

Assessing the Effects of AB 32 Climate Change Mitigation Programs in Environmental Justice Communities

The Air Resources Board (ARB), in coordination with the California Environmental Protection Agency (CalEPA) and the Office of Environmental Health Hazard Assessment (OEHHA), is working on developing procedures to gauge the effects of California's climate change mitigation program in environmental justice communities. Assembly Bill (AB) 32, The California Global Warming Solutions Act of 2006, requires that, to extent feasible, ARB must ensure that activities undertaken to comply with the regulations do not disproportionately impact low-income communities and that these communities also benefit from statewide efforts to reduce greenhouse gas emissions.

The 2013 Environmental Justice Advisory Committee formed pursuant to AB 32 has expressed significant interest in the development of metrics for monitoring, assessing, and quantifying the potential impacts and benefits of the State's climate programs, policies, and actions on California's economy, environment, and public health, particularly with respect to environmental justice communities. The first step in the effort is to identify what data indicators can and should be used to track the potential effects of AB 32. We are seeking input from the EJAC:

1. Should the emphasis be on potential adverse effects? Benefits? What is the priority?
2. What are the available indicators that can be readily tied to AB 32 programs? What are the sources of information for these indicators? What is the level of geographic resolution (i.e., facility, community, region, state)? How often are these indicators updated? Where are they accessible to the public?
3. Given the resource-intensive nature of these evaluations and agency staffing constraints, should the focus be on detailed analyses of a few communities or general reviews of more communities? How should the communities be selected for analysis?
4. What are the highest priority data gaps or needs that further research could address to enhance the longer-term effort?

Tools such as CalEnviroScreen have been developed to evaluate multiple indicators of environmental and socioeconomic vulnerability in disadvantaged communities. These tools do not focus on any single program or group of programs, but are intended to evaluate multiple pollutants and stressors in a community while accounting for a community's vulnerability to pollution's adverse effects.

In contrast, the effort discussed here is focused solely on AB 32 programs. Any effort to track the effects of AB 32 will require, at a minimum, the identification of indicators that can be directly tied to the programs of interest and a method for assessing those indicators. An effective and meaningful evaluation for AB 32 must rely on indicators expected to fluctuate with government and industry actions to implement climate change mitigation programs.

Table 1: Potential indicators that are directly related to the climate change mitigation program:

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| <ul style="list-style-type: none">• Emissions of greenhouse gases (GHG) and short-lived climate pollutants<ul style="list-style-type: none">– Stationary sources (facility-specific data provided under Mandatory Reporting Regulation)– Mobile sources (ARB estimates for GHGs, diesel particulate matter/black carbon)– Cap and Trade Adaptive Management/Mandatory Reporting response on GHG changes• Reductions of criteria pollutants and air toxics from AB 32 measures developed by ARB• Auction proceeds investments in, and investments benefitting, disadvantaged communities as identified by CalEPA using top 10% of ZIP Codes in the CalEnviroScreen tool<ul style="list-style-type: none">– Job creation associated with auction proceeds investments |
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There are other indicators that the agencies might be able to assess and correlate with the AB 32 program, like emissions of toxic air contaminants from certain facilities, monitored levels of certain air pollutants, potentially relevant health outcomes, traffic density and broader employment statistics in environmental justice communities. Such assessments may provide useful context, or could provide assurance of no disproportionate impact if they are trending positively. However, changes in these types of indicators cannot be directly attributed to the AB 32 climate program as the indicators respond to a complex mix of factors well beyond air pollution-related activities. New research could help support development of additional indicators specific for AB 32 program effects in environmental justice communities.

Similarly, broader screening methods such as CalEnviroScreen may offer an opportunity for complementary analysis, but cannot be used for direct assessment of the effects of AB 32 implementation. However, the community scores in CalEnviroScreen could be useful to identify a small subset of communities to focus on. Staff could then evaluate appropriate indicators to gauge the effects of AB 32 programs over time in these areas. Alternatively, CalEnviroScreen could be used to see if there are statistical associations, such as correlations between disadvantaged status as identified in CalEnviroScreen, and other indicators such as air quality, or emissions of air pollutants. These correlations could be checked over time to see if they are improving or worsening. Any changes could not be attributed specifically to AB 32, but could be helpful for tracking the overall status of these communities and assuring no disproportionate impact.

Environmental vulnerability	<ul style="list-style-type: none"> • Ozone concentrations in air • Fine particulate matter (PM2.5) concentrations in air • Diesel particulate matter emissions • Use of certain high-hazard, high-volatility pesticides • Toxic releases from facilities • Traffic density • Toxic cleanup sites • Groundwater threats from leaking underground storage sites and cleanups • Hazardous waste facilities and generators • Impaired water bodies • Solid waste sites and facilities • Prevalence of children and elderly • Asthma • Low birth-weight infants
Socio-economic vulnerability	<ul style="list-style-type: none"> • Educational attainment • Linguistic isolation • Poverty