October 18, 2016

Honorable Matt Rodriquez, Secretary
California Environmental Protection Agency (CalEPA)
1001 I Street
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Dr. Lauren Zeise, Acting Director
Office of Environmental Health Hazard Assessment (OEHHA)
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Dear Secretary Rodriquez and Director Zeise:

I am writing to provide comments on the Office of Environmental Health Hazard Assessment's (OEHHA's) draft version 3.0 of CalEnviroScreen (CESv3). CESv3 is a draft, updated version of a statewide screening tool used to identify disadvantaged communities. CalEnviroScreen (CES) has been adopted for use in prioritizing investments of Cap & Trade auction proceeds as prescribed by Senate Bill 535 (SB 535; De León 2012) and subsequent legislation.

I would first like to thank you and your staff for your work on this screening tool, which has the laudable intent of helping to identify disadvantaged communities within the State of California. Throughout the process, your staff has expressed the intent to ensure that disadvantaged communities throughout the state are accurately identified. I would also like to thank you and your staff for soliciting public input prior to adopting version 3 of the CES screening tool.

While we appreciate your intent to identify disadvantaged communities throughout the state, the Bay Area Air Quality Management District continues to have grave concerns about how CES is configured and applied. These concerns have only intensified with the release of version 3. We list these serious concerns below and conclude with suggestions for improvement.

Bay Area Air District Concerns

The Air District strongly supports prioritizing funding to disadvantaged communities. In fact, we have rigorously identified disadvantaged areas within our Community Air Risk Evaluation (CARE) program, through a process that worked directly with community groups. For many years, our agency has prioritized local funding to these areas.

Misapplication of a Screening Tool

While we support the goals and good intentions of CESv3, we strongly object to the use of this screening tool, in its current configuration, to provide a *single* authoritative *definition* of the locations of disadvantaged communities within the state. The updates included within CESv3 have not moved the CES tool closer to a providing a single definition of disadvantage. The original intent of CES was to provide a screening method to help identify disadvantaged communities. In fact, a CES technical report states that the database of indicators contained within CES can be used in different ways to identify community disadvantage.[1] This flexibility recognizes the fact that communities are disadvantaged in different ways.

The current scoring method used in CESv3, in combination with a top 25% cutoff, identifies only a limited set of the various ways that communities can be disadvantaged. With the scoring method it currently employs, CESv3 may identify some types of disadvantage, but frankly overlooks others that are arguably more important. Without considering its suitability to specific applications and without a systematic evaluation of its performance in different regions, CESv3 is simply not able to assume the role of providing a statewide authoritative definition of community disadvantage.

Overlooked Communities

At the Air District we are very concerned that the proposed CESv3, like the version currently in use (CESv2), fails to identify many Bay Area communities that are clearly disadvantaged. Communities with some of the highest poverty rates and greatest health burdens in the entire state are not identified. For example, the current approach for scoring CESv3 indicators fail to identify:

- Portions of West Oakland adjacent to the Port of Oakland,
- Portions of East Oakland adjacent to the I-880 freeway.
- Portions of Richmond,
- Portions of and areas adjacent to Pittsburg and Antioch, and
- Portions of San Jose.

In CESv2, only 4% of the census tracts identified as disadvantaged statewide (top 25% of scores) were in the Bay Area. The updated version continues to overlook disadvantaged communities and, in fact, overlooks more Bay Area communities than

[1] *"[CES] can and should be tailored to specific uses by modifying the geographic units of analysis; adding, removing, or improving specific indicators."* Cushing et al., *Am J Public Health.* 2015; 105:2341–2348. doi:10.2105/AJPH.2015.302643

the previous version. In CESv3, fewer than 3% of disadvantaged census tracts are in the Bay Area[2].

To be certain, the Bay Area is not the only region of the state with overlooked communities. Many poor rural communities have also been overlooked. For example, Lake County in rural northern California has the highest death rate of any county in the state[3]. Lake County residents recently suffered an extreme wildfire disaster that destroyed many homes. Disasters such as this have been predicted as an outcome of drought and extreme heat due to climate change in California. Cancer, stroke, substance abuse, accidents, heart disease, liver failure, suicide, and gun-related injuries and death all occur at rates that are high compared to the rest of the state, reflecting the county's rural culture and geography, as well social determinants like poverty and unemployment. No census tracts in Lake County are identified as disadvantaged in CESv3.

