Technology Implementation Office (T.I.O.)

Fiscal Year Ending (FYE) 2019 Budget Preview and Progress Report

Executive Committee - April 16, 2018

Derrick Tang

Manager

Outline

- T.I.O. Overview

- Customer Discovery

- Technology Assessment

- Stationary Loan Program

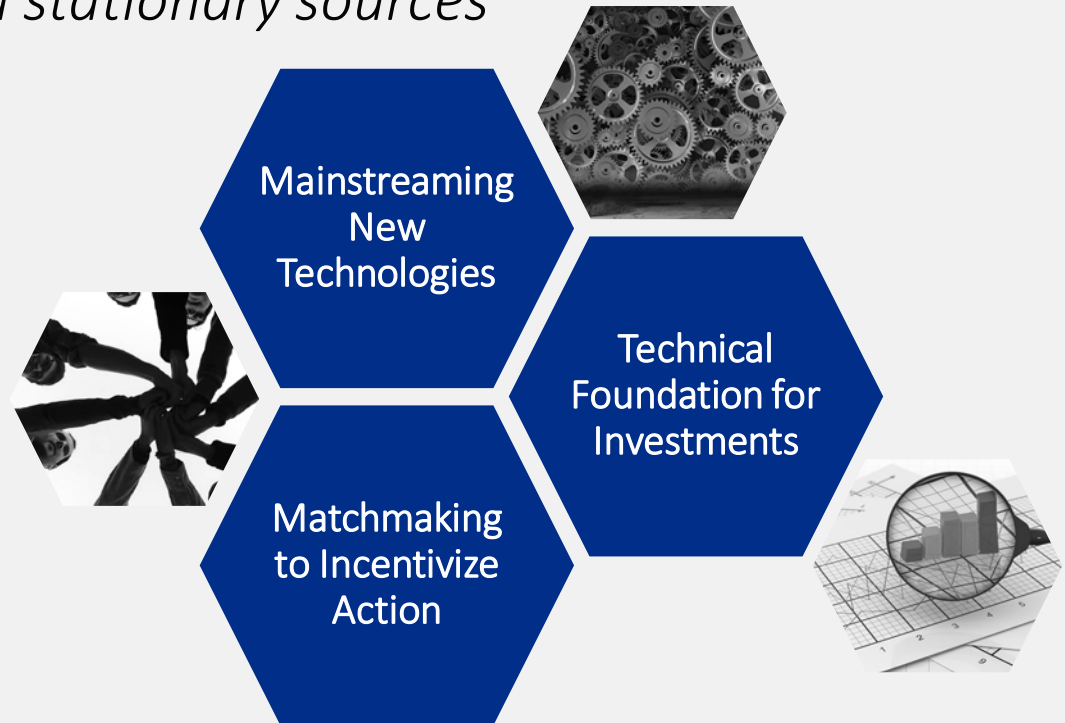- Global Climate Action Summit – T.I.O. Event

- Next Steps

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

3 priorities

identified through stakeholder engagement w/ researchers, technologists, incubators, utilities, facilities, partner agencies, financing authorities

- Mainstreaming New Technologies
- Technical Foundation for Investments
- Matchmaking to Incentivize Action

Benefits to Partners with Air District T.I.O.

Technology Developers and Companies

Accelerated awareness and mainstreaming of new technologies

Stationary Facilities

Financing Authorities

Information about technology and financing opportunities

Expanded customer base

Access loans for technology upgrades

Co-funding to cover higher risk or newer technologies

Getting out in front of permitting and regulatory requirements

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

Customer Discovery

Following guidance from the T.I.O. Steering Committee, conducting additional interviews:

Stationary facilities, to understand what customers need, technology opportunities, and financing barriers

Financing partners, to understand risk and financing structures

Results will be summarized at the next Steering Committee (June 21, 2018)

Technology Assessment - What are the key technologies and facilities to incentivize?

- Energy efficiency
- Alternatives to gas turbines and diesel ICEs (e.g. gas microturbines, hydrogen FCs)
- Cooling and heating (e.g. geothermal, electric heat pumps)
- Carbon sequestration and use
- Methane capture and use
- Waste-to-energy

- Zero emissions vehicles and infrastructure (lifecycle)
- Autonomous electric vehicles
- Renewable fuels (e.g. renewable diesel, renewable natural gas)

Cross-cutting

- Smart/connected technologies (sensors, leveraging mobile networks, big data, artificial intelligence, Internet of Things, industrial IoT, software or applications)
- Battery storage for renewable power

Technology Assessment Goal

To have an updatable tool to guide
Air District's matchmaking and incentives:

