



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

BOARD OF DIRECTORS
ADVISORY COUNCIL

July 29, 2024

COUNCIL MEMBERS

Professor Ann Marie Grover Carlton, Ph.D., University of California Irvine
Dr. Stephanie M. Holm, MD, PhD, MPH, University of California San Francisco
Dr. Michael T. Kleinman, Ph.D., University of California Irvine
Dr. Philip T. Martien, Ph.D.
Professor Michael T. Schmeltz, DrPH, MS
Dr. Gina Solomon, M.D., M.P.H., University of California San Francisco
Garima Raheja, PhD candidate, Columbia University
Davina Hurt, Air District Board of Directors Liaison

**MEETING LOCATION(S) FOR IN-PERSON ATTENDANCE BY
COUNCIL MEMBERS AND MEMBERS OF THE PUBLIC**

**Bay Area Metro Center
1st Floor Board Room
375 Beale Street
San Francisco, CA 94105**

THE FOLLOWING STREAMING OPTIONS WILL ALSO BE PROVIDED

These streaming options are provided for convenience only. In the event that streaming connections malfunction for any reason, the Advisory Council reserves the right to conduct the meeting without remote webcast and/or Zoom access.

The public may observe this meeting through the webcast by clicking the link available on the air district's agenda webpage at www.baaqmd.gov/about-the-air-district/advisory-council/agendasreports.

Members of the public may participate remotely via Zoom at <https://bayareametro.zoom.us/j/86000643895>, or may join Zoom by phone by dialing (669) 900-6833 or (408) 638-0968. The Webinar ID for this meeting is: 860 0064 3895

Public Comment on Agenda Items: The public may comment on each item on the agenda as the item is taken up. Members of the public who wish to speak on a matter on the agenda will have two minutes each to address the Council on that agenda item, unless a different time limit is established by the Co-Chairs. No speaker who has already spoken on an item will be entitled to speak to that item again.

The Council welcomes comments, including criticism, about the policies, procedures, programs, or services of the District, or of the acts or omissions of the Council. Speakers shall not use threatening, profane, or abusive language which disrupts, disturbs, or otherwise impedes the orderly conduct of a Council meeting. The District is committed to maintaining a workplace free of unlawful harassment and is mindful that District staff regularly attend Board meetings. Discriminatory statements or conduct that would potentially violate the Fair Employment and Housing Act – i.e., statements or conduct that is hostile, intimidating, oppressive, or abusive – is *per se* disruptive to a meeting and will not be tolerated.

ADVISORY COUNCIL MEETING AGENDA

MONDAY, JULY 29, 2024

9:00 AM

1. Call to Order - Roll Call

The Council Chair shall call the meeting to order and the Clerk of the Boards shall take roll of the Council members.

CONSENT CALENDAR (Item 2)

The Consent Calendar consists of routine items that may be approved together as a group by one action of the Council. Any Council member or member of the public may request that an item be removed and considered separately.

2. Approval of the Draft Minutes of the Advisory Council Meeting of March 1, 2024

The Council will consider approving the Draft Minutes of the Advisory Council Meeting of March 1, 2024.

INFORMATIONAL ITEM(S)

3. Review and Discussion of Cumulative Impacts Selected References

The Council will discuss the selected references they each reviewed and share their analysis with members of the Council for consideration.

4. Comparison of State Cumulative Impacts Assessment Programs

The Council will receive a presentation on a comparison of cumulative impacts assessment programs established in four states and one city. The presentation will include a comparison of program elements for legislative action, applicability, indicators for overburdened communities, and public notice and participation requirements. This item will be presented by Dr. Judith Cutino, Health Officer.

ACTION ITEM(S)

5. Deliberation on the Key Findings in Existing Research on Cumulative Impacts

The Council will deliberate, find agreement, and potentially vote on the key findings or facts found in the literature related to Cumulative Impacts. This item will be presented by Greg Nudd, Deputy Executive Officer of Science and Policy.

OTHER BUSINESS

6. Report of the Executive Officer/APCO

7. Public Comment on Non-Agenda Matters

Pursuant to Government Code Section 54954.3, members of the public who wish to speak on matters not on the agenda will be given an opportunity to address the Council. Members of the public will have two minutes each to address the Council, unless a different time limit is established by the Chair. The Council welcomes comments, including criticism, about the policies, procedures, programs, or services of the District, or of the acts or omissions of the Council. Speakers shall not use threatening, profane, or abusive language which disrupts, disturbs, or otherwise impedes the orderly conduct of a Council meeting. The District is committed to maintaining a workplace free of unlawful harassment and is mindful that District staff regularly attend Board meetings. Discriminatory statements or conduct that would potentially violate the Fair Employment and Housing Act – i.e., statements or conduct that is hostile, intimidating, oppressive, or abusive – is per se disruptive to a meeting and will not be tolerated.

8. Council Member Comments / Other Business

Council members may make a brief announcement, provide a reference to staff about factual information, or ask questions about subsequent meetings.

9. Time and Place of Next Meeting

Thursday, September 19, 2024, at 9:30 a.m. at 375 Beale Street, San Francisco, CA 94105. The meeting will be in-person for the Advisory Council members and members of the public will be able to either join in-person or via webcast.