Adapt the Tool to the Purpose

Given that CES is used to determine eligibility for Cap & Trade funds set aside for disadvantaged communities, the tool should be revised to consider climate impacts and the health impacts from Cap & Trade emissions sources. Assembly Bill 197 (E. Garcia, 2016) directs the California Air Resources Board to consider the social costs of the emissions of greenhouse gases and prioritize specified emission reduction rules and regulations. It further recognizes disadvantaged communities "as those communities [that] are affected first, and most frequently, by adverse impacts of climate change, including increased frequency of extreme weather events such as drought, heat, and flooding." CESv3 lacks a single measure of climate impact, making it ill-equipped to help implement AB 197.

The primary goal of SB 535 was to provide funding and benefit to those communities next to large stationary sources of GHGs, since they may suffer ancillary disbenefits from their location—specifically, higher air pollution exposures. We supported that goal then and support it still. However, CESv3 does a poor job of identifying those fenceline communities as disadvantaged. While, roughly one in four tons of Cap & Trade covered stationary source GHG emissions are generated in the Bay Area, fewer than 3% of the disadvantaged communities as defined by CESv3 are in the Bay Area.

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[2] With a threshold set to the top 25% of census tracts statewide, CESv2 identifies 85 Bay Area census tracts as disadvantaged compared to about 2000 statewide. With the same threshold, CESv3 identifies only 56 Bay Area census tracts as disadvantaged.

[3] *The age-adjusted death rate from all causes for California during the 2011 through 2013 three-year period was 641.1 deaths per 100,000 population. Reliable age-adjusted death rates ranged from 965.7 in Lake County to 522.1 in Mono County. County Health Status Profiles 2015,* California Department of Public Health.

CES Scoring Approach

As discussed with your staff on multiple occasions—including at public workshops, individual meetings, and in written communications[4]—the Air District has advocated for an alternative method of scoring CalEnviroScreen indicators. This alternate method, the *product-of-ranks*, has been developed by the scientific community for sifting through many ranked lists of large data sets. This method is more consistent with the goals of SB 535 than the current scoring method within the well-intentioned but flawed CES. Dozens of stakeholders at various workshops expressed their view that this alternate method more accurately identifies disadvantaged communities. To facilitate your consideration of this alternative scoring approach, we have provided your staff with a detailed written description of this method[5]. This recommendation has been rejected by OEHHA to date, but without a clear rationale for doing so.

The product of ranks method ensures that communities with top ranks in a few indicators will be represented, consistent with the SB 535's identifying disadvantaged communities as those with top scores in *either* pollution burdens *or* economic/health burdens.

The current scoring method in CESv3 scores census tracts with moderately high scores across all indicators higher than census tracts with a few extremely high scores but with other lower scores. For example, a community with among the very highest scores in Population Characteristics and among the highest scores in diesel PM and traffic proximity—and with corresponding high health impacts—may not receive a top 25% overall score within CESv3 if it has low relatively low scores in drinking water, ozone, and agricultural pesticides. Conversely, a community with high, but not among the highest, scores across all Pollution Burden indicators could receive a top 25% score. It is this feature of the draft CESv3 scoring method that the Air District finds troubling and one reason that many Bay Area communities are overlooked within the CES framework.

To illustrate these issues, let us examine census tracts that score in the top 10% on the diesel PM indicator, and in the top 25% for the combined population indicators. There are 65 such tracts in the Bay Area. But of these, only a third (21 tracts) are scored as disadvantaged in CESv3. For the 23 tracts in the Bay Area that score in the top 10% statewide for both diesel PM and combined population indicators, only half (12 tracts) are scored as disadvantaged in CESv3.

[4] For example, at the September 3, 2014, Workshop on Investment of Cap-and-Trade Auction Proceeds to Benefit Disadvantaged Communities; at the September 20, 2016, Workshop on the draft update to CES; and in a comment letter dated September 11, 2014.

[5] http://www.calepa.ca.gov/EnvJustice/GHGInvest/Documents/Workshops14/AlternBayArea.pdf

Weighting of Indicators and Missing Data

In addition to concerns related to the scoring method currently used by CES, the Air District has also identified issues related to the weighting of indicators and missing data within some of the indicators:

- CESv3 weights Environmental Effects indicators by a factor of ½. However, there is no scientific justification for weighting the Environmental Effects indicators and not weighting other indicators where information exists to guide the selection of relative weights. For example, many health studies have determined that exposure to diesel PM and proximity to traffic have much greater health impacts than exposure to ozone, yet these Exposure indicators all receive the same weight.

