To: Mary Nichols, Chair

California Air Resources Board

From: Prof. Alice Kaswan

University of San Francisco School of Law

Re: Comments on Supplemental Functional Equivalent Document

Date: July 27, 2011

The publication of the Supplement to the AB 32 Scoping Plan Functional Equivalent Document (Supplemental FED) provides a renewed opportunity to reconsider ARB’s decision to achieve industrial emissions reductions largely through a cap-and-trade approach. The Supplemental FED provides helpful analysis, and these comments do not address the legal adequacy of the supplemental FED one way or another. Instead, these comments are intended to provide input on ARB’s analysis of its cap-and-trade and regulatory alternatives as ARB makes its substantive policy choices.

Part I focuses on the cap-and-trade alternative, and suggests that the state incorporate measures to control co-pollutant increases.

Part II, which forms the bulk of these comments, addresses the regulatory alternative. It first questions ARB’s conclusions about the relative co-pollutant co-benefits of the regulatory and cap-and-trade approaches. It then addresses a number of the concerns about a regulatory approach raised in the Supplemental FED, and suggests ways that those concerns could have been alleviated (and, thus, ways in which a regulatory approach could be more promising than suggested). Finally, it identifies a few of the benefits of a regulatory approach that the Supplemental FED does not elaborate.

I have also incorporated my previously submitted comments on the cap-and-trade rulemaking and on the proposed draft regulation at the end of these comments.

1. Analysis of Cap-and-Trade Alternative (Alternative 2)

The analysis of the cap-and-trade alternative should include a more robust response to one of the recognized impacts of a cap-and-trade program: the potential for uneven emissions characterized by increases or inadequate reductions in localized areas.

The Supplemental FED, and the environmental analyses that preceded it, all recognize that reductions in GHGs are likely to lead to beneficial reductions in co-pollutants. That said, as the Supplemental FED also acknowledges, even if overall emissions are reduced, market-based programs create inherent uncertainty about the distribution of pollutants. The Supplemental FED observes that “increasing operations of more carbon-efficient equipment could result in localized increases in emissions.” (Supplemental FED at 53) Or facilities that currently operate below the level of “permitted” emissions might increase their “actual [co-pollutant] emissions up to the permitted level of a facility.” (Supplemental FED at 53)

The Supplemental FED responds to these potential impacts by “concluding that the remote possibility of localized air impacts … would be considered potentially significant and unavoidable under CEQA.” (Supplemental FED at 53) ARB proposes to adopt an “adaptive management program” under which “ARB would be committed to monitoring the data on localized air quality impacts and to adjusting the program, if warranted.” (Supplemental FED at 53)

ARB’s proposed response to the risk of co-pollutant impacts creates an unnecessary risk of co-pollutant increases and unnecessarily delays a response. While the Supplemental FED is not the place to discuss every feature of program design, where potentially significant impacts are identified, potential design solutions to those impacts should be considered.

The Supplemental FED acknowledges that AB 32 requires CARB, to “[p]revent increases in other pollutant emissions – to design, to the extent feasible, any market-based compliance mechanisms to prevent any increase in the emissions of criteria air pollutants or toxic air contaminants (TACs)” (Supplemental FED at 6, quoting HSC section 38570(b)(2).) The Supplemental FED also summarizes numerous other AB 32 provisions that emphasize the importance of furthering air quality goals and maximizing environmental (and other) benefits, to the extent feasible. (Supplemental FED at 5-6) Potential co-pollutant increases or maldistributions could be addressed in the following ways:

1. **Place individual emissions caps on facilities to prevent localized increases.**

Rather than deeming the impact of potential increases in co-pollutants “unavoidable,” or waiting for it to occur and then responding (as the “adaptive management” approach suggests), CARB could impose individual facility caps on facilities located in impacted communities. Facilities that are located in communities already adversely impacted by air pollution would be prohibited from increasing GHG emissions beyond current emission levels. In other words, they could engage in trading and would be permitted to purchase allowances, but only up to the level of their past actual emissions. This proposal (as well as other mechanisms for enhancing co-pollutant benefits), are discussed more fully in my prior comments on draft cap-and-trade regulations. For ease of reference, I have incorporated those comments at the end of this submission.

This proposal differs from the “individual facility caps” design alternative that ARB rejected in its initial alternatives analysis. (See Proposed Cap-and-Trade Regulation, Staff Report: Initial Statement of Reasons, IV-12) Under the rejected alternative, ARB would have imposed a decreasing cap on every covered facility, and each facility would have been required to reduce emissions pursuant to its individual cap. This proposal, in contrast, would be applied only in areas with poor air quality, and would be designed primarily to avoid emissions increases; facilities would retain the flexibility to purchase allowances up to their past emissions. This proposal would therefore create less of a trade-off with AB 32’s cost-effectiveness goals than ARB’s rejected design alternatives. (This proposal presents a minimum that is tailored to prevent emissions increases in polluted areas. Greater environmental co-benefits could, of course, be achieved with facility caps that decreased over time. The extent of the trade-off with cost-effectiveness goals would depend upon the stringency of the decreasing caps. See discussion in previously submitted comments, included on pages 14-15, below.)

Adopting a mechanism to prevent increases at the outset would be superior to adopting an adaptive management approach, in which steps are taken only after increases have occurred. Since ARB proposes to fully assess the emissions distribution as little as once per compliance period (once every 3 years), an adaptive management approach is unlikely to provide a nimble response to potential increases.

1. **If adopting an “adapative management” approach, prepare a detailed strategy for responding to localized emissions concentrations.**

If, instead of adopting individual facility caps that would prevent co-pollutant increases, ARB instead takes an adaptive management approach, in which it responds to co-pollutant increases only if and when they occur, then ARB should carefully detail its planned strategy now. Some agencies have used “adaptive management” as a way to avoid and delay confronting difficult policy challenges. Whether in the Supplemental FED or as part of its rulemaking, an adaptive management plan, if adopted, should clearly articulate what emissions scenarios would trigger additional controls and the nature of the planned controls.

In terms of what emissions scenarios would trigger additional controls, ARB should clarify whether only co-pollutant emissions increases trigger a response, or whether, in light of AB 32’s goal of complementing efforts to achieve air quality, a failure to improve co-pollutant emissions would also trigger a response. If an adverse emissions distribution occurs, then ARB should also articulate how it will improve the emissions distribution. ARB has articulated possible responses in very general terms,[[1]](#footnote-1) but its adaptive management plan should provide more specific detail so the agency will be prepared to act when necessary. As noted above, ARB could prevent increases by imposing individual facility caps at the level of actual past emissions. Numerous other direct restrictions and incentives could also improve a trading program’s distributional outcomes, as described in the previously-submitted comments incorporated into the end of this submission.

1. Analysis of Regulatory Alternative (Alternative #3)
2. Relative Co-Pollutant Benefits of the Regulatory Alternative

The Supplemental FED asserts that the cap-and-trade program would lead to better co-pollutant reduction outcomes than the regulatory alternative. That assertion does not acknowledge that the regulatory alternative is likely to provide more co-pollutant benefits for California.

One of the key differences between the regulatory alternative and the cap-and-trade approach is that, under a regulatory approach, the covered sectors would be responsible for making all of the required emissions reductions, whereas under the cap-and-trade program, facilities in the covered sectors could meet a substantial portion of their emission reduction obligations through the use of offsets. Whatever their intrinsic benefits, most offset projects do not offer co-pollutant reduction co-benefits relevant to California air quality problems.

The proposed cap-and-trade rule would allow facilities to use offsets to meet almost half their emission reduction obligation,[[2]](#footnote-2) and would therefore reduce the co-pollutant co-benefits that would otherwise occur in the covered sectors. In other words, under the regulatory approach, industrial facilities would have to reduce emissions by almost twice as much as under the cap-and-trade program. The regulatory alternative is therefore likely to lead to greater co-pollutant reduction co-benefits from industrial facilities in California than the proposed cap-and-trade program.

The Supplemental FED acknowledges that there would be in-state co-pollutant reduction benefits from the regulatory alternative (76), but suggests, in its final analysis, that the regulatory alternative would be LESS effective than the proposed cap-and-trade program in “creating attendant air quality co-benefits.” (Supplemental FED at 110) That conclusion is surprising and unconvincing. It is based upon the assumption that the regulatory alternative would not be cost-effective and would generate significant leakage that would in turn increase out-of-state co-pollutant emissions. That is a worthwhile concern, but the alternatives analysis does not adequately address the potential benefits of reducing co-pollutant emissions *within* California, where high concentrations of co-pollutants lead to significant violations of air quality standards. Shifting the location of co-pollutants away from heavily polluted and populated areas could create benefits even if the net emissions remain the same. While shifting co-pollutants out-of-state should receive serious attention, it is also important to document potential in-state benefits.

CARB may well choose to adopt a cap-and-trade program, and to allow substantial use of offsets to lower costs. If it does so, however, it should be straightforward about the in-state co-pollutant consequences and provide a clearer picture of the relative in-state co-pollutant benefits of the regulatory and cap-and-trade options.

1. ARB’s Regulatory Alternative: Addressing the Issues CARB Identifies

The regulatory alternative considered by ARB is interesting and demanding. It envisages requiring existing electric utilities to displace coal-based generation with lower-emission sources (presumably natural gas), and it imposes a flat 20-percent emission reduction requirement on several large industrial sectors (refineries, cement plants, and large oil and gas extraction facilities). (Supplemental FED at 73) ARB identifies numerous drawbacks to this alternative. These comments provide a response to a number of the concerns ARB identified.

1. **Regulatory Alternative: Not Cost-Effective and Leads to Leakage? Consider Cost-Effective and Feasible Regulatory Mechanisms**

Given the demanding nature of the regulatory alternative, it is not surprising that ARB found that the alternative posed certain drawbacks. As ARB observes, imposing the entire requirement on electric utilities and major industries, without the use of offsets and without trading among them, might be more expensive than a trading program that relies substantially on offsets, and could result in leakage. ARB observes that leakage would, in turn, undermine the state’s GHG reduction goals and cause out-of-state co-pollutant impacts.

Rather than focusing only on a single, highly demanding, alternative, ARB could have focused on what could be achieved by currently cost-effective and feasible approaches, and would likely have found that fewer adverse impacts would flow from such an approach. The regulatory alternative might then have appeared more promising, in comparison with cap-and-trade, than the approach ARB considered.

