BAY AREA AIR QUALITY MANAGEMENT DISTRICT

AGENDA: 5

Fugitive Dust Regulatory Analysis and Recommendations

Stationary Source and Climate Impacts Committee
April 12, 2023

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Presentation Outcome

To inform the committee on the findings of the Fugitive Dust White Paper and provide recommendations for future actions.

Presentation Outline

- Background on Fugitive Dust
- Current Rules
- Gap Analysis
- Recommendations
- Next Steps
- Feedback and Questions

Presentation for Information Only

- None; informational item

Background

What is fugitive dust?

Fugitive dust is particulate matter generated by open air operations and does not pass through a stack or vent

How is it formed?

Dust becomes fugitive when suspended in the air by wind currents or mechanical forces (e.g., earth moving)

What challenges exist?

Often episodic, tend to be influenced by both wind conditions and human activities.	Sources are not as well-characterized as emissions from combustion sources

Sources of Fugitive Dust

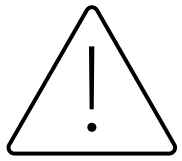
Feedback

Community Perspectives

- Community Advisory Council
- Community Stakeholders
- AB 617 Committees

Scientific & Regulatory Perspectives

- Advisory Council
- Clean Air Act



Dust Concerns – Exposures and Health Impacts

- PM is a significant health concern
- Many fugitive dust sources located in impacted communities
- More localized reductions are needed

Overview of Current PM Rules for Fugitive Dust

Regulation 6: Common Definitions and test methods

- General administrative requirements and standard procedures

Rule 6-1: General Requirements

- Emission rates, emission concentrations, and visible emissions limits

Rule 6-6: Prohibition of Trackout

- Requirements for prohibition of trackout

Rule 6-4	Rule 12-13	CARB NOA ATCM
• Metal Recycling and Shredding	• Foundry and Forging Operations	• Naturally Occurring Asbestos

Gap Analysis of Fugitive Dust Rules

Staff reviewed existing regulatory and programming measures used to control PM emissions, at the following jurisdictions due to their experience with dust suppression:

- California Air Resources Board (CARB)
- Clark County (NV) Department of Environment and Sustainability (DES)
- Imperial County Air Pollution Control District (ICAPCD)
- Maricopa County Air Quality Department (MCAQD)
- Sacramento Metropolitan Air Quality Management District (SMAQMD)
- South Coast Air Quality Management District (SCAQMD)

Recommendations

Amend Regulation 6: Particulate Matter

Burden of Proof and Locations

- Define fugitive dust as observable dust crossing the property line
- Improve stabilization, BACM/BMPs, and trackout requirements
- Requirements for large roadway or construction projects
- Dust control plans for specific high-risk projects or sites

→ Improve Enforceability

Permitted Facility Restrictions

- Reduce PM emissions limit
- Reduce PM process weight limits
- Permitting and/or registration requirements for large dust-generating operations

→ Strengthen Requirements

Monitoring and Data

- Dust control plans with fenceline monitoring
- Wind and vehicle speed monitoring, BACM, and recordkeeping
- Daily self-inspection reports, adequately wetted determinations

→ Explore Feasibility

Recommendations (cont.)