10. Adjournment

The Council meeting shall be adjourned by the 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

- 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 Air 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, Suma Peesapati, at (415) 749-4967 or by email at spesapati@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 MEETINGS

JULY 2024

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Community Advisory Council Special Meeting	Thursday	25	6:00 p.m.	1 st Floor Board Room
Advisory Council Meeting	Monday	29	9:00 a.m.	1 st Floor Board Room

AUGUST 2024

NO MEETINGS SCHEDULED

SEPTEMBER 2024

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Meeting	Wednesday	4	10:00 a.m.	1 st Floor Board Room
Board of Directors Stationary Source Committee	Wednesday	11	10:00 a.m.	1 st Floor, Temazcal Room
Board of Directors Community Equity, Health and Justice Committee	Wednesday	11	1:00 p.m.	1 st Floor, Temazcal Room
Board of Directors Finance and Administration Committee	Wednesday	18	10:00 a.m.	1 st Floor Board Room
Board of Directors Policy, Grants and Technology Committee	Wednesday	18	1:00 p.m.	1 st Floor Board Room
Board of Directors Community Advisory Council Meeting	Thursday	19	6:00 p.m.	California State University East Bay Oakland Professional & Conference Center Trans Pacific Center 1000 Broadway, Suite 109 Oakland, CA 94607
Advisory Council Meeting	Thursday	19	9:30 a.m.	1 st Floor Board Room

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Gina Solomon and Members
of the Advisory Council

From: Philip M. Fine
Executive Officer/APCO

Date: July 29, 2024

Re: Approval of the Draft Minutes of the Advisory Council Meeting of March 1, 2024

RECOMMENDED ACTION

Approve the Draft Minutes of the Advisory Council Meeting of March 1, 2024.

BACKGROUND

None.

DISCUSSION

Attached for your review and approval are the Draft Minutes of the Advisory Council Meeting of March 1, 2024.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Philip M. Fine
Executive Officer/APCO

Prepared by: Marcy Hiratzka
Reviewed by: Vanessa Johnson

ATTACHMENTS:

1. Draft Minutes of the Advisory Council Meeting of March 1, 2024

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

Advisory Council Meeting
Friday, March 1, 2024

DRAFT MINUTES

Note: Audio recordings of the meeting are available on the website of the Bay Area Air Quality Management District at www.baaqmd.gov/bodagendas

CALL TO ORDER

1. **Opening Comments:** Greg Nudd, Deputy Executive Officer of Science and Policy, facilitating the meeting until the Advisory Council (Council) Officers were selected later in the meeting, called the meeting to order at 9:32 a.m. This was the first Council meeting held since the former members termed out in July 2023.

Roll Call:

Present: Chairperson Dr. Gina Solomon; Vice Chairperson Dr. Phil Martien; and Members Professor Ann Marie Grover Carlton, Dr. Stephanie Holm, Professor Michael Kleinman, Garima Raheja, and Dr. Michael Schmeltz.

Absent: Board Liaison Davina Hurt.

CONSENT CALENDAR

2. **APPROVAL OF THE DRAFT MINUTES OF THE ADVISORY COUNCIL MEETING MINUTES OF SEPTEMBER 11, 2023**

Public Comments

No requests received.

Council Comments

None.

Council Action

Dr. Solomon made a motion, seconded by Professor Kleinman, to **approve** the Draft Minutes of the Advisory Council Meeting Minutes of September 11, 2023; and the motion **carried** by the following vote of the Council:

AYES: Carlton, Holm, Kleinman, Martien, Raheja, Schmeltz, Solomon.
NOES: None.
ABSTAIN: None.
ABSENT: Hurt.

INFORMATIONAL ITEMS

3. ADVISORY COUNCIL INTRODUCTIONS

The Councilmembers introduced themselves, highlighting their academic background, work experience, and knowledge in the field of air quality. Air District staff members that will be working with the Council were also introduced: Dr. Judy Cutino, Health Officer; Dr. Ranyee Chiang, Director of Meteorology and Measurement; Dr. Kate Hoag, Assistant Manager in Metrology and Measurement; Dr. Song Bai, Director of Assessment, Inventory, and Modeling; Dr. David Holstius, Senior Advanced Projects Advisor in Planning and Climate Protection; Marcia Raymond, Acting Deputy Executive Officer of Equity & Community Programs and Assistant Counsel; and Dr. Meredith Bauer, Deputy Executive Officer of Engineering and Compliance; and Mr. Nudd.

Public Comments

No requests received.

Council Comments

None.

Council Action

No action taken.

4. INTRODUCTION OF THE AIR DISTRICT AND OVERVIEW OF THE ADVISORY COUNCIL

Mr. Nudd gave the staff presentation *Introduction to the Air District*, including: mission statement; Air District background; Air District overview (Board of Directors, Advisory Council, Community Advisory Council, and Hearing Board); Advisory Council defined by the California Health and Safety Code; role of the Advisory Council; Air District Leadership; and accessing Advisory Council materials.

Public Comments

No requests received.

Council Comments

None.

Council Action

No action taken.

5. ADVISORY COUNCIL POLICY AND REGULATORY TOOLKIT

Mr. Nudd gave the staff presentation *Air District’s Policy and Regulatory Toolkit*, including: Air District policy tools; regulatory tools: air quality permitting, regulations, enforcement; planning: regional air quality planning and community air quality planning; and non-regulatory: guidance on local land use and incentives.

Public Comments

No requests received.

Council Comments

The Council and staff discussed how climate action investments from the Inflation Reduction Act of 2022 interact with existing grant funding offered to residents to improve air quality in the region; the manner in which the Air District would assess the permit application for new crematory operations; whether the Air District has partnered with utility companies on residential natural gas combustion projects; whether air districts in California have legal authority on land use policies, and if so, whether that authority is transferable to states that do not have regional air districts; whether the State still considered wildfires as exceptional events if they are becoming more frequent and should they be included in the baseline; whether the Air District partners with state agencies on preventative measures (such as prescribed burning); when and why the Air District would utilize the US EPA’s (Environmental Protection Agency) Environmental Benefits Mapping and Analysis Program BenMAP, and alterations to BenMAP that the Air District would like to see; and which methodologies are utilized by the Air District to measure risk within smaller populations.

Council Action

No action taken.

6. OVERVIEW OF THE RALPH M. BROWN ACT

Alexander Crockett, General Counsel, gave the staff presentation *Overview of the Ralph M. Brown Act*, including: Brown Act fundamentals; relationship to parliamentary procedure; legislative bodies under the Brown Act; Brown Act meetings; voting; public comment; and disruptive public commenters.

Public Comments

No requests received.