As ARB noted in the Supplemental FED, “[d]irect regulations typically establish performance-based limits on emissions, activities, or outputs at specified sources that are designed to achieve emission reductions in a cost-effective and technologically feasible manner.” (Supplemental FED at 60) Yet ARB’s proposal simply imposed flat reduction requirements, without attempting to assess cost-effectiveness or feasibility. While not as cost-sensitive as a market-based mechanism, a regulatory alternative based upon identified cost-effective and feasible mechanisms would, obviously, be more cost-effective, and would presumably result in less leakage. The regulatory alternative would then be more viable than the approach considered by ARB; not all regulatory approaches share the flaws that ARB identified.

1. **Regulatory Alternative: Sufficient Information? Document What *Is* Known and Identify Future Information Sources and Regulatory Plans**

ARB suggested that it had insufficient information to propose regulatory measures in some instances. While that may be true in some cases, quite a bit of information about emission reduction opportunities is available in many instances. The cap-and-trade regulation itself includes sophisticated compliance pathways that outline the mechanisms that many industries could use to reduce emissions, including both feasibility and cost estimates. In addition, the federal Environmental Protection Agency (EPA) is currently developing BACT and new source performance standards for new and existing sources, and actively addressing emission reduction options in the power and refining sectors, both important emissions sources in California.

It would be useful to document what we know *could* be achieved by available, cost-effective mechanisms, and to evaluate how much could be achieved by these measures. Where there is insufficient information, it would be useful to document how and when ARB will obtain more information and the role of that new knowledge in ARB’s long-term control strategy.

For example, ARB expects to receive the results of its Energy Efficiency and Co-Benefits Audit program (due in 2012). If promising, those results could be translated into regulatory requirements. In her June, 2011 California Senate testimony, ARB Chair Mary Nichols announced that ARB would be considering how to ensure that industrial facilities take the cost-effective energy efficiency measures they identify in their audits. It would be helpful to have a more clearly articulated agenda for translating new information into regulatory requirements.

In addition, as noted above, EPA is developing BACT and new source performance standards for new and existing power and refinery sources, and ARB will have to incorporate those federal requirements into the state program (assuming that EPA does not accept the state’s trading program as satisfaction of CAA requirements). ARB could indicate how regulation, now or in the future, would dovetail with federal regulatory measures.

Finally, the trading program itself could reveal best practices. If only some industry players are initiating promising reduction measures, ARB could consider regulatory approaches that induce others to take appropriate measures through regulatory requirements.

1. **Cost-Effective Regulatory Approach: Insufficient to Achieve Emission Reduction Goals? Consider Combined Regulatory/Trading Approach.**

It is conceivable that, even if ARB were to document available and cost-effective mechanisms, those mechanisms would not lead to sufficient reductions to meet AB 32’s emission reduction goals, or could not lead to sufficient reductions by 2020 due to long capital investment lead times. Moreover, as ARB noted in its original alternatives analysis, because regulatory approaches are usually performance standards, absolute emissions could increase with economic growth. An emissions cap would therefore better serve AB 32’s reduction goal.

More clearly identifying available control measures would, however, provide a basis for designing a program that provided an optimal combination of regulatory and trading mechanisms. Most trading programs supplement direct regulatory programs; they do not stand alone. (See, e.g., the federal Acid Rain and NOx Budget programs, and Los Angeles’ RECLAIM program.) Because ARB did not systematically catalog what could be achieved through available control mechanisms in the Supplemental FED, ARB does not provide a basis for conceiving or analyzing such a combined approach.

1. **Too Administratively Complex? Compare with Cap-and-Trade**

In a number of instances, the Supplemental FED suggests that creating regulations to govern diverse sources would be too administratively complex. Most of the sources subject to the cap-and-trade program are already subject to detailed air quality permits negotiated on a case-by-case basis, so the additional regulatory effort should not be overstated. ARB may also have regulatory options that do not require advance generalized rulemakings that cover every source in detail and that would allow case-by-case flexibility. The Supplemental FED does not explore such options.

That said, developing and administering a regulatory program would no doubt be administratively challenging. However, it should also be noted that administering offsets and ensuring their integrity is likely to be similarly complex. And since almost half the reductions in a cap-and-trade program could consist of offsets, administrative complexity is not a marginal consideration in a trading program.

This comment does not intend to minimize the administrative complexity that regulations could entail; it simply notes that many aspects of a cap-and-trade program, particularly offset management, are likely to be as or more complex.

1. Additional Benefits of a Regulatory Alternative

Regulatory approaches offer additional benefits that were not fully addressed in the Supplemental FED. Some of these benefits are outlined in the previously-submitted comments included at the end of this submission. I note a few highlights here:

* **Overcome industry inertia.** Inertia and a lack of information can prevent industries from taking cost-effective and available measures. Regulation ensures that such measures occur, rather than relying on market signals that might not be effective.
* **Streamline compliance with upcoming federal CAA requirements.** Exploring regulatory options could streamline integration into federal regulation under the Clean Air Act. As the federal Environmental Protection Agency develops standards for new and existing stationary sources, California may be required to adopt federally-mandated regulatory controls (unless EPA accepts the cap-and-trade program in lieu of facility-specific controls). ARB could be coordinating the development of its regulatory requirements in tandem with the development of federal requirements.
* **Greater public participation in individual facility decisions.**  Regulation offers more public participation opportunities. A trading program leaves compliance decisions to private entities, while regulatory approaches create public rulemaking proceedings and permitting processes that allow the public to participate.
* **Stronger government control over key energy infrastructure decisions.** To the extent that regulatory approaches take the form of requiring a greater percentage of renewables (greater than 33%), or requiring shifts away from higher-emission energy sources, the state would be playing an important role in determining its energy future rather than leaving such compliance decisions to the private sector.

**Conclusion**

As noted at the outset, these comments address fundamental questions about the wisdom of exclusive reliance on a pure cap-and-trade program. In particular, they focus on whether ARB should more deeply consider integrating regulatory and market mechanisms in the power and industrial sectors. The Supplemental FED provides a natural starting point for this inquiry, but the comments are intended more as an invitation to reconsider certain basic policy choices than as a legal commentary on the Supplemental FED itself.

Please feel free to contact me at (415 422-5053 or [Kaswan@usfca.edu](mailto:Kaswan@usfca.edu) if I can provide any further assistance.

**Previously-Submitted Comments**

**Comments on Proposed California Cap-and-Trade Regulation and Environmental Justice** (submitted December 10, 2010)

As federal and international efforts to provide a comprehensive approach to climate change fall by the wayside, it is all the more inspiring to review CARB’s development of a sophisticated cap-and-trade program for California. Although I express concerns about the degree to which the proposed regulation integrates greenhouse gas (GHG) and co-pollutant reduction objectives, those concerns should not be read as a condemnation of this impressive initiative.

These comments address the following topics:

* Reliance on offsets
* Impact of opt-in facilities on the allowance market
* Environmental impacts of biomass and biofuels
* Cap-and-trade and co-pollutants: Concerns
  + Increases in co-pollutants
    - Legal interpretation of “prevent any increase”
    - Potentially underestimate risk of emissions increases
  + Complement the state’s air quality objectives
* Cap-and-trade and co-pollutants: Suggestions
  + Mechanisms to maximize co-pollutant benefits
  + Staff’s concerns about these alternatives
* CARB assessment of co-pollutant impacts

1. Reduce Allowable Use of Offsets

The greater the use of offsets, the fewer the reductions from covered sectors. With fewer reductions in the covered sectors, there is less of an incentive to create more efficient alternatives and California will lose the environmental and economic co-benefits of GHG reductions in stationary source emissions. Rather than allowing for increased use of offsets, CARB should focus on cost containment mechanisms that respond to actual, not prospective, high prices, and that do not undermine incentives for reductions within covered sectors.

The Staff Report explains that the percentage of offsets that can be used to show compliance increased from 4% in the PDR to 8% in the current proposal to account for the decision to place a larger number of allowances in the Allowance Price Containment Reserve, since having more allowances in the Reserve would shrink the availability of allowances and potentially increase their cost.

Rather than assuming that greater offset use will be necessary to contain costs, CARB should limit offsets and increase allowance or offset supply if and when market conditions demonstrate that cost containment is, in fact, necessary. In many environmental programs, the costs of compliance have ended up lower than anticipated. Cost containment mechanisms that respond to actual prices are preferable. CARB could rely on the Reserve, or could begin by allowing 4%, and allow a progressively greater use of offsets if higher allowance prices emerge.

The Staff Report also emphasizes that allowing offsets provides the benefit of triggering GHG reductions or sequestration that might not otherwise occur. In addition, offset projects could generate their own environmental and economic co-benefits (whether domestically or abroad).

The implicit assumption is that these measures would not be undertaken in the absence of an offset program. That conclusion presents a false choice. Many offset projects, like manure digesters, are worthwhile. CARB should explore new requirements in the agriculture sector to reduce GHG emissions, not require industrial emitters to subsidize agricultural reductions. Moreover, CARB should not allow stationary source emitters to avoid their own reductions by facilitating reductions or sequestration that should happen in addition to, rather than instead of, their own reductions.

To the extent that the activities contemplated as offset projects do require external funding, the use of auction revenue would be a more environmentally sound mechanism for providing the necessary funding. Then the projects would provide emissions reductions that would complement, rather than supplant, stationary source emissions reductions.

1. Opt-in Covered Entities

If non-covered facilities “opt-in” to the cap-and-trade program, they are likely to do so because they can easily reduce energy use and seek to make a profit selling excess allowances. CARB needs to ensure that its provisions for allowing facilities to opt in address the potential that the facilities could increase the number of available allowances, dampening the incentive for covered facilities to reduce emissions. Just as the cap will be adjusted when transportation fuels are added to the program in 2015, the cap may need to be adjusted to account for the emissions associated with facilities that opt in.

1. Biomass and Biofuels

In all provisions relating to the burning of biomass and biofuels, CARB should carefully assess associated co-pollutant and other environmental implications. For example, if biomass-derived fuel sources do not have to account for their GHG emissions, the rule could create incentives to use biomass that have incidental adverse environmental consequences.