Where can the Air District and TIO make the most impact per $?
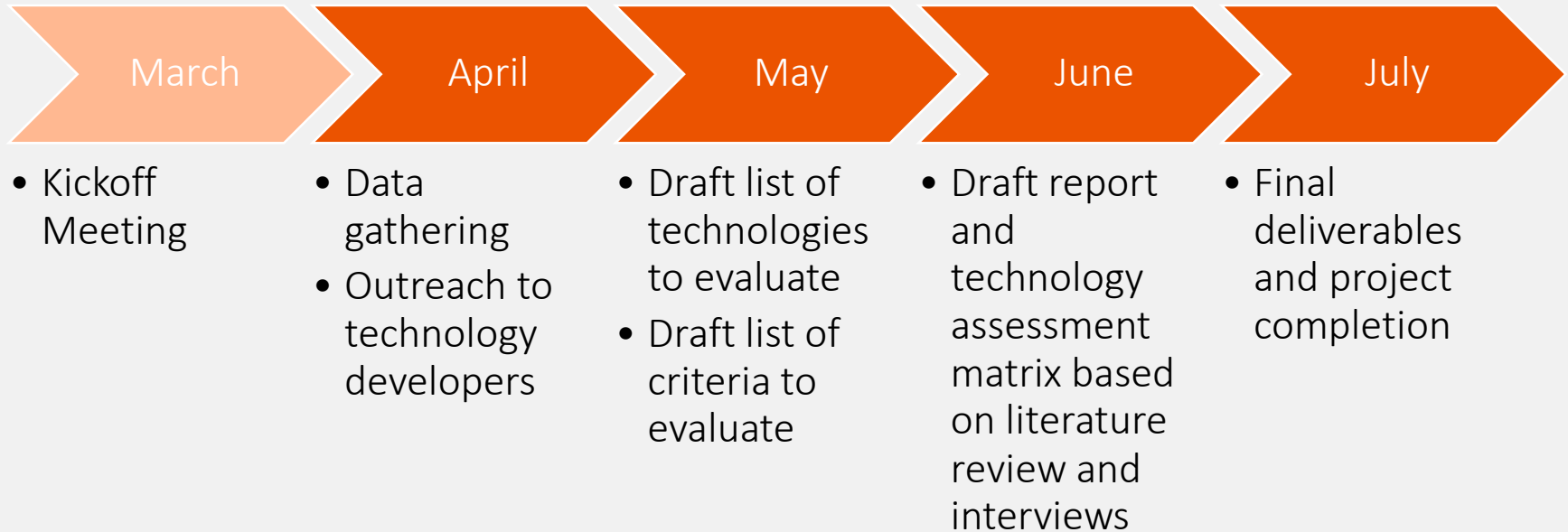
- GHG emissions reductions
- Cost

How can we balance incentives with current and future regulation?

- Improvements over existing alternatives
- Time to commercialization

What technologies could be replicated and scaled outside the Bay Area?

- Risk (technology, market)
- Barriers to success

Technology Assessment Timeline

March

- Kickoff Meeting

April

- Data gathering
- Outreach to technology developers

May

- Draft list of technologies to evaluate
- Draft list of criteria to evaluate

June

- Draft report and technology assessment matrix based on literature review and interviews

July

- Final deliverables and project completion

Stationary Loan Program: Financing Partnership with IBank

Co-lending partnership

Revolving Loan Fund for Public Sector
Loan Guarantee for Small Business

IBank
California Infrastructure and
Economic Development Bank

Make it easier for facilities to implement new technologies

- Fund newer technologies
- Identify new borrowers
- Lower interest rates and cover fees (for first few years)
- Providing engineering evaluations, technical assistance to borrowers, inspections of projects

Expand current programs

- o California Lending for Energy and Environmental Needs (CLEEN)
- o Small Business Loan Guarantee Program (SBLGP)
- Leverage funding, guidelines and administration
- Reporting on funds and projects

Key Terms of Proposed Loan Program

$4M initial TIO loan fund

- ○ Combined from FYE 2018 budget reserves
- ○ Deployed at $1-2M per year over next 3 years
- ○ # projects/year: 5 - 10

 IBank Current programs

 "Sweetening the deal"

