

A CASE FOR OFFSETS

The following paper provides an overview of the issues surrounding the push-back on AB32 and the use of offsets for compliance and also provides some of the arguments for why offsets are good for AB32 and CA industry.

The Environmental Justice Advisory Committee (EJAC) is concerned that the current structure of AB32 is not sufficiently reducing GHG emissions in CA, specifically in disadvantaged communities defined under Senate Bill 535, and that the use of offsets for compliance are a significant factor in shifting reductions of GHG and criteria pollutants out-of-state. The following quote from an EJAC member summarizes the issue quite well:

There is a correlation between emissions of GHGs and PM10, and facilities that emit the highest levels of both GHGs and PM10 are similarly more likely to be located in communities with higher proportions of residents of color and residents living in poverty. This suggests that the public health and environmental equity co-benefits of California's cap-and-trade program could be enhanced if there were more emissions reductions among the larger emitting facilities that are located in disadvantaged communities.

CALEJA REPORT

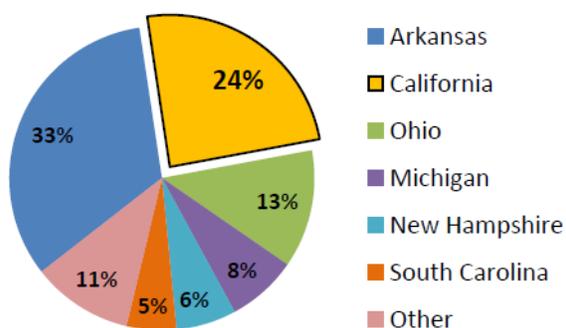
The California Environmental Justice Alliance (<http://caleja.org/>) released a report in September 2016 that has been regularly cited by EJAC in their arguments to change the design of AB32 and to not allow the use of offsets in the program.

The following are some of the key and notable findings from the CALEJA report [*our comments follow in italics on a few of them*]:

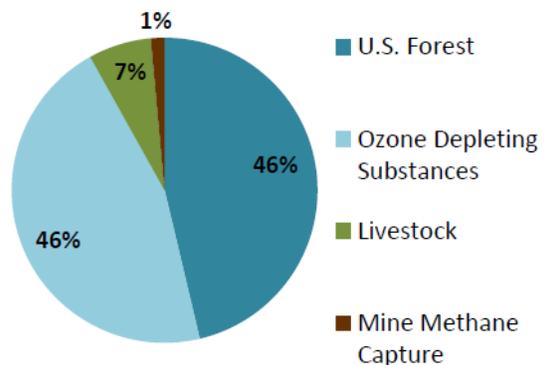
- GHG emissions have actually increased in several sectors, including cement, hydrogen, and oil and gas production and suppliers.
- Emissions from in-state electricity – power plants – have actually increased by 4.5%. [*This is not surprising and possibly an empty argument. There is only so much CO2 reduction a power plant can reduce because ultimately, the carbon cannot be destroyed and must be sequestered (which is not cost effective and may have safety concerns). To know that CA has reduced imports from sources with a greater carbon footprint means it is not surprising the in-state power plants have had to ramp up to meet the demand. Also, demand increases with population growth. It is the reason that CO2 reduction programs have to reach beyond just those entities included in the cap to meet their reduction targets.*]

- Most emission reductions have come from the out-of-state electricity sector, as California has reduced imports from sources with a greater carbon footprint, such as coal.
- Offsets give polluters a loophole to avoid localized emission reductions. *[By providing incentives for CA based projects (higher multipliers or something similar) they can create more CA based emission reductions]*
- Offsets are the cheapest way to meet required reductions under cap and trade. *[Offsets trade at a small discount to allowances but the overall “cost” to develop a project to create an offset is far more than just the price of the offset. Not to mention, most offset projects provide additional environmental benefits and often other pollutant reductions that an allowance does not include]*
- The majority of the offset credits (76%) were produced outside California. *[Policy could be written to cap the % of offsets that come from out of state rather than just abolishing the program altogether]*
- 4 companies accounted for nearly half (44%) of all offsets used: Chevron, Calpine Energy Services, Tesoro, SoCal Edison. *[No company can use offsets to meet more than 8% of their compliance obligations. It’s not surprising these companies used the most because they are the largest emitters]*
- The top 10 users of offsets account for 36 percent of the total covered emissions and 65 percent of the offsets used. Chevron (1.66 million offsets), Calpine Energy Services (1.55 million offsets), Tesoro (1.39 million offsets), SoCal Edison (1.04 million offsets), Shell (0.62 million offsets), PG&E (0.44 million offsets), Valero (0.43 million offsets), La Paloma Generating Company (0.40 million offsets), San Diego Gas & Electric (0.39 million offsets), and NRG Power (0.33 million offsets). *[There are still over 40 million offsets that have been created and have not yet been used for compliance]*