1. Cap-and-Trade and Co-Pollutants

Given the acknowledged link between GHGs and co-pollutants, the state would benefit from integrating its GHG and co-pollutant reduction strategies and creating a more unified approach to regulating industrial emissions.

AB 32 recognizes the connection between GHGs and co-pollutants, and instructs CARB to develop GHG reduction policies that would not only reduce GHGs, but do so in a way that “maximizes additional environmental and economic co-benefits for California, and complements the state’s efforts to improve air quality.”[[3]](#footnote-3) Overall, the scoping plan in general and the cap-and-trade program in particular will likely lead to improvements in air quality. That said, the cap-and-trade program does not include measures to prevent increases in co-pollutants or optimize the location of GHG and corresponding co-pollutant reductions.

1. **Concerns**
2. **Increases** **in co-pollutants**.

The California legislature expressed its concern about the distributional implications of a cap-and-trade program by explicitly stating that market mechanisms must, to the extent feasible, be designed “to prevent any increase in the emissions of toxic air contaminants or criteria air pollutants.”[[4]](#footnote-4)

My first comment is one of legal interpretation: based on the language in the Staff Report, the Staff appear to construe the language “prevent any increase” too narrowly. The Staff appear to be interpreting this language to mean that the cap-and-trade program *itself* must not “cause” increases in co-pollutant emissions.[[5]](#footnote-5) Under this approach, the Staff Report acknowledges that the cap-and-trade program could, in some instances, create incentives that could result in co-pollutant increases. For example, if a utility relies upon several different generation facilities, the price signal generated by the cap-and-trade program could induce the utility to increase production at more energy efficient facilities. Co-pollutant emissions could therefore increase at the more efficient facilities.[[6]](#footnote-6)

The Staff’s interpretation of AB 32 appears too narrow. The language states that the agency is required to “prevent” increases in co-pollutant emissions, without limiting that obligation to increases caused by the cap-and-trade program itself. As the Staff Report acknowledges, facilities could choose to increase emissions in order to increase production or expand into a new type of production. New facilities could also be built. To the extent a cap-and-trade program allows facilities to increase emissions by buying GHG allowances, the GHG control program would not constrain co-pollutant increases and could be inconsistent with AB 32’s requirements.

The Staff Report also suggests that co-pollutant increases are extremely unlikely to occur because the burden of New Source Review requirements and the cost of GHG allowances themselves will discourage increased emissions. At the same time, however, the Staff Report acknowledges that the state’s refineries are likely to continue to supply areas outside California even if demand for fossil fuels in California drops. The Staff Report also acknowledges that new biorefineries and biomass facilities could be incentivized by AB 32 implementation measures. Thus, emissions increases are a real possibility.

The case studies in the emissions assessment do include emissions increase scenarios, evaluating both the possibility that facilities would increase GHG emissions by 4 percent and the possibility of a new source in each study area. The Staff Report reveals that these GHG emissions increases would lead to small increases in co-pollutants relative to the baseline scenario.[[7]](#footnote-7) Moreover, it is possible that major facility expansions could lead to increases above 4 percent and that more than one new facility could choose to locate in certain areas, possibilities not considered by the assessment.

The Staff Report also argues that existing air pollution regulations would keep any co-pollutant increases to a minimum. This is not the place to pick apart California’s air pollution regulations, but it is not clear that they would fully address an impacted community’s concerns. For example, even if NSR were triggered and the facility had to purchase criteria pollutant offsets to compensate for the increase in criteria pollutants, it is not clear that the emission reduction credits would come from the same location as the increases, potentially leading to a net increase in impacted communities notwithstanding the offset requirement. Moreover, offset requirements apply only to criteria pollutants, not air toxics. While California’s “Hot Spots” program provides more attention to local emissions than occurs in most states, it does not directly prevent increases.

The Staff Report’s analysis of the impacts of emissions increases places them in context: the Staff Report analyzes potential co-pollutant increases under the cap-and-trade program in relation to the significant decreases in co-pollutants that existing regulations are expected to achieve by 2020. The state’s initiatives to decrease co-pollutants are laudable. And the Staff’s implicit point is well-taken: if those decreases are realized, there is less of a need to use AB 32 to indirectly accomplish co-pollutant reductions. Nonetheless, AB 32 states that the state’s GHG policies should be designed to complement its efforts to attain air quality standards. The cap-and-trade program, as currently designed, does not take that step.

These comments do not dispute that changes in *co-pollutant* levels as a consequence of *GHG* trading reflect the relative stringency of associated co-pollutant regulation. If a GHG trade leads to increases in co-pollutants, it is because the co-pollutant regulatory program did not prevent those increases. CARB may resist the effort to impose co-pollutant goals on its GHG regulatory program. But, as noted above, AB 32 explicitly links GHG and co-pollutant emissions by specifying that the flexibility of a market-based GHG program not lead to increases in associated co-pollutants, even if those increases would be permissible under existing co-pollutant regulations.

1. **Complement the state’s air quality objectives.**

As noted above, AB 32 directs CARB to develop policies that “complement[] the state’s efforts to improve air quality.”[[8]](#footnote-8) It is not enough to prevent co-pollutant *increases*. Ideally, the cap-and-trade program should help achieve air quality standards by targeting GHG, and associated co-pollutant, *reductions* in the state’s most polluted areas. Not surprisingly, CARB’s Co-Pollutant Emissions Assessment reveals that greater co-pollutant reductions benefits would be achieved if all facilities had to reduce their proportionate share than will be achieved by letting facilities trade GHG allowances in ways that could maintain or increase emissions.[[9]](#footnote-9) While the percentage difference in emissions reductions is small, the data indicates that the cap-and-trade program has not been designed to enhance the achievement of air quality objectives.

In addition, the emissions assessment does not evaluate what could have been achieved if the program were designed to require or incentivize greater GHG reductions in the state’s most polluted areas. The first scenario in all of the report’s case studies assumes that all facilities in the state reduce by the same amount. The report does not analyze the co-pollutant consequences of achieving greater-than-average GHG reductions in the state’s most polluted areas.

1. **Suggestions**

In response to the November 2009 Proposed Draft Regulation, I submitted comments addressing numerous ways in which a trading program could incorporate co-pollutant reduction objectives (Kaswan PDR comments). The comments did not advocate for any one mechanism, but evaluated the strengths and weaknesses of several options.

The Kaswan PDR comments are incorporated here by reference. Of the seven options included in the original memo, I would suggest focusing on the following four options (options that could be used individually or in combination):

1. Combine trading with direct regulation (now or in the future);
2. Impose individual facility caps for facilities in heavily-polluted areas;
3. Create incentives for greater reductions in heavily-polluted areas (through differentiated allowance allocation, fees, higher allowance prices, or enhanced allowance retirement requirements; and
4. Devote auction revenue to a Community Benefits Fund to help finance co-pollutant reductions in disadvantaged areas.

While I will not repeat the analysis of these options in this document, I will comment on the Staff’s discussion of some of these alternatives.

**Alternative Rejected by Staff - Implement Only Additional Source-Specific Command-and-Control Regulations**. CARB staff rejected the alternative of replacing the cap-and-trade program with a direct regulatory program for industrial sources. The Staff Report presents a number of convincing arguments for why regulation should not *replace* a cap-and-trade program, but did not address the value of complementing the cap-and-trade program with limited and targeted regulatory efforts where appropriate. The Staff Report expresses concerns about the cost-effectiveness of regulation if applied to all industries. But if regulation were used to complement cap-and-trade only where appropriate, CARB could take cost-effectiveness into account in deciding whether to impose regulations. In determining cost-effectiveness, it is also important for CARB to consider not only the costs of regulation to the relevant industry, but also the economic benefits of enhanced emissions reductions.

The Staff Report also observes that regulations would be difficult to draft given the lack of data on effective emission reduction mechanisms and the variation among facilities. However, CARB is requiring energy audits at industrial facilities, a process that includes an assessment of associated co-pollutant impacts. While current data may be insufficient, the audits could provide a much stronger basis for identifying cost-effective energy efficiency mechanisms that could be required at industrial facilities, and that could achieve both GHG and co-pollutant reductions.

CARB Staff may be assuming that facilities will adopt cost-effective reduction strategies in response to the price signal created by the cap-and-trade program, without the need for command-and-control regulations. But industrial investment decisions are complex. Inertia, uncertainty about future carbon markets, concerns about short-term capital expenditures, and other factors could impede otherwise cost-effective investment in emission reductions. If price signals do not end up prompting cost-effective measures with significant co-pollutant benefits, then CARB should retain the authority to require appropriate measures.

In addition, if CARB identifies cost-effective GHG emission reduction measures with particularly significant co-pollutant benefits,[[10]](#footnote-10) then it would be consistent with AB 32’s goals to require those measures rather than relying upon the vagaries of the market to incentivize them.

**Alternative Rejected by Staff: Facility-Specific Caps**. The Staff Report expresses valid concerns about a program that applied facility-specific caps to all facilities. But the Staff Report evaluates only the most extreme version of this option. First, facility caps could be applied only to facilities in the state’s most polluted areas. Second, the impact of facility caps would depend upon their stringency. The Staff Report rejects caps that would require each facility to reduce its proportional share of emissions. But a cap would not have to be that stringent. A cap that prevented the facility from increasing emissions would eliminate the risk of violating AB 32’s requirement that the trading program prevent increases, while still providing substantial flexibility. If facility increases are as unlikely as the Staff Report claims, then such caps could ensure that the program complies with AB 32 without having a significant impact on covered facilities.

To further AB 32’s goal’s of complementing the state’s efforts to achieve air quality, facility caps could, however, go farther than simply preventing increases. The caps could be set somewhat below the level of existing emissions. Such an approach could still be more flexible than the one that the Staff rejected, because the level could be set somewhere between current emissions and the full proportionate share of reductions.

The Staff reject facility caps because of their impact on cost-effectiveness. But a full assessment of cost-effectiveness should take into consideration not only the costs of pollution control, but the benefits of reducing pollution in heavily polluted areas. Thus, varying requirements depending upon the benefits of pollution control could be more, not less, cost-effective from the state’s perspective.

**Alternative Rejected by Staff: Restricting Trading in Adversely Impacted Communities**. Essentially, the Staff Report argues that existing programs are already doing enough to address pollution in California, and that trading restrictions on stationary sources would add only a marginal benefit. Ultimately, whether CARB thinks it is necessary or not, AB 32 states that California should use its GHG policies, including its market mechanisms, to further co-pollutant reduction goals.

