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## Is Cap and Trade Failing Low Income and Minority Communities?

October 11, 2016 by [Meredith Fowlie](#)

Pollution – like income- is unequally distributed. In fact, pollution exposure [is more unequally distributed than income](#) in the U.S. for some pollutants.



*Refinery in Wilmington, CA. Credit: [Luis Sinco/LA Times](#)*

Exposure to pollution-related health risks, accumulated over a lifetime, can have real impacts on outcomes that matter (such as [health](#), [education](#), [productivity](#), and [income](#)). So neighborhoods that are more exposed to these risks are disadvantaged in more ways than one.

California has made it a priority to ensure that new environmental regulations improve conditions in these communities. But a [new report](#) from the USC Program for Environmental and Regional Equity (PERE) suggests that these efforts might not be working as far as the state's greenhouse gas (GHG) emissions trading program is concerned. The report emphasizes the preliminary nature of the findings and stops short of definitive conclusions. But in [media coverage](#), [op-eds](#), [blogs](#), and [press releases](#), some provocative implications are being drawn. For example, the [California Environmental Justice Alliance](#) concludes:

*“(this report) demonstrates that polluters using the cap and trade system are adversely impacting environmental justice (EJ) communities. The system is not delivering public health or air quality benefits, not achieving local emissions reductions, and it is exporting our climate benefits out of state.”*

When the stakes are so high, and when preliminary evidence appears incriminating, it's tempting to conclude we should change course. But it's important to keep in mind that these are preliminary findings, and that the GHG policy under fire is not intended to regulate the kinds of pollutants that cause local damages.

### **How are EJ communities faring under cap and trade?**

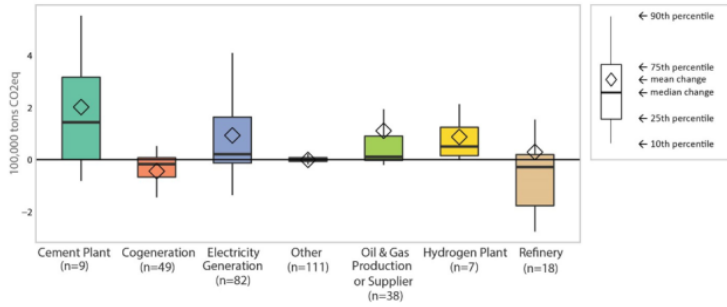
Economists like cap and trade programs because they harness market forces to seek out the most low cost emissions reductions. Environmental justice advocates are quick to point out that cost-minimizing outcome need not be equity-maximizing outcome. Who wins and who loses will really depend on how the program is implemented and where the lowest cost pollution reductions can be found.

Against this backdrop, a careful assessment of how low income and minority communities are being impacted by California's emissions regulations is important. But it's also complicated. Here are three issues I think we need to get a handle on before we can address this question:

**(1) Cap and trade compared to what?** To figure out whether low income communities are faring better or worse under cap and trade, we need a clear sense of what we are comparing against. Researchers looking at the very same data can reach very different conclusions depending on their benchmark.

Research assessing the equity of impacts under cap and trade programs often uses more traditional, prescriptive regulation as a basis for comparison. For example, some co-authors and I looked at emissions under Southern California's RECLAIM trading program, a regional cap and trade program for criteria pollutants. We compared emissions across all RECLAIM facilities in the first five years of the program against a matched group of facilities that remained under the prescriptive regulations that RECLAIM replaced. [We find](#) that RECLAIM delivered significant emissions reductions which appear to be equitably distributed over this time period. A [recent working paper](#) extends our analysis to more carefully account for pollution dispersion patterns. These authors find that RECLAIM may have disproportionately *benefited* some minority households. Analysis of other cap and trade programs have found similar results, such as [this study](#) which documents an equitable distribution of net benefits under the SO<sub>2</sub> emissions trading program.