Origin of Offset Credits



Offset Credits by Project Type



OEHHA REPORT

On February 2, 2017, the Office of Environmental Health Hazard Assessment (OEHHA) released an initial report on the benefits and impacts of AB32 in disadvantaged communities. The report was requested by the Governor in 2015 and examines the location of these facilities with respect to communities identified as disadvantaged under Senate Bill 535, and how emissions of GHGs may have related to emissions of co-pollutants, particularly criteria and toxic air pollutants. The report noted that because the AB32 program is still new and had limited data for review, OEHHA could not make definitive conclusions regarding changes in emissions due to the Cap-and-Trade Program that may disproportionately affect disadvantaged communities. OEHHA expects with time the picture will become clearer. As the program continues to generate data over the next several years, it will be easier to detect and evaluate emissions trends. (https://oehha.ca.gov/media/downloads/environmental-justice/report/oehha_ab32_report_020217.pdf)

The following are some of the key and notable findings from the OEHHA report:

- A disproportionate number of facilities subject to the Cap-and-Trade Program are located in SB 535 disadvantaged communities. The Cap-and-Trade Program covers several hundred facilities from different industrial sectors that are located across the state. Of the 281 facilities with street addresses that could be geocoded, more than half (57 percent) are located in or within one-half mile of an SB 535 disadvantaged community¹. More specifically, 15 of 20 refineries (75 percent), 5 of 7 hydrogen plants (71 percent) and 72 of the 110 facilities classified by ARB as “other combustion source” facilities (65 percent) are located in or within one-half mile of a disadvantaged community. While people’s actual exposures to toxic co-pollutants emitted from these facilities would depend on various factors such as meteorological conditions and smokestack heights, changes in co-pollutant emissions resulting from the Cap-and-Trade Program would nonetheless tend to have disproportionate benefits (if emissions decrease) or adverse impacts (if emissions increase) on disadvantaged communities because of their proximity to these facilities.
- There were moderate correlations between GHG emissions and the emissions of criteria air pollutants. The strongest correlation was with fine particulate matter emissions (PM_{2.5}). There was also moderate correlation between GHG and toxic chemical emissions across the entire set of Cap-and-Trade facilities with covered emissions. Some individual industrial sectors showed greater correlations between emissions of GHGs and toxic co-pollutants. Refineries overall showed a strong correlation, while cement plants showed a moderate correlation. Oil and gas production facilities also showed a moderate correlation, depending on the statistical measure used. Facilities in certain sectors with broad ranges in emissions levels (e.g. electricity generation facilities) showed increased correlation with a specific statistical analysis (logarithmic transformation). This report only looked at emissions from one recent year (2014),

however, because this was the only year for which air toxics data could be obtained in time for this analysis.

- OEHHA also conducted a more detailed case study of nine cement plants and 19 refineries. These facilities have relatively high toxicity-weighted emissions, and data for the years 2011-2014 were available. The different plants showed varying levels of correlation among GHG, toxicity-weighted emissions, and PM2.5 emissions during the four-year period. Several cement facilities showed modest positive correlations between GHG and toxicity-weighted emissions, while two cement facilities showed poorer correlations. For refineries, there generally was a positive correlation between GHG and toxicity-weighted air emissions. Facilities with high levels of GHG emissions generally had higher PM2.5 and toxicity-weighted emissions. There were some differences among individual refineries in the relationships between GHGs, toxicity-weighted and PM2.5 emissions, perhaps reflecting differences in the kinds of products made at each of the refineries.
- These results indicate that the relationship between GHGs and other pollutant emissions is complex. GHG facilities that emit higher levels of GHGs tend to have higher emissions of toxic air contaminants and criteria air pollutants. There is a need for additional investigation into the factors that drive emission changes, how GHG emission reductions are likely to be achieved in different industrial sectors, and what that may mean for concomitant changes in emissions of toxic air pollutants. Nonetheless, these analyses suggest that reductions in greenhouse gas emissions are likely to result in lower pollutant exposures in disadvantaged communities, based overall on the positive correlations observed for the 2014 data.