1. **Assessment of Co-Pollutant Impacts**

The proposed regulation states that CARB will monitor the co-pollutant consequences of the trading program and take further action as appropriate. Such monitoring will provide an important opportunity to assess the program. However, the report indicates that such an assessment will occur only once a compliance period – once every three years. That appears to be too infrequent to properly monitor the program’s co-pollutant consequences.

Ultimately, the state’s commitment to reduce GHGs is likely to improve co-pollutant levels and redound to the benefit of most, if not all, Californians. The state could, however, take greater initiative in fulfilling AB 32’s invitation to link GHG and co-pollutant reduction benefits.

Thank you for the opportunity to submit these comments.

**Comments on the Proposed Draft Regulation** (submitted February 24, 2010)

This letter provides my comments on the Preliminary Draft Regulation (PDR) for a California Cap-and-Trade Program.

The PDR notes the importance of addressing the interface between the GHG cap-and-trade program and co-pollutants,[[11]](#footnote-11) but has not yet incorporated measures to respond to these potential interactions. This letter is a response to the PDR’s request for comment on how CARB could incorporate AB 32’s environmental justice provisions into its proposed cap-and-trade program.

The first section of the comments identifies relevant AB 32 provisions and provides general comments on CARB’s environmental justice obligation. The second section analyzes mechanisms for integrating environmental justice. It identifies several parameters for evaluating potential mechanisms, including:

1. Degree and certainty of greenhouse gas (GHG) reductions (and associated co-pollutant reduction benefits) in disadvantaged areas;
2. Ease of administration (for CARB and regulated entities);
3. Economic impact and leakage; and
4. Implications if a federal cap-and-trade program is adopted.

The second part of the second section then uses these parameters to evaluate seven options for incorporating environmental justice. The seven options include:

1. Combine trading with regulation;
2. Individual facility caps;
3. Incentives for greater reductions in disadvantaged areas (differentiated allowance allocation; fees or higher allowance prices; or enhanced allowance retirement requirement);
4. Zonal trading;
5. Enhanced offset restrictions in disadvantaged areas;
6. Require the use of in-state offsets; and
7. Devote auction revenue to disadvantaged areas for co-pollutant reductions.

The comments are intended to aid CARB in its analysis of the relative strengths and weaknesses of available options. While I argue that CARB is legally obligated to address the co-pollutant consequences of its GHG trading policy, these comments do not advocate for one or another of the potential mechanisms.

The third section of these comments raises several miscellaneous comments on the PDR.

**Part I**: **AB 32 Requires CARB to Integrate Environmental Justice**

**into its Cap-and-Trade Program**

The California Legislature recognized the widespread impacts that climate policy generally, and a cap-and-trade program specifically, could have on the state. AB 32 requires CARB to develop a comprehensive policy that not only reduces GHGs, but also “maximizes additional environmental and economic co-benefits for California, and complements the state’s efforts to improve air quality.”[[12]](#footnote-12) While CARB’s charge includes a variety of objectives, both economic and environmental, it is clear that the Legislature intended CARB to integrate GHG and co-pollutant reduction objectives.[[13]](#footnote-13)

The law directly requires a cap-and-trade program to prevent increases in pollutants. Under AB 32, any market mechanisms must, to the extent feasible, be designed “to prevent any increase in the emissions of toxic air contaminants or criteria air pollutants.”[[14]](#footnote-14) To the extent that existing co-pollutant controls do not completely prevent increases, the GHG trading program will have to ensure that it does not lead to incidental increases in co-pollutant emissions.[[15]](#footnote-15) The PDR appears to acknowledge CARB’s duty to prevent increases.[[16]](#footnote-16)

AB 32 requires CARB not only to prevent co-pollutant increases, but to maximize the climate policy’s co-pollutant reduction benefits. As noted above, the Legislature intended for the state’s GHG policy to “complement” the state’s air quality objectives.[[17]](#footnote-17) In regard to market mechanisms, the law states that CARB should “[m]aximize additional environmental and economic benefits for California, as appropriate.”[[18]](#footnote-18) Climate policy would complement air quality objectives and maximize environmental benefits by concentrating GHG reductions, and associated co-pollutant reductions, in the state’s most polluted areas. For the purposes of this letter, I am identifying such polluted areas as “disadvantaged areas.”[[19]](#footnote-19)

While the PDR clearly acknowledges its legal duty to prevent co-pollutant increases,[[20]](#footnote-20) it is more ambiguous about CARB’s intent to maximize environmental benefits. It describes the objective, but indicates only that it has been raised by stakeholders.[[21]](#footnote-21) AB 32 requires CARB to affirmatively address mechanisms for maximizing environmental benefits in order to determine whether they are feasible and appropriate.

AB 32’s distributional goals pose a considerable challenge for a cap-and-trade program. A cap-and-trade program’s flexibility renders it virtually impossible to determine where GHG increases and decreases, and increases and decreases of associated co-pollutants, will occur.[[22]](#footnote-22) The Health Impact Assessment process that is currently underway should help reveal possible scenarios. However, a trading program’s flexibility makes it impossible to know in advance how emissions will be distributed. Ultimately, given the unpredictability of actual emissions, CARB should consider design features to control, or at least steer, emissions to meet AB 32’s distributional goals.

**Part II: Mechanisms for Avoiding Co-Pollutant Increases**

**and Maximizing Co-Pollutant Reductions**

CARB has numerous potential options for avoiding co-pollutant increases and maximizing their reductions, including regulation, trading restrictions, and direct investments in co-pollutant reductions. The first section of this part identifies overarching factors to consider in evaluating these options. The second section of the part analyzes potential options pursuant to these factors.

**A. Factors for Evaluating Co-Pollutant Reduction Options**

Mechanisms for addressing co-pollutants are likely to present differing and difficult tradeoffs. To facilitate an analysis and comparison of these mechanisms, this section identifies the following factors as likely to be relevant to CARB’s decision:

(1) **Degree and certainty of GHG reductions (and associated co-pollutant benefits) in disadvantaged areas**. Some potential mechanisms would directly limit GHGs (and thus likely limit co-pollutants) (e.g., regulatory approaches, individual facility caps, dedicated investment of auction revenue in co-pollutant reductions). Others would create incentives, but not necessarily result in reductions (e.g., charging higher allowances prices or requiring enhanced allowance submissions). Yet others could potentially, but not necessarily, result in co-pollutant reductions (e.g., giving communities the ability to apply for grants from an auction revenue fund to finance co-pollutant reductions).

I assume for the purposes of this memo that the correlation between GHGs and co-pollutants is strong enough to conclude that GHG reductions would usually lead to co-pollutant reductions.[[23]](#footnote-23) (If a given facility’s GHG reduction efforts appear to be leading to co-pollutant increases, however, then regulatory attention should be directed to that dynamic.)

I also recognize that the ratio between GHG reductions and co-pollutant reductions could vary, with GHG reductions in some industries leading to proportionately greater co-pollutant reductions than in others.[[24]](#footnote-24) In designing mechanisms for improving a trading program’s incidental co-pollutant outcomes, CARB could consider applying the mechanisms only to those industries demonstrating a high correlation between GHGs and co-pollutants.

(2) **Ease of administration (for CARB and regulated entities)**. From CARB’s perspective, administrative considerations include the ease of implementing, enforcing, and defending each mechanism. For regulated entities, administrative considerations include potential permitting proceedings and the ease of determining and complying with applicable requirements.

(3) **Economic impact and leakage**. An obvious and important economic impact to be considered is the economic impact on regulated entities. The impact on individual facilities (particularly if subject to enhanced requirements) is relevant. Also relevant is the extent of the impact: how many facilities would be subject to additional constraints. For example, policies that apply only to facilities in disadvantaged areas will have less overall economic impact than policies that apply to all facilities. The extent of that impact would depend upon how many facilities are located in disadvantaged areas and hence subject to additional restrictions. Similarly, policies that are targeted only toward industries from which significant co-pollutant reductions could be gained would have less impact than policies applied across-the-board.

The economic impact on regulated entities has important implications for leakage. Particularly in the absence of a federal program imposing nationwide limitations, leakage is an understandable concern. Leakage would still allow California to reap co-pollutant benefits, but at the cost of GHG reduction goals and economic enterprise. While leakage is undoubtedly a real concern in certain industries and contexts, leakage claims must be carefully assessed on an industry-specific basis.

A related consideration is equity among regulated entities. Facilities located in disadvantaged areas could claim that imposing more demanding standards on them is “unfair” and renders them less competitive. However, imposing more demanding standards on facilities in disadvantaged areas internalizes and holds them accountable for the costs they are imposing on surrounding communities. While it is “unfair” to treat like entities differently, differences in the impact of pollution justify creating different standards for facilities based upon their differing impacts on the surrounding community.

In determining a given policy’s economic impact, the impact on regulated facilities is not the only relevant concern. AB 32 includes not only the goal of achieving cost-effective reductions, but also requires CARB to adopt climate policies that maximize overall societal benefits, both environmental and economic.[[25]](#footnote-25) The state’s cap-and-trade program will have numerous ancillary costs and benefits that determine the policy’s overall economic impact.[[26]](#footnote-26)

Reducing co-pollutants has economic as well as environmental implications. Concentrated pollution imposes significant economic costs, in the form of health expenditures, lost productivity, and the like. Controlling co-pollutants is a significant economic co-benefit of GHG regulation.[[27]](#footnote-27)

Other relevant ancillary costs and benefits include employment impacts. While it is important to recognize that maximizing co-pollutant benefits could have negative jobs impacts in certain sectors, other sectors, like green tech sectors, could compensate for that impact.

Thus, determining the “economic impact” of a given measure requires CARB to consider not only that measure’s cost-effectiveness for a given industry, but the economic benefits of improving pollution and promoting the green technology sector.

(4) **Implications if a federal cap-and-trade program is adopted.**  Because federal cap-and-trade legislation may be adopted, it is necessary to assess (1) what mechanisms for meeting AB 32’s environmental justice goals would still be available; and (2) the potential impact of various mechanisms on the federal program and potential tensions that could arise.