Fees

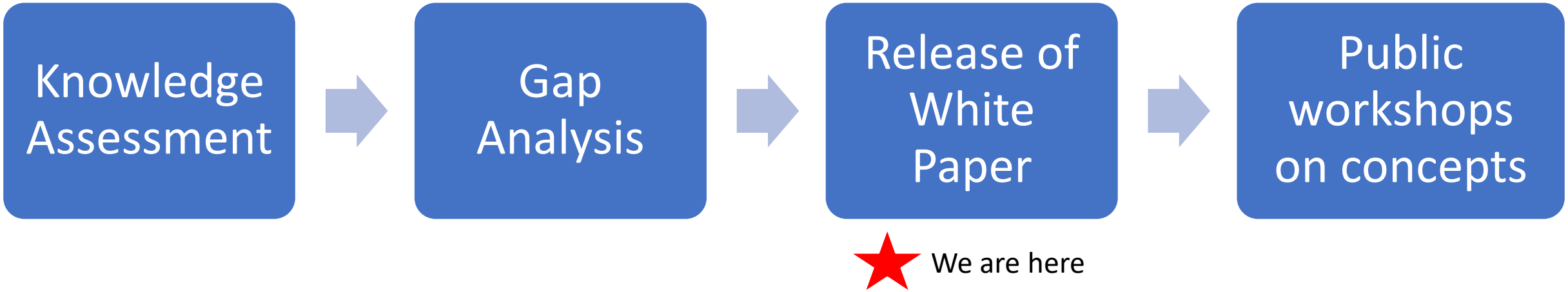
- Pursue regulatory amendments for Rule 3: Fees

PM Methodologies *

- Pursue regulatory amendments for Rule 2-1: General Requirements

* Future regulatory item pending prioritization

Next Steps


Knowledge Assessment
Gap Analysis
Release of White Paper
Public workshops on concepts
We are here

Feedback Requested

- Questions and Comments

AGENDA: 6

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Updated 2023 Stationary Source and Climate Impacts Committee Work Plan

Stationary Source and Climate Impacts Committee
April 12, 2023

Greg Nudd
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Presentation Outcome

- The Committee will review and discuss the updated work plan for meetings in 2023.
- This is an informational item for discussion.

2023 SSCI Work Plan

- **April - May**
  - Air District Statutory Authorities
  - Fugitive Dust White Paper Recommendations
  - Bay Area Healthy Homes Initiative
  - Submitting Rules into the State Implementation Plan
  - Discussion on Prescribed Burning in the Bay Area

2023 SSCI Work Plan (cont'd)

- **June - July**
  - Rules mid-year review
  - Update on Incident Response Monitoring
  - Refinery Community and Fenceline Monitoring
  - Sources Causing Particulate Matter Exposure (InMAP Results)
  - Overview of How the Air District Conducts Socioeconomic Analyses
  - Overview of Permitting Timelines

2023 SSCI Work Plan (cont'd)

- **September - October**
  - Rule 8-8: Refinery Wastewater
  - Rule 8-18: Refinery Heavy Liquid Leaks
  - Metal Recycling and Shredding Operations

- **November - December**
  - Priority Control Measures in the Richmond-North Richmond-San Pablo CERP
  - Health Impacts of Wood Smoke and Possible Policy Response

2023 SSCI Work Plan (cont'd)

- **Pending**
  - Indirect Source Rules (ISR)?
  - Rule 11-18: Reduction of Risk from Air Toxic Emissions at Existing Facilities
  - Rule Implementation
  - Information on Just Transition

Questions?

AGENDA: 7

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Update on the Bay Area Healthy Homes Initiative

Stationary Sources and Climate Impacts Committee
April 12, 2023

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Presentation for Information Only

- No action required

Outline

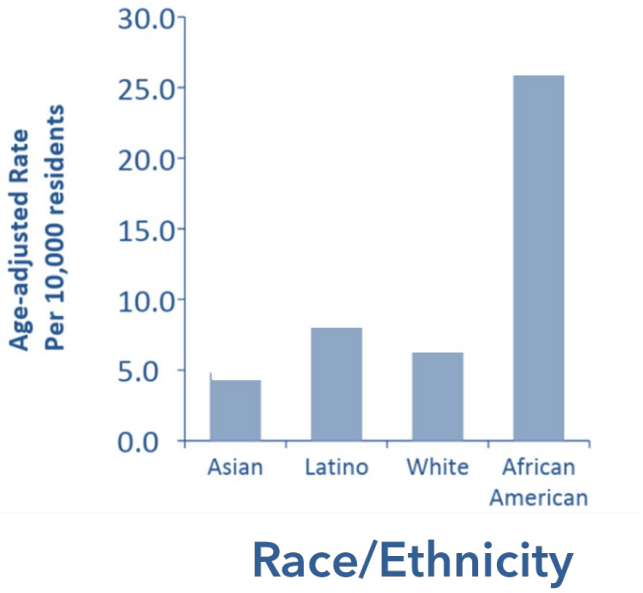
- Motivation
- Bay Area Healthy Homes Initiative
  - Program overview
  - Partners and roles
  - Pathways and services
- Implementation
  - Program infrastructure
  - Recruitment update
  - Case study
  - Tracking progress

