



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

TECHNOLOGY IMPLEMENTATION OFFICE (TIO)
STEERING COMMITTEE

COMMITTEE MEMBERS

Bud Beebe, Sacramento Municipal Utility District (Retired)
Cindy Chavez, Air District Board of Directors (Committee Chair)
Mark Cupta, Prelude Ventures
Ahmad Ganji, San Francisco State Industrial Assessment Center
David Hudson, Air District Board of Directors
Michael Montgomery, San Francisco Bay Regional Water Quality Control Board
Janea Scott, California Energy Commission
Marilyn Waite, Hewlett Foundation
Jetta Wong, Los Angeles Cleantech Incubator

FRIDAY
OCTOBER 4, 2019
9:30 A.M.

1ST FLOOR BOARD ROOM
375 BEALE STREET
SAN FRANCISCO, CA 94105

AGENDA

1. **CALL TO ORDER - ROLL CALL**
PLEDGE OF ALLEGIANCE

The Committee Chair shall call the meeting to order and the Clerk of the Boards shall take roll of the Committee members. The Committee Chair shall lead the Pledge of Allegiance.

Staff/Phone (415) 749-

2. **PUBLIC COMMENT ON AGENDA MATTERS**

Pursuant to Government Code Section 54954.3, the public has the opportunity to speak on any agenda item. All agendas for Committee meetings are posted at the Air District, 375 Beale Street, San Francisco, California 94105 at least 72 hours before a meeting.

This meeting will be webcast. To see the webcast, please visit www.baaqmd.gov/bodagendas at the time of the meeting. Closed captioning may contain errors and omissions, and are not certified for their content or form.

3. **APPROVAL OF THE MINUTES OF MARCH 25, 2019**

Clerk of the Boards/5073

The Committee will consider approving the draft minutes of the Technology Implementation Office Steering Committee meeting of March 25, 2019.

4. **TECHNOLOGY IMPLEMENTATION OFFICE OVERVIEW** **D. Tang/8726**
dtang@baaqmd.gov

The Steering Committee will receive a refresher on the Technology Implementation Office, its mission and programs, and membership of the Steering Committee.

5. **CLIMATE TECH FINANCE PROGRAM UPDATE** **C. White/8619**
cwhite@baaqmd.gov

The Steering Committee will receive an update on the progress, lessons learned, and next steps for Climate Tech Finance, the Air District's first loan program for emerging technologies and industrial facilities.

6. **PROGRAMS TO ACCELERATE ELECTRIC VEHICLE ADOPTION**
R. Fisher/8720
rfisher@baaqmd.gov
T. Le/8666
tle@baaqmd.gov

The Steering Committee will receive an update on Air District efforts to increase awareness, adoption, and equity in the electric vehicle market through its incentive programs and partnerships.

7. **PUBLIC COMMENT ON NON-AGENDA MATTERS**

(Public Comment on Non-Agenda Items Pursuant to Government Code § 54954.3) Members of the public are afforded the opportunity to speak on any agenda item. All agendas for regular meetings are posted at District headquarters, 375 Beale Street, San Francisco, CA, 94105 at least 72 hours in advance of a regular meeting. At the beginning of the regular meeting agenda, an opportunity is also provided for the public to speak on any subject within the Committee's subject matter jurisdiction. Speakers will be limited to up to three (3) minutes each.

8. **COMMITTEE MEMBER COMMENTS**

Any member of the Steering Committee or its staff, on his or her own initiative or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter or take action to direct staff to place a matter of business on a future agenda. (Gov't Code § 54954.2)

9. **TIME AND PLACE OF NEXT MEETING**

At the call of the Committee Chair.

10. **ADJOURNMENT**

The Committee meeting shall be adjourned by the Committee Chair.

CONTACT:

MANAGER, EXECUTIVE OPERATIONS
375 BEALE STREET, SAN FRANCISCO, CA 94105
vjohnson@baaqmd.gov

(415) 749-4941
FAX: (415) 928-8560
BAAQMD homepage:
www.baaqmd.gov

- To submit written comments on an agenda item in advance of the meeting. Please note that all correspondence must be addressed to the “Members of the Technology Implementation Office Steering Committee” and received at least 24 hours prior, excluding weekends and holidays, in order to be presented at that Committee meeting. Any correspondence received after that time will be presented to the Committee at the following meeting.
- To request, in advance of the meeting, to be placed on the list to testify on an agenda item.
- Any writing relating to an open session item on this Agenda that is distributed to all, or a majority of all, members of the body to which this Agenda relates shall be made available at the District’s offices at 375 Beale Street, Suite 600, San Francisco, CA 94105, at the time such writing is made available to all, or a majority of all, members of that body.

