Climate Justice Working Group Draft DAC Criteria Update
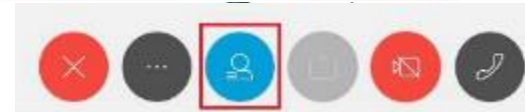
December 2, 2021

Meeting Procedures

Before beginning, a few reminders to ensure a smooth discussion:

- Working Group Members should be on mute if not speaking.

  - If using phone for audio, please tap the phone mute button.

  - If using computer for audio, please click the mute button on the computer screen (1st visual).

- Video is encouraged for Working Group members, particularly when speaking.

- In the event of a question or comment, please use the hand raise function (2nd visual). Click the participant panel button (3rd visual) for the hand raise function. Someone will call on members individually, at which time please unmute

- Please state your name before speaking

You'll see 🔇 when your microphone is muted

VM Valerie Milonovich

Attendee: 3 (0 displayed)

View all attendees...

Hand Raise

Welcome and Roll Call

Agenda for December 2

1. Timeline
2. Review Critical DAC Decisions
3. Eligible Investments
4. DAC Criteria
    1. Review Critical Questions
    2. Income-based Individual Criteria
    3. Map Review
5. Preparing for DAC Criteria Vote
    1. Vote Elements (Break down vote? Multiple scenarios?)
    2. What would you like to see/review before a vote?

Draft timeline before DAC vote

DAC Work	Proposed Dates
Critical questions • Individual criteria (income-based definition) • Low-income definition/threshold • DAC designation threshold (35%? 40%?) Review maps Questions before Vote	Dec 2 (10am-1pm)
Email DEC and/or Illume with questions	*Dec 2 – Dec 8*
Hear/discuss outstanding questions Maps review and Q&A Review "components" of proposed scenario	Dec 9 (2-4pm) (may extend 1 hr)
Vote on DAC scoring approach + scenario(s) to post for public comments	Dec 13 (1-4pm) (if needed, Dec 21/22)

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Critical Decisions

Progress Made	Critical Decisions to Make (Green = Decisions Made on Dec 2)

Progress Made

- ✓ 44 indicators in approach that balances three "pillars" of legislation

- ✓ Designate ~35-40% of state (leaning toward smaller list to start)

- ✓ Consider low-income households to fill gaps that geographic definition can't reach

- ✓ Iterative approach – Evaluate each year

Critical Decisions to Make (Green = Decisions Made on Dec 2)

? Add income-based individual criteria (yes/no)
5 yes; 1 tentative yes

? If added: How to define low-income households?
<60% SMI used by programs more; easier income verification.
<80% AMI more inclusive, but harder to implement.
Start with 60% SMI and re-assess after 1 year (some people still weighing)

? Designation threshold for geographic definition:
Keep at 35%

? Any additional rules?
Annually evaluate to see how investments are distributed geographically and to LMI households

Additional questions/considerations discussed Dec 2:
(1) Evaluate in a year to "add more guardrails" around individual definition
(2) In a year, look at share of investments meeting 40% goal from geographic DACs or LMI HHs outside of DACs
(3) After evaluation, consider geographic investment minimum

Eligible Investments

Investments & Benefits: Progress to Date

Agencies working on Investments and Benefits framework, expect to bring the plan to CJWG to socialize in December

Potential approach:

Focus on spending as primary metric, but measure and report on co-benefits

Work in Progress by Agencies

- Inventorying investments and programs and assessing capacity for agencies to geocode/report on investments

- Considering the geographic nature of investments (place – based vs statewide or systemswide investments)

- Developing reporting plan

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CJWG feedback we're considering

Spending as highest-priority and tangible metric

Want to see evidence that status quo is changing:

- Procurement/contracts (to MWBEs, grassroots/frontline and smaller organizations)

- Community-focused programs to most vulnerable communities

- Capacity building and improved engagement

Targeting Programs to Communities or Individuals

- Investments are typically structured as open-enrollment or competitive solicitations

- Clean energy investments made economy wide

- Agency investments will need to adapt to target projects/ opportunities within communities

- Income-based programs difficult to target to geographies

Income-Eligible Energy Programs	Approximate Annual Budget
Low Income Energy Assistance (HEAP, Utility Bill Assistance)	$800M
LMI Energy Efficiency (including WAP, NYSERDA, and utility funded programs)	$210M ($110M to Affordable Multifamily Energy)
Solar	$40M

Note: This table only reflects state-run income-eligible energy programs (that screen for household income). Other programs may serve LMI households but do not require proof of income.

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Questions for DAC Definition?

Given the "undecided" components of Investments or Benefits, what information might change your preferences for the DAC definition or scenarios?

DAC Criteria Progress and Options

Next Steps from Nov 17 Meeting

Geographic Designation 35% - 40%

Agency To Do:
What are the programs that leverage the different income tiers?

Geographic Designation 35%

+

Indiv Criteria (HH Income)

100% FPL

60% SMI

80% AMI

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What do we mean by "individual" criteria?

Geographic DACs

Low-income households
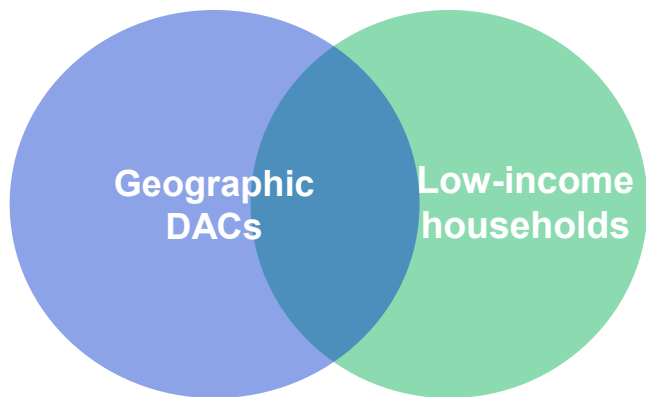
By "individual criteria" we're talking about the characteristics of the **people in the household**, not the building location

For example, low-income households are **people** with household incomes below a certain threshold

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Income-based individual criteria could fill gap in low-income households included in DAC designation

35% DAC Scenario	Number of Households (Estimate)[a]		Percentage of Households	
	Not in DAC	In DAC	Not in DAC	In DAC
All Households in New York	4,803,000	2,540,000	65%	35%
Households with income <80% Area Median Income	1,673,000	1,559,000	52%	48%
Households with income <200% FPL (Proxy for 60% State Median[b])	1,046,000	1,106,000	49%	51%
Households with income <100% Federal Poverty Line	443,000	578,000	43%	57%

[a] Household counts are from 5-year ACS data so may appear slightly lower than current Census counts.
[b] Agencies would implement as <60% of State Median Income. 200% Federal Poverty Line is ~$6,000 lower than 60% of State Median Income, so more households than shown here would be added.

Because low-income households live throughout the state, including moderate and high income areas, **no geographic definition can capture all low-income people or households**

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Define "low income" or "low-to-moderate-income" households to align with programs?
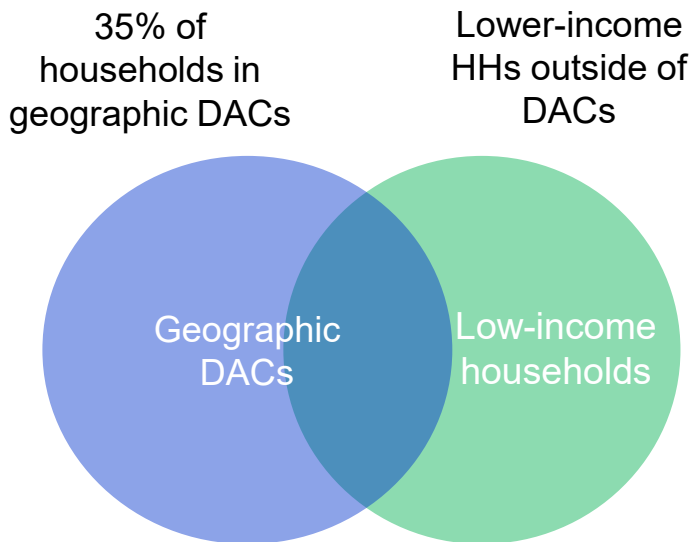
Poverty: Less than 100% of Federal Poverty Line
(Difficult to administer programs with this threshold)

Low income: Less than 60% State Median Income (SMI) or 150% of FPL (whatever is higher)
(HEAP, EmPower, Solar for All, Weatherization Assistance, utility bill assistance, and others)

Moderate income: Less than 80% of Area Median Income (and sometimes 80% state median income)
(Affordable housing and rent relief, some energy programs)

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How many households might be included under these income definitions?

35% of households in geographic DACs

Lower-income HHs outside of DACs

Geographic DACs

Low-income households

Income Threshold	Additional HHs outside of DACs (APPROXIMATE)	Total % of State (geographic + individual DAC)
Adding <100% FPL	+6%	41%
Adding <200% FPL (Proxy for 60% State Median)	+14%	49%
Adding <80% Area Median Income (AMI)	+23%	58%

*Agencies would implement as <60% of State Median Income. 200% Federal Poverty Line is ~$6,000 lower than 60% of State Median Income, so more households than shown here would be added.

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Where are the additional lower-income households?