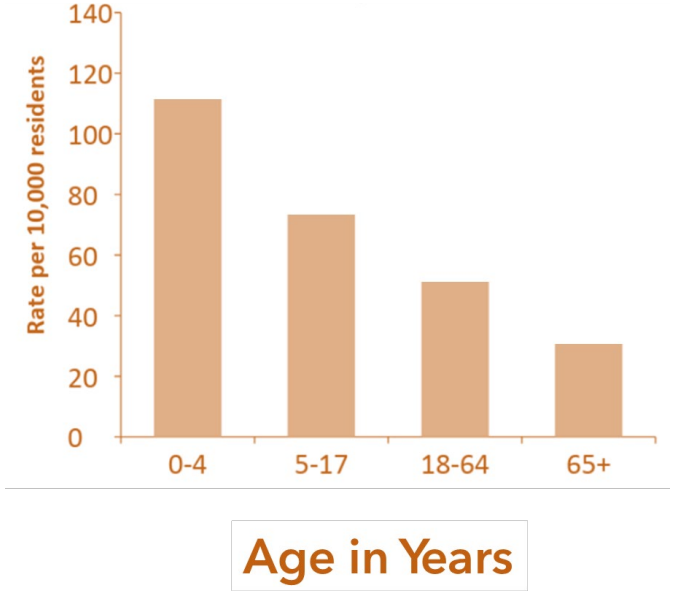
Rising Asthma Rates are a Growing Health and Equity Issue

In the San Francisco Bay Area, asthma rates in communities overburdened by air pollution are **disproportionately high and increasing.**