Loans for municipalities, universities, schools, hospitals
- $500K to $30M
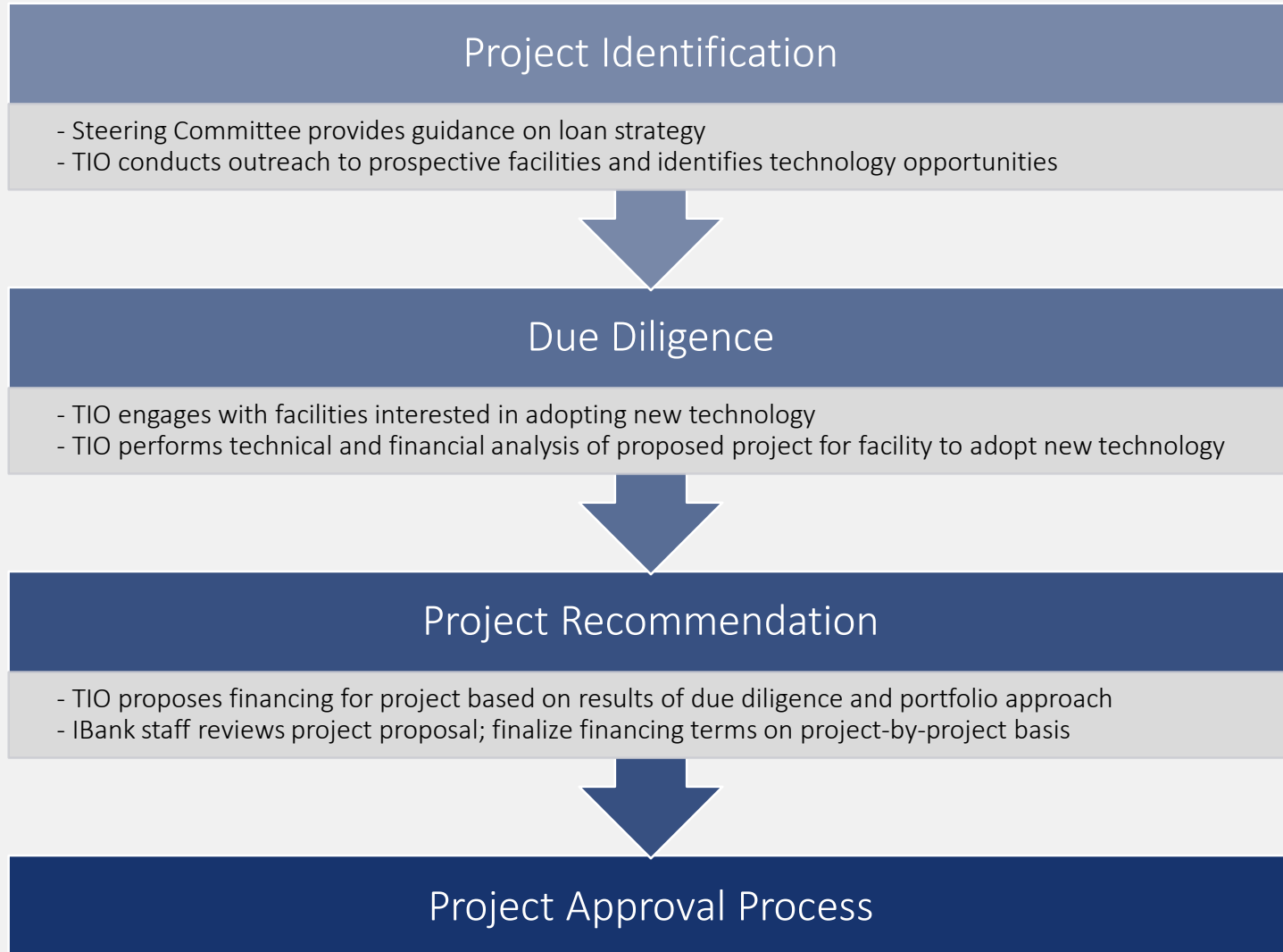- 2% to 3% interest

Loan guarantees for small businesses
- up to $2.5M
- up to 80% guarantee

- Offer Air District funds at 0% to lower interest rates
- 10% - 25% of total loan plus fees (1% origination, 0.30% annual)

- Increase IBank's standard loan guarantee amounts to encourage more banks to provide loans
- Up to additional 10% loan guarantee

Proposed Project Selection Process

Project Identification

- Steering Committee provides guidance on loan strategy
- TIO conducts outreach to prospective facilities and identifies technology opportunities

Due Diligence

- TIO engages with facilities interested in adopting new technology
- TIO performs technical and financial analysis of proposed project for facility to adopt new technology

Project Recommendation

- TIO proposes financing for project based on results of due diligence and portfolio approach
- IBank staff reviews project proposal; finalize financing terms on project-by-project basis

Project Approval Process

Proposed Project Approval Process

Direct Loans to Public Sector		
	<u>Up to $100k</u>	<u>Above $100k</u>
Air District	Air Pollution Control Officer reviews/approves	Board of Directors reviews/approves
IBank	IBank board reviews/approves in parallel	

Proposed Project Approval Process

Loan Guarantees for Small Businesses	
Up to $250k	
Air District	Air Pollution Control Officer reviews/approves
IBank	IBank reviews/provides commitment letter to lender

- Small businesses require faster approval process
- Guarantee amount is encumbered but only drawn if bank liquidates in event of default
  - IBank loan guarantee loss rates are typically <2%/year
- Air District contribution is leveraged 10:1

Global Climate Action Summit: Climate Tech Marketplace

Speed Networking Reception and Expo

Follows the Bay Area Climate Leadership Forum to offer concrete solutions and partnerships for implementing commitments

Attendees:

- **Global Summit participants:** Connect with thriving Bay Area technology industry
- **Technology developers:** Showcase technologies, identify partners and customers
- **Governments and businesses:** Identify new technologies that can help them meet climate commitments

Next Steps

April-May

- Continue interviews with customers and financing partners

June

- Finalize legal agreement for IBank partnership
- Complete FYE 2019 Budget approval process
- Next Steering Committee (6/21)

July

- Technology Assessment complete

Q3 & Q4 2018

- Identify initial projects for financing

Recommendation of Candidate Communities for the Assembly Bill (AB) 617 Program

Executive Committee - April 16, 2018

Greg Nudd

Deputy Air Pollution Control Officer

AB 617 - A New Approach to Community Health Protection

- Originated in negotiations on extension of Cap & Trade program (AB 398)