Accessibility and Non-Discrimination Policy

The Bay Area Air Quality Management District (Air District) does not discriminate on the basis of race, national origin, ethnic group identification, ancestry, religion, age, sex, sexual orientation, gender identity, gender expression, color, genetic information, medical condition, or mental or physical disability, or any other attribute or belief protected by law.

It is the Air District’s policy to provide fair and equal access to the benefits of a program or activity administered by Air District. The Air District will not tolerate discrimination against any person(s) seeking to participate in, or receive the benefits of, any program or activity offered or conducted by the Air District. Members of the public who believe they or others were unlawfully denied full and equal access to an Air District program or activity may file a discrimination complaint under this policy. This non-discrimination policy also applies to other people or entities affiliated with Air District, including contractors or grantees that the Air District utilizes to provide benefits and services to members of the public.

Auxiliary aids and services including, for example, qualified interpreters and/or listening devices, to individuals who are deaf or hard of hearing, and to other individuals as necessary to ensure effective communication or an equal opportunity to participate fully in the benefits, activities, programs and services will be provided by the Air District in a timely manner and in such a way as to protect the privacy and independence of the individual. Please contact the Non-Discrimination Coordinator identified below at least three days in advance of a meeting so that arrangements can be made accordingly.

If you believe discrimination has occurred with respect to an Air District program or activity, you may contact the Non-Discrimination Coordinator identified below or visit our website at www.baaqmd.gov/accessibility to learn how and where to file a complaint of discrimination.

Questions regarding this Policy should be directed to the Air District’s Non-Discrimination Coordinator, Rex Sanders, at (415) 749-4951 or by email at rsanders@baaqmd.gov.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

375 BEALE STREET, SAN FRANCISCO, CA 94105

FOR QUESTIONS PLEASE CALL (415) 749-4941

EXECUTIVE OFFICE:

MONTHLY CALENDAR OF AIR DISTRICT ANTICIPATED MEETINGS

SEPTEMBER 2019

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Budget & Finance Committee - CANCELLED	Wednesday	25	9:30 a.m.	1 st Floor, Yerba Buena Room #109
Board of Directors Mobile Source Committee	Thursday	26	9:30 a.m.	1 st Floor Board Room

OCTOBER 2019

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Special Meeting	Wednesday	2	10:30 a.m.	The Waterfront Hotel Spinnaker Room 10 Washington St. Oakland, CA 94607
Board of Directors Technology Implementation Office (TIO) Steering Committee	Friday	4	9:30 a.m.	1 st Floor Board Room
Board of Directors Legislative Committee	Wednesday	9	9:30 a.m.	1 st Floor, Yerba Buena Room #109
Board of Directors Executive Committee - CANCELLED	Wednesday	16	9:30 a.m.	1 st Floor Board Room
Board of Directors Personnel Committee	Wednesday	16	9:30 a.m.	1 st Floor Board Room
Board of Directors Budget & Finance Committee - CANCELLED	Wednesday	23	9:30 a.m.	1 st Floor, Yerba Buena Room #109
Board of Directors Mobile Source Committee	Thursday	24	9:30 a.m.	1 st Floor Board Room
Advisory Council Meeting	Monday	28	10:00 a.m.	1 st Floor Board Room
Board of Directors Community & Public Health Committee	Wednesday	30	9:30 a.m.	1 st Floor Board Room

NOVEMBER 2019

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Legislative Committee	Monday	4	9:30 a.m.	1 st Floor Board Room
Board of Directors Nominating Committee	Wednesday	6	9:00 a.m.	1 st Floor Board Room
Board of Directors Regular Meeting	Wednesday	6	9:30 a.m.	1 st Floor Board Room
Board of Directors Stationary Source Committee	Monday	18	9:30 a.m.	1 st Floor Board Room
Board of Directors Regular Meeting	Wednesday	20	9:30 a.m.	1 st Floor Board Room
Board of Directors Climate Protection Committee - CANCELLED	Thursday	21	9:30 a.m.	1 st Floor Board Room
Board of Directors Mobile Source Committee - CANCELLED	Thursday	28	9:30 a.m.	1 st Floor Board Room

HL – 9/23/2019 – 5:10 p.m.