Contra Costa County Asthma Hospitalizations

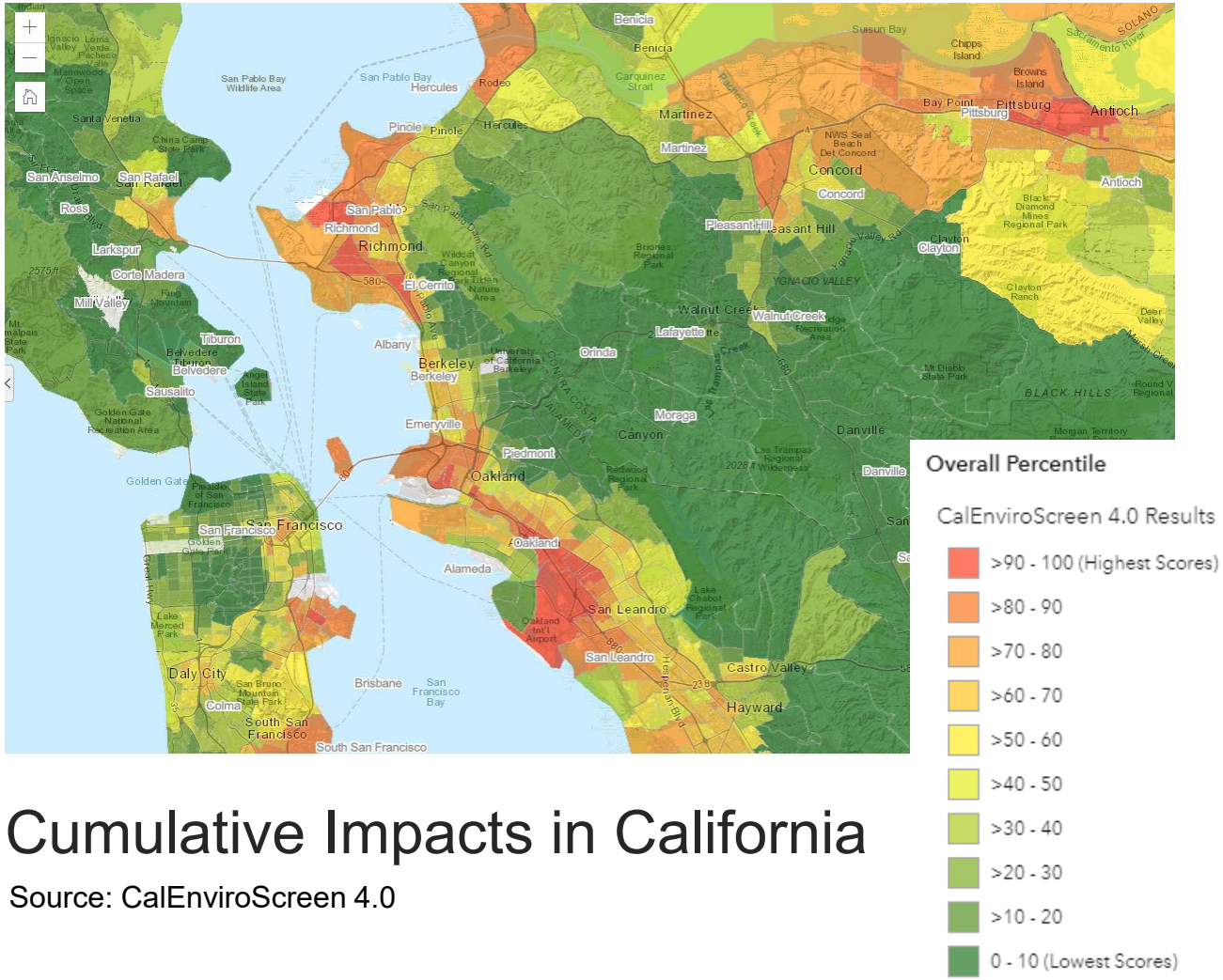
Asthma is more prevalent among people of color, children, and the poor.





Source: Contra Costa Health Office

Overburdened communities are also more vulnerable to climate impacts



Cumulative Impacts in California

Source: CalEnviroScreen 4.0

BAY AREA HEALTHY HOMES INITIATIVE

seeks to improve health outcomes and climate resilience in overburdened communities

Program integrates services through a **partnership to serve clients most impacted by asthma and air pollution**

Contra Costa County Asthma Mitigation Pilot (AMP Pilot) ***(2018)***

- $722k Total (Air District: 195k)
- asthma patients

Bay Area Healthy Homes Initiative (BAHHI) ***(2021)***

- $2M grant from VW Settlement
- focus on traffic-related air pollution
- asthma patients and residents

Partners and Roles

REGIONAL AGENCIES

Bay Area Air Quality Management District (BAAQMD) secured $2M grant and leads program coordination and oversight

Bay Area Regional Energy Network (BayREN) leverages network to conduct outreach and layer incentives