Of all HHs in DACs (~2.5M), 59% live in NYC

Of all HHs in DACs + add'l low-income (~3.5M), 53% live in NYC

43% of all households live in NY, so 53-59% is more than proportional

Region	HHs in Geographic DAC (35% scenario)	HHs added through Individual Criteria (<200% FPL)	HHs in DAC *or* added by Individual Criteria	Regional share of Geographic DACs	Regional share of Additional HHs	Regional Share of All Eligible Households	COMPARISON: All Households in NY State
New York City	1,497,301	400,276	1,897,577	59%	38%	53%	43%
Long Island	119,001	110,533	229,534	5%	11%	6%	13%
Mid-Hudson	363,549	70,233	433,782	14%	7%	12%	11%
Western NY	137,836	110,237	248,073	5%	11%	7%	8%
Finger Lakes	140,000	78,435	218,435	6%	7%	6%	7%
Capital Region	85,001	68,575	153,576	3%	7%	4%	6%
Central NY	99,002	47,162	146,164	4%	5%	4%	4%
Southern Tier	41,696	67,421	109,117	2%	6%	3%	4%
Mohawk Valley	30,045	48,456	78,501	1%	5%	2%	3%
North Country	26,600	44,849	71,449	1%	4%	2%	2%
TOTAL	2,540,031	1,046,177	3,586,208	100%	100%	100%	100%

[a] Household counts are from 5-year ACS data so may appear slightly lower than current Census counts.
[b] Agencies would implement as <60% of State Median Income. 200% Federal Poverty Line is ~$6,000 lower than 60% of State Median Income, so more households than shown here would be added.

Region contains greater-than-proportional share of households

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Example income for two-person household

Location (Examples)	2-person Household:			
	100% of Federal Poverty Line*	200% of Federal Poverty Line	60% of State Median Income	80% of Area Median Income**
Albany-Schenectady-Troy, NY MSA	$17,420	$34,840	$40,954	$61,200
New York, NY HUD Metro Area	$17,420	$34,840	$40,954	$76,400
Buffalo-Cheektowaga-Niagara Falls, NY MSA	$17,420	$34,840	$40,954	$50,500
Nassau-Suffolk, NY Metro Area	$17,420	$34,840	$40,954	$75,950
Lewis County, NY	$17,420	$34,840	$40,954	$44,400
Clinton County, NY	$17,420	$34,840	$40,954	$46,000
Poughkeepsie-Newburgh-Middletown Metro	$17,420	$34,840	$40,954	$63,950

All income levels are household size. The Federal Poverty Line is lower, but the same nationally. Area Median Income is higher, and indexed to metropolitan areas or fair market rent areas.

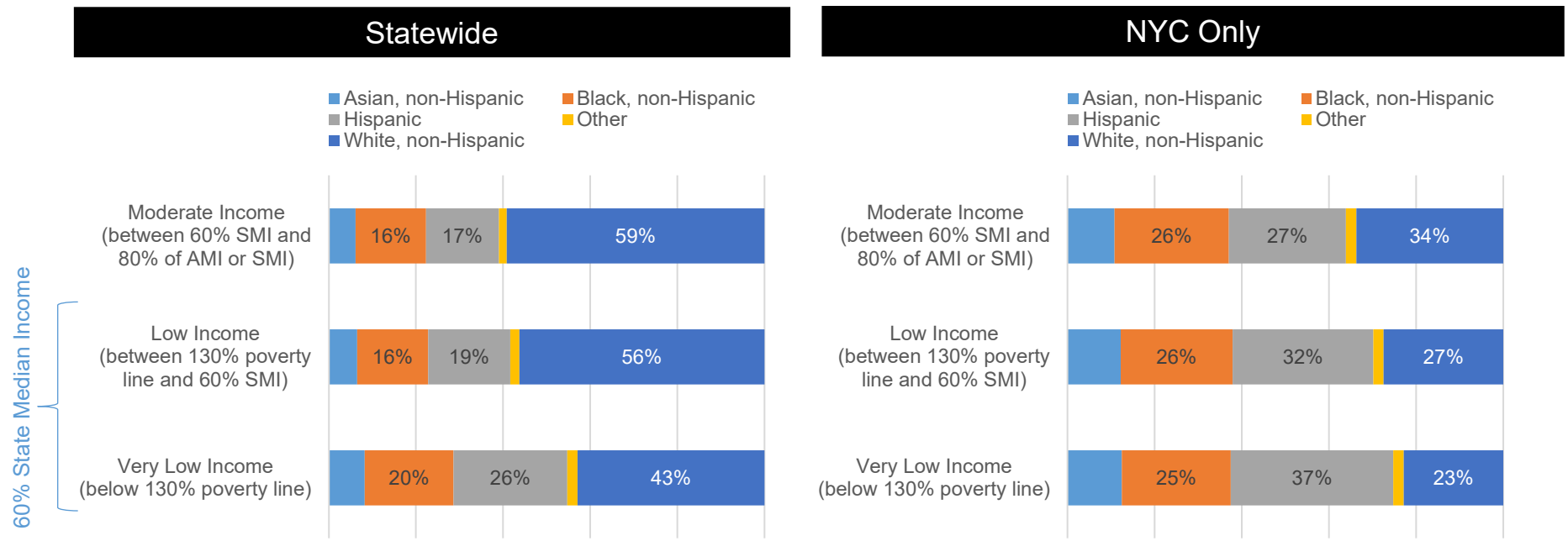2021 Federal Poverty Level. Source: https://www.healthcare.gov/glossary/federal-poverty-level-fpl/

2021 60% state median income): https://www.nyserda.ny.gov/All-Programs/EmPower-New-York/Eligibility-Guidelines

2021 AMI. Source: https://www.huduser.gov/portal/datasets/il/il21/Section8-IncomeLimits-FY21.pdf

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Race and Ethnicity by Income Threshold

| Statewide | | NYC Only |

Legend:
- Asian, non-Hispanic
- Black, non-Hispanic
- Hispanic
- Other
- White, non-Hispanic

Statewide

Moderate Income (between 60% SMI and 80% of AMI or SMI): 16%, 17%, 59%

Low Income (between 130% poverty line and 60% SMI): 16%, 19%, 56%

Very Low Income (below 130% poverty line): 20%, 26%, 43%

NYC Only

Moderate Income (between 60% SMI and 80% of AMI or SMI): 26%, 27%, 34%

Low Income (between 130% poverty line and 60% SMI): 26%, 32%, 27%

Very Low Income (below 130% poverty line): 25%, 37%, 23%

60% State Median Income

1 - Very Low Income - Household income at or below 130% of the HHS Poverty Guideline
2 - Low Income - Household income greater than 130% of the HHS Poverty Guideline but at or below 60% of the State Median Income
3 - Moderate Income - Household income above 60% of the State Median Income and below 80% of State Median Income or Area Median Income
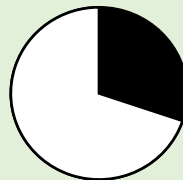
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Recap of Key Questions

How to define "lower income" for individual definition?
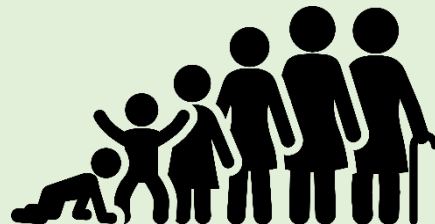
If we include households – What percentage of state should be designated a geographic DAC?

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Optional threshold for geographic investments?

California Climate Investments Priority Population Guidelines

A minimum of 25 percent of the proceeds be invested in projects that are located within and benefiting individuals living in disadvantaged communities;

An additional minimum of 5 percent be invested in projects that are located within and benefiting individuals living in low-income communities or benefiting low-income households statewide; and

An additional minimum of 5 percent that are located within and benefiting individuals living in low-income communities, or benefiting low-income households, that are within a ½ mile of a disadvantaged community.

25%

5%

5%

65%

65 percent of funds can be spent anywhere in the state, including in disadvantaged and low-income communities.

Framework for California Climate Investments (cap & trade funds).
https://www.caclimateinvestments.ca.gov/priority-populations
Does not apply to CPUC programs with are covered by different legislation.