Under existing proposed federal legislation, California’s cap-and-trade program, as a stand-alone program, is likely to be subject to a moratorium.[[28]](#footnote-28) That would eliminate the state’s ability to achieve co-pollutant outcomes through allowance distribution (either for free or by auction), and could impact the state’s control over auction revenue (if equivalent levels of allowance value or auction revenue are not directed to the states).

However, current draft legislation would preserve the states’ ability to impose regulations or to establish state-level allowance retirement requirements.[[29]](#footnote-29) These mechanisms would likely survive the enactment of federal cap-and-trade legislation.

Even if California’s efforts are not preempted by federal legislation, the federal program could create federal-state dynamics that are worth addressing. For example, California policies could impact the national allowance and offset markets. It is worth assessing the interactions and their implications for both California and the national program.

B. **Options for Incorporating Co-Pollutant Reductions Goals**

In the discussion below, I identify mechanisms and provide an initial analysis pursuant to the factors identified above. The analysis is preliminary and intended to be illustrative rather than complete.

It should be noted that, since the goal is improving the distribution of actual emissions, the mechanisms below address only the “downstream” aspects of a trading system, where allowances are held by emitting facilities.

**Option 1: Combine Trading with Regulation**

Although the PDR is focused on the trading program, CARB’s capacity to address potential disproportionate impacts from the trading program could require it to utilize other governmental authorities, like regulatory options. While the Scoping Plan includes extensive regulatory measures for mobile source emissions and for electricity-generating units (the environmental performance standard), industrial stationary source emissions are to be controlled primarily through the cap-and-trade program.

Arguably, some of the potential distributional inequities associated with a trading program could be dampened through judicious use of regulatory mechanisms. Such measures could be targeted towards industries that have a high correlation between GHGs and co-pollutants, where reductions in GHGs are likely to lead to significant improvements in co-pollutant emissions. And they could be imposed only on facilities within disadvantaged areas suffering from high levels of pollution, thus ensuring a base level of GHG reductions in those locations that would most benefit from associated co-pollutant reductions. The regulatory process could also assure that the chosen GHG reduction method in fact reduced, rather than increased, co-pollutant emissions.

As part of the AB 32 implementation process, CARB is evaluating emission-reducing options in a number of sectors, like glass and cement manufacturing. The energy audits of large industrial facilities are specifically considering the co-pollutant implications of improved efficiency. If cost-effective GHG control mechanisms with positive co-pollutant consequences emerge from these inquiries, CARB should consider requiring that the measures be adopted, at least in polluted areas, rather than waiting for or expecting the cap-and-trade program to provide the requisite incentive.

I now turn to a preliminary analysis of this option pursuant to the factors identified above.

(1) **Degree and certainty of co-pollutant benefits**: Regulatory mechanisms would provide a higher degree of certainty in optimizing the location of co-pollutant reductions than a trading program. Wherever imposed, baseline emissions would decrease, in contrast to a trading program, where emissions could potentially remain constant or even increase (within the constraints of existing co-pollutant controls). While regulatory options might be crafted as performance standards and thus allow for emissions increases if production subsequently increased, the adoption of the regulatory controls would reduce the baseline from which such increases would occur.

(2) **Ease of administration (for CARB and regulated entities)**. Regulatory measures would require CARB to adopt (and potentially defend) the measures and require CARB to incorporate the measures into facilities’ existing permits. Since CARB and a number of high-GHG facilities are already exploring potential GHG reduction methodologies, a regulatory approach would not require new research. The regulatory approach would, however, impose the administrative burden of promulgating and defending the rules. If controversial, the administrative burden in developing and defending the rules could be substantial.

Including the requirements in permits would create regulatory and enforcement costs. The key issue is whether those costs are worth their results, and the relative difficulty of enforcement in comparison with an unfettered trading program. While industry might prefer not to have to engage in a GHG permitting process, CARB must weigh that aversion against whatever advantages it believes such regulation could offer.

(3) **Economic Impact**. Reducing GHGs will not be costless for regulated entities. However, regulations are not necessarily more costly than a trading program. The cost of each depends upon their relative stringency and the degree to which a regulatory program incorporates cost considerations in developing and imposing regulatory requirements. Under AB 32, CARB has the discretion to decide when to impose regulation. If the agency imposes regulations that are, by definition, cost-effective, then it is not clear that the industry cost of regulation would necessarily be higher than industry costs in a trading program. CARB can also decide to impose regulatory requirements only where the costs appear worth the benefits, and can decide not to impose them where reductions are inordinately expensive and do not provide benefits that would otherwise justify the high cost.

One could argue: “Why bother imposing regulations if they are so cost-effective that they are likely to duplicate the measures that the impacted industries would have taken on their own under a trading program?” In response, regulatory measures could provide greater certainty that cost-effective measures are in fact being taken. If offsets are widely available and offset and allowance prices are low, the power of inertia could lead facilities to forego even cost-effective controls. Industries might choose to pay for allowances on a short-term basis to avoid short-term capital costs, even if the investment is cost-effective in the long-term. Regulatory requirements would ensure that cost-effective investments are made.

Assuming the regulations impose somewhat greater costs on industry than it would experience under a pure trading program, the extent of the impact would depend upon the number of facilities subject to controls. If regulations were imposed only on facilities located in polluted areas, the extent of the impact of imposing regulatory requirements would depend upon how many facilities were in such areas. If many of the state’s most polluting industries are concentrated in heavily-polluted areas, the impact of a regulatory approach could be quite broad. Regulations could also be targeted toward industries with the strongest correlation between GHG and co-pollutant emissions, further limiting the scope of the economic impact.

If regulations target GHG and associated co-pollutant reductions in disadvantaged areas, they will be applied where they will have the greatest health benefits. As discussed above, health benefits translate into economic benefits that could offset the economic impact of more stringent controls.

(4) **Implications if a federal cap-and-trade program is adopted.** Recently-proposed federal legislation has included the Clean Air Act’s saving clause, which allows states to set stationary source standards.[[30]](#footnote-30) A preemption challenge is possible: an industry could claim that state regulation is an obstacle to the full achievement of the federal trading program’s objectives.[[31]](#footnote-31) The savings provision may be sufficient to defeat such a claim.

In a federal trading program, state facilities are likely to receive freely-allocated allowances. If the regulations result in facility emissions that are less than the number of freely allocated allowances, the state will have to decide what to do with the excess allowances. It could require the facility to retire the allowances to the state (for the state to retire), or, it could allow the facility to sell the extra allowances. The choice could depend upon whether the state’s regulations are intended to achieve greater stringency (in which case it would want to retire the extra allowances) or to achieve other purposes, like collateral co-pollutant and green tech benefits (in which case it might be indifferent to the facility’s sale of its extra allowances).[[32]](#footnote-32)

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**Option 2: Set Individual Facility Caps**

CARB could also take steps to improve distributional outcomes within the confines of the trading program. CARB could limit the trading flexibility of facilities in disadvantaged areas. As a proxy for co-pollutant consequences, facilities in disadvantaged areas could have facility-specific emission limits predicated on past emissions levels.

To prevent increases, facilities would not be allowed to emit more than a previous baseline of existing emissions. To meet their compliance obligation, the facility would not be able to submit more compliance instruments than the prior baseline.

To encourage reductions, facilities could not just be limited to their prior baseline, but be required to reduce emissions to a certain percentage below existing emissions. For example, if the emissions reduction goal in a given compliance period were 10%, they would not be able to submit more compliance instruments than 10% below the prior baseline.

(1) **Degree and certainty of GHG reductions (and associated co-pollutant benefits) in disadvantaged areas**. By tying the compliance requirement to prior emissions, this mechanism would provide a relatively high degree of certainty that GHG and associated co-pollutant emissions are not increasing in disadvantaged areas. If CARB not only limited emissions to baseline emissions, but required facilities to reduce emissions, then it would provide a high degree of certainty that GHG reductions are occurring in disadvantaged areas, maximizing co-pollutant benefits. While the correlation between the GHG and co-pollutant reductions may not be precise, some degree of correlation is likely.

Of all the mechanisms discussed, this approach is likely to provide the greatest certainty in controlling co-pollutant consequences and would therefore provide the greatest certainty that trading would not violate AB 32’s limitation on co-pollutant increases.

(2) **Ease of administration (for CARB and regulated entities)**. This mechanism’s administrative complexity would depend upon the administrative challenge associated with determining (and defending) a facility’s baseline emissions. If the baselines are difficult to determine, administrative resources will be required to develop them. And if baselines are likely to be controversial and contested, administrative resources could be devoted to defending the agency’s choice of baseline. In contrast, administering the compliance demonstration (ensuring that allowances match emissions, and that emissions do not exceed the designated cap) does not appear to impose an additional administrative burden beyond that normally associated with a cap-and-trade program.

From industry’s perspective, the compliance requirement itself is not administratively complex. The fact that the impacted industries are likely to resist the emissions restrictions does not mean that it is administratively complex for them to comply.

(3) **Economic impact**. The extent of the impact on regulated facilities depends upon the extent to which facility caps end up restraining emissions from the levels facilities would otherwise have chosen. To the extent that impacted facilities are high-cost reducers who are forced to reduce emissions when they would have purchased compliance instruments in an unencumbered market, this mechanism will increase the costs of compliance for the affected facilities. However, if the facilities would have adjusted their emissions to the required levels in any case, then the mechanism would not impose additional costs on the affected facilities.

Since this mechanism would affect only those facilities in disadvantaged areas, it would have less overall impact than regulations imposed on all facilities. And if it were limited to facilities in disadvantaged areas whose GHG emissions are strongly correlated with co-pollutant emissions, the impact would be even less.

To the extent this mechanism requires facilities to reduce emissions when it would have been cheaper for them to buy allowances, it would impose additional industry costs. However, it would also result in improved public health benefits that should be considered in weighing the net “cost” of the restriction.

(4) **Implications if a federal cap-and-trade program is adopted.** Current proposed federal legislation would allow states to establish their own compliance requirements for federal allowances. The state should, therefore, be able to establish these allowance submission requirements even if federal legislation is passed.

If this mechanism changes industry emissions decisions, it could have some impact on the national allowance market. To the extent that the limitations induce high-cost reducers to reduce emissions when they would otherwise have purchased allowances, this approach would increase the supply of allowances relative to the no-control scenario. If widespread enough, it could lead to a slight decrease in national allowance prices.