Council Comments

The Council and staff discussed whether the gathering of Councilmembers counts as a “meeting” if a quorum is not present; whether a Council meeting would be able to be called to order if a quorum was not present, due to last-minute cancellations of Councilmembers; whether the use of social media or email can contribute to serial meetings (which the Council must avoid); the manner in which Councilmembers could share resources (new publications) with each other without violating the Brown Act; the suggestion of sending the Councilmembers each other’s meeting RSVPs ahead of time, so that they will know each other’s availability and be aware of potential quorum restraints; whether Councilmembers may attend Council meetings remotely, via teleconference; the designated entity that would physically remove disruptive public commenters from the meeting, if needed; and the Air District’s policy on public commenters who use threatening, profane, or abusive language which disrupts, disturbs, or otherwise impedes the orderly conduct of a Council meeting.

Council Action

No action taken.

THE COUNCIL RECESSED AT 11:25 A.M., AND RESUMED AT 11:45 A.M

7. SELECTED REFERENCES ON CUMULATIVE IMPACTS

Mr. Nudd produced a list of selected references (compiled by Dr. Holstius) relative to cumulative impacts of air pollution, intended to help guide the Council’s work, and further inform the Council’s deliberations. The selected references include articles on frameworks, methods and tools to address cumulative impacts, as well as region-specific studies, and work of other agencies. The Air District will continue to add to these selected references as additional studies become available to ensure the Council is aware of existing research that can support its work.

Public Comments

No requests received.

Council Comments

The Council and staff discussed the need to make adjustments to the reference list, as new publications on cumulative impacts are released; the Air District’s definition of the term “cumulative impacts,” as definitions can vary; the suggestion of convening a symposium series or conference to facilitate a discussion among experts to consider the current state of cumulative impacts of air pollution in the Bay Area, the suggestion that the Council partners with agencies that are also analyzing cumulative impacts of air pollution (state or federal) and co-sponsor such an event, and the desire for a work plan that would serve as a foundation for planning such an event; the desire that the Council regularly engages with the Air District’s Community Advisory Council (CAC) in ongoing discussions about cumulative impacts (and other topics); whether the Council should incorporate multiple environmental and non-environmental stressors related to cumulative impacts into its discussions and deliberations; whether the Council should focus on qualitative or quantitative analyses; the manner in which the Councilmembers should divide the reference list among themselves and share what they read, and the suggestion that the reference list be revised, to reflect what sets each article apart from the others;

anticipated next steps and expectations before the next Council meeting; and Air District staff's thoughts on the references that were compiled.

Council Action

While this was not an action item, the consensus of the Council was to agendize this item for the Council's next meeting and discuss potential parameters for building the Council's Work Plan.

ACTION ITEM

8. ELECTION OF OFFICERS

The Council discussed the Council's two Officer positions of Chairperson and Vice Chairperson. After reading the descriptions of each position, Mr. Nudd asked for nominations from the Councilmembers.

Dr. Solomon was nominated for Chairperson, and Dr. Martien was nominated for Vice Chairperson. Both accepted their nominations.

Public Comments

No requests received.

Council Comments

None.

Council Action

Dr. Holm made a motion, seconded by Professor Kleinman, to **elect** Dr. Gina Solomon as Chairperson and Dr. Phil Martien as Vice Chairperson, for the duration of their current two-year term, ending in December 2025; and the motion **carried** by the following vote of the Council:

AYES:	Carlton, Holm, Kleinman, Martien, Raheja, Schmeltz, Solomon.
NOES:	None.
ABSTAIN:	None.
ABSENT:	Hurt.

OTHER BUSINESS

9. REPORT OF THE EXECUTIVE OFFICER/AIR POLLUTION CONTROL OFFICER (APCO)

As Dr. Philip M. Fine, the Executive Officer/Air Pollution Control Officer, was unable to attend the meeting, Mr. Nudd waived this report.

10. PUBLIC COMMENT ON NON-AGENDA MATTERS

No requests received.

11. COUNCIL MEMBER COMMENTS

Councilmember Raheja reiterated her desire for the Council to engage regularly with the Air District’s CAC. Chair Solomon said that she attended a CAC meeting in 2023, and echoed Councilmember Raheja’s interest in collaboration with the CAC.

Dr. Schmeltz suggested the Council agendaize and discuss innovative ways to approach indirect source regulations at major sources.

Chair Solomon requested future presentations on the following:

- Status update of Air District Regulation 11-18, Reduction of Risk from Air Toxic Emissions at Existing Facilities
- How the Air District works with California Environmental Quality Act (CEQA) guidelines to assist lead agencies in analyzing and reducing air quality and climate impacts from proposed land use projects and plans
- Lessons learned from the Air District’s designated Community Health Protection Program Assembly Bill (AB) 617 communities, and status updates from the two communities that are the farthest along in the process (West Oakland and Richmond/North Richmond/San Pablo)
- The manner in which regulated facilities’ operations are handled in varying communities (by Compliance and Enforcement)

12. TIME AND PLACE OF NEXT MEETING

At the end of the meeting, the next Advisory Council meeting was to be held at the Call of the Chair. After the meeting adjourned, the next meeting was scheduled for Monday, July 29, 2024, at 9:00 a.m., at 375 Beale Street, San Francisco, California, 94105. The meeting will be in-person for members of the public will be able to either join in person or via webcast.

13. ADJOURNMENT

The meeting adjourned at 12:29 p.m.

Marcy Hiratzka
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Gina Solomon and Members
of the Advisory Council

From: Philip M. Fine
Executive Officer/APCO

Date: July 29, 2024

Re: Review and Discussion of Cumulative Impacts Selected References

RECOMMENDED ACTION

None; no action is requested at this time.

BACKGROUND

Together with the Advisory Council, the Air District would like to determine policies to better address the cumulative impacts of air pollution. A breadth of research is available to Advisory Council members and Air District staff to guide its work. At the March 1, 2024 meeting of the Advisory Council, Council members reviewed a list of selected references on cumulative impacts developed by Air District staff.