G/Board/Executive Office/Moncal

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Cindy Chavez and Members
of the Technology Implementation Office Steering Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 24, 2019

Re: Approval of the Minutes of March 25, 2019

RECOMMENDED ACTION

Approve the attached draft minutes of the Technology Implementation Office Steering Committee (Committee) meeting of March 25, 2019.

DISCUSSION

Attached for your review and approval are the draft minutes of the Technology Implementation Office Steering Committee meeting of March 25, 2019.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Marcy Hiratzka
Reviewed by: Vanessa Johnson

Attachment 3A: Draft Minutes of the Committee Meeting of March 25, 2019

AGENDA: 3A – ATTACHMENT

Draft Minutes – Technology Implementation Office Steering Committee Meeting of March 25, 2019

Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, California 94105
(415) 749-5073

DRAFT MINUTES

Summary of Board of Directors
Technology Implementation Office Steering Committee Meeting
Monday, March 25, 2019

1. CALL TO ORDER – ROLL CALL

Technology Implementation Office (TIO) Steering Committee (Committee) Chairperson Cindy Chavez called the meeting to order at 9:39 a.m.

Present: Committee Chairperson, Cindy Chavez; Ex-Officio Board of Directors (Board) Member, David Hudson; and Members Bud Beebe, Ahmad Ganji, Janea Scott, and Jetta Wong.

Absent: Members Mark Cupta and Marilyn Waite.

Also Present: None.

2. PUBLIC COMMENT ON AGENDA MATTERS

No requests received.

NOTED PRESENT: Member Ganji was noted present at 9:40 a.m.

3. APPROVAL OF THE MINUTES OF OCTOBER 22, 2018

Public Comments

No requests received.

Committee Comments

None.

Committee Action

Ex-Officio Board Member Hudson made a motion, seconded by Member Beebe, to approve the Minutes of October 22, 2018; and the motion carried by the following vote of the Committee:

AYES: Beebe, Chavez, Ganji, Hudson, Scott, Wong.
NOES: None.
ABSTAIN: None.
ABSENT: Cupta, Waite.

4. OVERVIEW OF TECHNOLOGY IMPLEMENTATION OFFICE

Dr. Ranyee Chiang, Technology Implementation Officer, gave the staff presentation *Overview of Technology Implementation Office*, including: mission – accelerate adoption of climate technologies to reduce demand for fossil fuels; TIO Steering Committee; focus on connecting Bay Area customers; adopting emerging technologies with potential to scale beyond the Bay Area; offer appropriate financial incentives; offer support that complements financial incentives; key financing programs; and connecting Bay Area organizations.

New members, Jetta Wong and Marilyn Waite (in absentia), were introduced.

Public Comments

No requests received.

Committee Comments

The Committee and staff discussed the relationship between the Air District and the Bay Area Electric Vehicle (EV) Coordinating Council; whether the Air District’s Clean Cars for All program includes funding for EV charging infrastructure; and whether the Air District’s Clean Cars for All program is statewide.

Committee Action

None; receive and file.

5. CLIMATE TECH FINANCE (CTF) PROGRAM OVERVIEW AND LAUNCH

Damian Breen, Deputy Air Pollution Control Officer of Technology, introduced Derrick Tang, TIO Manager, and Lucian Go, Air Quality Technician, who gave the staff presentation *Climate Tech Finance: Program Overview and Launch*, including: Air District is targeting the commercialization gap to accelerate technology adoption; commercialization requires customers; potential customers: 9,000+ facilities in the Bay Area; CTF Program; CTF value proposition – technologies and financing; financing collaboration with California Infrastructure and Economic Development Bank (IBank); CTF: outreach and technical assistance; conferences and events; Climate Tech Network – bringing together municipalities, technologies, and investors; and next steps for outreach.

Public Comments

No requests received.

Committee Comments

The Committee and staff discussed the duration and format of the Climate Tech Network quarterly event on May 13, 2019, (on the topic of building electrification); appreciation for the diversity in facilities identified as potential customers; the suggestion that legislators, city managers, and cities' economic development officers are included in targeted outreach; whether the Climate Tech Finance program is available to private facilities, in addition to public; the suggestion that the Air District utilizes technical assistance from local companies, rather than outsource services nationally; the benefits of having a successful prototype prior to mass deployment of a new technology; the suggestion that state legislation include language to ensure that funding will be made available for new and improved technology options; the need for the Air District to educate county procurement officers who may not be aware of clean technology options; the request for more opportunities for public sector investment; Michael Montgomery's appointment to the San Francisco Bay Regional Water Quality Control Board, as the incoming Executive Officer, and the possibility of his appointment to this Committee; the suggestion that the Air District rally support from larger special districts in the Bay Area for Air District initiatives and projects; the suggestion that the Air District contact private corporations that emit more than 15,000 tons of carbon dioxide per year to inquire whether those corporations have existing relationships with state funding mechanisms; and whether lessons learned from the Federal Government's General Services Administration's "Proving Ground" program can be obtained.