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Updated Maps for 35% Scenario (Nov 17)

Coastal Long Island

35%
Scenario

Massena (North Country)

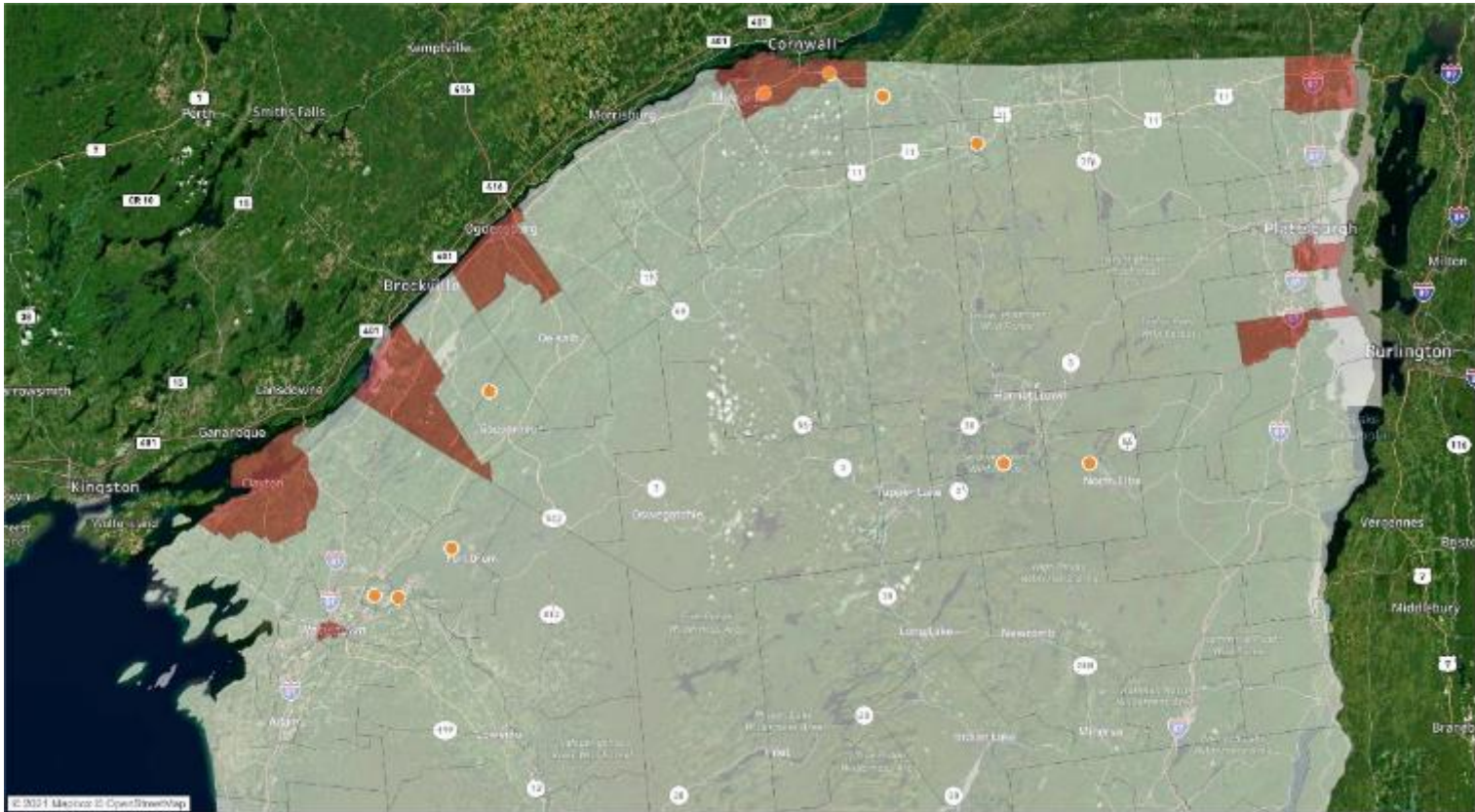35% Scenario

Model
DAC

CJWG Response
DAC
Non-DAC
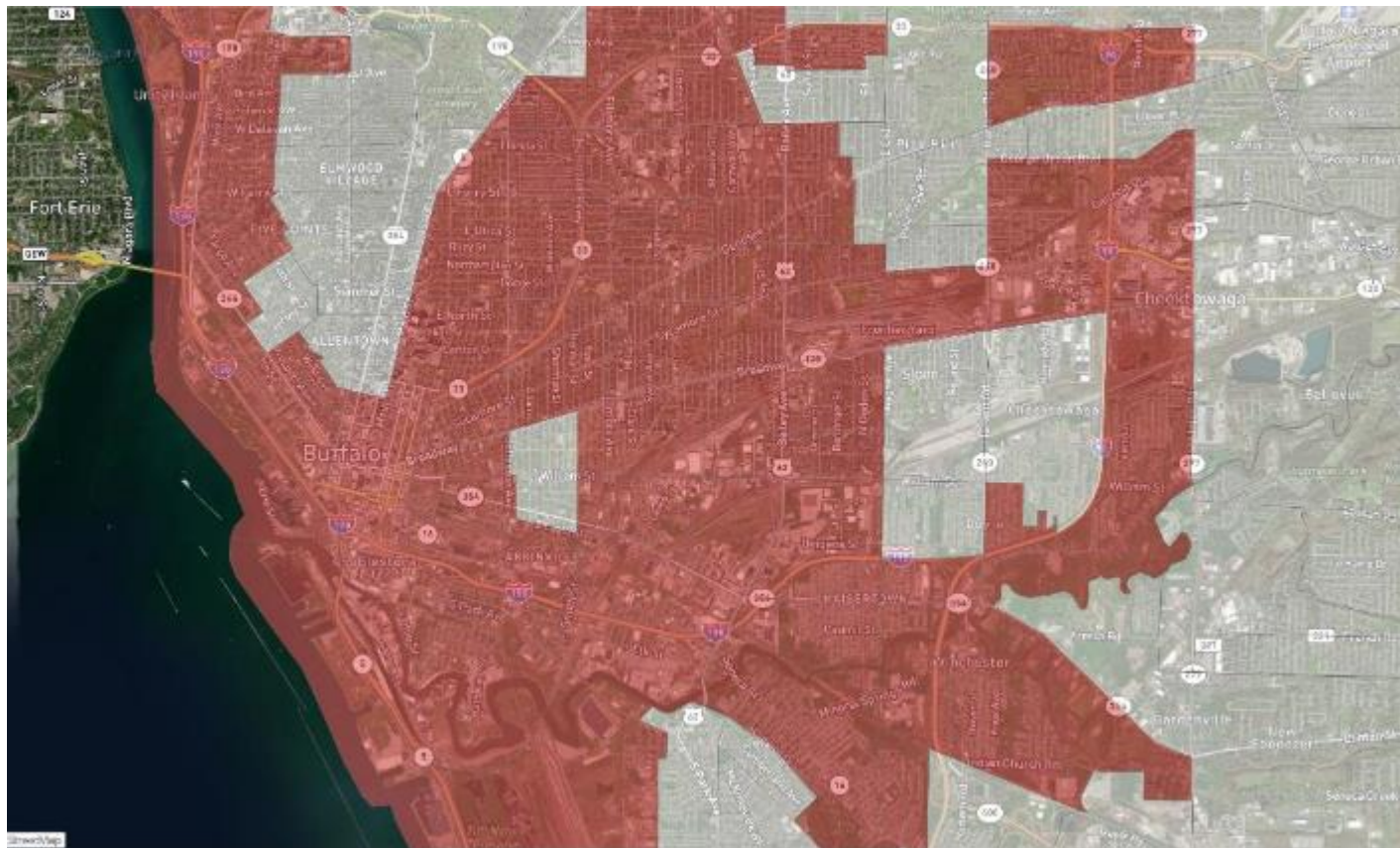
Buffalo

35%
Scenario

Model

DAC

CJWG Response

DAC

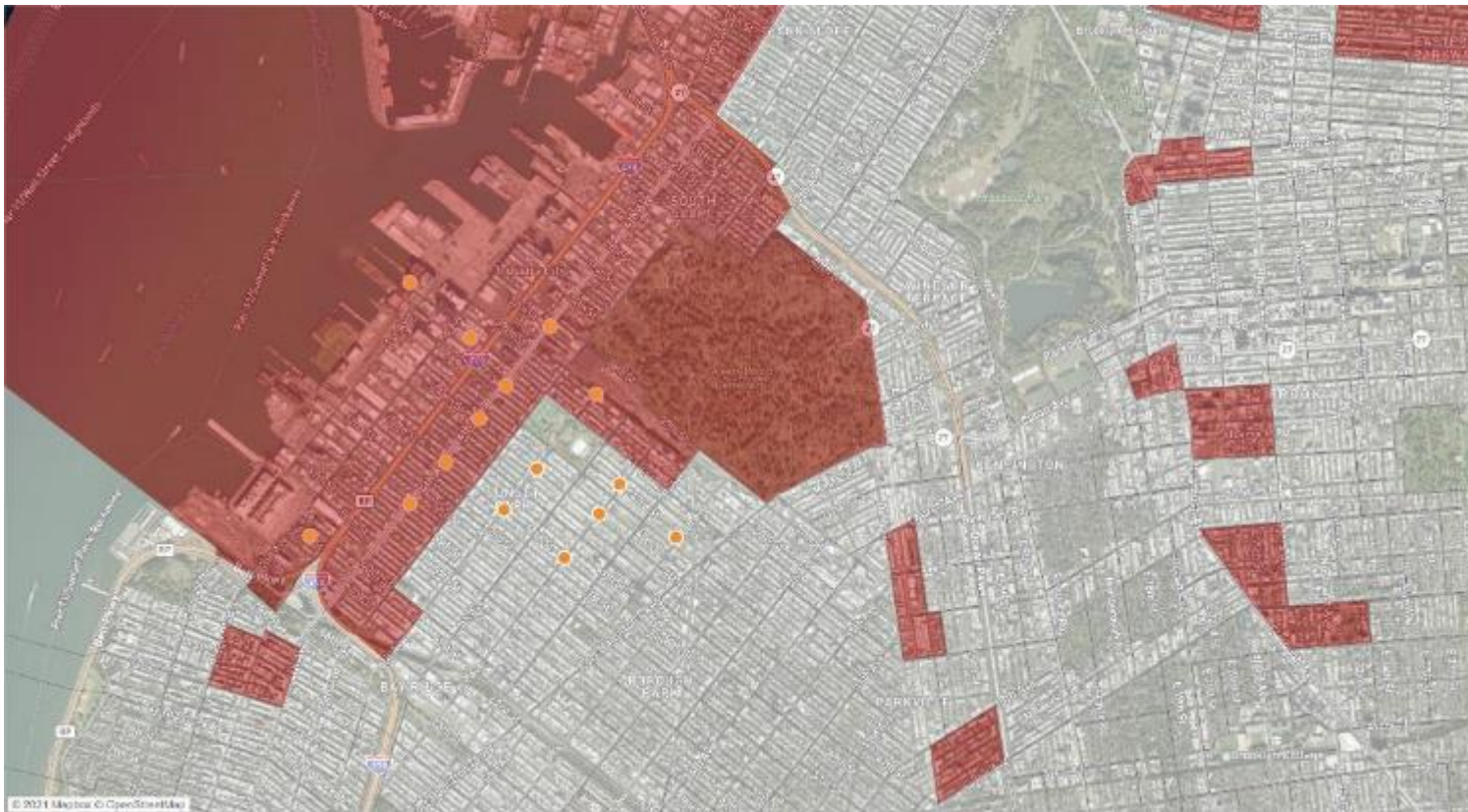Non-DAC

Sunset Park

35%
Scenario

Model
DAC

CJWG Response
DAC
Non-DAC

Hudson River area (higher flood risk)

35%
Scenario

Model
DAC

CJWG Response
DAC
Non-DAC
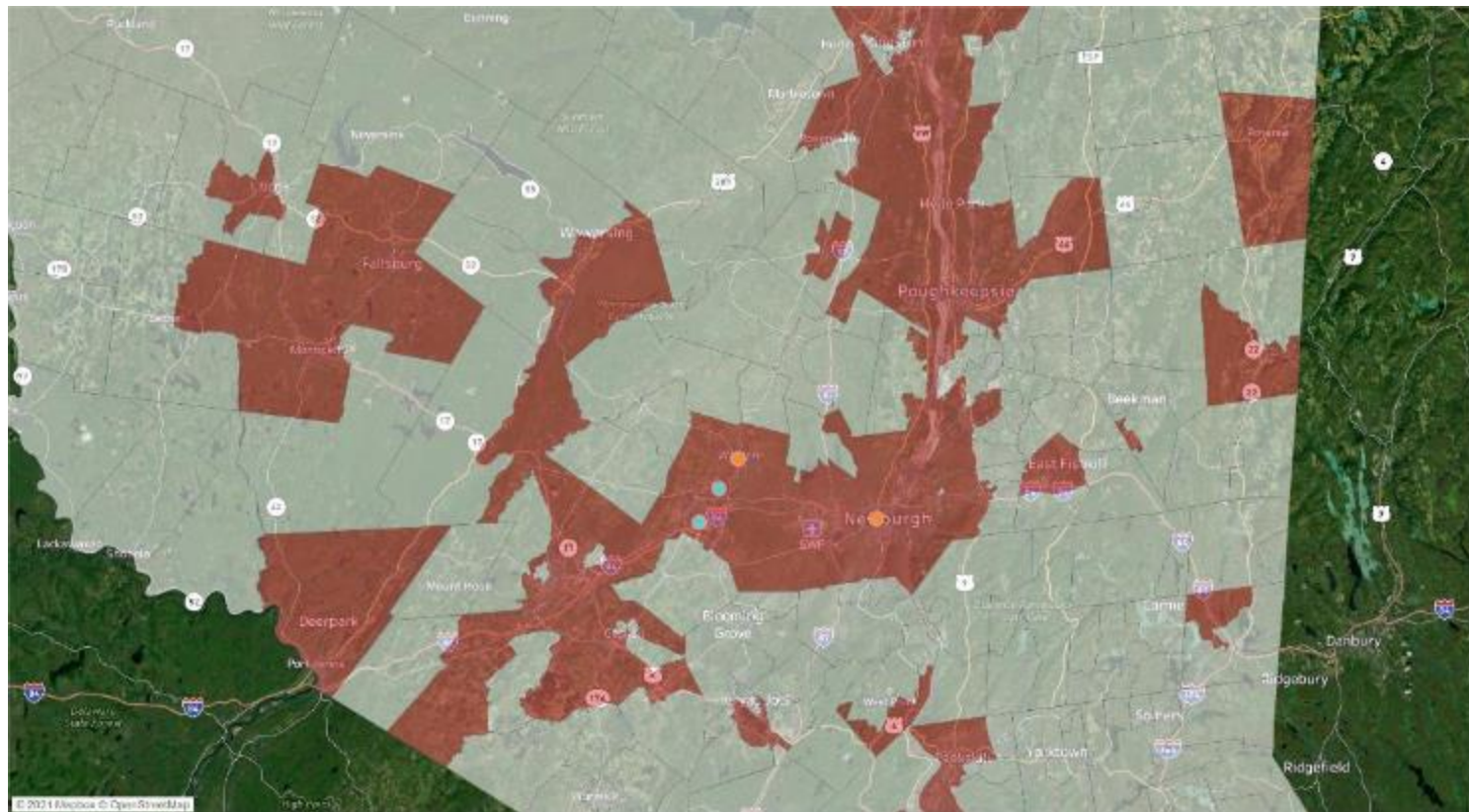
Preparing to Vote

Temperature Check before Voting

How are you feeling about?

- Indicators

- Scoring Approach

- Designation threshold

- Individual criteria

What materials/documentation would you like before voting?

Readily-available:

- Indicator list in PPT methodology

- Approach in PPT methodology

- Low-income definition in PPT methodology

Would it help to have….?

- Tableau map with "yes/no" DAC designation

- Export list of census tracts and DAC designation

What to post for public comment?

What scenario(s) to post for public comment?

Additional considerations or rules?

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Voting starts public process + annual review

Opportunity to adjust following public comments

Opportunity for annual review/updates

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Agenda for Dec 9

Questions from/since last meeting

Maps review!

Review/confirm the "components" of the DAC definition before the vote

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Updated Scenario Results (Nov 17)

Environmental Burdens and Climate Change Risks: Included Indicators

Potential Pollution Exposures

- Vehicle traffic density
- Diesel truck and bus traffic
- Particulate Matter (PM2.5)
- Benzene concentration
- Wastewater discharge

Land use and facilities associated with historical discrimination or disinvestment

- Remediation Sites (e.g., NPL Superfund or State Superfund/Class II sites)
- Regulated Management Plan (chemical) sites
- Major oil storage facilities (incl. airports)
- Power generation facilities
- Active landfills
- Municipal waste combustors
- Scrap metal processors