DISCUSSION

Council members will identify and discuss the articles they reviewed that help establish a common understanding of the topic and framework with a focus on the below articles:

- Payne-Sturges, D. C., Sangaramoorthy, T., & Mittmann, H. (2021). Framing Environmental Health Decision-Making: The Struggle over Cumulative Impacts Policy. *International Journal of Environmental Research and Public Health*, 18(8), 3947.
- Gee, G. C., & Payne-Sturges, D. C. (2004). Environmental health disparities: a framework integrating psychosocial and environmental concepts. *Environmental health perspectives*, 112(17), 1645-1653.
- Sexton, K. (2012). Cumulative risk assessment: an overview of methodological approaches for evaluating combined health effects from exposure to multiple environmental stressors. *International journal of environmental research and public health*, 9(2), 370-390.
- Tulve, N. S., Geller, A. M., Hagerthey, S., Julius, S. H., Lavoie, E. T., Mazur, S. L., ... & Frey, H. C. (2024). Challenges and opportunities for research supporting cumulative impact assessments at the United States environmental protection

agency's office of research and development. The Lancet Regional Health–Americas, 30.

- McHale, C. M., Osborne, G., Morello-Frosch, R., Salmon, A. G., Sandy, M. S., Solomon, G., Zhang, L., Smith, M. T., & Zeise, L. (2018). Assessing health risks from multiple environmental stressors: Moving from G×E to I×E. *Mutation Research/Reviews in Mutation Research*, 775, 11-20.
- Morello-Frosch, R., Zuk, M., Jerrett, M., Shamasunder, B., & Kyle, A. D. (2011). Understanding the cumulative impacts of inequalities in environmental health: implications for policy. *Health affairs*, 30(5), 879-887.
- Solomon, G. M., Morello-Frosch, R., Zeise, L., & Faust, J. B. (2016). Cumulative environmental impacts: science and policy to protect communities. *Annual review of public health*, 37, 83-96.
- Zrzavy, A., Blondell, M., Kobayashi, W., Redden, B., & Mohai, P. (2022). Addressing cumulative impacts: lessons from environmental justice screening tool development and resistance. *Env't L. Rep.*, 52, 10111.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Philip M. Fine
Executive Officer/APCO

Prepared by: Sonam Shah-Paul
Reviewed by: Greg Nudd

ATTACHMENTS:

1. Advisory Council Cumulative Impacts Selected References

Selected References on Cumulative Impacts

This document is a living document; Air District staff will continue to update as needed. This short list of selected references is intended to provide concise, broad information on the subject. It may also serve as a starting point for a more formal or extensive review.

Last Updated: 2024-02-23

Conceptual Frameworks, Theory, Methods, Approaches, Tools

- Payne-Sturges, D. C., Sangaramoorthy, T., & Mittmann, H. (2021). Framing Environmental Health Decision-Making: The Struggle over Cumulative Impacts Policy. *International Journal of Environmental Research and Public Health*, 18(8), 3947.
- Payne-Sturges, D. C., Scammell, M. K., Levy, J. I., Cory-Slechta, D. A., Symanski, E., Carr Shmool, J. L., ... & Clougherty, J. E. (2018). Methods for evaluating the combined effects of chemical and nonchemical exposures for cumulative environmental health risk assessment. *International Journal of Environmental Research and Public Health*, 15(12), 2797.
- Gee, G. C., & Payne-Sturges, D. C. (2004). Environmental health disparities: a framework integrating psychosocial and environmental concepts. *Environmental health perspectives*, 112(17), 1645-1653.
- Sexton, K. (2012). Cumulative risk assessment: an overview of methodological approaches for evaluating combined health effects from exposure to multiple environmental stressors. *International journal of environmental research and public health*, 9(2), 370-390.
- Geronimus 2023. Weathering: The Extraordinary Stress of Ordinary Life on the Body in an Unjust Society.
 - Note: A shorter NPR interview is also available
- US EPA 2021. Health Impact Assessment.
 - See EPA 2021a, 09/15/2021 below.
- Tulve, N. S., Geller, A. M., Hagerthey, S., Julius, S. H., Lavoie, E. T., Mazur, S. L., ... & Frey, H. C. (2024). Challenges and opportunities for research supporting cumulative impact assessments at the United States environmental protection agency's office of research and development. *The Lancet Regional Health–Americas*, 30.

Studies Focused on the Bay Area, California, and/or Air Pollution

- CBE 2008. Cumulative Impacts in East Oakland: Findings from a Community-Based Mapping Study.
- Houston, D., Wu, J., Ong, P., & Winer, A. (2004). Structural disparities of urban traffic in Southern California: implications for vehicle-related air pollution exposure in minority and high-poverty neighborhoods. *Journal of Urban Affairs*, 26(5), 565-592.

Air District Advisory Council
Selected References on Cumulative Impacts

- Lane, H. M., Morello-Frosch, R., Marshall, J. D., & Apte, J. S. (2022). Historical redlining is associated with present-day air pollution disparities in US cities. *Environmental science & technology letters*, 9(4), 345-350.
- McHale CM, Osborne G, Morello-Frosch R, Salmon AG, Sandy MS, Solomon G, Zhang L, Smith MT, Zeise L. Assessing health risks from multiple environmental stressors: Moving from G×E to I×E. *Mutat Res Rev Mutat Res*. 2018 Jan-Mar;775:11-20. doi: 10.1016/j.mrrev.2017.11.003. Epub 2017 Nov 24. PMID: 29555026; PMCID: PMC5863617.

Items Specifically Addressed to Policymakers or Government Staff

- Sprinkle, R. H., & Payne-Sturges, D. C. (2021). Mixture toxicity, cumulative risk, and environmental justice in United States federal policy, 1980–2016: Why, with much known, was little done? *Environmental Health*, 20(1), 104.
- Zrzavy, A., Blondell, M., Kobayashi, W., Redden, B., & Mohai, P. (2022). Addressing cumulative impacts: lessons from environmental justice screening tool development and resistance. *Env't L. Rep.*, 52, 10111.
- Morello-Frosch, R., Zuk, M., Jerrett, M., Shamasunder, B., & Kyle, A. D. (2011). Understanding the cumulative impacts of inequalities in environmental health: implications for policy. *Health affairs*, 30(5), 879-887.
- Solomon, G. M., Morello-Frosch, R., Zeise, L., & Faust, J. B. (2016). Cumulative environmental impacts: science and policy to protect communities. *Annual review of public health*, 37, 83-96.
- US EPA. 2022. Cumulative Impacts: Recommendations for ORD Research. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-22/014a, 2022.