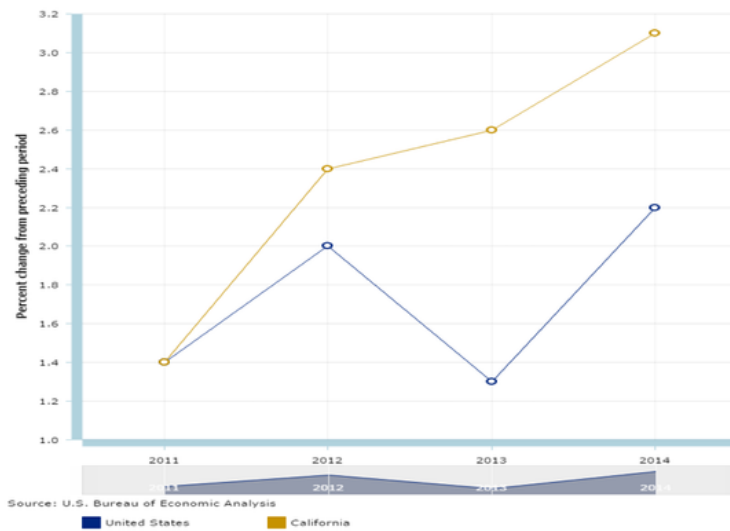
Getting back to California's GHG emissions trading, the PERE study compares in-state GHG emissions at regulated facilities during the first two years of the program (2013-2014) against emissions at those same facilities in the years preceding (2011-2012). The figure below shows the average change in emissions by sector. Positive emissions indicate higher emissions, on average, during the post-policy implementation period.



*Change in Emitter Covered GHG Emissions by Industry Sector (N=314 facilities)*

Large covered facilities in these sectors are disproportionately located in disadvantaged neighborhoods. So apparent increases in emissions in some sectors, together with the purchase of offsets, are being used to support the claim that California’s cap and trade program is [making things worse in disadvantaged communities](#).

Before reaching this conclusion, it’s important to remember that these kinds of pre-post comparisons can confuse the effects of a policy change with the effects of other factors that are also changing over time. For example, the graph below shows annual growth in GSP (gross state product) for California (gold) and all US states (blue). The graph shows how the rate of growth in California’s economic production increased as the GHG CAT program took effect in 2013 (in absolute terms and relative to the rest of the country). With this increased industrial production comes increased emissions.



The PERE study highlights an in-state emissions increase at regulated sources as the state economy continued to recover. But before we can draw meaningful conclusions about the impacts of GHG emissions trading versus other factors, we need credible estimates of what emissions would have looked like under some plausible policy alternative.

**(2) Cap and trade as a means to what end?** So far we've been focusing on GHG emissions from regulated sources. But what we ultimately care about is the damages caused by this pollution.

In the case of GHGs, the link between regulated cause and local health effect is indirect. In contrast to criteria pollutants, GHG emissions have no direct, local health impacts. Climate change damages depend on global concentrations. Importantly, it's the damages from local "co-pollutants" that EJ communities are concerned about. In other words, the current debate about the injustice of GHG emissions trading is fundamentally concerned with the adequacy of other policies that regulate other (local) pollutants.

The PERE study does not estimate how changes in GHG emissions at covered sources have translated into local exposure to co-pollutants and associated health impacts. It also sidesteps a key question: why are we using GHG regulations to tackle local pollution problems?

**(3) Cap and trade... and transfer:** Unlike prescriptive emissions regulations, cap and trade programs can generate revenues through the sale of tradable emissions permits. These revenues can be redistributed in a way that addresses equity concerns. Under California's GHG emissions trading system, some revenues are used to improve health and economic opportunity in disadvantaged communities. As of December 2015, [51 percent \(\\$469 million\) of the California Climate Investments had been allocated to projects that provide benefits to disadvantaged communities](#). And it is anticipated that the [energy bills paid by low income consumers should fall, on average](#), thanks to climate credits and low-income energy assistance.

These transfers are not accounted for in the PERE analysis, but they should factor into an assessment of whether disadvantaged communities would be better off or worse off under cap and trade as compared to more prescriptive policy alternatives.

### **Barking up the wrong tree?**

A defining advantage of market-based regulations is the cost savings they can deliver over more prescriptive regulations. A defining EJ concern is that the market – versus the regulator – determines where emissions reductions will happen. California's cap and trade (and transfer) approach is trying to strike a balance between sending price signals that reflect GHG emissions costs and improving conditions in disadvantaged communities.

The PERE report highlights trends in in-state emissions and the use of offsets which warrant further investigation. But it does not provide a basis for [foreclosing on cap and trade in favor of direct regulation](#) as some have suggested. We need more studies using better data and clearly defined benchmarks to understand how climate change policies are impacting outcomes we care about. Perhaps more importantly, we need to confront the question of whether inequalities in exposure to local emissions should be addressed by distorting climate change policy, or strengthening regulations of local pollutants.