



To: CARB Staff
From: Audrey Chang, Kristin Grenfell, Leah Fletcher,
Diane Bailey, NRDC (achang@nrdc.org)
Re: General Comments on Draft Scoping Plan
Date: August 11, 2008
Via: Electronic submission at
<http://www.arb.ca.gov/cc/scopingplan/spcomment.htm>

NRDC commends CARB on a great start toward laying out the blueprint for implementing AB 32 and developing the first ever comprehensive binding statewide plan to combat global warming. We support many of the measures included in the Draft Scoping Plan and appreciate CARB's ambitious effort to limit statewide greenhouse gas (GHG) emissions to 1990 levels by 2020. These general comments on the Draft Scoping Plan, as directed by CARB, are those "that may overlap with multiple categories or if they do not apply to a specific category." NRDC, both individually and with other organizations, has also submitted comments in other categories, summarized below,

We appreciate the additional detail provided in the Appendices, though additional development of the measures that are recommended and under consideration is needed. Many of the critical analyses required by AB 32 are still underway (e.g., protecting low-income communities, and the impact on criteria and toxic air pollutants and preventing any increase in these emissions), and we look forward to reviewing these supplemental analyses to ensure the scoping plan meets AB 32's requirements, including those in Health and Safety Code Section 38570.¹

Our non-sector specific comments on the Draft Scoping Plan are summarized as follows:

- We have serious reservations about offsets, and oppose any use of offsets for compliance with non-cap-and-trade regulations.

¹ Health and Safety Code Section 38570(b) requires that CARB do all of the following before including a market-based compliance mechanism in its regulations: "(1) Consider the potential for direct, indirect, and cumulative emission impacts from these mechanisms, including localized impacts in communities that are already adversely impacted by air pollution. (2) Design any market-based compliance mechanism to prevent any increase in the emissions of toxic air contaminants or criteria air pollutants. (3) Maximize additional environmental and economic benefits for California, as appropriate."

- We urge CARB to build in a “cushion” in order to ensure the 2020 limit is met and to also include an analysis of how well the Proposed Scoping Plan positions California to meet the 2050 GHG target.
- NRDC supports CARB’s proposed cost-effectiveness framework, and we urge CARB to ensure that the cost-effectiveness assessments incorporate the economic value of co-benefits.
- We strongly support CARB’s commitment to assess the co-benefits of greenhouse gas reductions as well as any potential increases in co-pollutants, but emphasize that our study has demonstrated significantly more public health benefits from implementing GHG regulations.
- A single de minimis threshold expressed in tons of CO₂-equivalent is sufficient to incorporate the impacts of high-GWP greenhouse gases.
- The Proposed Scoping Plan should identify policies whose implementation could benefit from additional legislation.

A. Offsets

The Draft Scoping Plan discusses three different kinds of offsets: offsets for compliance with regulations; offsets for compliance with a cap and trade program, and voluntary offsets. (pp.43-45) Although the Draft Plan combines the discussion of the two different kinds of compliance offsets, we think it is important to draw a clear distinction between them, and would like to see a separate discussion of each in the Proposed Scoping Plan. This distinction is important because offsets for compliance with regulation present unique problems.

1. Offsets for Compliance with Regulations

The Draft Scoping Plan suggests that offsets could be used not only for compliance with a cap and trade program, but also for compliance with other, direct regulations. (p.44) We strongly oppose any use of offsets for compliance with non-cap and trade regulations (see also our Comments on Industry, submitted concurrently). Regulations are designed to achieve on-site reductions, provide public health co-benefits for Californians, spur technological innovation, and overcome market barriers. Allowing regulated entities to avoid these achievable reductions and instead purchase offsets from

elsewhere would undermine the achievement of co-benefits and forego the opportunity for increased efficiency and innovation. This would not be good policy, and would not meet the requirements of AB 32. Additionally, as the Draft Scoping Plan states, regulations often complement each other.² For example, Pavley clean car standards and the Low Carbon Fuel Standard work in unison, and “[t]he existence of both programs will make it more likely that more efficient, less polluting vehicles will use the cleanest possible fuels.”³ Allowing offsets for one of the regulations could jeopardize the success and efficacy of the other, complementary measure.

2. Offsets for Compliance with a Cap and Trade Program

The Draft Plan states that CARB is considering compliance offsets “primarily under the cap-and-trade system.” (p.44) We remain unconvinced that offsets are the best policy tool for achieving emission reductions in uncapped sectors. In addition, we continue to have reservations about whether offsets can truly be real, additional, verifiable, permanent, and enforceable. For these reasons, we believe that if offsets are allowed for compliance with a cap-and-trade program, they should be limited to no more than 10% of *emission reductions* expected from the cap-and-trade program (*not* total allowances in the cap-and-trade program), and should be strictly quality controlled. See also our joint comments on Program Design, submitted on August 5 by Jason Barbose on behalf of a coalition of environmental organizations.