- Responds to concerns with continued high levels of air pollution in local communities

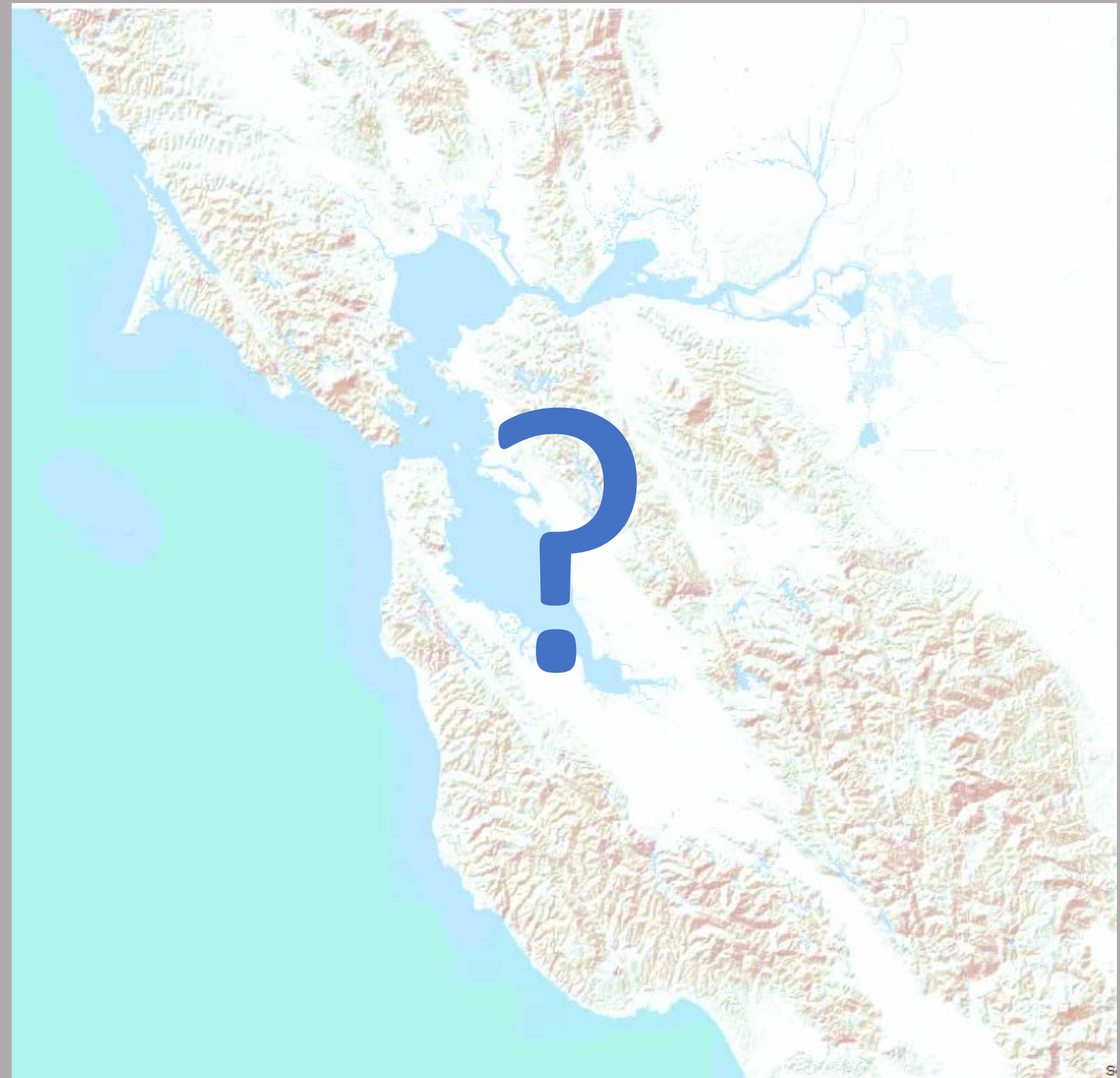- Directly addresses toxics and criteria pollutants in the most impacted communities

AB 617
Program Components

We are here!