Work of Other Agencies in the United States

Chicago Department of Public Health

- Chicago's Cumulative Impact Assessment
https://www.chicago.gov/city/en/depts/cdph/supp_info/Environment/cumulative-impact-assessment.html

Department of Energy

- National Environmental Policy Act. Cumulative Effects.
https://ceq.doe.gov/publications/cumulative_effects.html

Minnesota Pollution Control Agency

- Minnesota Pollution Control Agency. (2018). Cumulative impact analysis. Minnesota Pollution Control Agency.
[Cumulative impacts | Minnesota Pollution Control Agency \(state.mn.us\)](https://www.mn.gov/Minnesota-Pollution-Control-Agency/cumulative-impacts)
[Cumulative Impacts Rule—Request for Comments \(state.mn.us\)](https://www.mn.gov/Minnesota-Pollution-Control-Agency/cumulative-impacts-rule)

Air District Advisory Council
Selected References on Cumulative Impacts

[Cumulative Impacts Rule—Comments Received in Response to Request for Comments \(state.mn.us\)](#)

Massachusetts Department of Environmental Protection

- Massachusetts Department of Environmental Protection. (2021). Cumulative Impact Analysis in Air Quality Permitting.
[Cumulative Impact Analysis in Air Quality Permitting | Mass.gov](#)
DRAFT Guidance for Conducting Cumulative Impact Analysis For Air Quality Comprehensive Plan Applications [download \(mass.gov\)](#)

New Jersey Department of Environmental Protection

- New Jersey Department of Environmental Protection Environmental Justice
[Department of Environmental Protection | Environmental Justice](#)

New York State

- Senate Bill S8830 (passed in Jan 2023): <https://www.ncelenviro.org/articles/new-york-legislature-passes-cumulative-impacts-bill/>

Office of Environmental Health Hazard Assessment

- Office of Environmental Health Hazard Assessment. (2010). *Cumulative Impacts: Building a Scientific Foundation*. Retrieved from <https://oehha.ca.gov/media/downloads/calenviroscreen/report/cireport123110.pdf>

The White House

- White House Environmental Justice Advisory Council 2014
[White House Environmental Justice Advisory Council | US EPA](#)
- National Environmental Justice Advisory Council 2004
[National Environmental Justice Advisory Council Recommendations | US EPA](#)

United States Environmental Protection Agency

- EPA. (1999). *Consideration Of Cumulative Impacts In EPA Review of NEPA Documents* (EPA 315-R-99-002). Retrieved from epa.gov/sites/default/files/2014-08/documents/cumulative.pdf
- EPA. (2011). *Plan EJ 2014: Legal Tools*. Retrieved from epa.gov/sites/default/files/2015-02/documents/ej-legal-tools.pdf
- EPA. (2015). *Proctor Creek's Boone Boulevard Green Street Project Health Impact Assessment (HIA)*. Retrieved from epa.gov/sites/default/files/2015-07/documents/final_bbgsp_hia_report.pdf
- EPA. (2016). *Environmental Justice Research Roadmap*. Retrieved from epa.gov/sites/default/files/2017-01/documents/researchroadmap_environmentaljustice_508_compliant.pdf
- EPA. (2017). Using a Total Environment Framework (Built, Natural, Social Environments) to Assess Lifelong Health Effects of Chemical Exposures. *Grantee*

Air District Advisory Council
Selected References on Cumulative Impacts

Research Project Retrieved from

cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/recipient.display/rfa_id/630/records_per_page/ALL

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BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Gina Solomon and Members
of the Advisory Council

From: Philip M. Fine
Executive Officer/APCO

Date: July 29, 2024

Re: Comparison of State Cumulative Impacts Assessment Programs

RECOMMENDED ACTION

None; no action is requested at this time.

BACKGROUND

Low-income communities and communities of color have been experiencing higher than average rates of toxic air pollution and subjected to a disproportionate burden of environmental and public health stressors. These stressors include multi-media pollution from numerous industrial, commercial, and governmental facilities located in those communities. Socio-economic stressors include income, health, housing, job security, and others. The combined exposures or cumulative impacts of this broad range of environmental and socio-economic stressors increases the vulnerability of residents to environmental hazards, resulting in disproportionate environmental and public health harms and risks in those communities.

In keeping with the Air District mission to significantly reduce the disproportionate levels of air pollution that many communities face and provide clean air for all Bay Area residents, the Advisory Council will receive a presentation for deliberation reviewing other state programs that may apply to developing an Air District cumulative impacts assessment program.

DISCUSSION

To further inform the Advisory Council's deliberations on cumulative impacts assessment, Air District staff will provide an overview of cumulative impacts assessment programs adopted or in progress in several states: New Jersey, New York, Massachusetts, and Minnesota, as well as the City of Chicago. Staff will compare program elements, including the legislative basis for permit action, applicability to permitting actions and types of facilities, indicators used to identify overburdened communities, public notice requirements, and potential permitting outcomes.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Philip M. Fine
Executive Officer/APCO

Prepared by: Judith Cutino

Reviewed by: Greg Nudd

ATTACHMENTS:

1. Comparison of State Cumulative Impacts Assessment Programs Presentation



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

AGENDA: 4

Comparison of State Cumulative Impacts Assessment Programs

Advisory Council Meeting
July 29, 2024

Judith Cutino, DO, PE
Health Officer

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Presentation Outcome



- Information only

Presentation Requested Action



- No requested action

Presentation Online



Comparison of State Programs:

- California Environmental Protection Agency (CalEPA)
- New Jersey Dept. of Environmental Protection Environmental Justice (EJ) (2020)
- New York State Dept. of Environmental Conservation (DEC) (2022)
- Massachusetts Dept. of Environmental Protection (DEP) (2021)
Cumulative Impact Analysis in Air Quality Permitting.
- City of Chicago's Cumulative Impact Assessment Program (2023)
- Minnesota Pollution Control Agency (2023)
Cumulative Impacts Analysis; Permit Decisions in Environmental Justice Areas

Program Elements for Comparison



- Legislative basis for permit action
- Define Environmental Justice Population
- Applicability – permitting activities
 - What facilities are subject to a rule?
- Indicators of Overburdened Community and EJ Mapping Tools
- Public Notice and Enhanced Public Participation
- Permit Decision – if disproportionate burden is found, deny or condition to mitigate findings or create community benefit agreement

California EPA (CalEPA)



California Environmental Protection Agency Environmental Justice Action Plan outlines guidelines for evaluating cumulative impacts.