- The Pesticide Use indicator only includes agricultural pesticide use. Multiple scientific studies have shown that urban residents—especially in poor, inner-city housing—can be exposed to pesticides at levels that can match the highest of those for rural residents. Yet urban areas receive a Pesticide Use score of zero because this indicator is missing data on urban pesticide use. Estimates of non-agricultural pesticide use are available: The California Air Resources Board and some local air districts estimate urban pesticide use as part of their air pollution emission inventories.

Rent-Adjusted Income Indicator

CESv3 now includes a rent-adjusted income indicator in addition to the poverty indicator. However, the CESv3 formula subtracts median gross rent from median household income (using data from 2010-2014) instead of applying any established method of estimating rent-adjusted income. The Location Affordability Index—promulgated by the U.S. Department of Housing and Urban Development—is an example of an existing better indicator that is ready-to-use. Additionally, the older data used miss the unprecedented recent dramatic rent increases in the Bay Area.

Tracking Changes Over Time

We think that support for trend analysis is critical for a reasonable assessment and implementation of AB 197 and related goals. To date, no provisions have been developed within the CES framework for tracking changes over time. Your staff has stated that changes in the communities identified as disadvantaged between version 2 and version 3 of CES cannot be interpreted as measures of progress in reducing community disadvantage in some areas, nor of measures of backsliding in others. How then *will* changes be tracked in the future within the CES framework?

The Need for Evaluation

Insofar as CESv3, in combination with a top 25% cutoff, is to become established as the singular measure of "disadvantage" within the state, we recommend that this methodology be systematically evaluated for (1) accuracy and (2) fitness-for-purpose. Promoting CES from an environmental-justice screening tool to the *de facto* method for *defining* disadvantage is a qualitative leap.

The accuracy of CES could be assessed in at least two ways. One approach would be to compare CES top scores to top scores from similar tools. For example, the Public Health Alliance of Southern California led a scientific team to develop a statewide Health Disadvantage Index[6]. How well do the CESv3 and the HDI tools—each developed for identifying community disadvantage—agree? Where they disagree, what explains the difference?

A second approach to evaluating CES would be to develop a set of "touchstones"—a carefully and deliberately selected subset of communities that everyone can agree are disadvantaged by any reasonable measure. Such a set need not contain more than a hundred census tracts; could be built up by working with local community members, cities, and public agencies throughout the state; and would be very useful in evaluating any proposed changes to CES. The process of developing it would also result in a more locally grounded understanding of what is meant by disadvantage throughout the state.

Air District Proposed Changes to CalEnviroScreen

Air District Recommendations

- ***Remove the unjustified ½ weights from Environmental Effects indicators.*** Additionally, adopt relative weights for all pollution burden indicators that would reasonably reflect relative health impacts, such as higher weights for the Diesel PM Emissions indicator and the Traffic Density indicator compared to, for example, the Ozone indicator.

- The Air District continues to recommend the *product-of-ranks* for combining indicators. Alternatively, we recommend letting local regions decide how to apply CES indicators and/or develop supplemental indicators to identify disadvantaged communities.

[6] http://phasocal.org/ca-hdi/

- For prioritizing Cap & Trade funds, include indicators of climate change, such as areas most prone to drought, extreme heat, flooding, and fire and include indicators that directly account for the local impacts of criteria pollutant and toxic air contaminants from the state's large emissions sources covered under Cap & Trade.

- Supplement the Pesticide Use indicator with urban pesticide exposure data, or drop the Pesticide Use indicator altogether. In its current form, this indicator should be labeled "Agricultural Pesticide Use" to be clear that it only considers some pesticides.

- Fix the rent adjusted income indicator to be consistent with established methods for calculating rent adjustments to income, and include more current data.

- Set the threshold for determining disadvantage at the top 30%, rather than the top 25%. This will reduce the risk of overlooking disadvantaged communities.

- Evaluate CESv3 by comparing the results to those of similar tools and by working with local communities, cities, and agencies to develop a set of "touchstones" that can be used as comparison points.

The Bay Area Air Quality Management District welcomes the opportunity to work with you both to improve CESv3 to identify *all* of the state's disadvantaged areas. Thank you for your attention to this important issue.

Sincerely,

Jack P. Broadbent
Executive Officer/APCO

JPB:JR:TA:mm

cc: Mary Nichols, Chair, Air Resources Board
Brian Kelly, Secretary, California Transportation Agency
Ken Alex, Chair, Strategic Growth Council
Cliff Rechtschaffen, Office of Governor Brown