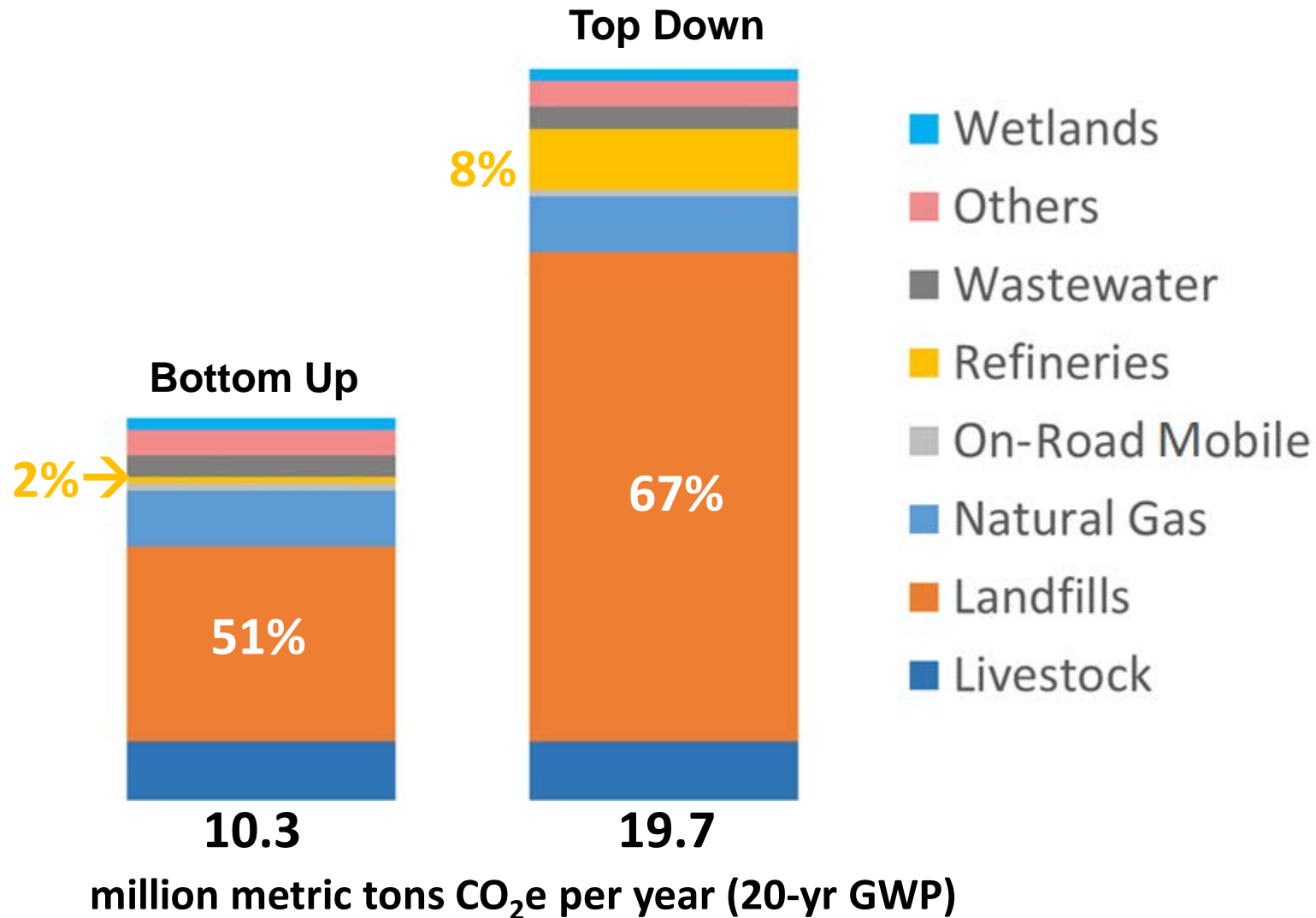
Air District's Methane Strategy (cont.)