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**Option 3: Incentives for Greater Reductions in Disadvantaged Areas (differentiated allowance allocation, surcharges or higher allowance prices, or enhanced allowance retirement requirement)**

Instead of pegging allowance submission requirements to a previous baseline, CARB could create incentives for greater GHG (and associated co-pollutant) reductions in disadvantaged areas. To the extent allowances are freely distributed, CARB could distribute fewer allowances to facilities in disadvantaged areas. CARB could also impose a fee on emissions from facilities in disadvantaged areas.[[33]](#footnote-33) If allowances are auctioned, CARB could charge a higher price for allowances to be used in disadvantaged areas. Alternatively, whether allowances are auctioned or distributed for free, CARB could require a higher ratio of compliance instruments per ton of emissions. For example, a facility in a disadvantaged area could be required to submit 1.2 allowances per ton of emissions. All of these mechanisms would directly or indirectly increase the cost of emitting GHGs and create a stronger incentive for actual GHG (and associated co-pollutant) reductions.

(1) **Degree and certainty of GHG reductions (and associated co-pollutant benefits) in disadvantaged areas**. The effectiveness of these incentive-based mechanisms at reducing emissions in disadvantaged areas is likely to depend upon the price of allowances and offsets in relation to the costs of control. The more expensive the cost of compliance instruments, the greater the incentive for facilities to engage in emissions reductions rather than purchasing allowances.

By creating incentives rather than setting specific emission limitations, this approach would provide less certainty than capping individual facility emissions. Facilities could choose to continue to emit and to buy compliance instruments, notwithstanding the cost.

(2) **Ease of administration (for CARB and regulated entities)**. The administrative implications of these incentive approaches vary depending upon the particular approach. If fewer allowances are distributed to facilities in disadvantaged areas, then baseline emissions would have to be determined. That baseline determination would, however, be a necessary prerequisite to the allowance distribution scheme itself, and not be a consequence of choosing to modify allowance distributions based upon a facility’s location in a disadvantaged area.

Enhanced allowance submission requirements should be administratively straightforward for CARB. They do not require the agency to establish and defend new facility baseline emission determinations.

Neither distributing fewer allowances to facilities in disadvantaged areas nor enhanced allowance submission requirements would impose a significant administrative burden on complying industries. (The economic burden is discussed below.)

For impacted industries, the administrative feasibility of charging higher auction prices for allowances to be used in disadvantaged areas would depend upon the extent to which facilities are likely to know, at the time of purchase, where they intend to use the allowances. If facilities purchase allowances right before their compliance obligation is due, the process could be straightforward. But if they purchase them in advance and/or sell them, then the link between auction purchase and location-of-use could become more attenuated. The more attenuated, the greater administrative challenges this option presents.

(3) **Economic impact**. All of these options would be likely to impose higher costs than an unrestricted trading program. As incentive systems, they are intended to impose higher costs in order to trigger greater emissions reductions. The costs would not be industry-wide since they would be imposed only on those facilities in disadvantaged areas. If the incentives were imposed only on those industries with a high correlation between GHG and co-pollutant emissions, then the overall cost of such constraints could be further limited.

Assuming some increase in costs, a more interesting issue is how the cost of these mechanisms would compare with the cost of imposing individual facility caps. The economic impacts would depend upon the type of incentive mechanism.

**Distributing fewer allowances to facilities in disadvantaged areas.** If facilities in disadvantaged areas receive fewer allowances, then they would either have to reduce emissions by more or have to purchase additional allowances. That flexibility could provide some cost savings in comparison with capping individual facility emissions, since facilities would have the option of purchasing allowances if that were cheaper than reducing emissions.

**Charging a surcharge, higher allowances prices at auction, or imposing heightened allowance submission requirements.**  The impact of imposing fees, higher allowance prices, or heightened allowance submission requirements on facilities would depend upon whether they are high or low cost reducers. For low-cost reducers, imposing heightened allowance submission requirements or higher prices could impose higher costs than capping individual facility emissions. Low-cost reducers would likely respond to a trading program with emissions reductions, so capping individual facility emissions would not impose any extra costs on low-cost reducers. If low-cost reducers were required to pay more for allowances or were required to submit more allowances per ton of emissions, however, then they would face higher costs even though their emissions were reduced.

For high-cost reducers, the flexibility offered by the incentive approach might reduce costs relative to capping individual facility emissions. Imposing a set limit of emissions could be very expensive for high-cost reducers. For them, it might be cheaper to pay a fee or buy allowances – even extra allowances – than to reduce emissions.

More generally, requiring more allowances per ton of emissions could indirectly increase the price of compliance instruments. If facilities subject to the restriction were to purchase compliance instruments rather than reduce emissions, this approach could also, effectively, tighten the cap and reduce the supply of compliance instruments. That could increase prices generally, extending the cost impacts beyond the directly targeted facilities. The extent of the impact would depend upon how many facilities were subject to the requirement and the extent to which they responded by purchasing compliance instruments rather than reducing emissions.

Alternatively, if this approach were effective in incentivizing emission reductions, and facilities reduced emissions by more than they would have under a traditional cap-and-trade program, then their net demand for compliance instruments would not change, notwithstanding the increased allowance-to-emissions ratio. Under that scenario, there would be little impact on allowance supply and the cost of allowances.

(4) **Implications if a federal cap-and-trade program is adopted.** If a federal cap-and-trade program is adopted, the state would no longer control allowance distribution and would not be able to distribute fewer allowances to facilities in disadvantaged areas or charge higher prices for allowances at auction. However, since currently proposed federal legislation does allow states to establish their own allowance submission requirements, they could still charge emissions fees or require the submission of more than one compliance instrument per ton of emissions.

To the extent that requiring the submission of more than one compliance instrument per ton of emissions leads facilities to buy instruments rather than reducing emissions, there could be some impact on the national cap and the national allowance market. But if facilities respond to the reduction incentive by reducing emissions, then there would still be some impact on the national cap (since facilities would be reducing by more than one ton per compliance instrument), but there should be little, if any, impact on the national allowance market.[[34]](#footnote-34)

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**Option 4: Zonal trading**

The South Coast’s RECLAIM program has imposed zonal limitations to limit trading from facilities in a cleaner zone to facilities located in a more polluted zone. Some have suggested a similar approach for California’s cap-and-trade program.[[35]](#footnote-35) Conceivably, facilities in disadvantaged areas could be prohibited from using allowances generated by reductions from facilities in non-disadvantaged areas. In that way, pollution reductions in clean areas would not contribute to continued or increasing emissions in disadvantaged areas.

If this approach decreased the availability of allowances in disadvantaged areas, then allowance prices for allowances that could be used in such areas would likely increase, creating a stronger incentive for emissions reductions. In the RECLAIM program, zonal trading limitations led to substantially higher allowance prices for allowances in the more polluted area, incentivizing reductions for that region.[[36]](#footnote-36)

(1) **Degree and certainty of GHG reductions (and associated co-pollutant benefits) in disadvantaged areas**. If allowances are auctioned and most facilities fulfill their compliance obligation through auction purchases, then trading would be relegated to a relatively small role. Facilities in disadvantaged areas would buy the allowances they need at auction, rather than relying on trades. Under such circumstances, it is not clear how effective this mechanism would be at limiting emissions in more polluted areas.

However, if allowances are freely distributed, then facilities are more likely to use trading to adjust to their preferred level of emissions reduction. The extent to which a zonal trading program would improve distributional results would depend upon the extent to which the trading program decreased the available supply of allowances in disadvantaged areas and, as a consequence, increased allowances prices and incentivized emissions reductions.

In terms of the certainty of reductions, a zonal trading program would primarily create reduction incentives rather than imposing strict limits, and would thus not provide certainty regarding GHG (and associated co-pollutant) reductions in disadvantaged areas.

The impact of zonal trading on allowance supply would depend upon where reductions occur: if they primarily occur within disadvantaged areas themselves, then there would be little impact on allowance supply since such allowances could be used anywhere. That result would be positive on some levels, because it would reflect reductions in disadvantaged areas. However, if those reductions are then channeled to other disadvantaged areas, it would not ensure that *all* disadvantaged areas reap the benefits of the zonal trading system.

If reductions primarily occur in non-polluted areas, and the resulting allowances are not available for use in disadvantaged areas, then the zonal trading program could have a more substantial impact on allowance supply in disadvantaged areas, on the resulting allowance prices in those areas, and on the associated emission-reduction incentive.

The impact could also depend upon how the allowance market plays out. It is conceivable that zonal trading could influence who uses which allowances, without substantially impacting the number of allowances available in disadvantaged areas. If sufficient unrestricted allowances are available, they could flow to disadvantaged areas while the restricted allowances remain within non-disadvantaged areas. Under this scenario, a zonal trading program would not substantially impact co-pollutant emissions in disadvantaged areas.

(2) **Ease of administration (for CARB and regulated entities)**. For CARB and for impacted industries, the ease of administration would depend upon the degree to which allowances can be easily tagged and traced to their source. That traceability would be particularly important if a dynamic allowance market develops that goes beyond one-on-one transactions.

(3) **Economic impact**. The economic impact of this approach on regulated entities would depend upon the extent to which the zonal trading program impacted the availability, and associated cost, of allowances; the cost of emissions reductions (as an alternative to purchasing allowances); and the number of facilities affected by the restrictions.[[37]](#footnote-37)

As with all of these mechanisms, the higher allowance prices would reflect the higher social costs associated with pollution in disadvantaged zones. As Prof. Boyce notes, since “co-pollutants result in variations in marginal abatement benefits, … permit price differentials can be an efficiency-improving result.”[[38]](#footnote-38)

(4) **Implications if a federal cap-and-trade program is adopted.** A zonal trading program would be difficult to implement under a federal trading program. Although currently proposed federal legislation would allow states to establish their own allowance compliance submission requirements, California would not be able to “tag” allowances (and label them as from a polluted versus an unpolluted area) if the allowances are generated outside of California’s jurisdiction. Any effort to limit trading to allowances created within California would likely be deemed unlawful under the Dormant Commerce Clause.

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**Option 5: Enhanced Offset Restrictions in Disadvantaged Areas**

Since the use of offsets results in less of a co-pollutant reduction benefit from covered facilities, one option could be to limit the use of offsets by facilities in disadvantaged areas. This approach could increase the cost of emissions (assuming that allowances and offsets retain separate prices in the allowance market), and could thereby create an indirect incentive for emissions reductions.