CalEnviroScreen was developed as a screening methodology for assessing cumulative impacts in communities.

This methodology is used as a screening tool to help prioritize CalEPA activities and funding.

Many states have modeled their indicators and mapping tools for identifying disadvantaged communities after this California methodology and mapping tool.

CalEnviroScreen 4.0 - 21 Indicators



Pollution Burden

Exposures

- Ozone Concentrations
- PM2.5 concentrations
- Diesel PM Emissions
- Drinking Water Contaminants
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts

Environmental Effects

- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
- Impaired Water Bodies
- Solid Waste Sites and Facilities

Population Characteristics

Sensitive Populations

- Asthma Emergency Department Visits
- Cardiovascular Disease (Emergency Department visits for Heart Attacks)
- Low Birth-Weight Infants

Socioeconomic Factors

- Educational Attainment
- Housing-Burdened Low-Income Households
- Linguistic Isolation
- Poverty
- Unemployment

CalEPA - OEHHA
(Office of
Environmental Health
Hazard Assessment)

CalEnviroScreen 4.0
Report

New Jersey Department of Environmental Protection (NJDEP)



State Environmental Justice Law requires DEP to adopt rules to establish process for assessing relevant environmental and public health stressors affecting overburdened communities (OBCs)

Requires DEP to deny or condition permits where facilities cannot avoid the occurrence of disproportionate environmental or public health stressors in those areas

Rules require:

- Enhanced upfront community engagement before facilities are proposed in OBCs
- Use community-level environmental and public health data through Mapping Tool
- Directs permit applicants to avoid and minimize stressors and enable to establish permit conditions that better protect vulnerable communities
- [NJDEP| Environmental Justice | Environmental Justice Law](#)

NJDEP – Applicability



- A. Renewals of major source/Title V permits for existing facilities under the Air Pollution Control Rules, and
- B. Individual permits for new or expanded facilities under many regulatory schemes, including permitting for many state agencies

Eight Facility Types:

1. Major sources of air pollution (i.e., gas fired power plants and cogeneration plants);
2. Resource recovery facilities or incinerators; sludge processing facilities;
3. Sewage treatment plants with a capacity of more than 50 million gallons per day;
4. Transfer stations or solid waste facilities;
5. Recycling facilities that receive at least 100 tons of recyclable material per day;
6. Scrap metal facilities;
7. Landfills; or
8. Medical waste incinerators, except those attendant to hospitals and universities.



26 Environmental and Public Health Stressors

Concentrated areas of air pollution (5)

Ground-Level Ozone
Fine Particulate Matter
Cancer Risk from Diesel Particulate Matter
Cancer Risk from Air Toxics - Excluding Diesel Particulate
Non-Cancer Risk from Air Toxics

Mobile Sources of Air Pollution (3)

Traffic– Cars, Light- and Medium-Duty Trucks
Traffic – Heavy-Duty Trucks
Railways

Contaminated Sites (3)

Known Contaminated Sites
Soil Contamination Deed Restrictions
Ground Water Classification Exception Areas/Currently
Known Extent Restrictions
Transfer Stations or other Solid Waste Facilities,
Recycling Facilities

Scrap Metal Facilities (2)

Solid Waste Facilities
Scrap Metal Facilities

Point Sources of Water Pollution (2)

Surface Water
Combined Sewer Overflows

May Cause Potential Public Health Impacts (6)

Drinking Water
Potential Lead Exposure
Lack of Recreational Open Space
Lack of Tree Canopy
Impervious Surface
Flooding (Urban Land Cover)

Proximity Stressors (3)

Emergency Planning Sites
Permitted Air Sites
NJPDES Sites

Social Determinants of Health (2)

Unemployment
Education

NJDEP – Steps of EJ Rule



- 1. Determination of Applicability** – 1 of 8 facility types, facility in OBC
- 2. Initial Screen** - DEP provides stressor data to applicant for the OBC
- 3. Determination of Application Requirements**
- 4. Preparation and Review of EJ Impact Statement and Supplem. Info**
- 5. Meaningful Public Participation** - Min. 60-day public comment period, Hearing in host OBC
- 6. Department Review of EJIS** - Minimum 45-day review
- 7. Department Decision** - If can avoid disproportionate impacts, DEP authorizes facility to proceed with conditions. If cannot avoid impacts and If new facility, DEP will deny permit. If major source renewal, proceed with conditions to address impacts

[NJDEP | Environmental Justice | Environmental Justice Law](#)

New York State Department of Environmental Conservation (NYSDEC)



Cumulative Impacts Bill amends the State Environmental Quality Review Act (SEQR) and the Uniform Procedures Act (UPA) to require consideration of effects of disproportionate pollution impacts on a disadvantaged community. Effective on Dec. 30, 2024. Covers impacts to include all forms of pollution.