LOCAL GOV'T

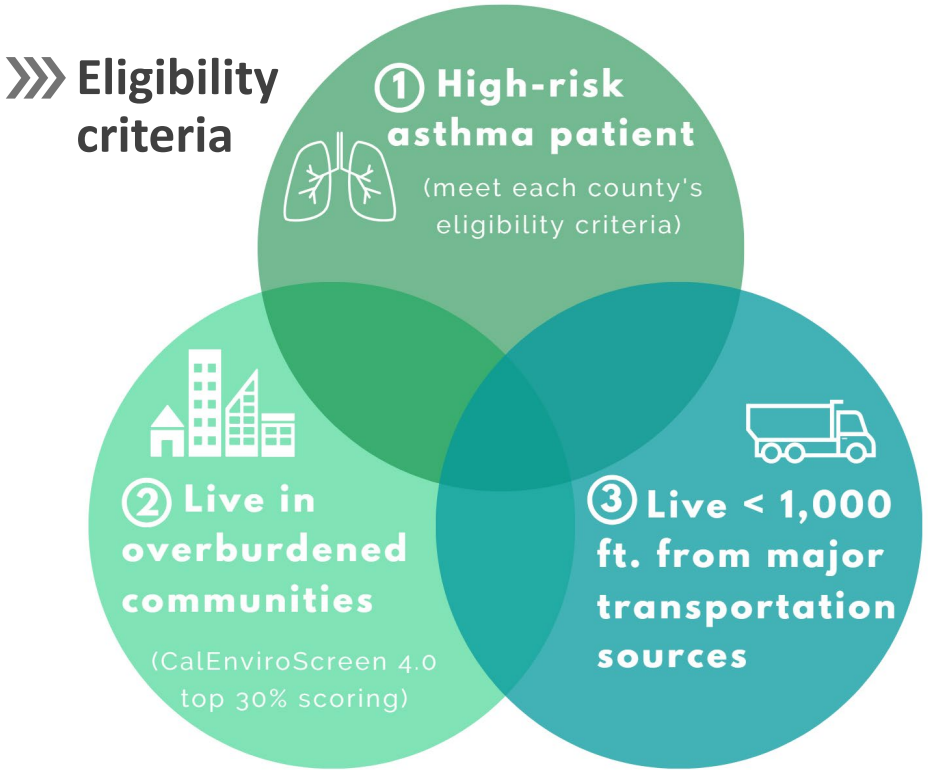
Contra Costa and Alameda County Health Departments lead the home asthma care, education, and trigger assessments

LOCAL NGO

Association for Energy Affordability (AEA) assesses and implements home retrofits for both counties; conducts indoor air quality monitoring

Participant Pathways

Asthma patients



Contra Costa County

- Medi-Cal patients with uncontrolled moderate to severe asthma
- ~1,500 adults and children eligible
- *County Health Services* target: 70 patients

Alameda County

- Patients 0 – 18 years old with uncontrolled asthma (Medi-Cal or Alliance)
- ~5,000 children eligible
- *Asthma Start* target: 35 patients

a healthier and more resilient person

- **In-home asthma services are provided for high-risk asthma patients** by a community health worker.
- **Local health departments can provide expanded services** using BAHHI funding.

Asthma assessment

- Asthma action plan, in coordination with primary care provider
- Asthma condition evaluation, before and after program

Asthma consumer supplies

- Green cleaning supplies
- Non-toxic pest management
- Hypo-allergenic bedding
- Inhaler spacer