However, it appears to be a fairly blunt instrument for accomplishing its objective, since facilities could continue emitting by purchasing allowances rather than offsets. Policies that focus on the use of all compliance instruments, both allowances and offsets, appear better suited to accomplishing emission reduction objectives in disadvantaged areas. And concerns about offset use could be more directly addressed through controlling the use of offsets at all facilities, not just in disadvantaged areas. For these reasons, I do not discuss this option further.

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**Option 6: Require Use of In-State Offsets**

Some have suggested that California should accept only offsets that have been generated within the state. That policy could be motivated by a number of factors, including ensuring that California receives the benefits, both environmental and economic, of offsets. The policy could have co-pollutant benefits because some potential offsets, like reducing manure-related agricultural emissions, would also reduce co-pollutants.[[39]](#footnote-39)

(1) **Degree and certainty of GHG reductions (and associated co-pollutant benefits) in disadvantaged areas**. This approach would concentrate offsets’ co-pollutant reduction co-benefits within California. However, it would not provide a mechanism for controlling the nature or distribution of those co-benefits. For example, if an urban facility purchased agricultural offsets, that transaction could reduce rural pollution, but it would not address the urban emissions enabled by the offset transaction.

It is also unclear how many offsets would be generated by activities that reduce co-pollutants. Many offset opportunities, like timber conservation or soil tillage practices, sequester carbon rather than reducing co-pollutants. While those offsets may have their own important co-benefits, they do not lead to co-pollutant reductions.

A more direct way of achieving the co-pollutant reduction benefits associated with certain offsets, like agricultural or landfill reductions, would be to require such reductions directly, rather than relying upon the offset market to incentivize and pay for such reductions. If agricultural or landfill reductions are available as offsets, then they simply replace reductions in other sectors. More co-pollutant reductions would be achieved by requiring reductions in both industrial and agricultural/landfill emissions.

(2) **Ease of administration (for CARB and regulated entities)**. California would have more control over offsets generated within California, and so its administration of California offsets could be more effective than relying upon offsets generated outside of California.

It is not clear how the burden associated with a California-offsets-only policy would compare with accepting out-of-state offsets, since the comparison would depend upon the relative complexity of California’s process for accepting out-of-state offsets. The more California attempts to independently verify out-of-state offsets, the greater the burden of out-of-state offsets. However, if California were to simply accept out-of-state offsets (presumably approved by an out-of-state entity), then accepting out-of-state offsets could impose less administrative burden than verifying in-state offsets (with, however, perhaps some loss to the effectiveness of the state’s control).

(3) **Economic impact**. Limiting California facilities to in-state offsets could deprive state facilities of low-cost offsets generated elsewhere. At the same time, however, limiting California facilities to in-state offsets would provide other California entities, like the timber and agriculture sectors, with the profits associated with the offsets.

(4) **Implications if a federal cap-and-trade program is adopted.** Limiting offsets to those generated in California would be problematic if a federal trading program is adopted. Industries opposed to the limitation would likely challenge it as a violation of the Commerce Clause, particularly since it explicitly discriminates against offsets generated in other states and could be viewed as protectionist to California’s economic interests.

Presumably, such a measure would also be highly controversial within the Western Climate Initiative, if that trading program were to become operational prior to the adoption of a federal program.

**Option 7: Use Auction Revenue to Reduce Co-pollutants in Disadvantaged Areas**

If allowances are auctioned, a certain percentage of auction revenue could be dedicated to helping disadvantaged communities. The California legislature is considering legislation to create this type of “community benefits fund” (“CBF”).[[40]](#footnote-40) One potential use of the CBF would be to reduce co-pollutants, particularly in communities where the GHG trading program has not generated emissions reductions.

(1) **Degree and certainty of GHG reductions (and associated co-pollutant benefits) in disadvantaged areas**. The degree and certainty of GHG reductions would depend upon how fund revenue was distributed and the uses to which such revenue could be put. If directly channeled to communities that have not received co-pollutant reduction benefits from the trading program and dedicated to co-pollutant reductions, then the fund could address co-pollutants in disadvantaged areas with a fairly high degree of effectiveness and certainty. However, if affected communities must apply for funds (as is proposed in current legislation), then there is no guarantee that communities experiencing a maintenance or increase in emissions would apply for and receive grant funds. In addition, CBF proposals have generally allowed the funds to be used for a wide variety of important benefits, including alternative energy and adaptation, so it is not clear that communities would use the funds for co-pollutant reductions.

This proposal has inherent value as a mechanism for using revenue from the trading system to help disadvantaged communities. It does not, however, provide a direct mechanism for meeting AB 32’s co-pollutant goals.

(2) **Ease of administration (for CARB and regulated entities)**. This proposal would operate outside the trading process, and so would not create additional burdens within the trading program. It would, however, require a separate administrative process for administering the community benefits fund.

(3) **Economic impact**. Assuming that allowances were auctioned in any case, this proposal addresses the distribution of the revenue, not the cost to regulated entities. This memorandum will not address the much larger question of the economic impact of auctioning allowances versus distributing them for free.

(4) **Implications if a federal cap-and-trade program is adopted.** If a federal cap-and-trade program were adopted, California would lose the ability to auction allowances. The extent to which California could continue to operate a community benefits fund would depend upon the extent to which a federal program directed auction revenue to the states and gave the states the flexibility to use auction revenue for reducing co-pollutants. It is also conceivable that California would be able to generate revenue through other mechanisms, like fees, in lieu of allowance sales.

**Conclusion**

The foregoing analysis demonstrates that CARB does have options for addressing the co-pollutant implications of its trading policy and that such options can and should be rigorously evaluated. These comments do not recommend a particular mechanism; instead, they are designed to assist CARB in conducting its analysis of potential options. The analysis is intended to be illustrative rather than definitive. Other variables may be relevant to CARB’s analysis. There may be other viable mechanisms for addressing the co-pollutant consequences of a GHG trading program. And the analysis itself would undoubtedly benefit from CARB’s detailed understanding of the impacted industrial sectors and their likely behavior under a trading program.

**Part III: Miscellaneous Comments on the PDR**

**Offset Use**

By allowing 4 percent of emissions to be covered by offsets, the state is allowing covered facilities to rely heavily upon offsets rather than their own reductions. Assuming that the 4 percent or emissions represents 49 percent of the required emissions *reductions*, the covered sectors are likely to reduce emissions by much less than they would have absent such a generous offset policy. The chances of increasing or maintaining co-pollutants in disadvantaged areas are much higher if the covered facilities are not, in fact, required to make a substantial portion of the reductions themselves. The trading program would be much more effective at simultaneously lowering industrial co-pollutants if the covered sectors were required to make more of their own emission reductions.

As noted above, some of the offset opportunities present their own co-pollutant reduction benefits, like reduced agricultural emissions. While such reductions would clearly benefit the state, it is not clear that there should be a trade-off between industrial and agricultural emissions. The state would achieve greater GHG and co-pollutant reductions if it required both agricultural and industrial reductions, instead of allowing agricultural reductions to substitute for industrial reductions.

While the primary focus of these comments is on the implications of California’s cap-and-trade program for co-pollutants, it should be noted that the generous offset policy also minimizes the incentive for transformative change by reducing incentives for green alternatives.

CARB has likely proposed a heavy reliance on offsets due to concerns about the cost of the trading program.[[41]](#footnote-41) However, since experience with past trading programs has shown that actual costs are often lower than anticipated, California could take a more nuanced approach to offsets. It could more strictly limit the use of offsets initially. Then, if the price of allowances exceeded certain (high) thresholds,[[42]](#footnote-42) it could progressively increase the level of permissible offsets. (RGGI has adopted a similar approach.)

**Modifications of the Base Budget in Response to Improved Estimates of Expected Emission Levels**

The PDR’s proposal to allow CARB to modify the annual base budget[[43]](#footnote-43) is an important attribute to avoid an insufficiently stringent cap, particularly if economic growth is slow and base emissions are lower than anticipated. However, I recommend that CARB retain the flexibility only to adjust the cap downward, not upward. One of the benefits of a cap is that it holds down emissions even if the state experiences economic or population growth that leads to higher-than-anticipated emissions. It would be more environmentally beneficial to respond to such higher emissions, and the higher cost of allowances that result, through cost containment measures that do not jeopardize the cap.

**Treatment of Biomass Fuels**

The PDR suggests that facilities combusting biomass fuels would not be required to surrender allowances.[[44]](#footnote-44) Presumably, that approach is intended to create an incentive for biomass combustion. The potential environmental implications, like associated co-pollutants and agricultural implications, should be carefully assessed.

**Conclusion**

AB 32 presents a unique opportunity and a unique challenge. It allows CARB to adopt a cap-and-trade program, but subjects that trading program to objectives and constraints not faced by other trading programs. By imposing distributional goals on a trading program, AB 32 will allow CARB to accomplish multiple objectives. While challenging, AB 32 allows CARB to develop a comprehensive, integrated, pollution control plan that will help guide the development of a cleaner, greener, infrastructure for the state.

Thank you for your consideration of these comments. I would be happy to answer any questions or to discuss the comments with you or your staff at you or their convenience. I can be reached at [kaswan@usfca.edu](mailto:kaswan@usfca.edu) or (415) 422-5053.