- Community selection

- Community monitoring

- Emission reduction action plans

- Incentives

- Build community capacity

- Updated emissions inventory
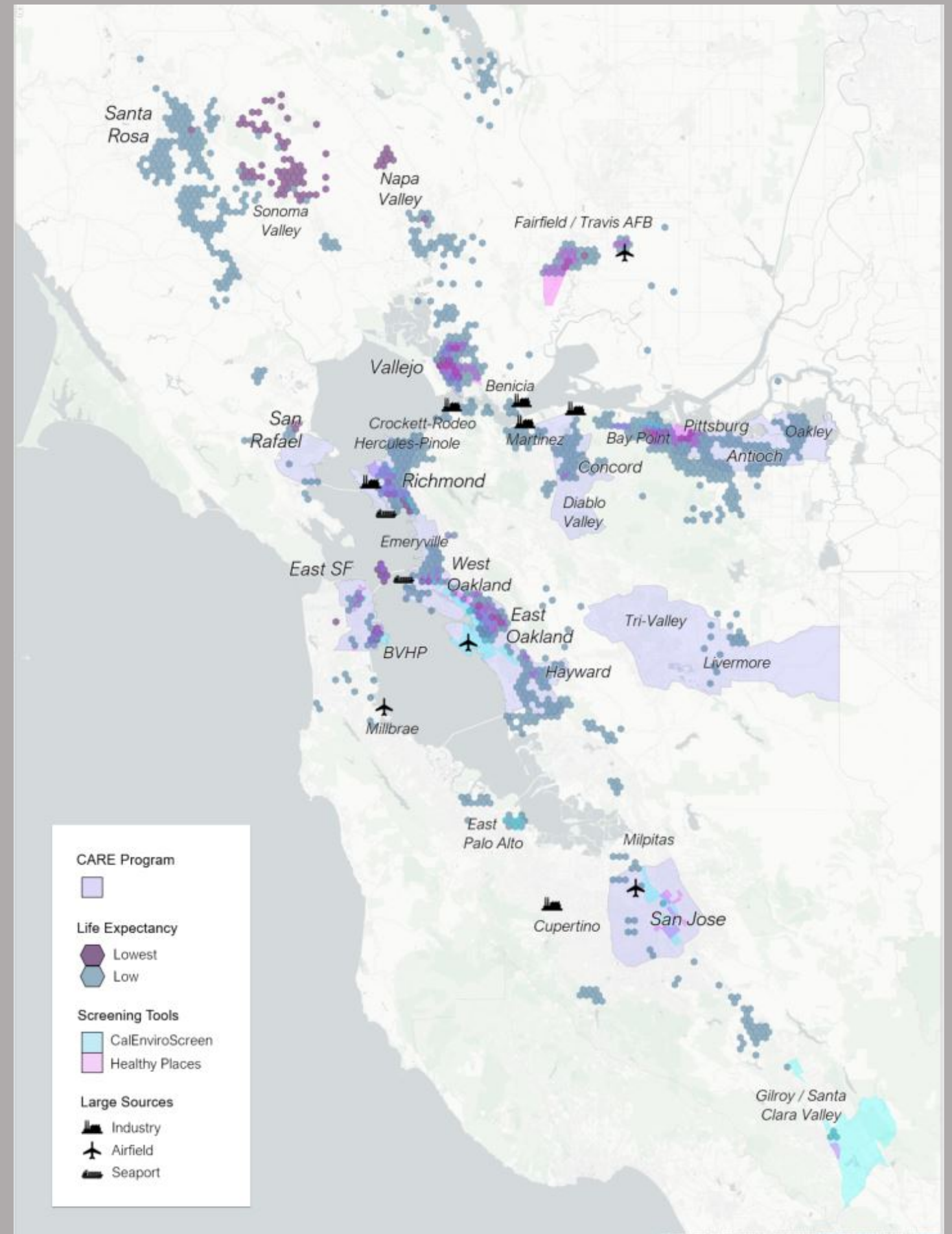
- Best Available Retrofit Control Technology

Community Selection

State requires districts to work with communities to select all areas in the region that have a "high cumulative exposure burden" and then prioritize areas for community monitoring or actions plans over the next 6 years.

All Candidate Communities

- CARE Areas

- Areas with large sources

- Areas with health vulnerability and pollution impacts

- Areas with low life expectancy

Work with Communities to Select Priority Areas

- **March**

  March 28: San Leandro (incl. Hayward, East Oakland)

- **April**

  April 24: Vallejo (incl. Benicia, Crocket, Fairfield)
  April 25: Pittsburg (incl. Bay Point, Antioch, Brentwood, Oakley, Bethel Island)
  April 30: Pleasant Hill (incl. Martinez, Clyde, Concord, Pacheco, Walnut Creek)

- **May**

  May 10: Tri Valley (Livermore, Pleasanton, Dublin, San Ramon)
  May 16: San Pablo (incl. Richmond, North Richmond, Pinole Hercules, Rodeo)
  May 21: San Jose (incl. Alviso, Redwood City, East Palo Alto, Cupertino, Milpitas, Fremont, Gilroy)
  May 24: Fairfield (incl. Napa and surrounding area)

- **June**

  Santa Rosa (incl. Marin City, Canal District, San Geronimo Valley)
  Oakland (incl. Alameda, Albany, Berkeley, Emeryville)
  San Francisco (incl. South San Francisco and Marin)

Ideas for Prioritizing Communities for Action

Air Quality	Health Burden/Vulnerability	Other Factors?
• Fine particles • Toxics • Ozone	• Life expectancy • Lung disease • Heart disease	?