METHANE REDUCTION EFFORTS



Methane Emissions Inventory

Bottom-Up Inventory vs. Top-Down Scaling





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 – Summer 2018
- Rule Workshops (REG 13, 13-2, 13-4, 8-34) – Summer 2019
- Methane Expert Panels – Organic Material Handling



Slide 6

Climate & Organics Rule Development

Map to systematically reduce emissions

OIL & GAS



Regulation 13: Climate Pollutants

Hydrogen Plants [Rule 13-3]

Natural Gas Processing & Distribution [SB 1371]

Crude Oil & Natural Gas Production [Rule 8-37]

BIOLOGICAL



Organic Material Handling and Composting Operations [Rule 13-2]

Sewage Treatment and Anaerobic Digestion [Rule 13-4]

Landfills [Rule 8-34]

Regulatory Update: Methane Strategy

Rules and Regulations

	GHGs	Odors	VOCs	Toxics
Regulation 13: Climate Pollutants	All	n/a	n/a	n/a
Rule 13-2: Organic Material / Composting	CH ₄	Yes	Yes	Yes
Rule 13-3: Hydrogen Plants	CH ₄	Yes	Yes	Yes
Rule 13-4: Sewage Treatment / AD*	CH ₄ , N ₂ O	Yes	Yes	Yes
Rule 8-34: Solid Waste Disposal Sites	CH ₄	Yes	Yes	Yes
Rule 8-37: Oil & Gas Rule	CH ₄	Yes	Yes	Yes

*Anaerobic Digestion

Regulatory Update: Methane Strategy

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.*

CONCEPT - *Provide definitions to terms that are necessary for the District to effectively regulate climate pollutants. Amend the regulation when necessary to add new terms, requirements, or test methods.*

SCHEDULE -

WORKSHOP 1

Concepts: Q4 2018

WORKSHOP 2

Draft Reg.: Q2 2019

TO BOARD

Q4 2019

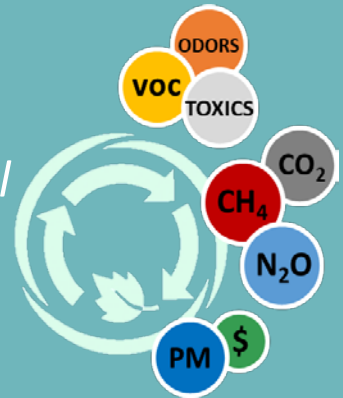


Regulatory Update: Methane Strategy (cont.)

RULE 13-2 ORGANIC MATERIAL HANDLING & COMPOSTING OPS.

PURPOSE - *Adopt a rule that addresses emissions from storing, transferring and processing organic materials at transfer stations, materials recovery facilities, and composting operations.*

CONCEPT - *Rule 13-2 will address emissions from all organic material handling operations, including composting operations, by requiring Emissions Minimization Plans and compliance with source-based standards.*



SCHEDULE -

WORKSHOP 1

Concepts: Q4 2018

WORKSHOP 2

Draft Rule: Q2 2019

TO BOARD

Q4 2019



Regulatory Update: Methane Strategy (cont.)

RULE 13-3 HYDROGEN PLANTS

PURPOSE - *To reduce methane emissions from industrial hydrogen plants and their associated processes.*

CONCEPT - *Remove hydrogen and methane gas release exemptions from Air District regulations and require industrial facilities to reduce methane emissions associated with hydrogen plants.*

SCHEDULE -

WORKSHOP

Draft Rule: Q3 2019

TO BOARD

Q1 2020



Regulatory Update: Methane Strategy (cont.)

RULE 13-4 SEWAGE TREATMENT & ANAEROBIC DIGESTION

PURPOSE - *Adopt a rule to reduce methane, volatile organic compounds, and other climate pollutant emissions from sewage treatment and anaerobic digestion operations.*

CONCEPT - *Provide requirements necessary to reduce climate pollutant and volatile organic compounds from sewage treatment and anaerobic digestion operations in one place.*

SCHEDULE -

WORKSHOP 1

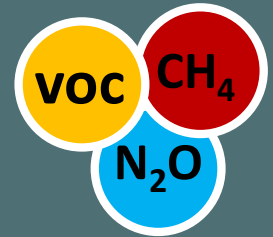
Concepts: Q2 2019

WORKSHOP 2

Draft Rule: Q4 2019

TO BOARD

Q2 2020



Regulatory Update: Methane Strategy (cont.)

RULE 8-34 SOLID WASTE DISPOSAL SITES

PURPOSE - *Update Rule 8-34 to more effectively address methane from landfills.*

CONCEPT - *Align Rule 8-34 with current state and federal regulations and require landfill operators to follow best management practices to reduce methane emissions.*



SCHEDULE -

WORKSHOP 1

Concepts: Q2 2019

WORKSHOP 2

Draft rule: Q4 2019

TO BOARD

Q2 2020

Regulatory Update: Methane Strategy (cont.)