- Industrial/manufacturing/mining land use (zoning)
- Housing vacancy rate

Potential Climate Change Risks

- Extreme heat projections (>90° days in 2050)
- Flooding in coastal and tidally influenced areas (projected)
- Flooding in inland areas (projected)
- Low vegetative cover
- Agricultural land
- Driving time to hospitals or urgent/critical care

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Population Characteristics and Vulnerabilities: Included Indicators

Income	Race & Ethnicity	Health Impacts & Sensitivities	Housing, Mobility, Communications
• Pct <80% Area Median Income • Pct <100% of Federal Poverty Line • Pct without Bachelor's Degree • Unemployment rate • Pct Single-parent households	• Pct Latino/a or Hispanic • Pct Black or African American • Pct Asian • Pct Native American/ Indigenous • Limited English Proficiency • Historical redlining score	• Asthma ED visits • COPD ED visits • Heart attack (MI) hospitalization • Premature Deaths • Low Birthweight • Pct without Health Insurance • Pct with Disabilities • Pct Adults age 65+	• Pct Renter-Occupied Homes • Housing cost burden (rental costs) • Energy Poverty / Cost Burden • Manufactured homes • Homes built before 1960 • Pct without Internet (home or cellular)

Within this factor, both income metrics have 2x weight

Within this factor, Pct Latino/a and Pct Black have 2x weight

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As designed, DACs have far more, but not all, lower-income and BIPOC New Yorkers

35% Scenario

Indicator	Average in DACs	Average in Non-DACs
<80% AMI	62%	36%
<100% FPL	23%	10%
Black/African-American	29%	12%
Latino/Latina	32%	11%
Asian	8%	10%
Burden Score	38	30
Vulnerability Score	61	40

As designed, DAC tracts have far more lower-income, Black/African American and Latino/Latina households.

As designed, DACs have higher burdens and vulnerabilities scores

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Regional Distribution

Region	% Designated DAC
New York City	45%
Long Island	11%
Mid-Hudson	44%
Western NY	31%
Finger Lakes	36%
Capital Region	22%
Central NY	36%
Southern Tier	18%
Mohawk Valley	20%
North Country	15%
Total	**35%**

About 45% of NYC would be designated a DAC.

35% of tracts are designated. This is adjustable.