Committee Action

None; receive and file.

6. POTENTIAL PROJECTS AND FUTURE DIRECTIONS

Dr. Chiang introduced Derrick Tang, TIO Manager, who gave the staff presentation *Climate Tech Finance: Potential Projects and Future Directions*, including: assessment of opportunities to reduce greenhouse gas (GHG) emissions at industrial facilities (2018); waste technologies to divert organic waste from landfills and reduce emissions; energy storage/decarbonization technologies to reduce energy and maintenance costs; what customers are interested in; project priorities; and future opportunities to collaborate.

Public Comments

No requests received.

Committee Comments

The Committee and staff discussed how to balance the prioritization of quick Bay Area project wins and investing in projects that will take longer to implement, while also considering what can be implemented beyond the Bay Area in areas with less resources and less urgency for change; the need for public funding to help fund projects that are already in design; the suggestion that the Air District coordinate with the California Energy Commission’s Electric Program Investment Charge (EPIC) program, which invests in technological research to accelerate the transformation of the electricity sector to meet the state’s energy and climate goals; the suggestion that the Air District educate and assist technology implementers on local and state air quality regulations; whether the IBank loans include incumbrance or liquidation deadlines; the suggestion that the Air District create an annual merit review process, cost-benefit analysis, and process for selected projects; the importance of selecting projects that are replicable and scalable; the suggestion that the Air District identify enthusiastic partners with whom to collaborate on projects; flexibility when creating regulation concerning control technology; the suggestion that the Air District take into consideration how its actions can adversely impact the efforts of other environmental agencies and should think of its work in a broader context; the suggestion that the Air District consider areas of work that can potentially have large impacts and are not highly politicized; the suggestion that the Air District develop a feasibility study or experimental trial to demonstrate how potential Climate Tech Finance loan projects can proceed, independently from the Air District’s standard process, for a limited opportunity; the need for the originator to maintain momentum as an emerging technology is adopted by others; the need to consider the reality of how long projects can take to be built and financial/schedule delays; the benefits of having a person designated to navigate the selected projects through the process; and the suggestion that that Air District persuade larger counties and transportation agencies for funding for selected projects, and request that they ask smaller agencies for financial assistance as well.

Committee Action

None; receive and file.

7. PUBLIC COMMENT ON NON-AGENDA MATTERS

No requests received.

8. COMMITTEE MEMBER COMMENTS

Director Hudson requested that an annual schedule of conferences, symposia, exhibitions, workshops, and seminars pertaining to technologies of interest to the Committee be assembled and distributed to the Committee members.

Mr. Beebe encouraged the Air District to identify and accomplish its goals that can be most easily achieved, in succession.

9. TIME AND PLACE OF NEXT MEETING

At the Call of the Chair.

10. **ADJOURNMENT**

The meeting adjourned at 11:30 a.m.

Marcy Hirtzka
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Cindy Chavez and Members
of the Technology Implementation Office Steering Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 24, 2019

Re: Technology Implementation Office Overview

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Air District established the Technology Implementation Office (TIO) in 2017, to advance emerging, cost-effective technologies to reduce greenhouse gas emissions in the Bay Area, that are also replicable in other regions. TIO's programs utilize partnerships and incentives (grants and loans) for climate technologies, including electric vehicles (EVs), EV charging infrastructure, energy storage, waste management, and other technologies relevant for industrial facilities. The major programs include:

- Bay Area EV Coordinating Council – quarterly convening of Bay Area facilities, businesses, and local governments to coordinate EV programs;
- Charge! – grants for installing publicly available charging infrastructure;
- Clean Cars for All – incentives for low-income residents to turn in an older vehicle and purchase or lease a clean vehicle, or get a transportation card (e.g. Clipper card);
- Climate Tech Finance – loan and loan guarantee program for industrial facilities; and
- Climate Tech Network – quarterly convening of technology developers, facility managers, financing organizations, and local governments.

DISCUSSION

As part of this agenda item, staff will welcome new members to the Steering Committee; give an overview of the TIO – its mission and programs; as well as providing a refresher on the structure and role of the Committee.