- Requires agencies to examine environmental impacts alongside social and economic impacts - Develop criteria to identify disadvantaged communities
- Amends state environmental conservation law to include the existing pollution burden report in a disadvantaged community
- Law prevents approval and re-issuing of permits for actions that would increase disproportionate and/or inequitable pollution burdens on disadvantaged communities

[Disadvantaged Communities Criteria - New York's Climate Leadership & Community Protection Act \(ny.gov\)](#)

NYSDEC – Policy



DEC Program Policy - Division of Environmental Permits

- Applies to permit applications associated with sources and activities, in or likely to affect a disadvantaged community that result in GHG or co-pollutant emissions
- Requires enhanced public participation
 - Applicant must solicit input from members of the disadvantaged community regarding the proposed project design considerations
- In considering and issuing permits, licenses and other administrative approvals and decisions - All state agencies ... shall not disproportionately burden disadvantaged communities and shall also prioritize reductions of GHG emissions and co-pollutants in disadvantaged communities

[DEP 24-1 - Permitting and Disadvantaged Communities \(ny.gov\)](#)

NYSDEC – Indicators 1



Environmental Burdens and Climate Change Risk		
Land use and facilities associated with historical discrimination or disinvestment	Potential climate change risks	Potential pollution exposures
Proximity to remediation sites	Extreme heat projections	Vehicle traffic density diesel truck and bus traffic
Proximity to regulated management plan sites	Flooding in coastal and tidally influenced areas (projected)	Particulate matter (PM _{2.5})
Proximity to major oil storage facilities	Flooding in inland areas (projected)	Benzene concentration
Proximity to power generation facilities	Low vegetative cover	Wastewater discharge
Proximity to active landfills	Agricultural land	
Proximity to municipal waste combustors	Driving time to hospitals or urgent/critical care	
Proximity to scrap metal processors		
Industrial/manufacturing/mining land use		
Housing vacancy rate		

† Census tracts are delineated per the US Census Bureau. For more information visit: <https://www.census.gov/programs-surveys/geography/about/glossary.html#>



NYSDEC – Indicators 2



Population Characteristics and Health Vulnerabilities

Income

- Percent <80% area median income
 - Percent <100% of federal poverty line
 - Percent without bachelor's degree
 - Unemployment rate
 - Percent single-parent households
-

Race and Ethnicity

- Percent Latino/a or Hispanic
 - Percent Black or African American
 - Percent Asian
 - Percent Native American or Indigenous
 - Limited English proficiency
 - Historical redlining score
-

Health Outcomes & Sensitivities

- Asthma emergency department visits
 - COPD emergency department visits
 - Heart attack (MI) hospitalization
 - Premature deaths
 - Low birthweight
 - Percent without health insurance
 - Percent with disabilities
 - Percent adults age 65+
-

Housing Mobility & Communications

- Percent renter-occupied homes
- Housing cost burden (rental costs)
- Energy poverty / cost burden
- Manufactured homes
- Homes built before 1960
- Percent without internet

[Disadvantaged Communities Criteria - New York's Climate Leadership & Community Protection Act \(ny.gov\)](https://www.ny.gov/disadvantaged-communities-criteria)

NYSDEC – Disproportionate Burden Analysis and Mitigation



Prepare a disproportionate burden analysis where an action is likely to affect a disadvantaged community.

The evaluation should explain whether the project's GHG and co-pollutant emissions could positively or negatively impact air quality and air-related health effects, or other relevant DAC Indicators

- Where an increase to existing burden to the disadvantaged community is identified, propose project design considerations including a description of actions to be taken to reduce or eliminate disproportionate burdens associated with emissions, including proposed permit conditions.
- Include any proposed changes to the project resulting from community outreach and participation.

Massachusetts Dept. of Environmental Protection (Mass. DEP)



State law required regs. be adopted; Air Pollution Control regs. require cumulative impact analysis (CIA) for Comprehensive Plan Applications (CPA) for facilities located in or near an environmental justice (EJ) population.

Amendments require CIA for new and existing facilities

CPA applicability:

- Potential annual process (i.e., non-combustion) emissions ≥ 10 tons per year
- Combustion units - certain fuel input thresholds (e.g., ≥ 40 mmBTU/hour natural gas boiler)
- Incinerators
- Non-emergency engines (except a CIA is not required for non-emergency engines restricted to 100 hours of operation per year)

[download \(mass.gov\)](https://www.mass.gov)

Mass. DEP – Define EJ Population



Environmental Justice Population:

- (a) A Neighborhood that meets one or more of the following criteria:
1. Annual median household income is not more than 65% of the statewide annual median household income;
 2. Minorities comprise 40% or more of the population;
 3. 25% or more of households lack English language proficiency;
 4. Minorities comprise 25% or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150% of the statewide annual median household income; or
- (b) A geographic portion of a Neighborhood designated by the Secretary as an Environmental Justice Population

Mass. DEP – Indicators



Cumulative Impact Mapping Tool - Interactive map shows census tracts
- 33 indicators in Categories:

- Air Quality and Climate – 7, e.g. Impervious surface
- Nearby Regulated Facilities – 10, e.g. Airports
- Health – 6, e.g. Premature deaths
- Socioeconomic – 5, e.g. Median household income
- Nearby Sensitive Receptors – 5, e.g. Childcare facilities

Mass. DEP - Permitting Steps



Amendments only apply to CPA applications and establish the following overall steps in the CIA process:

1. Applicability
2. Public Notice and Involvement – 60 days prior to filing
3. Assessment of Existing Community Conditions
4. Air Quality Dispersion Modeling
5. Risk Characterization of Air Toxics
6. Evaluation of Project Cumulative Impacts
7. Cumulative Impact Analysis Report
8. MassDEP Review and Decision (including 60-day public notice and involvement)

City of Chicago – Cumulative Impact Assessment



2023: EJ Executive Order (2023-3) issued;

City executes Voluntary Compliance Agreement with U.S. Department of Housing & Urban Development and Southeast Side organizations to resolve civil rights complaint

- Commits City to address cumulative impacts.
- Citywide project to provide data on environmental burdens and other stressors
- Identifies neighborhoods that experience the greatest cumulative impacts
- Provides strategies and actionable policy recommendations to guide decision making on issues such as land use/zoning, permitting, enforcement, transportation planning, and more

[Chicago Cumulative Impact Assessment, 2023 Summary Report](#)

Chicago EJ Index (28 indicators)