RULE 8-37 CRUDE OIL AND NATURAL GAS PRODUCTION

PURPOSE - *Address emissions from smaller oil and gas production facilities exempted by California Air Resources Board's (CARB) Oil & Gas Rule.*

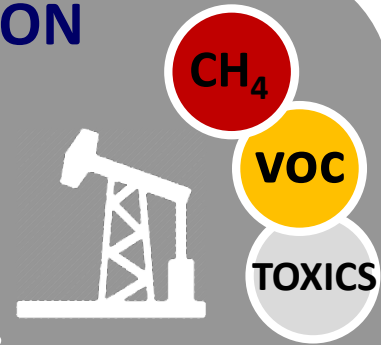
CONCEPT - *Consider a lower leak threshold to achieve cost-effective methane and VOC emissions reductions and protect public health.*

SCHEDULE -

OIL & GAS STUDY
2018-2019

WORKSHOPS
Q3 2019

TO BOARD
Q2 2020



Regulatory Update: Methane Strategy (cont.)

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 Development Timeline

Rule #	Name	Workshop	Presentation to Board
13	Climate Pollutants	June 2019	Q4 2019
13-2	Organic Material Handling & Composting Operations	June 2019	Q4 2019
13-3	Hydrogen Plants	Q3 2019	Q1 2020
13-4	Sewage Treatment & Anaerobic Digestion	June 2019	Q2 2020
8-34	Solid Waste Disposal	June 2019	Q2 2020
8-37	Crude Oil & Natural Gas Production	Q3 2019	Q2 2020



Discussion / Questions

Contact:

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Senior Air Quality Specialist
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BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

AGENDA: 5

Update on Region-Wide Carbon Dioxide (CO₂) Reduction Strategy

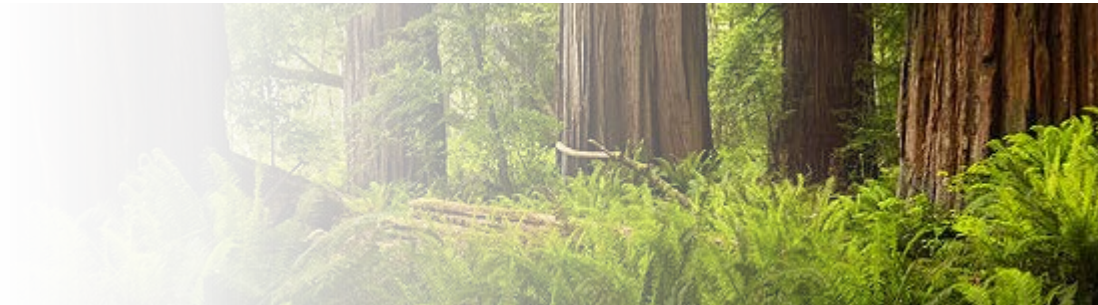


Climate Protection Committee Meeting
April 22, 2019

Jakub Zielkiewicz
Advanced Projects Advisor

Outline

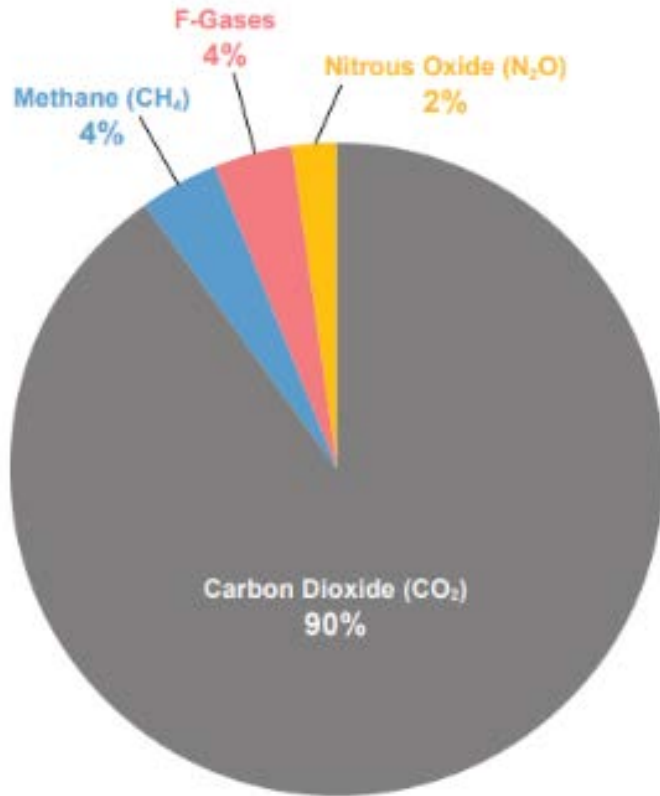
- Carbon Dioxide in Context
- Current Actions
- Prioritizing Additional Action
- Next Steps