Region	% of NY Population
New York City	43%
Long Island	15%
Mid-Hudson	12%
Western NY	7%
Finger Lakes	6%
Capital Region	6%
Central NY	4%
Southern Tier	3%
Mohawk Valley	2%
North Country	2%
Total	**100%**

Rural Areas

35% Scenario

After adjusting the methodology for classifying low population tracts, the proportion of rural areas that are classified as DACs is approximately equivalent to the proportion of rural tracts in the state.

Percent of Region Designated

	Number of Tracts	Pct DACs
Rural	130	15%
Suburban	371	25%
Urban	1,221	48%

The proportion of rural and urban tracts designated as DACs is now very close to the proportion of tracts in the state that are rural and urban

Pct of Statewide Population

	Number of Tracts	Pct of Population
Rural	857	17%
Suburban	1,479	33%
Urban	2,570	49%

As a reference, about 17% of New York's population lives in rural census tracts

The NCES locale framework classifies all territory in the U.S. into four types of areas -- City, Suburban, Town, and Rural. Each area is divided into three subtypes based on population size (in the case of City and Suburban assignments) and proximity to urban areas (in the case of Town and Rural assignments). The classifications (350 KB) rely on standard urban and rural designations defined by the U.S. Census Bureau, and each type of locale is either urban or rural in its entirety.

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Comparison with groundtruthing

Groundtruthing is one of <u>multiple ways</u> we assess how well scores fit CJWG interests and legislated criteria – including theory, scientific review and other DAC-like metrics (e.g., PEJA).

Relatively few of New York's 4,918 tracts are groundtruthed. As such, this is not the key driver of our shifts in scenarios, but one of several ways we look at how the scenarios work.

Overall agreement

CJWG & Scenario both agree it's a DAC

CJWG & Scenario both think it's not a DAC

% Agreement	63%
% Agree - DAC	61%
% Agree – Non-DAC	65%

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DAC Criteria Legislative Review

Purpose of DAC definition

The [climate justice] working group, in consultation with the department, the departments of health and labor, the New York state energy and research development authority, and the environmental justice advisory group, will establish criteria to identify disadvantaged communities **for the purposes of co-pollutant reductions, greenhouse gas emissions reductions, regulatory impact statements, and the allocation of investments** related to this article

40% Benefits Goal

"State agencies, authorities and entities, in consultation with the environmental justice working group and the climate action council, shall, to the extent practicable, invest or direct available and relevant programmatic resources in a manner designed to **achieve a goal for disadvantaged communities to receive forty percent of overall benefits of spending** on clean energy and energy efficiency programs, projects or investments in the areas of housing, workforce development, pollution reduction, low income energy assistance, energy, transportation and economic development, provided however, that disadvantaged communities shall receive **no less than thirty-five percent** of the overall benefits of spending on clean energy and energy efficiency programs, projects or investments and provided further that this section shall not alter funds already contracted or committed as of the effective date of this section."

The CJWG has discussed that the 40% goal should be considered a minimum, and that non-DAC communities are still available for the remaining ~60% of funds.

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Legislated Criteria

"Communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate-income households."

§ 75-0111 (1) (c)

"Disadvantaged communities shall be identified based on geographic, public health, environmental hazard, and socioeconomic criteria, which shall include but are not limited to:

Areas burdened by cumulative environmental pollution and other hazards that can lead to negative public health effects.

Areas with concentrations of people that are of low income, high unemployment, high rent burden, low levels of home ownership, low level of educational attainment, or members of groups that have historically experienced discrimination on the basis of race or ethnicity.

Areas vulnerable to the impacts of climate change such as flooding, storm surges, and urban heat island effect."

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Opportunity for Annual Review

The [climate justice working] group will meet no less than annually to review the criteria and methods used to identify disadvantaged communities and may modify such methods to incorporate new data and scientific findings. The climate justice working group shall review identities of disadvantaged communities and modify such identities as needed

With the opportunity for annual review, these draft scenarios are a starting point

Appendix 1:
Slides from 10/19

A geographic definition will never capture all lower-income households

Numbers are from 10/19 scenario where 39% of state designated DAC

1. In combined scoring (all indicators) we don't capture 100% of lower-income communities.

   - Some (13%) are not included because environmental or climate burdens are relatively low

   - While removing environmental and climate indicators gets us closer, with 24 population & health indicators, even Scenario #2 doesn't capture all lower-income tracts

2. Any geographic-only scenario can't capture all low-income households

   - About ~38% (~387,000) households in poverty aren't in a DAC

   - Because they are dispersed throughout the state, including in higher-income areas, no geographic scenario can reach them all

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The majority of lowest-income tracts are included

Numbers are from 10/19 scenario where 39% of state designated DAC

Most, but not all, lower-income tracts are included.

In combined scoring (Scenario 1) some aren't included **if Environmental or Climate burdens are relatively low**.

In the lowest 20% of income levels (927 tracts):

- **87% of tracts are included as DACs (893 tracts)**

- If environmental & climate indicators were removed, 92% of lowest income tracts would be included

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Where are high-poverty households outside of DACs?

Numbers are from 10/19 scenario where 39% of state designated DAC

■ Pct of All Households who live in proposed DACs
■ Pct of High-Poverty HHs who live in proposed DACs

In rural areas, 19% of all households are in DACs, and 26% of high-poverty households are in DACs

(74% of high-poverty rural HHs are outside of DACs)
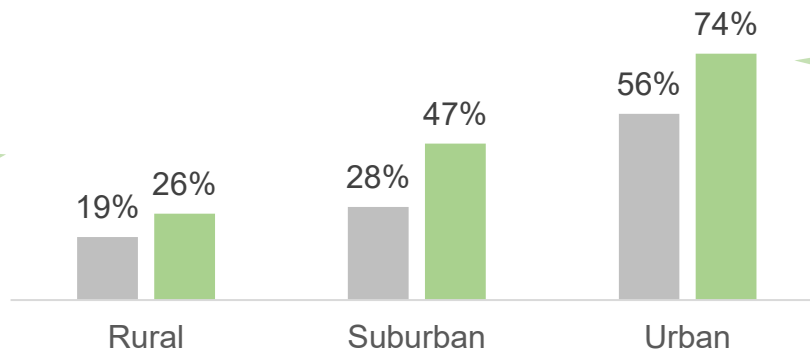
In urban areas, only ~26% of high-poverty households live outside of DACs

	Rural	Suburban	Urban
Pct of All Households	19%	28%	56%
Pct of High-Poverty HHs	26%	47%	74%

Source: 5-year American Community Survey data (2015-2019).
In rural areas, about 10% of households have income below federal poverty line (compared with 6% in suburban areas and 18% in urban areas)

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Individual Criteria

Justice40 and California include individuals in definitions and benefits framework

Justice40 includes individuals in community definition	**Community** – Agencies should define community as "either a group of individuals living in geographic proximity to one another, or a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions."[5]
California Climate Investments considers spending for "priority populations"	"Priority populations" are DACs, LMI communities and LMI households Low-income communities and households are those with incomes either at or below 80 percent of the statewide median or below a threshold designated as low-income by the Department of Housing and Community Development

https://www.acwa-us.org/wp-content/uploads/2021/07/epaEJMemo.pdf
http://www.caclimateinvestments.ca.gov/priority-populations

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Finding a balance

Is it better to ….

(1) Leave no DAC behind, and have communities that are less economically/socially vulnerable (or don't need as much help?)
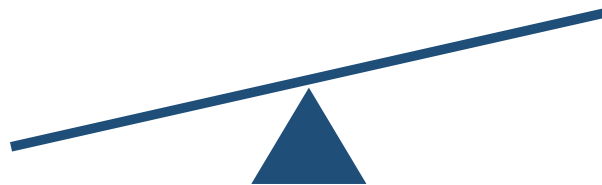
On October 19, several CJWG members preferred this option, as long as geographic definition could be coupled with lower-income households

(2) Restrict DACs to those most in need, and possibly miss some communities that are vulnerable

^ this may be mitigated with "individual" definition like household income

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While some BIPOC households live outside of 35% DAC scenario, Agencies cannot request/track/verify race/ethnicity data for all investments/programs (to support individual criteria)

35% DAC Scenario	Number of People (Estimate)[a]		Percentage of Population	
	Not in DAC	In DAC	Not in DAC	In DAC
All People in New York	12,732,000	6,841,000	65%	35%
Black or African American individuals	1,375,000	1,976,000	41%	59%
Hispanic or Latino/a individuals	1,379,000	2,326,000	37%	63%

[a] Population counts are from 5-year ACS data so may appear slightly lower than current Census counts.

