



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

AGENDA: 4

Comparison of State Cumulative Impacts Assessment Programs

**Advisory Council Meeting
July 29, 2024**

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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 \(ny.gov\)](https://www.nysdec.gov/dec/24-1-permitting-and-disadvantaged-communities)

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		

¹ Census tracts are delineated per the US Census Bureau. For more information visit: <https://www.census.gov/programs-surveys/geography/about/glossary.html#>



**Department of
Environmental
Conservation**

NYSERDA

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 \(mass.gov\)](#)

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



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Deliberation on the Key Findings in Existing Research on Cumulative Impacts

**Advisory Council
July 29, 2024**

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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.