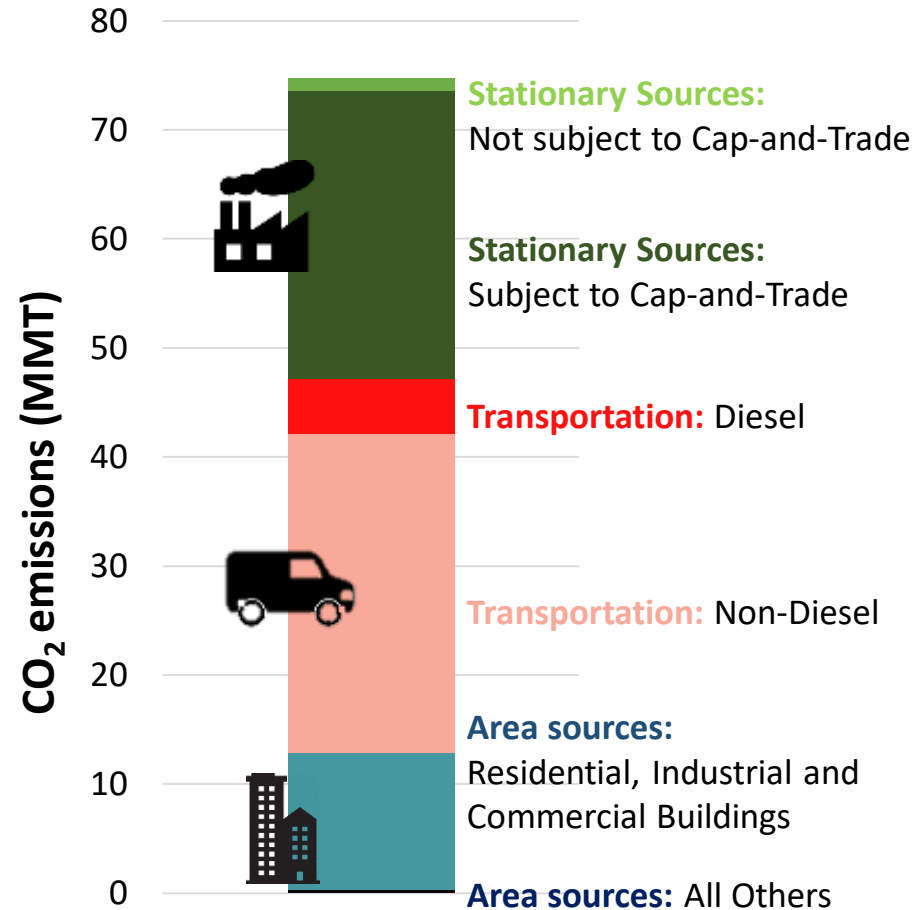
Carbon Dioxide (CO₂) in Context

2015 Bay Area Greenhouse Gas (GHG) Emissions

85 MMT CO₂e (based on 100-yr. GWPs)



Major Source Categories of CO₂



Decarbonizing Buildings

Investing in Replicable Pilot Projects

- Decarbonizing existing buildings: heat pumps, solar, battery storage, electrification
- Innovation across sectors: low-carbon building materials, organics recovery, reducing “Super-GHGs”



Low-Carbon Accessory Dwelling Units (ADUs)

San Mateo Housing Endowment and Regional Trust

Producing architectural designs and guidance to facilitate ADU development that is exclusively green.



Heat Pump Water Heaters

BayREN, San Jose, and Silicon Valley Clean Energy

Building a regional market for heat-pump water heaters by addressing key barriers at every point in the supply chain.



Energy Efficiency in Existing Buildings

City of Brisbane

Developing a local ordinance requiring energy audits, benchmarking and retro-commissioning of commercial buildings.

Building Decarbonization

The Air District is working with local governments to launch an energy efficiency and decarbonization initiative for existing residential and commercial buildings with the following objectives:

High GHG
reduction
potential

Fills a gap

Addresses
Equity

Replicable

Achieves
co-benefits

Cost-
effective

**New Action
Areas**

Municipal
Policy
Resources

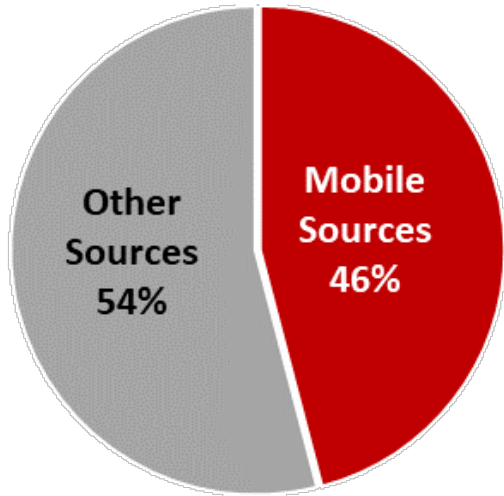
Incentives

Scaling
Grant
Projects

Transportation Grants

2019 Projected Grant Revenues

2015 Bay Area
CO₂ Emissions (%)



Total
\$142M

\$13M	Carl Moyer Program (CMP)	Trucks and buses, school buses, off-road, agriculture, marine, locomotives
\$13M	Mobile Source Incentive Fund (MSIF)	Heavy-duty, agriculture equipment, buses, vehicle scrappage
\$54M	AB 617 / Community Health Protection	Trucks and buses, school buses, off-road, agriculture, marine, locomotives
\$25M	Transportation Fund for Clean Air (TFCA)	Trip reduction, light-duty, bike facilities, medium- and heavy-duty
\$30M	VW NOx Mitigation	Trucks and buses, off-road, airport ground support, marine, light-duty ZEV infrastructure
\$7M	Other*	Light-duty, EV charging, port equipment

- MTC Plan Bay Area
- Commuter Benefits Program
- Spare the Air
- Local government best practices

* Other funding includes other federal, state, and settlement funds

Decrease Local CO₂ Across All Sectors

Model ordinances, best practices and policy guidance

Technology Implementation Office funding and financing

Local Climate Action Plan guidance and review

Regional convening and information-sharing

Climate Technology Review

An Assessment of Opportunities to Reduce Greenhouse Gas Emissions at Stationary Sources in the Bay Area