POLLUTION BURDEN CATEGORY	POPULATION CHARACTERISTICS CATEGORY
<p>Environmental Exposures Component: Represent pollutants people may come into contact with.</p> <ul style="list-style-type: none"> • Air toxics all-organ hazard index • Air toxics cancer risk • Childhood lead poisoning • Diesel Particulate Matter (PM) • Ozone • PM 2.5 • Toxic releases • Traffic volume and proximity 	<p>Sensitive Populations Component: Are those with physiological conditions resulting in increased vulnerability to pollution.</p> <ul style="list-style-type: none"> • Asthma • Coronary heart disease • Disability • Low birth weight • Old age (65 years and older) • Young age (Less than 18 years)
<p>Environmental Conditions Component: Represent proximity to locations of potentially toxic chemicals.</p> <ul style="list-style-type: none"> • Consequential facilities • Freight rail lines • Hazardous waste facilities • Polluted sites • Risk Management Plan sites • Toxic Release Inventory sites • Wastewater discharge 	<p>Socioeconomic Factors Component: Are community characteristics resulting in increased vulnerability to pollution.</p> <ul style="list-style-type: none"> • Housing burdened, low income • Less than high school education • Linguistic isolation • Low income • No health insurance • People of color • Unemployment

[Chicago Cumulative Impact Assessment, 2023 Summary Report](#)

City of Chicago HIA Basis to Deny Permit



Permit application to expand scrap metal recycling facility on Chicago's Southeast Side denied by Chicago Department of Public Health (CDPH).

- Decision based on 8-month Health Impact Assessment (HIA), guided by EPA. HIA found:
 - Potential adverse changes in air quality and quality of life would be caused by operations
 - Certain census block groups in the Southeast Side community rank among highest in health vulnerabilities in Chicago
 - Discovered instances of non-compliance with City health and environmental regulations
- CDPH regulations require that a company's compliance history be considered as part of its review of any recycling permit application.
- CDPH found expansion presents an unacceptable risk.

[Health Impact Assessment \(chicago.gov\)](https://www.chicago.gov)

Minnesota Pollution Control Agency (MPCA)



Minnesota statute will require the MPCA to conduct cumulative impacts analyses for certain air permit decisions:

- when permitting construction or expansion of a new facility or when reissuing an existing permit
- In environmental justice areas within the Twin Cities metro area, Duluth, Rochester, or on tribal lands

Requires MPCA to:

- develop criteria for requiring a cumulative impact analysis and its content
- define a substantial adverse environmental and health impact
- establish the structure of a community benefits agreement and process
- ensure permit applicants have access to social and environmental factors

MPCA - EJ Maps



Legislature defined an environmental justice area in Minnesota law

- The MPCA must use these criteria for their cumulative impact rulemaking - only impacts the Twin Cities seven-county metro area and the cities of Duluth and Rochester.

An environmental justice area is one or more census tracts meeting any of the following criteria:

- 40% or more of the population is nonwhite.
- 35% or more of the households have an income at or below 200% of poverty (\$60,000 for a family of four).
- 40% or more of the population over the age of five has limited English proficiency.
- Located within Indian Country.

MPCA - Community Benefit Agreement



If the permitted facility imposes a substantial adverse impact on the environment or health of residents in an environmental justice area, it may have to enter into a community benefit agreement:

- Developed with community input and participation,
- Typically require the operating facility to agree to specific defined benefits for the residents of the affected neighborhood.
- Cumulative impacts rulemaking will create a formal process for facilities and community members to participate in the creation of community benefit agreements.

Rulemaking is under development.



Feedback Requested/Prompt

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Gina Solomon and Members
of the Advisory Council

From: Philip M. Fine
Executive Officer/APCO

Date: July 29, 2024

Re: Deliberation on the Key Findings in Existing Research on Cumulative Impacts

RECOMMENDED ACTION

Deliberate, find agreement and potentially vote on the key findings from the review of the current literature on cumulative impacts.

BACKGROUND

The public health scientific literature shows that it is important to consider the social determinants of health when evaluating the health risks of exposure to environmental pollutants. Stressors arising from poverty and racism make individuals more susceptible to the health impacts of air pollution. Policy needs to reflect this fact. While there is additional work to be done to better understand and quantify the cumulative impacts of these stressors and multiple environmental exposures, there is enough information available now to start making policy changes.

DISCUSSION

The Advisory Council is asked to consider these four draft findings, informed by a review of the available literature:

1. Communities experiencing racism and poverty are more sensitive to the health impacts of air pollution.
2. There are likely synergistic impacts from multiple pollutant exposures.
3. The science is still in development and these impacts may not be fully quantifiable at this time, but some additional quantitative or semi-quantitative estimates would be helpful in policy development.
4. Even without full quantification, the science on these issues is strong enough to justify policy changes.

The Council will discuss the findings and determine if they support them. The Council may also want to make edits to these findings.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Philip M. Fine
Executive Officer/APCO

Prepared by: Greg Nudd
Reviewed by: Dr. Philip M. Fine

ATTACHMENTS:

1. Deliberation on the Key Findings in Existing Research on Cumulative Impacts Presentation



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

Deliberation on the Key Findings in Existing Research on Cumulative Impacts

Advisory Council
July 29, 2024

Greg Nudd
Deputy Executive Officer of Science and Policy
gnudd@baaqmd.gov

Action Requested by the Council

- The Council will deliberate, find agreement and potentially vote on the key findings or facts found in the literature related to Cumulative Impacts.

Proposed Key Findings

1. Communities experiencing racism and poverty are more sensitive to the health impacts of air pollution.
2. There are likely synergistic impacts from multiple pollutant exposures.
3. The science is still in development and these impacts may not be fully quantifiable at this time, but some additional quantitative or semi-quantitative estimates would be helpful in policy development.
4. Even without full quantification, the science on these issues is strong enough to justify policy changes.

Establishing Key Findings

- **Establishing key findings will help Advisory Council develop a framework for next steps / research.**
- Are there additional key findings to add/consider?
- Is there agreement on the key findings as written, any edits?
- If agreement, consideration of a formal vote.