What we've heard: selecting communities

- **Overall strong support for community selection criteria**

- **In selecting communities, we should consider:**
  - Odors
  - Heavy idling
  - History of regulatory violations
  - Income, race, and other factors that magnify health impacts
  - Historical contamination
  - Traffic congestion
  - Residential wood burning
  - Communities with engaged partners and existing infrastructure
  - Communities that have been left behind

What we've heard: overall program

- Improve Air District permitting process
  - Factor in cumulative impact before permitting

- Prevent increased air pollution in overburdened communities
  - Consider permit moratorium in impacted communities

- Challenge what is acceptable air pollution

- Provide grants to communities to perform community outreach

- Provide community assistance in accessing grant funding

- Be transparent, open, and accountable

Program Milestones

March 2018	• Begin community meetings
April 30, 2018	• Air districts submits candidate community areas, i.e. all high cumulative exposure burden areas, to State
July 31, 2018	• Final recommendation to State on Year 1, Year 2-5, Years 6+ communities
October 1, 2018	• State selects Year 1 communities
Fall 2019	• State selects additional communities (and annually thereafter)

BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

UPDATE ON MY AIR ONLINE PERMITTING & COMPLIANCE SYSTEM

Executive Committee - April 16, 2018

Blair L. Adams

Information Systems Manager

AGENDA

Production System Office

Status Update
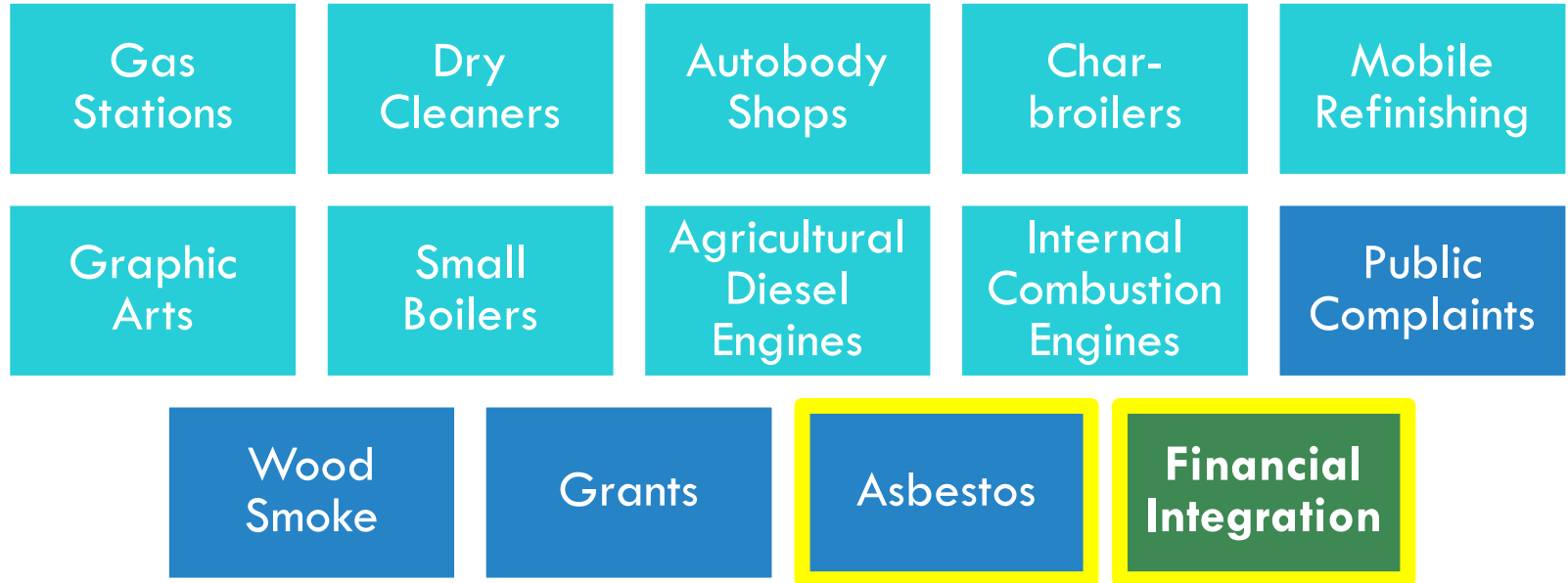
Demonstration

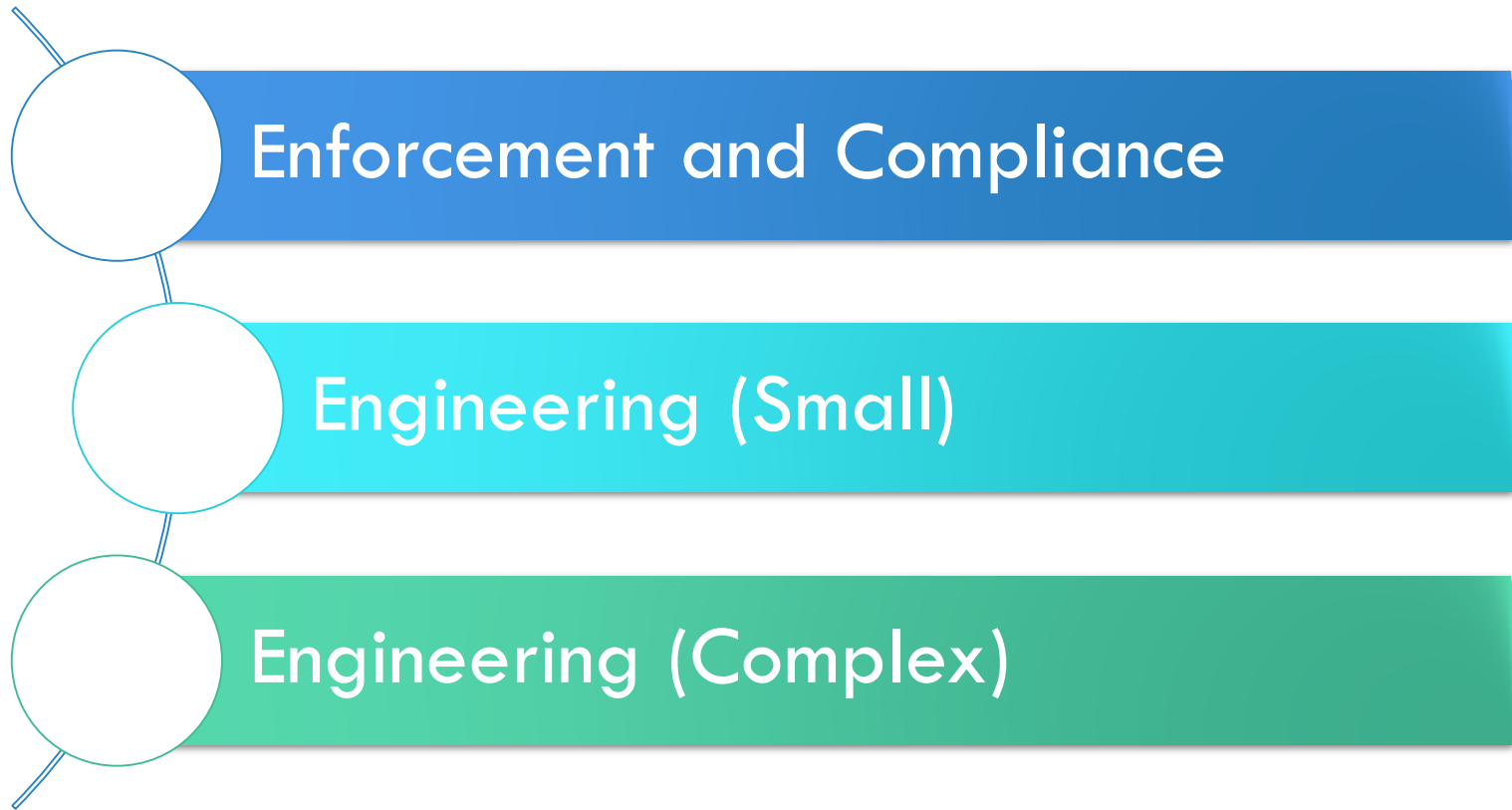Questions

PRODUCTION SYSTEM OFFICE: SCOPE

Public Websites

Data Management and Analytics

Permitting and Compliance System

PERMITTING AND COMPLIANCE SYSTEM: CURRENT FEATURES

Gas Stations	Dry Cleaners	Autobody Shops	Char-broilers	Mobile Refinishing
Graphic Arts	Small Boilers	Agricultural Diesel Engines	Internal Combustion Engines	Public Complaints
	Wood Smoke	Grants	Asbestos	**Financial Integration**

PERMITTING AND COMPLIANCE SYSTEM: THREE TRACKS

Enforcement and Compliance

Engineering (Small)

Engineering (Complex)