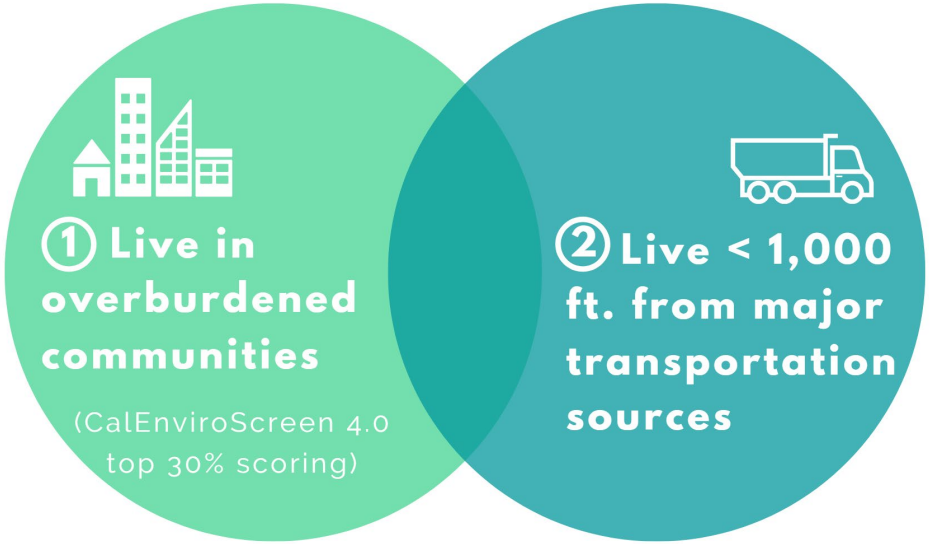
Education

- Medication usage training
- Asthma trigger understanding
- Air pollution and asthma (e.g., protection against wildfire smoke)

Participant Pathways(cont.)

Residents

Eligibility criteria



Contra Costa and Alameda County

- Multi-family buildings
- ~40,000 buildings eligible (~5,000 with 4+ units)
- *AEA* target:
  - 750 – 1,000 resident units
  - 5 – 15 buildings
- Indoor air quality monitoring at 20% of homes
  - Pollutants: particulate matter (PM), nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO_2), ozone (O_3), formaldehyde and total volatile organic compounds (VOCs)

a healthy, efficient and climate resilient home

Home assessment determines **home retrofits needed for patients and residents. Program matches clients' needs with eligible funding sources** and uses BAHHI funds to complement.

Remove Health Triggers

Address moisture (e.g., mold removal), allergens, and irritants

Mitigate Pollution Exposure

e.g., window replacements, enhanced air filtration, building envelope improvements

Increase Energy Efficiency

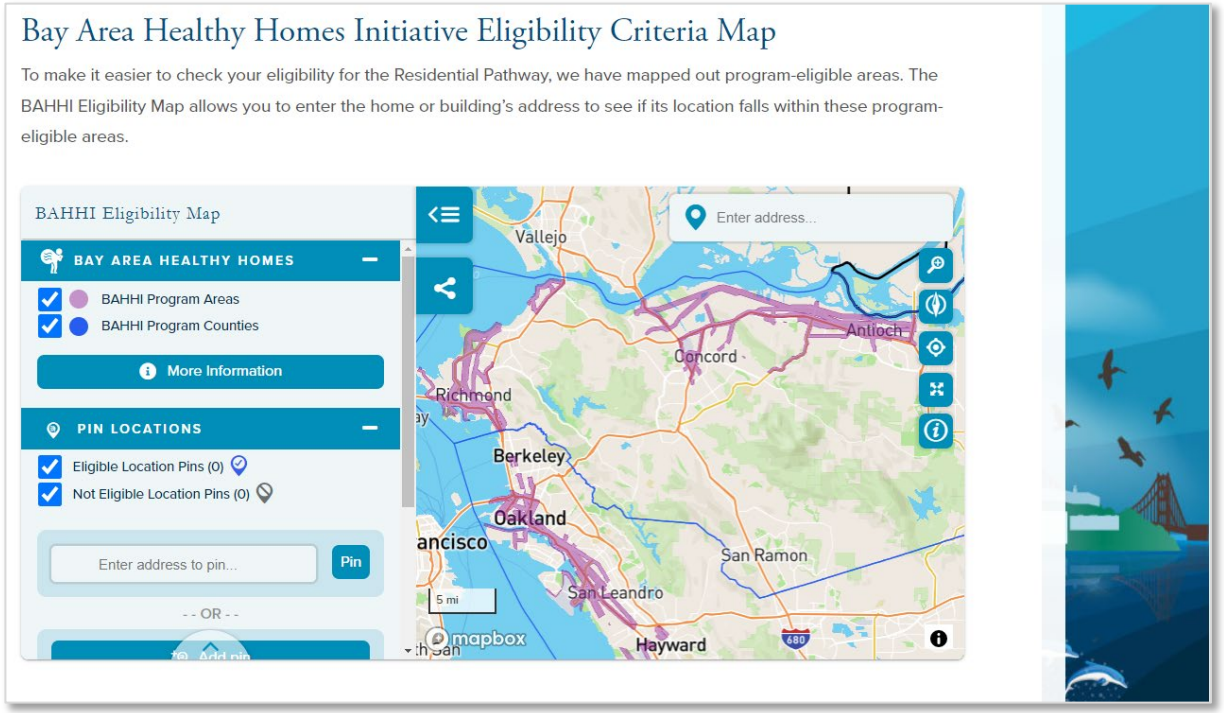
Home electrification (e.g., heat pump, induction stove) and insulation