3. Voluntary Offsets

We agree that Californians should be encouraged to take voluntary action to reduce their carbon emissions. (p.45) CARB should encourage the state’s residents and businesses to first reduce their own emissions before purchasing voluntary offsets. CARB should also ensure that voluntary offsets are outside of sectors included in any cap and trade program (or provisions have been made to retire allowances to avoid double counting of emission reductions if voluntary offsets are within capped sectors) and in addition to all other regulatory requirements.

² Draft Scoping Plan pp. 13.

³ *Id.* at 13-14.

B. Criteria for Developing Scoping Plan Recommendations

NRDC generally supports the criteria outlined by the Draft Scoping Plan that CARB used to develop the preliminary recommendations (p. 49-51), and we comment here on these criteria and how the Draft Scoping Plan should be improved in these areas.

1. Positioning California to Meet the 2020 Limit and the 2050 Target

NRDC recommends that the first criteria be expanded from not only achieving the statewide 2020 limit, but also positioning the state well to meet the 2050 target. The Proposed Scoping Plan must ensure that the 2020 limit is met by recognizing the uncertainty in reductions from the proposed measures and overshooting with additional policies or using policies tools that create absolute limits. As the Draft Scoping Plan notes, “it is possible some of these strategies will not materialize as originally thought.” (p. 68) We support CARB’s plan to “monitor the regulations and other actions adopted by both ARB and other State agencies for actual levels of emissions reduced.” (p. 68) However, it is not sufficient to develop new strategies only after finding a projected shortfall in emissions reductions, as the Draft Scoping Plan suggests. Since the 2020 business-as-usual GHG emissions forecast is inherently uncertain, it is essential that the Proposed Scoping Plan build in a “cushion” of additional emission reductions, beyond the total estimated emissions reductions necessary, from the start of AB 32 implementation to ensure that the 2020 cap is met. Moving many of the “Measures Under Evaluation” into the “Recommended Measures” category would help ensure additional emissions reductions are achieved and that California meets, or beats, the 2020 limit.

The description of this criterion in the Draft Plan seems to confound the statewide 2020 limit with the cap and trade program’s 2020 cap. (p.49) Ensuring that capped sectors meet the cap of the cap and trade program is only one part of ensuring that the state meets its overall emissions limit as required by AB 32. The Proposed Plan should make clear that the relevant criterion is whether the Plan will ensure that California meets its *statewide 2020 limit* of 427 MMTCO_{2e}.

In addition, the Proposed Scoping Plan should include analysis of how the policies outlined in the Plan will position the state to meet the 2050 reduction target of 80% below 1990 levels. California must take aggressive action now to put the state on a

path to meet the deep emission cuts needed by 2050, and CARB should ensure that this blueprint is putting the state on the right path. Certain strategies, for example, aggressive policies to reduce vehicle miles travelled, must be implemented immediately in order to provide enough lead time to provide the significant reductions needed to meet the 2050 target.

2. Maximize economic benefits and minimize economic harm

In light of other studies that have reached the same overall conclusion, NRDC agrees with the Draft Plan's preliminary conclusion that the economic impact of the proposed emission reduction measures will likely be overall positive. (p.52) As the Draft Plan discusses, the more expensive option for California would be to wait and do nothing to address global warming, the impacts of which are already being felt. (pp. ES-4-5) We look forward to reviewing the detailed analyses of the economic impacts to be released later this summer.

3. Societal Benefits

We agree that maximization of societal benefits, including environmental and public health co-benefits, is required by AB 32 and a critical component of the Scoping Plan. The Draft Scoping Plan, however, identifies only four analyses to consider this criteria: CEQA, criteria pollutant and air toxic emissions, public health impacts, and "societal benefits including fuel diversity." While it is not clear whether this list is intended to be all-inclusive, we encourage CARB to consider the maximization of societal benefits more broadly. Each measure will generate multiple benefits to society, and together the bundle of measures will produce a range of diverse and significant benefits. Additional benefits not expressly identified include, for example, reducing our demands on water resources, improving the health and resiliency of California's forests, and reducing consumer energy bills through increased energy efficiency.

As discussed below, in order to accurately and completely compare the costs and benefits of the proposed measures, CARB should *monetize* and subtract from a regulation's net costs the value of the co-benefits whenever reliable data is available. Also as discussed below, our estimates of potential public health benefits from

implementing various regulations to achieve AB 32's goals are twice as high as those for the set of recommendations in the Draft Scoping Plan.

4. Leadership

We agree with the draft scoping plan that California has the opportunity to provide leadership through AB 32 implementation and influence other governments' efforts to curb global warming. In particular, the draft scoping plan's recommendation to continue and expand the state's regulatory policies and performance standards throughout the state's sectors as the foundation of the state's efforts to reduce global warming pollution, cut air pollution, and spur technological innovation provides an excellent model for other states and the nation. There are additional opportunities for leadership by strengthening these regulatory recommendations throughout the sectors, as summarized below. And even deeper pollution cuts can be achieved with a well-designed cap-and-trade program, as discussed in more detail in our comments on program design.