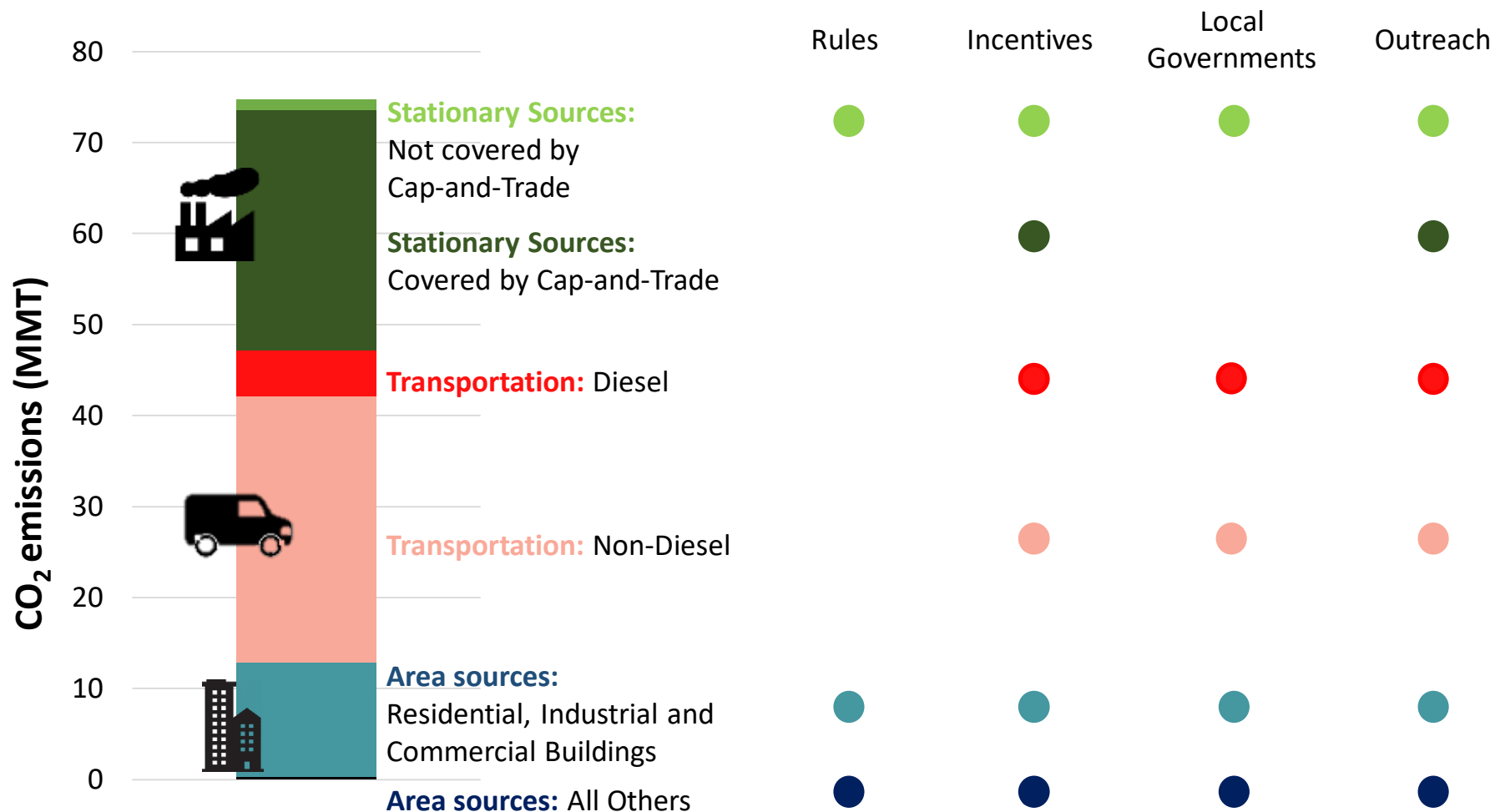
October 2018



Air District Tools and Value Add

Major Source Categories of CO₂

Tools Available



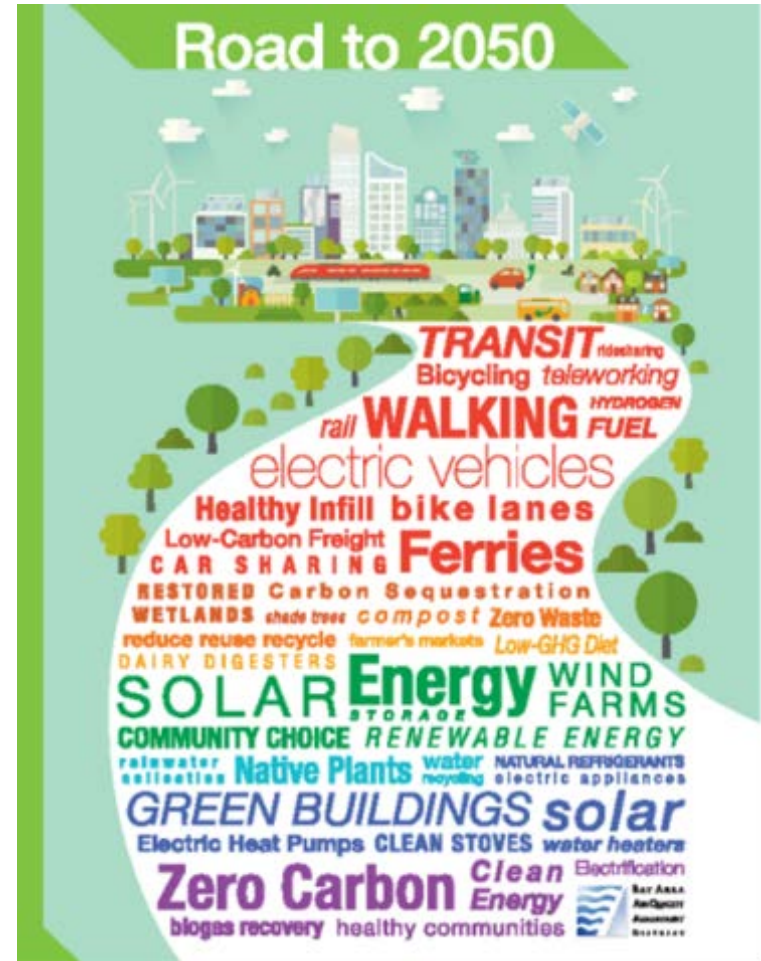
Next Steps

May 13, 2019 Climate Tech
building electrification event

Meet with BayREN and
Building Decarbonization
Coalition on **model policies**

Diesel Free by '33 *Program*
Build-out

Build on lessons learned
from *Climate Grant Program*





BAY AREA
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AGENDA: 6

Update on Community Choice Energy Study



Climate Protection Committee Meeting
April 22, 2019

Abby Young
Climate Protection Manager

Benjamin Foster
President, Fosterra

Air District Support of Community Choice Energy (CCE)

- 2007 Climate Protection Grants:
 - Provide start-up funding for Marin Clean Energy
 - Provide funding for feasibility study for Sonoma Clean Power
- 2018 Climate Protection Grants:
 - *Silicon Valley Clean Energy*: \$325,000 for incentives and marketing to replace residential gas water heaters with electric heat-pumps
 - *East Bay Clean Energy / Peninsula Clean Energy*: \$300,000 to support resilient solar systems on critical facilities
- Annual sponsorship: Business of Local Energy Conference
- Study on cities joining CCEs with 100% renewable energy

Community Choice Energy Study

Research question: How can cities maximize the climate protection benefit of participating in CCE programs?