Implementation

Program infrastructure

- Program design and coordination
- Technical support
  - Eligibility Criteria Map
  - Staff training
- Education, outreach and resources
  - Educational materials (e.g., wildfires)
  - Clean Air Filtration program filters
  - BAHHI website
  - AB617 Communities

baaqmd.gov/bahhi



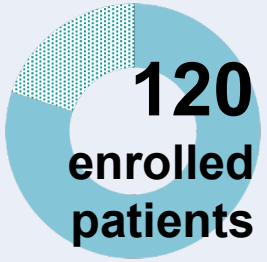
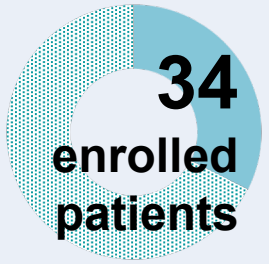
Implementation (cont.)

Program infrastructure

- Program staffing
  - Community health workers, technical staff and support staff hired
- Data protocols
- Targeted outreach
  - Eligible asthma patients (Health departments)
  - Building owners (BayREN / StopWaste)
- Challenges

Implementation (cont.)

Recruitment update

Metrics	Asthma Patients	
	AMP Pilot	BAHHI
Enrolled in program *(vs. target)*	 *(out of 150)*	 *(out of 105)*
Invited to participate	850	150
Received one or more asthma visits	120	30
Home assessments (virtual)	66	17
Home assessments (on site)	17	3
Received or in-progress with retrofits	4	0

Implementation (cont.)

Case study

- Adult female, East County
- All asthma visits completed
- Home retrofits (Cost: ~$13,000)
  - Carpet removal / floor installation
  - Bathroom ventilation
  - Duct replacement and sealing
  - Attic insulation
  - Weatherstripping

Implementation (cont.)

Tracking progress

Program goals	Ongoing metrics
Improve health outcomes for high-risk asthma patients	• Patients who complete all asthma visits • Initial vs. final Asthma Control Test results
Reduce cumulative air pollution exposure for all program participants	• Home assessments • Home retrofit measures *(health-related)* • Pre- and post-retrofit indoor monitoring data
Improve participant homes' energy efficiency and reduce their energy costs	• Home retrofit measures *(energy efficiency)* • Energy bills savings
Determine program scalability	• Cost effectiveness • Challenges and potential solutions

BlocPower & Bay Area Air Quality Management District

BLOC POWER

April 12th, 2023

MISSION:

GREENER, HEALTHIER, SMARTER BUILDINGS FOR ALL

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Our Approach

COMMUNITY CENTERED APPROACH

TECHNOLOGY AND DATA

PROGRAM MANAGEMENT FOR CITY, STATE OR UTILITY

Building Electrification Program & Project Concierge

INCLUSIVE FINANCING

PROJECT MANAGEMENT FOR BUILDING OWNERS

BLOC POWER

Building electrification programs and projects powered by software and data

Phase 1

DATA-DRIVEN
PROGRAM
DESIGN

Phase 2

DATA-BACKED
PROJECT
INSTALLATION

HOW BLOCPOWER MAKES IT HAPPEN

- BlocMaps software for data analysis, visualization, monitoring
- Predictive machine learning models
- Curated building & project database