A geographic definition captures the majority (59%-62%) of Black and Latinx individuals, though many live outside of DAC communities

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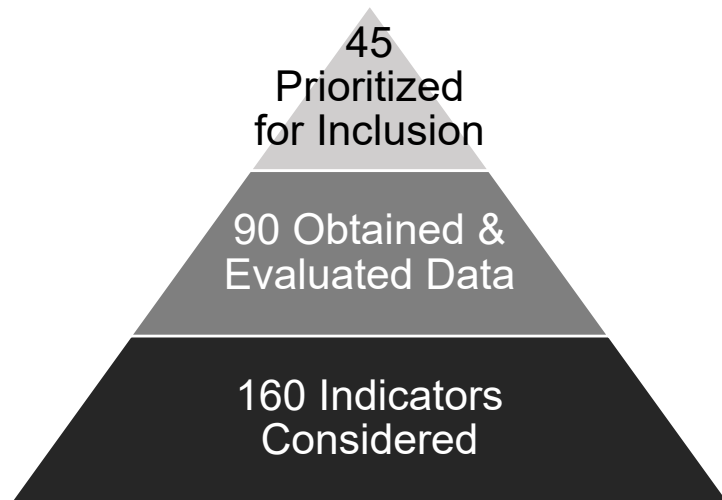
Appendix 2: Review of Approach

Inclusion Considerations

Inclusion decisions consider:

- Data coverage & granularity
- Data quality (e.g., measurement or sampling error)
- Modeled vs. directly-collected or measured data
- Correlations
- Technical guidance (e.g., DEC, DOH, DOS)

So far, we obtained & evaluated data for 90+ indicators (a) on their own, and (b) in combination

45 Prioritized for Inclusion

90 Obtained & Evaluated Data

160 Indicators Considered

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Multiple inputs to inform approach

Ongoing QA on indicators

Statistical Diagnostics (what's driving scores)

Working Group Discussion and Priorities

Choices we're making

Legislative requirements

Maps and Groundtruthing

Technical expert input

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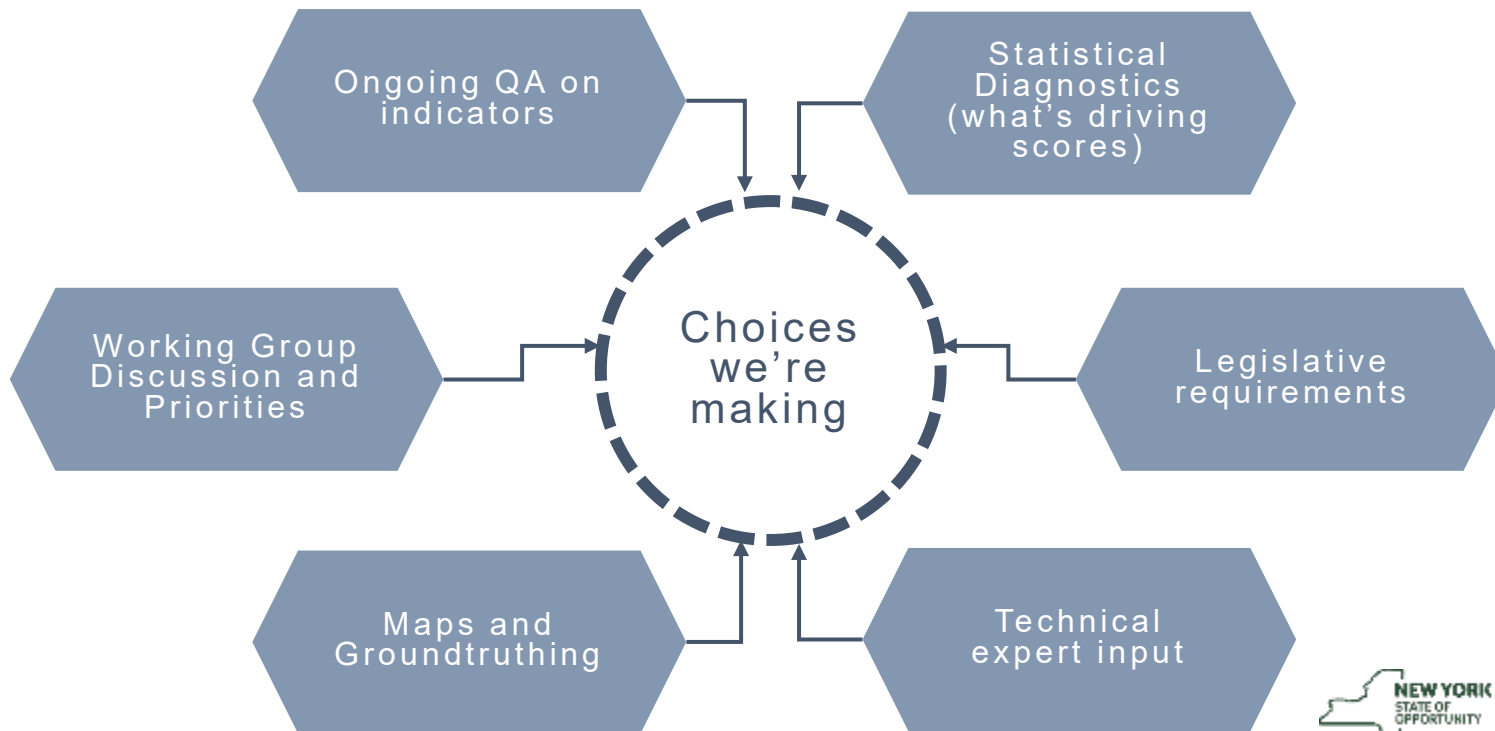
Framing Principles (from 9/29 meeting)

Don't want to leave people most at risk of climate crisis behind – Direct funding to people & groups who are most vulnerable

Income is important indicator of ability to respond or adapt

Want agencies to design and target efforts geographically – to community-scale (or larger) outreach and investments

Initial investments should go to the hardest-hit communities first

Consider who is least able to participate in transition to clean energy and clean energy economy

Beware unintended consequences – Don't want to create disadvantaged communities (e.g., by re-directing funding too much toward some communities)
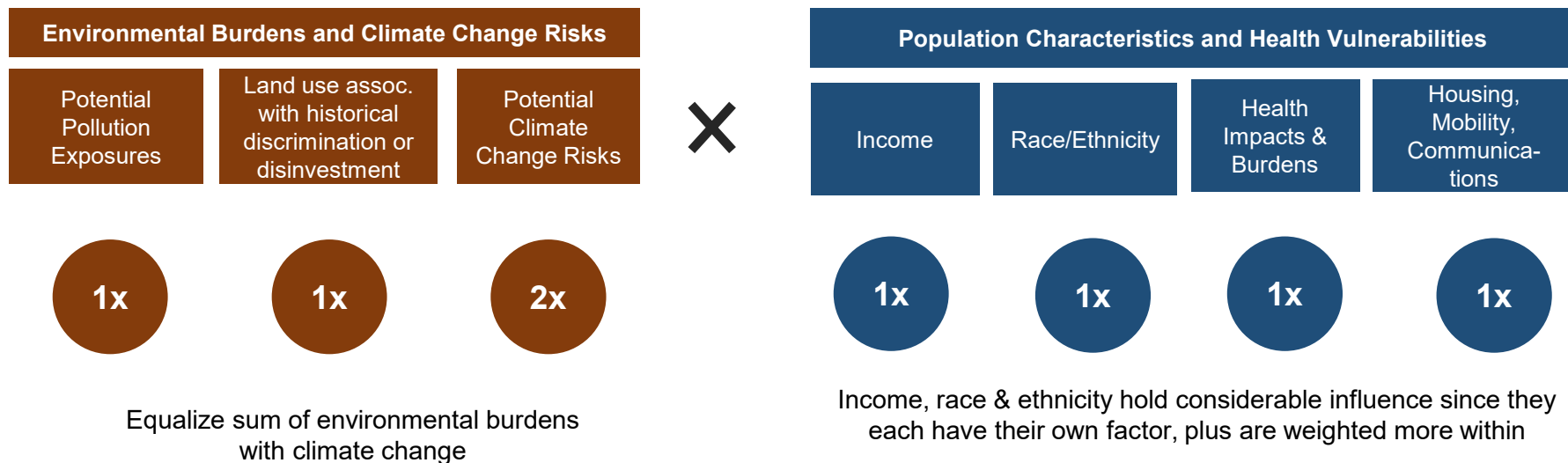
Potential Approaches:

Start with smaller set of DACs and add later (would a large set dilute resources?)

Tiered approach – DAC plus LMI communities or households?

Iterative approach – Evaluate each year

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Balanced set of indicators and weighting

Environmental Burdens and Climate Change Risks		
Potential Pollution Exposures	Land use assoc. with historical discrimination or disinvestment	Potential Climate Change Risks
1x	**1x**	**2x**

X

Population Characteristics and Health Vulnerabilities			
Income	Race/Ethnicity	Health Impacts & Burdens	Housing, Mobility, Communica-tions
1x	**1x**	**1x**	**1x**

Equalize sum of environmental burdens with climate change

Income, race & ethnicity hold considerable influence since they each have their own factor, plus are weighted more within

Note: Since Burdens and Vulnerabilities are multiplied, they have equal influence, regardless of the # of factors or how you weight things within them.