INITIAL INDUSTRY RESPONSE TO OEHHA REPORT.

At the most recent public hearing, held just after release of this report, several refinery representatives disputed any correlation between emissions of GHGs and toxics. ARB is adopting more specific emission requirements focused on toxic emissions at refineries.

The general industry position is that if there is a specific area with elevated emissions of toxics, those should be addressed specifically; the cap and trade program and the use of offsets should not be sacrificed. This is consistent with the general industry position that the existing cap and trade system, including offsets should be retained, and adjustments made where needed.

THE CASE FOR OFFSETS

- Offsets can only be used for up to 8% of a facility's compliance obligation so they are not at the core of the program's reduction goals, they are merely an additional tool. Opponents of offsets state that offsets could potentially make up 85 percent of all greenhouse gas reductions in the program from 2013 through 2020. ARB argues that the 85 percent level is unlikely because hitting it requires not only that businesses use all of

the 8 percent of emissions limit, but also that the program would need to burn through a pool of carbon allowance credits.

- Offsets created under AB32 have reduced an additional 42.3 million tons of CO₂ as a result of offsets that have been used by AB32 compliance entities to date.
 - Approximately 55 million offsets have been issued to date.
 - Approximately 12.7 million offsets have been used for compliance to date
- 16 million offsets (30% off all offsets issued to date) has come from 54 projects located in CA. 22 of those projects are located in disadvantaged CA communities.
- Offsets often provide the additional funds necessary to make otherwise non-economical projects a reality. Anaerobic digestion and forestry projects are good examples of this.
- Offsets provide an opportunity innovative project developers to develop and implement new technologies such as anaerobic digestion, manufacturing process changes, chemical replacement technologies, etc.
- Offsets help to engage people in non-capped sectors without having to bring the financial burden for these sectors to need to comply with the compliance requirements.
- Offset projects can have significant local co-benefits:
 - Health: cleaner water and air can provide an array of health benefits for people in the project area, by reducing exposure to water-borne disease, and harmful smoke and pollutants which result in respiratory diseases.
 - Jobs: throughout the development and implementation phases of a project, new jobs are created. For people in the project area, these jobs provide new sources of income and an opportunity to develop new skills.
 - Environmental Quality: combatting climate change is the primary environmental focus of emissions reduction projects, but other environmental benefits include reduction of other criteria pollutants (NO_x, SO₂, PM₁₀, etc.), the protection of biodiversity, cleaner air and water, and innumerable ecosystem services.
 - Financial: new jobs are an obvious example, but other financial benefits may include fuel savings or electricity savings at the household level, improved access to loans or investments, and a more robust local economy.
- The first project ever registered under the California compliance protocol was with the Yurok tribe in Northern California. The tribe have earned millions of dollars in revenues from this system for long term commitments to sustainable forestry. They are using that revenue to reacquire ancestral territory, and manage it for community benefit, watershed and salmon fishery health, and the wider climate. The tribe has a significant number of members below the federal poverty line, and thus fall within the definition of a disadvantaged community. The offsets program has made a real difference in meeting their economic and environmental goals.

- It should be noted that over the summer the California Assembly passed AB 197, a bill linked to AB 32. The legislation stipulates that the cap-and-trade program must prioritize local and direct emission reductions.

With offsets under attack, some in industry may be tempted to agree to discontinue offsets or to agree that no new methods should be adopted. We disagree.

Some, such as the American Carbon Registry, have argued that offsets can provide benefits to low-income communities, and that methodologies which can be used in such places should be encouraged. The ACR methodology for low-GWP foam blowing agents can provide GHG reductions from foam manufacturing plants in CA that are in low income areas. The advanced refrigeration systems and truck stop electrification methodologies are other examples of projects which would encourage reductions in GHG emissions from facilities which are not subject to the cap and trade rules and which are often located in low income areas.