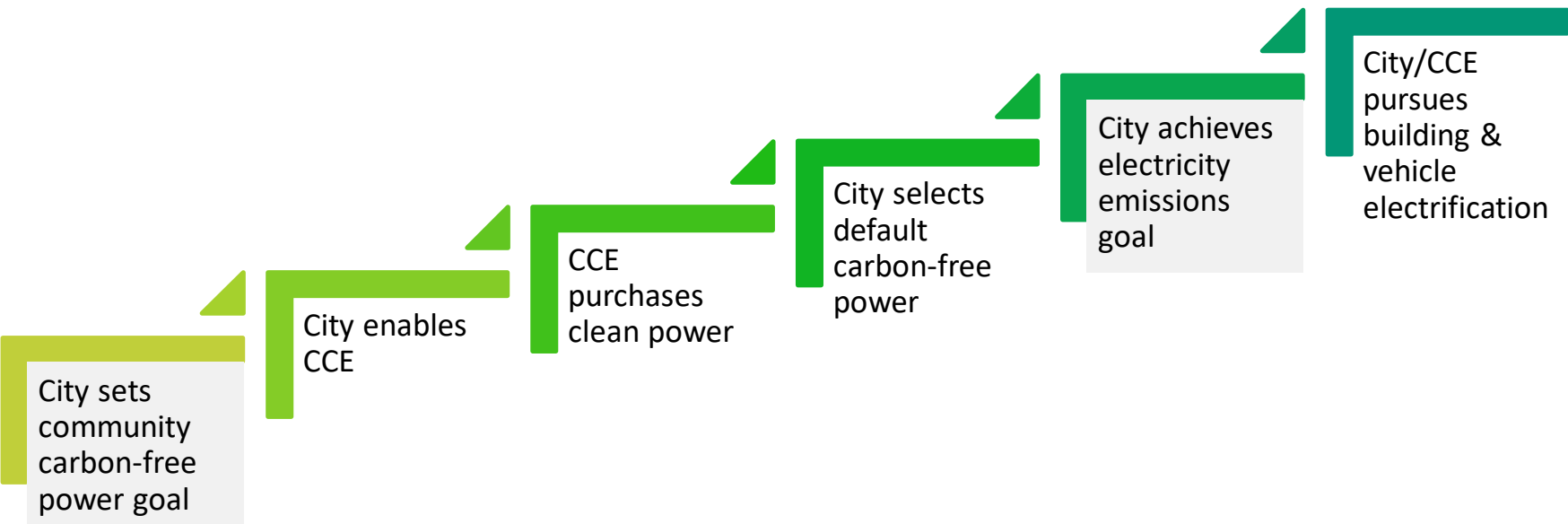
- Contract with KyotoUSA and partner Fosterra to assess potential for cities to join community choice energy programs at the highest possible renewable energy content
- Ben Foster, President of Fosterra, Commissioner for San Jose Clean Energy

100% Renewable Power Study for 7 Cities in East Bay Community Energy (EBCE)

- \$38,500 contract to KyotoUSA with partner Fosterra
- Conduct a study on cities joining a community choice energy program by “opting up” to 100% renewable electricity



Cities are working harder than ever to reach carbon-free power goals and CCEs provide an expedited way to get there...



Report Scope & Goals

Project Goal: Evaluate the potential for seven self-selected communities within EBCE to select 100% renewable energy as a default for residents, businesses, and municipal accounts.

Report Scope:

- **Task 1:** Research and evaluate **current CCE renewable energy products and rates** as a basis for comparison with the product offerings from EBCE.
- **Task 2:** Investigate and **analyze the options, GHG impact, and costs for selecting a 100% renewable energy** product as the default for the cities of:
Albany, Berkeley, Piedmont, Hayward, Emeryville, San Leandro, and Oakland.
- **Task 3:** Develop a report of the findings from Tasks 1 and 2 to provide the cities and EBCE with **recommendations to encourage faster achievement of GHG-reduction.**

Why this is important...