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Environmental Burdens and Climate Change Risks: Included Indicators

Potential Pollution Exposures

- Vehicle traffic density Diesel truck and bus traffic
- Particulate Matter (PM2.5)
- Benzene concentration
- Wastewater discharge

Land use and facilities associated with historical discrimination or disinvestment

- Remediation Sites (e.g., NPL Superfund or State Superfund/Class II sites)
- Regulated Management Plan (chemical) sites
- Major oil storage facilities (incl. airports)
- Power generation facilities
- Active landfills
- Municipal waste combustors
- Scrap metal processors
- Industrial/manufacturing/mining land use (zoning)
- Housing vacancy rate

Potential Climate Change Risks

- Extreme heat projections (>90° days in 2050)
- Flooding in coastal and tidally influenced areas (projected)
- Flooding in inland areas (projected)
- Low vegetative cover
- Agricultural land
- Driving time to hospitals or urgent/critical care

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Population Characteristics and Vulnerabilities: Included Indicators

Income	Race & Ethnicity	Health Impacts & Sensitivities	Housing, Mobility, Communications
• Pct <80% Area Median Income	• Pct Latino/a or Hispanic	• Asthma ED visits	• Pct Renter-Occupied Homes
• Pct <100% of Federal Poverty Line	• Pct Black or African American	• COPD ED visits	• Housing cost burden (rental costs)
• Pct without Bachelor's Degree	• Pct Asian	• Heart attack (MI) hospitalization	• Energy Poverty / Cost Burden
• Unemployment rate	• Pct Native American or Indigenous	• Premature Deaths	• Manufactured homes
• Pct Single-parent households	• Limited English Proficiency	• Low Birthweight	• Homes built before 1960
	• Historical redlining score	• Pct without Health Insurance	• Pct without Internet (home or cellular)
		• Pct with Disabilities	
		• Pct Adults age 65+	

Within this factor, both income metrics have 2x weight

Within this factor, Pct Latino/a and Pct Black have 2x weight

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Why Two Income Measures?

Both included income metrics,<100% of Federal Poverty Line and <80% of Area Median Income, are indexed to household size.

Federal Poverty Line: Lower threshold, but the same nationally. Inlcuded to find deeper entrenched poverty.

Area Median Income: Higher threshold, and indexed to metropolitan areas or fair market rent areas. Included to find low-to-moderate income (LMI).

Example Income Thresholds

Both included income metrics,<100% of Federal Poverty Line and <80% of Area Median Income, are indexed to household size. The Federal Poverty Line is lower, but the same nationally. Area Median Income is higher, and indexed to metropolitan areas or fair market rent areas.

Location (Examples)	2-person household	
	100% of Federal Poverty Line*	80% of Area Median Income**
Albany-Schenectady-Troy, NY MSA	$17,420	$61,200
New York, NY HUD Metro FMR Area	$17,420	$76,400
Buffalo-Cheektowaga-Niagara Falls, NY MSA	$17,420	$50,500
Nassau-Suffolk, NY HUD Metro FMR Area	$17,420	$75,950
Lewis County, NY	$17,420	$44,400
Clinton County, NY	$17,420	$46,000
Poughkeepsie-Newburgh-Middletown, Metro	$17,420	$63,950

*2021 Federal Poverty Level. Source: https://www.healthcare.gov/glossary/federal-poverty-level-fpl/
** 2021 AMI. Source: https://www.huduser.gov/portal/datasets/il/il21/Section8-IncomeLimits-FY21.pdf

Review: Combining Data

Group Indicators into Factors

Exposures Climate Discriminatory Land Use

Health Socio-demographics Housing & Mobility

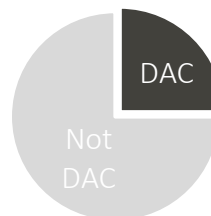Combine Factors into Components

Burdens Score ✕ Vulnerabilities Score

Calculate Statewide & Regional Scores

Designate DACs based on their relative score

DAC

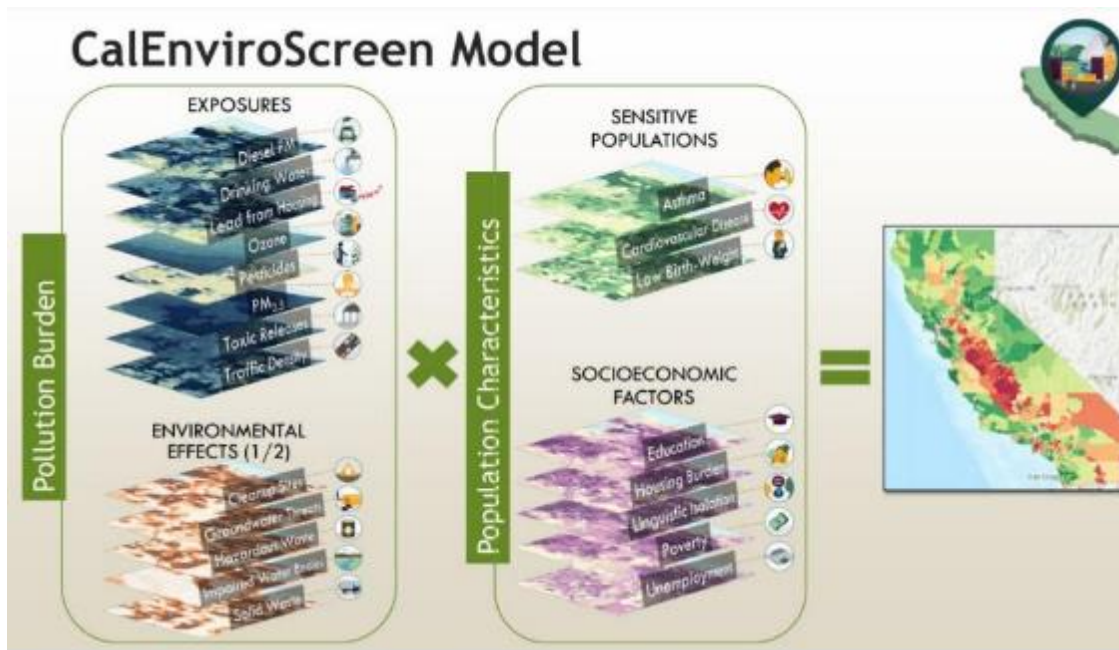Not DAC

Combining Factor Scores

Similar to California's CalEnviroScreen approach, we multiply Environmental/Climate Burdens by Population/Health to reflect the "effect modifier" relationship wherein sociodemographic characteristics and/or health sensitivities may exacerbate or mitigate place-based burdens/risks:

Environmental Burdens and Climate Change Risks		
Potential Pollution Exposures	Land use assoc. with historical discrimination or disinvestment	Potential Climate Change Risks

×

Population Characteristics and Health Vulnerabilities			
Income	Race/Ethnicity	Health Impacts & Burdens	Housing, Mobility, Communications

Factor scores are weighted and added before multiplying:

$$[1x + 1x + 2x] \times [1x + 1x + 1x + 1x]$$

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Note: Since Burdens and Vulnerabilities are multiplied, they have equal weight, regardless of how you weight things within them.

Multiply to represent that Vulnerabilities serve as Effect Modifiers to Burdens

https://oehha.ca.gov/media/downloads/calenviroscreen/presentation/calenviroscreen40webinarslidesd12021.pdf

Consider Statewide <u>and</u> Regional ranking to designate DACs

Statewide Score
How each community ranks (on all of the data) within the **entire** state

Regional Scores
How each community ranks (on all of the data) in NYC and Rest-of-State separately

NYC Scores — top 26%

Statewide Scores — top 26%

Rest-of-State — top 26%

35% Designated

Designate communities that score in either top 25% statewide OR regionally

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Designate ≤ 40% of state as DACs

Designate *less* than 40%

Designate *about* 40%

Designate *more* than 40%

Pros: May encourage proportionally *more* money to go to DACs
Room to expand later
Cons: Leaves out some LMI and socially-vulnerable DACs

Pros: Captures more groundtruthed and LMI DACs

Cons: Still may not capture some LMI and socially-vulnerable DACs

Pros: Captures more groundtruthed and LMI DACs

Cons: Proportion of DACs is less than the funding goal
Difficult to remove DACs later

On 10/19 several people expressed interest for designating less than 40% to drive greater-than-proportional benefits

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Automatically including 19 Tribal and Indigenous Areas

Census Tract	County	Census Place Name	Nation	Land	Pct of Tract Land Area
36009940200	Cattaraugus		Seneca Nation	Reservation	100%
36029940100	Erie		Tonawanda Seneca	Reservation	100%
36003940200	Allegany		Seneca Nation	Reservation	100%
36033940000	Franklin	Akwesasne CDP	Saint Regis Mohawk Tribe	Reservation	100%
36067940000	Onondaga	Nedrow CDP	Onondaga Nation	Reservation	99%
36037940100	Genesee		Tonawanda Seneca	Reservation	99%
36063940001	Niagara		Tuscarora Nation	Reservation	99%
36009940300	Cattaraugus	Salamanca city	Seneca Nation	Reservation	99%
36009940000	Cattaraugus		Seneca Nation	Reservation	99%
36029940000	Erie		Seneca Nation	Reservation	99%
36063940100	Niagara		Tonawanda Seneca	Reservation	98%
36013037600	Chautauqua	Forestville CDP	Seneca Nation	Reservation	6%
36103159511	Suffolk	Mastic CDP	Unkechaug Nation	Reservation	6%
36103190705	Suffolk	Tuckahoe CDP	Shinnecock Nation	Reservation	6%
36099950300	Seneca	Seneca Falls CDP	Cayuga Nation	Owned	13%
36053030103	Madison	Oneida city	Oneida Nation	Owned	10%
36053030300	Madison	Canastota village	Oneida Nation	Owned	7%
36063021100	Niagara	Niagara Falls city	Seneca Nation	Owned	7%
36053030600	Madison	Munnsville village	Oneida Nation	Owned	6%