1. In the Staff Report accompanying the draft cap-and-trade rule, ARB indicated that the approaches it “would consider include, but are not limited to, using allowance value from the cap-and-trade program to mitigate localized emissions increases, providing incentives for energy efficiency and other emissions-reduction activities within the community, or restricting trading or prohibiting certain compliance responses in specifically identified communities.” See ARB, Proposed Regulation to Implement the California Cap-and-Trade Program, Staff Report: Initial Statement of Reasons (October 28, 2010). [↑](#footnote-ref-1)
2. The Preliminary Draft Regulation (PDR) explained that the offset limits were designed to allow facilities to use offsets to meet 49% of reductions, with 51% of the reduction occurring within the covered sectors. See ARB, Preliminary Draft Regulation for a California Cap-and-Trade Program, 42-43 (Nov. 24, 2009). At that time, ARB believed that goal would be met by allowing facilities to use offsets to cover 4% of their total emissions. In light of the withdrawal of allowances for the Strategic Reserve, ARB will allow facilities to use offsets to cover 8% of their emissions. Presumably, that use would still result in the same ratio of offsets (49%) to reductions within the covered sector (51%). [↑](#footnote-ref-2)
3. Cal. Health & Safety Code § 38501(h). [↑](#footnote-ref-3)
4. Cal. Health & Safety Code § 38570(b)(2). [↑](#footnote-ref-4)
5. *See, e.g.,* Staff Report, P-4, note 1 (Stating that “[n]ot all emissions increases at facilities covered by the cap-and-trade program will result from the program itself …. Staff believes that only in very limited circumstances would a localized emissions increase be the actual result of the incentives created by the cap-and-trade program ….”). *See also* Staff Report at II-59, note 33; Staff Report at VII-3, note 79. [↑](#footnote-ref-5)
6. Incentivizing more efficient energy generation is, of course, a positive development. Nonetheless, AB 32 requires CARB to take the co-pollutant consequences into account. [↑](#footnote-ref-6)
7. For example, in the Wilmington case study, if GHG emissions increased by 4 %, then, in comparison with the baseline scenario resulting from current criteria pollutant controls, there would be 1% less NOx reduction, 2% less PM2.5 reduction, and 1% less ROG reduction. Staff Report, Table VII-2, at VII-13. Achieving less reduction is tantamount to increasing emissions relative to the baseline; co-pollutant emissions would be higher than they would have been had the facilities reduced instead of increasing GHG emissions. [↑](#footnote-ref-7)
8. Cal. Health & Safety Code § 38501(h). [↑](#footnote-ref-8)
9. For example, in the Wilmington case study, if facilities reduced their GHG emissions by their proportionate share rather than increasing emissions, co-pollutant reductions would be enhanced by 2% for NOx, 3% for PM2.5, and 1% for ROG. Staff Report, Table VII-2, at VII-13. [↑](#footnote-ref-9)
10. Co-pollutant benefits could be particularly significant either because GHG reductions lead to a large reduction in associated co-pollutants, and/or because the industries to be regulated are located in especially polluted areas. [↑](#footnote-ref-10)
11. *See* PDR Overview at 9-10. [↑](#footnote-ref-11)
12. Cal. Health & Safety Code §38501(h). [↑](#footnote-ref-12)
13. Some have argued that CARB should not attempt to address the co-pollutant implications of the GHG cap-and-trade program and should instead address co-pollutant concerns through existing and separate authorities. Todd Schatzki & Robert N. Stavins, Addressing Environmental Justice Concerns in the Design of California Climate Policy (Oct. 2009). But AB 32 requires CARB to address the co-pollutant implications of its climate policy, and, as discussed further below, requires CARB to take an integrated approach that factors co-pollutant benefits into design choices. Moreover, since the same infrastructure that produces GHGs also produces co-pollutants; an integrated approach would be more likely to lead to optimal results. In addition, while California is making considerable progress using existing authorities, existing authorities have not been sufficient to attain air quality goals. AB 32 provides CARB with an additional tool that goes beyond existing authorities: the opportunity to target GHG reductions in ways that will have ancillary co-pollutant benefits. [↑](#footnote-ref-13)
14. Cal. Health & Safety Code §38570(b)(2). [↑](#footnote-ref-14)
15. AB 32 requires CARB to evaluate the potential for such increases. *Id.* at 38570(b)(1). In conducting a sample analysis of the potential consequences of a cap-and-trade program, the Scoping Plan’s Public Health Analysis simply assumed an across-the-board 10% decrease in emissions that did not analyze the potential for GHG trading to lead to increases. *See* Scoping Plan, Appendix H: Public Health Analysis H-114. The Scoping Plan acknowledged that, if a cap-and-trade program were to be adopted, a more careful analysis would be needed, *id.* at 18-19, and the PDR appears to recognize that a trading program’s flexibility could lead to localized pollution impacts. *See* PDR Overview at 9. [↑](#footnote-ref-15)
16. PDR Overview at 9. CARB qualifies its obligation by stating “to the extent feasible,” reflecting similar statutory language. [↑](#footnote-ref-16)
17. *See also* Cal. Health & Safety Code § 38562(b)(6) (requiring CARB to consider its regulations overall benefits, “including reductions in other air pollutants”). [↑](#footnote-ref-17)
18. *Id.* at §38570(b)(3). [↑](#footnote-ref-18)
19. I understand that CARB is currently identifying “disadvantaged areas,” and that that analysis will focus on both pollution concentrations and socioeconomic variables. This letter assumes that CARB will determine the “disadvantaged areas” requiring special attention under AB 32 and does not address how such areas should be defined. [↑](#footnote-ref-19)
20. PDR Overview at 9 (“To the extent that we identify increase in co-pollutant emissions due to the cap-and-trade program, we will also, to the extent feasible, identify the means to prevent these increases.”) [↑](#footnote-ref-20)
21. PDR Overview at 10. [↑](#footnote-ref-21)
22. The PDR acknowledges the possibility of GHG increases at individual sources. It states that “[t]he flexibility provided by trading allows for continued growth by individual sources ….” PDR Overview at 6. [↑](#footnote-ref-22)
23. There is some risk that GHG reduction policies could lead to co-pollutant increases, a real issue if it occurs. *See* Schatzki and Stavins, *supra* note 3, at 26. However, this letter assumes that GHG reductions are likely enough to lead to co-pollutant reductions to warrant the general assumption that GHG reductions will lead to co-pollutant reductions. [↑](#footnote-ref-23)
24. *See* James K. Boyce, *Memorandum to Economic and Allocation Advisory Committee, Investment in Disadvantaged Communities* 3-4, (Dec. 30, 2009) (describing variations in correlation between GHGs and co-pollutants). Schatzki and Stavins argue that CARB should not attempt to achieve environmental justice objectives within the cap-and-trade program due to the difficulty of determining the extent of the associated co-pollutant impacts and the resulting difficulty in calculating the precise benefits to be achieved by including co-pollutant objectives. Schatzki & Stavins, *supra* note 3, at 26. I argue that the difficulty in determining the extent of the benefit just not justify forgoing the benefit. [↑](#footnote-ref-24)
25. *See, e.g.,* Cal. Health & Safety Code § 38562(b)(6) (requiring CARB to consider overall societal benefits). [↑](#footnote-ref-25)
26. *See* Boyce, supra note 14, at 2-4 (observing that achieving efficiency requires considering the climate policy’s net social benefits). [↑](#footnote-ref-26)
27. *See id.* at 2-3; Britt Groosman, Nicholas Z. Muller, and Erin O’Neill, *The Ancillary Benefits from Climate Policy in the United States* (draft white paper, Sept. 2009). The Groosman study analyzed the co-pollutant benefits of federal climate legislation proposed in 2008. While the substantial co-pollutant benefits they identify would be slightly less dramatic in California due to California’s relatively low reliance on coal-fired power, the study nevertheless demonstrates that GHG controls could provide substantial co-pollutant reduction benefits. [↑](#footnote-ref-27)
28. *See, e.g.,* American Clean Energy and Security Act of 2009, 111th Cong. § 861 [hereinafter Waxman-Markey] (imposing a 5-year moratorium on state and regional cap-and-trade programs). [↑](#footnote-ref-28)
29. *See, e.g.,* Waxman-Markey § 334. The Waxman-Markey bill preserves the Clean Air Act’s general savings clause that allows states to set more stringent air quality standards and limitations, and then goes on to state that the phrases “’standard or limitation respecting emissions of air pollutants’ and ‘requirements respecting control or abatement of air pollution’ shall include any provision to: … require surrender to the State or a political subdivision thereof of emission allowances or offset credits established or issued under this Act, and require the use of such allowances or credits as a means of demonstrating compliance with requirements established by a State or political subdivision thereof.” *Id.* [↑](#footnote-ref-29)
30. *See supra* note 19. [↑](#footnote-ref-30)
31. William W. Buzbee, *State Greenhouse Gas Regulation, Federal Climate Change Legislation, and the Preemption Sword*, 1 San Diego J. of Climate & Energy L. 23, 50-52 (2009). [↑](#footnote-ref-31)
32. For further development of the issues associated with achieving a more stringent state cap, see Alice Kaswan, *Decentralizing Cap-and-Trade? The Question of State Stringency*, 1 San Diego J. Climate & Energy L. 103 (2009). If the state were attempting to achieve a more stringent goal than the federal government, the state could choose to concentrate the additional reductions in the state’s more heavily polluted areas. [↑](#footnote-ref-32)
33. *See* Boyce, *supra* note 14, at 10. [↑](#footnote-ref-33)
34. Since facilities reduced emissions, they would not be demanding more allowances from the national allowance market, notwithstanding the enhanced allowance submission requirement. If the demand for allowances does not change, then allowance prices are unlikely to change. [↑](#footnote-ref-34)
35. *See* Boyce, *supra* note 14, at 10-12. [↑](#footnote-ref-35)
36. *Id.* at 11 (noting higher prices in RECLAIM’s restricted zone). [↑](#footnote-ref-36)
37. In the RECLAIM program, allowances in the restricted area cost 8 times more than allowances in the unrestricted zone. *See* Boyce, *supra* note 14, at 11. [↑](#footnote-ref-37)
38. *Id.* at 11. [↑](#footnote-ref-38)
39. *See* David Roland-Holst, Carbon Emission Offsets and Criteria Pollutants: A California Assessment (2009), *available at* <http://www.ucsusa.org/assets/documents/global_warming/Offsets-and-Criteria-Pollutants.pdf>. [↑](#footnote-ref-39)
40. AB 1405, California Global Warming Solutions Act: Community Benefits Fund (introduced February 2009), *available at:* <http://www.leginfo.ca.gov/pub/09-10/bill/asm/ab_1401-1450/ab_1405_bill_20090901_amended_sen_v93.pdf>. The bill is currently inactive. [↑](#footnote-ref-40)
41. CARB’s proposal is consistent with the design principals for the Western Climate Initiative. However, those design principles set 49 percent as the maximum level a state can use; they do not preclude a state from setting tighter limits on offset use. [↑](#footnote-ref-41)
42. The thresholds should be relatively high in order to ensure that a sufficient price signal is established for emissions reductions and the promotion of green alternatives. [↑](#footnote-ref-42)
43. PDR § 95910. [↑](#footnote-ref-43)
44. PDR § 95950. [↑](#footnote-ref-44)