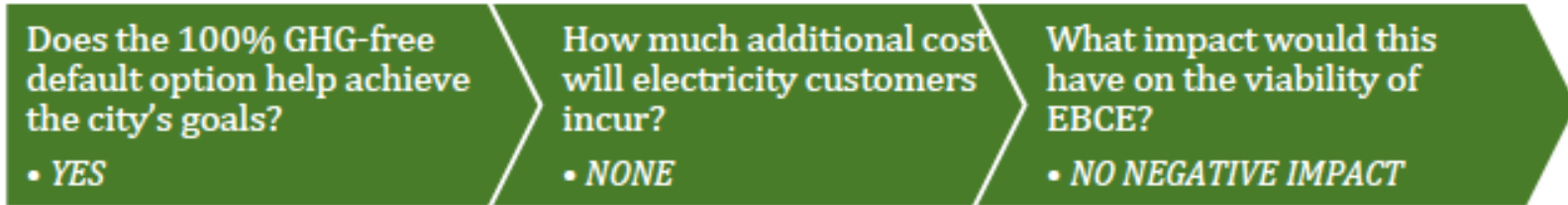
- Partnership between cities and CCEs create a pathway to larger-scale renewables procurement and delivery.
- Aligns the electricity supplier with City/County/State goals for clean energy and GHG reduction.
- This approach will continue to evolve and expand to create ongoing opportunities at both existing and new CCEs.
- Enables deeper impact through electrification initiatives for the built environment and transportation.

EBCE Product Options

- **EBCE Product Options:**

- Bright Choice 38% Renewable 85% GHG-Free
- Brilliant 100 40% Renewable 100% GHG-Free
- Renewable 100 100% Renewable 100% GHG-Free

Key Findings and Impact



- EBCE pricing for the Brilliant 100 product is the same price as PG&E power, although it is priced higher than some CCE peers in the Bay Area. **This rate makes the decision for a city to set Brilliant 100 as the default option much easier.**
- During the development of this report, early findings were shared with the seven interested cities and EBCE staff and Board of Directors. Those interactions resulted in the **Board voting to increase the GHG-free mix of electricity for Bright Choice from 70% GHG-free to 85% GHG-free.**

Actions Taken as a Result of the Study

- **Several cities already took action based on the report's findings:**
 - Albany opted up all its customer classes to Brilliant 100.
 - Hayward opted up all classes to Brilliant 100 with the exception of customers who receive a fixed discount (i.e. California Alternate Rates for Energy (CARE)).
 - Piedmont opted up both its municipal and residential accounts to Renewable 100.
 - Most cities opted up their municipal accounts to Brilliant 100.

EBCE Enrollment Progress – March 2018

EBCE Forecasted Opt-Out Rates: 10% (Per approved budget April 2018)

<i>EBCE Enrollment Progress as of 03/11/2019</i>	Program Enrollment							
	Eligible Accts	Opt Out %	Bright Choice	%	Brilliant 100	%	Renewable 100	%
ALBANY	7,136	2.1%	46	0.6%	6,851	96.0%	89	1.2%
BERKELEY	52,859	1.4%	51,021	96.5%	468	0.9%	627	1.2%
DUBLIN	24,592	3.0%	23,568	95.8%	250	1.0%	26	0.1%
EMERYVILLE	7,821	2.2%	7,525	96.2%	89	1.1%	37	0.5%
FREMONT	81,903	2.7%	78,946	96.4%	624	0.8%	97	0.1%
HAYWARD	54,918	3.3%	13,441	24.5%	39,615	72.1%	31	0.1%
LIVERMORE	33,606	9.2%	30,419	90.5%	48	0.1%	53	0.2%
OAKLAND	178,187	2.4%	171,624	96.3%	1,397	0.8%	829	0.5%
PIEDMONT	3,734	4.2%	133	3.6%	103	2.8%	3,343	89.5%
SAN LEANDRO	34,982	3.8%	33,278	95.1%	291	0.8%	69	0.2%
UNINCORPORATED	53,132	4.6%	50,412	94.9%	229	0.4%	65	0.1%
UNION CITY	22,950	3.2%	22,210	96.8%	20	0.1%	15	0.1%
TOTAL	555,820	3.2%	482,623	86.8%	49,985	9.0%	5,281	1.0%

Values estimated

- No material difference in cities with premium power default.

Looking Forward

- There are opportunities for communities at all CCEs to opt up to 100% renewable energy
 - Both existing and newly forming CCEs can maximize renewable content in their default product options
 - This will align their efforts with Air District and State climate goals
- Moving toward 100% renewable energy will keep CCEs competitive – ***PG&E may reach almost 100% GHG-free power as early as 2019***

Thank You

Full report available at: <http://www.baaqmd.gov/plans-and-climate/climate-protection/local-government-support>