Tribal and Indigenous Nation Lands if:
- Tract contains >5% federally-designated reservation territory (Source: Census)
- Tract contain >5% of nation-owned land (Source: NYS parcel ownership data)

Low Population Areas

138 of 4,918 tracts (2.8%) have populations that are too low for reliable people & household data (<300 households or <500 people)

This includes sparsely-populated areas as well as group quarters like correctional facilities where there is no "household" data on things like household income

We **include them on the basis of Environmental/Climate Burdens alone** (if their Burdens score fall in the top ##% statewide or top ##% for NYC or Rest-of-State) (using same designation threshold as overall scoring)

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Annual Update Process

Document what CJWG and staff team want to improve (future data collection or advanced analysis)

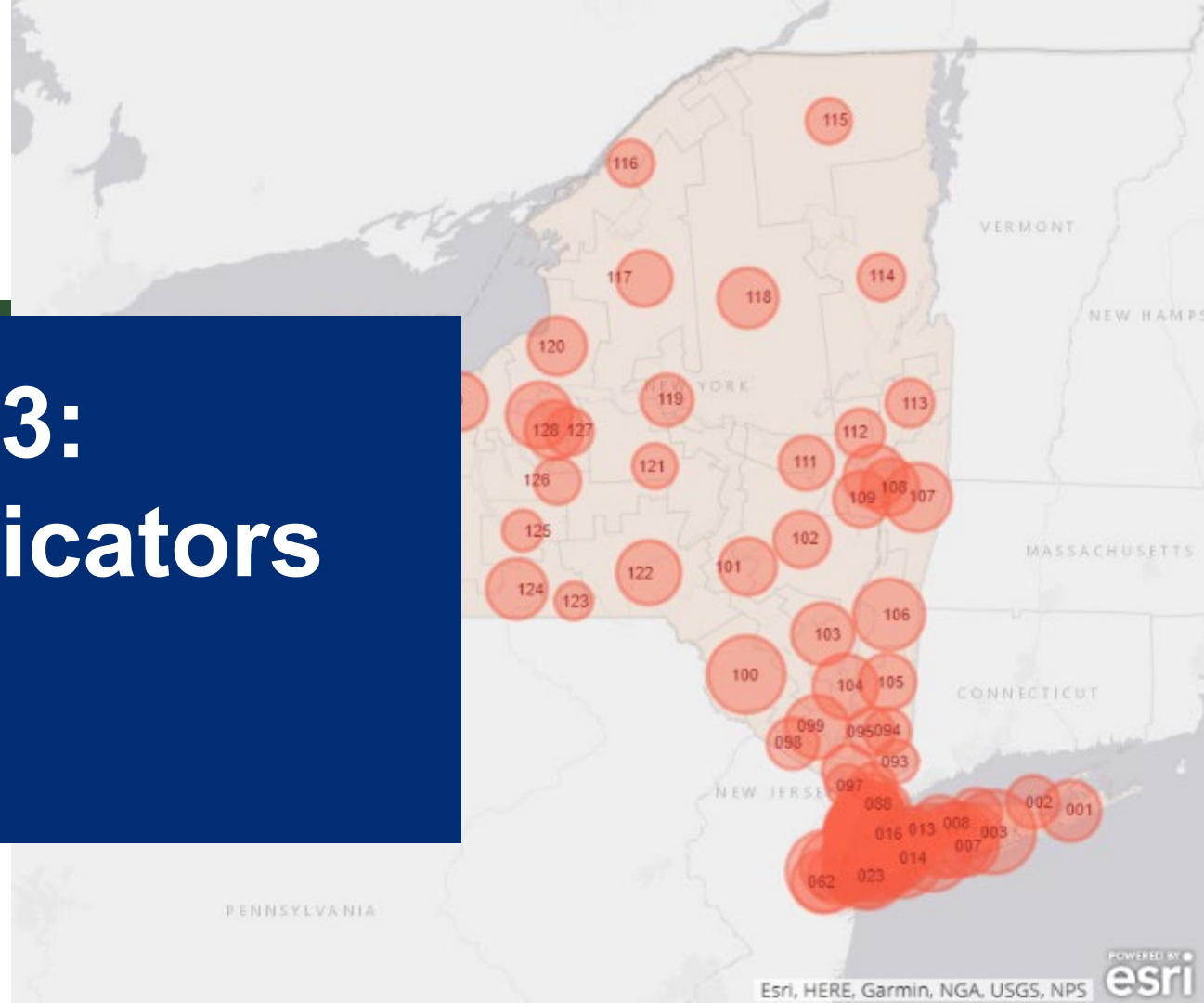Additional data needs may emerge from public comment – Save time/budget to address

CJWG can recommend annual process to review and improve indicators *(← what do you recommend?)*

Legislation allows for continuous improvement

We are cataloging recommendations for data to gather and consider in the future.

Appendix 3:
Health Indicators

Considerations for Health Indicators

Link to Environmental Factors

- Environmental (geographic) component of health outcomes

  - For chronic conditions, exposures may have occurred many years prior and/or in places other than where the health outcome is recorded

  - Environmental factors exacerbate or trigger acute events for some conditions more than others (e.g., asthma, MI)

Data Availability and Granularity

- NYSDOH only "sees" a health outcome when it appears in a dataset - Births, deaths, ED visits, hospitalizations, surveys, registries

- Need higher event frequency for stable/reliable rates and ability to share data (confidentiality)

- Data availability for small geographies in time for Draft DAC Scenarios

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Potential Health Indicators

Included Indicators

- Asthma ED visits
- COPD ED visits
- Heart attack (MI) hospitalization
- Premature Deaths
- Low Birthweight
- Pct without Health Insurance
- Pct with Disabilities
- Pct Adults age 65+
- Distance to ED/critical/urgent care

Considered but Not Included

- COVID-19
- Heat stress
- Cancer
- Diabetes
- Pre-term births
- Mental Health
- Childhood Lead Exposure

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| Potential Indicator	Rationale for Inclusion
Asthma ED visits	Strong scientific literature associating asthma with environmental exposures. Managing asthma is linked with socioeconomic status and healthcare access.
COPD ED visits	COPD is considered a sub-set of respiratory disease, associated with air toxics as well as personal behaviors. We considered de-prioritizing though COPD outcomes are influenced by access to healthcare.
Heart attack (MI) hospitalization	Cardiovascular disease in general (not MI hospitalization specifically) increasingly associated with air pollution and criteria pollutants. However, MI hospitalization data is/was readily-available, though less stable at the sub-county level.
Low Birthweight	Broadly represents maternal health, which is a factor of environmental, social, and structural policies. Data is available at the sub-county level.
Premature Deaths	Broadly represents deaths due to cancer, diabetes, heart disease, lung disease, accidents, homicides, etc., to capture systemic disadvantage. Could also be indicator of avoided deaths resulting from environmental/health policy changes
Pct with Disabilities	Represents susceptibility to power outages and emergency situations due to extreme weather events
Pct without Health Insurance	Represents access to screening, ability to manage conditions, affordable car. May indicate structural and socioeconomic disadvantage.
Pct Adults age 65+	Represents susceptibility to power outages and emergency situations due to extreme weather events.

Indicator	Rationale for Exclusion	Potential Correlates (among included indicators)
COVID-19	Data not yet available; cases under active investigation; testing rates not equivalent across the state and through course of the pandemic	Socioeconomic status (SES), race/ethnicity
Heat Stress	ED visits or hospitalization either unavailable or unreliable at sub-county level. Heat deaths too small to report at sub-county level.	High temps, vegetative cover & road density (urban areas), housing quality, health vulnerabilities
Cancer	Cancers is multifactorial and represent a range of diseases. Some cancers are more vs. less environmentally or spatially-related.	Health insurance, SES (for certain types)
Diabetes	Hard to capture in NYSDOH datasets that contain ED visits & hospitalization. Clinic/pharmacy data would better capture disease. Also, diabetes may have a weaker environmental component.	Premature deaths, sociodemographic correlates and health insurance
Pre-term births	Generally captured by low birthweight	Low birthweight births
Mental Health	Mental health not well-captured in DOH data because they have ED visits & hospitalization; would only see co-occurring ICD-9 codes. Clinic/pharmacy data would better capture disease.	
Childhood Lead Exposure	Exposure data is small/unreliable at sub-county level.	Age of home, renters & rental costs, income

Other indicators may capture risk factors for health outcomes

- Environmental exposures

- Potentially (or formerly) hazardous facilities

- Housing conditions

- Socioeconomic indicators

- Health insurance

- Language barriers

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Indicator Limitations
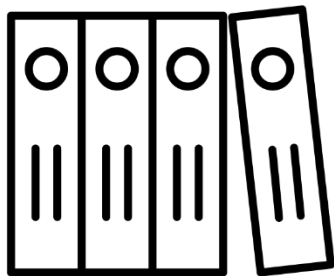
Documentation (for public comment) will discuss:

- Indicators/data we **considered** but did not pursue, and why

- Data limitations, including Census (e.g., not specific enough to race/ethnicity), public health data (e.g., limited data @ sub-county level), and more

- Recommendations for future/additional community-level data (e.g., migration)

- Potential for periodic indicator review/updates