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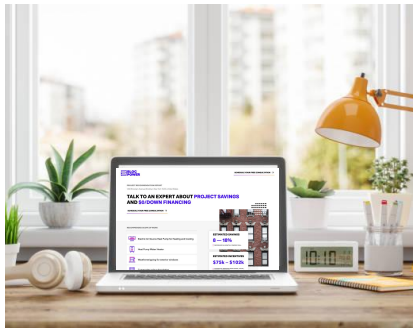
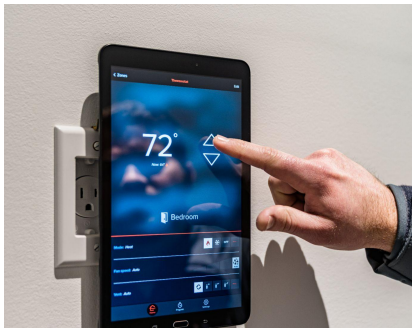
Data-based project installation

Step One:
Property Owner Outreach



Step Two:
Individual Building Analysis

Step Three:
Installation & Construction



Step Four:
Monitoring & Maintenance

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Series B Raise March 1st 2023

Equity Funding: **$24M**

VoLo Earth

Debt Financing: **$130M**

Goldman Sachs

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Bay Area Partnerships

EAST BAY COMMUNITY ENERGY

60 LMI Building Retrofits in 2023

CITY OF MENLO PARK

10,000 Building Retrofits by 2030 + Workforce Development

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

250 Building Retrofits by 2025 + Workforce Development

CITY OF BERKELEY

2 LMI Home Retrofits + Community Outreach

BERKELEY LAB
Lawrence Berkeley National Laboratory

2 Oakland Church Retrofits

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National Partnerships

NYC Mayor's Office of Sustainability

$150M Workforce Development Program: 1,700 individuals affected

Town of Ithaca New York 18 21

City-wide building electrification by 2030

ComEd

Software + Lead generation

City of Newark New Jersey

Workforce Development

Denver Colorado

200 Building Retrofits by 2025 + Health Measurements

CITY OF CAMBRIDGE

Software + 15 building retrofits

Other Geographies

Atlanta, GA
Augusta, GA
Macon, GA
Chicago, IL
Rural America

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Community based approach centers local needs

Community Advisory Board: A group of local community members who are trusted by building owners, decision-makers and property managers and can:

1. Provide feedback on existing outreach strategies
2. Conduct community engagement activities
3. Refer applicable building owners to the program

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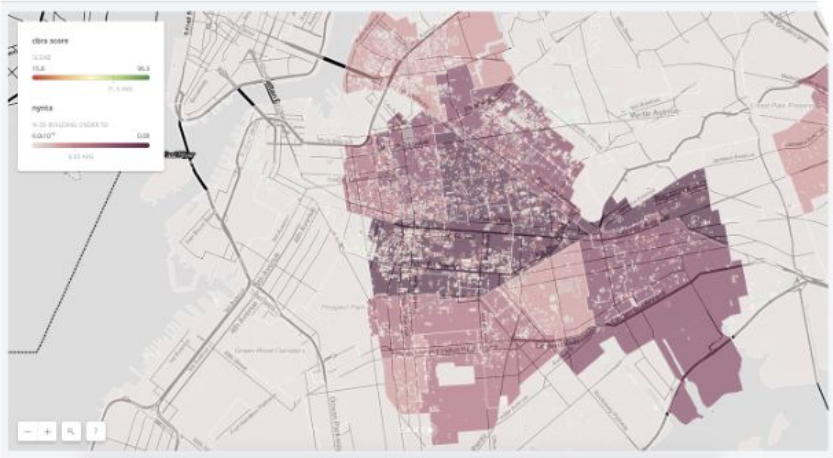
Case Study: BlocPower “Retrofit NYC” program



#1 Implementer of retrofits in NYC

631 Projects completed

126% Share of projects completed vs. target

67% Conversion rate from CAB “top of funnel” to retrofit

Thank You

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