BUDGET CONSIDERATION / FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Derrick Tang
Reviewed by: Damian Breen

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Cindy Chavez and Members
of the Technology Implementation Office Steering Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 24, 2019

Re: Climate Tech Finance Program Update

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Climate Tech Finance program is the Air District's first incentive program to reduce greenhouse gas emissions at industrial facilities. The program offers two financing vehicles: loan guarantees to improve access to credit for climate technology developers, and direct loans to improve local government access to capital when buying greenhouse gas-lowering technologies. These financial products are offered through a partnership with the California Infrastructure and Economic Development Bank (IBank). The Air District has committed an initial amount of \$4 million for this revolving loan program.

In October 2018, the Air District published the *Climate Technology Review*, an assessment of emerging climate technologies evaluated by industry sector. The Climate Tech Finance program was officially announced in November 2018. Staff developed a website and outreach materials, hosted events and webinars, and performed targeted outreach to introduce facilities, governments, and partnership organizations to technology and financing opportunities.

DISCUSSION

The Air District's *Climate Technology Review* report identified the wastewater treatment sector as an area of focus for climate incentives. As a strategy to identify potential loan projects, staff conducted targeted outreach in the wastewater sector by convening and attending events with industry stakeholders, pursuing a series of conversations with individual wastewater treatment plants to discuss projects and financing opportunities. This engagement has resulted in multiple potential loan projects, as well as examples of the program's ability to connect technology developers with facilities for demonstration projects and technology scale-up.

The *Climate Technology Review* also highlighted advanced energy storage technologies as an area of focus. As a strategy to identify potential loan guarantee projects with small businesses developing these technologies, staff developed relationships with other technology innovation programs, attended conferences, and connected with new technology companies. Staff worked with IBank to introduce technology companies to commercial lenders and secure financing. This work has resulted in several project prospects seeking financing assistance by year end.

Staff will update the Steering Committee on lessons learned from these outreach efforts to targeted industry and technology sectors. Staff are seeking input from the Steering Committee on responses to these lessons learned, including additional sectors to target and ways to enhance the financial offerings of the Climate Tech Finance program.

BUDGET CONSIDERATION / FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Chad White
Reviewed by: Derrick Tang

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Cindy Chavez and Members
of the Technology Implementation Office Steering Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 24, 2019

Re: Programs to Accelerate Electric Vehicle Adoption

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Since 2010, the Air District has awarded over \$19 million through incentive programs to target identified barriers to electric vehicle (EV) adoption. The programs and policies the Air District has implemented to date have focused on getting the Bay Area EV market started. Over the next 30 years, Bay Area EVs will need to grow from 3% to 90% of the region's fleet. EVs are currently in the early adopter phase, which tends to include users with greater financial means than the average consumer. With the diversity of socioeconomic, geographic, and transportation needs in the region, the Bay Area must ensure that technology transitions do not leave behind or further harm specific communities.

DISCUSSION

To help transition the Bay Area EV market from early adopters to majority adopters, the Air District is developing an EV Acceleration Plan (Plan) in partnership with Bay Area stakeholders. The Plan will build off various EV plans and initiatives at the local, county, and regional level, and include several action items, toolkits, and resources to help the Bay Area community accelerate EV adoption. Staff have initiated a phased process to develop the Plan:

1. Stakeholder Workshops
2. EV Market Research and Surveys
3. Plan Development

Incentives also play a vital role in EV acceleration. The Air District's Clean Cars for All Program provides grants for low-income households (up to 400% of the Federal Poverty Level) to retire older, high-polluting vehicles and replace them with newer, cleaner vehicles, or with alternative transportation options (e.g. Clipper card). Eligible vehicles for purchase or lease include hybrid

electric, plug-in hybrid, or EVs. The program was launched in March 2019, and has \$10 million in funding from the California Air Resources Board (through California Climate Investments Cap-and-Trade dollars and Volkswagen settlement funds).

As part of this agenda item, staff will provide details on the goals for each of the phases of its planning efforts and share updates on progress to date. Staff are seeking feedback from the Steering Committee on the Plan, including segments of the EV market or community that may be overlooked, and case studies that would be useful to include in the Plan. Staff also seek input on best practices for implementing regional plans: how to balance state and local outreach for the Plan, and keys to success to ensure that the Plan is shared and used broadly.

Staff will also update the Steering Committee on the outreach, launch, and progress of the Clean Cars for All program. Staff is also seeking input from the Steering Committee on additional outreach channels and opportunities for program expansion throughout the Bay Area.

BUDGET CONSIDERATION / FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Rebecca Fisher and Tin Le
Reviewed by: Derrick Tang