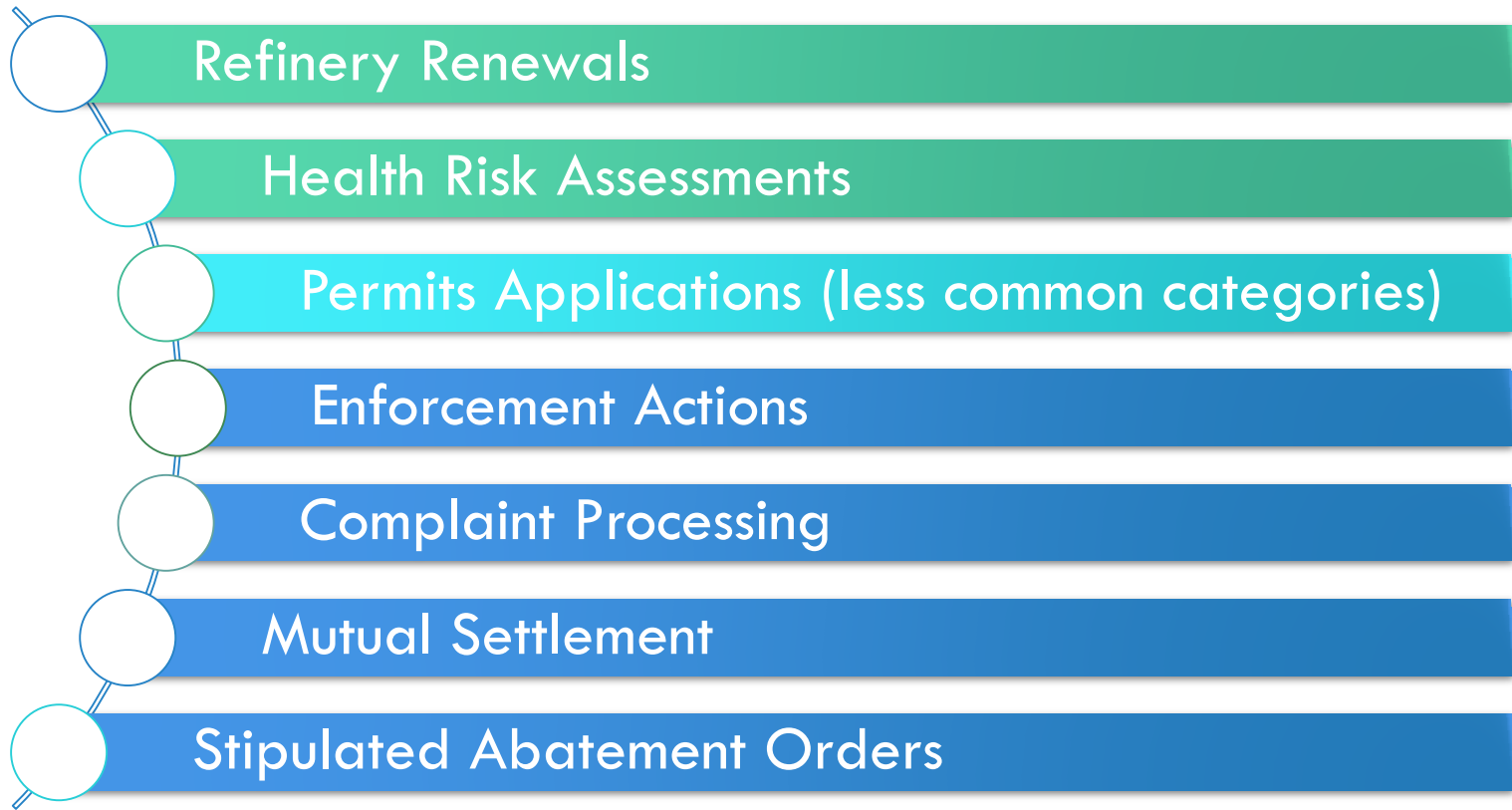# PERMITTING AND COMPLIANCE SYSTEM: IN-PROCESS (Q2)

Emissions Inventory

Health Risk Assessments

Facility Inspections

General Inspections
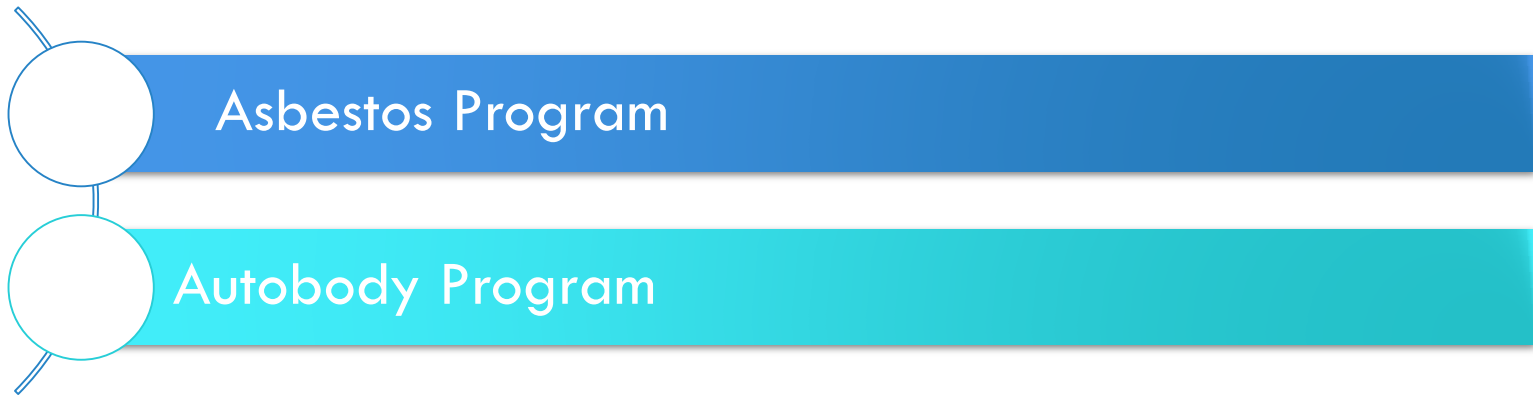
Payment System Evaluation

PERMITTING AND COMPLIANCE SYSTEM: FUTURE DEVELOPMENT

- Refinery Renewals
- Health Risk Assessments
- Permits Applications (less common categories)
- Enforcement Actions
- Complaint Processing
- Mutual Settlement
- Stipulated Abatement Orders

PERMITTING AND COMPLIANCE SYSTEM: DEMONSTRATION

Asbestos Program

Autobody Program

QUESTIONS

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