5. Sector Equitability

We support the various considerations (including magnitude of emissions reductions, cost-effectiveness of the reductions, and timing of the measures) listed by the Draft Scoping Plan for ensuring equitable distribution of emission reduction obligations among sectors. (p.50) As the draft plan notes, CARB must gauge "whether every sector has contributed reductions." (p. 50)

In discussing the balance between a cap and trade program and regulatory programs, the Draft Scoping Plan states, "The cap-and-trade program is expected to encourage the lowest-cost emission reductions to be implemented – some sectors may not contribute any emission reductions, but the reductions that are achieved would likely be the cheapest ones. The regulatory components of the preliminary recommendation primarily address the Transportation and Energy sectors, which account for over two-thirds of California's greenhouse gas reductions." (p. 50-51) Although NRDC supports regulatory policies supplemented by a well-designed cap and trade program for the transportation and energy sectors, this description is confusing. It is essential that the Proposed Scoping Plan also include regulatory policies to address sectors other than

transportation and energy, such as the industrial sector.⁴ Some sectors, such as forests, do not have adequate source-level data to be included in a cap and trade program, so it is even more important that regulatory policies are adopted for those sectors so that they also have the responsibility to help meet the AB 32 goals.

The total emissions reductions to be achieved from specific sectors should be based on an analysis of various factors including cost-effectiveness, proportional reductions, proportional emissions, impact on consumers, and other factors.

C. Evaluations

3. Cost-Effectiveness

The Draft Scoping Plan lays out a clear and appropriate method for defining cost-effectiveness under AB 32.⁵ As NRDC and several other organizations recommended in detailed comments submitted on June 2, 2008, the most reasonable definition for cost-effectiveness under AB 32 is the least expensive bundle of strategies necessary for the state to reduce its greenhouse gas emissions to 1990 levels by 2020. The regulations that are necessary parts of this bundle that are anticipated to be the least expensive and most expensive (the points at the bottom and top of the cost curve) should not be understood to represent firm boundaries of cost-effectiveness. Rather, the range between the anticipated least expensive and most expensive regulations is an *approximate* scope of the regulations that should be considered cost-effective; this range is only approximate because of the inherent uncertainty in estimating each measure's cost and emission reductions, and the total reductions needed to meet the state's 2020 emissions limit.

Although the Draft Scoping Plan repeatedly recognizes the significant value that AB 32 measures will have in creating "co-benefits" (non-greenhouse gas benefits of AB 32 measures), it does not commit to including the economic value of co-benefits in the cost-effectiveness calculations. As Stanford Professor Sweeney explained in the June 3,

⁴ Please also refer to our Comments on the Industrial Sector, submitted concurrently. The majority of the industrial regulatory measures proposed by the Draft Scoping Plan are "under evaluation." The industrial sector is the only one of the large sector groupings in Table 1 of the Appendix that has virtually no current recommended regulatory measures; the only recommended industrial measure is "Energy Efficiency and Co-Benefits Audits for Large Industrial Sources," but there are several other industrial sector measures that should be included in the Proposed Scoping Plan.

⁵ Draft Scoping Plan, p. 56 (defining as cost-effective "[t]he set of measures needed to achieve the necessary reductions of about 169 MMTCO₂E required by AB 32.").

2008 Economic Analysis Technical Stakeholder Work Group Meeting, the definition of cost in the context of CARB's cost-effectiveness analysis "must include ancillary costs/benefits, e.g. non greenhouse gas environmental impacts."⁶ The Climate Action Team also recommended this approach for including economic and other savings that will result from AB 32 regulations.⁷ In order to perform the most complete and reliable analysis, not only must CARB account for the co-benefits of reducing criteria pollutants, but of all relevant and identifiable co-benefits

Specifically, as we recommended in separate detailed comments submitted on June 2, 2008, depending on the availability of reliable data, the Board should:

- (a) **monetize** the value of the co-benefit and subtract it from the cost of the regulation;
- (b) **quantify** the co-benefit, if it cannot be monetized, or
- (c) qualitatively **describe** the co-benefit, if it cannot be quantified or monetized.

When considering the cost of regulations, it is important to recognize that no single factor is sufficient to determine whether a regulation should be implemented. The Board must make its ultimate policy determination of which regulations to adopt after consideration of all AB 32 factors, including, but not limited to, calculations of cost-effectiveness (including co-benefits).

5/6. Public Health Analyses and Co-Benefits

NRDC appreciates the Draft Scoping Plan's discussion and quantification of public health benefits. However, our estimates of potential public health benefits from implementing various regulations to achieve AB 32's goals are twice as high as those for the set of recommendations in the Draft Scoping Plan.⁸ The Proposed Scoping Plan must

⁶ Professor James Sweeney, Precourt Institute for Energy Efficiency, Stanford University, "A Cost effectiveness Analysis of AB 32 Measures," June 3, 2008, p. 8, available at http://www.arb.ca.gov/cc/scopingplan/economics-sp/meetings/060308/sweeney_june_03_carb_presentation.pdf.

⁷ Climate Action Team, Economics Subgroup, "Updated Macroeconomic Analysis of Climate Strategies Presented in the March 2006 Climate Action Team Report: Final Report," (October 15, 2007), p. 20 ("[T]he costs and savings associated with a strategy in any given year are equal to the sum of: the levelized capital cost for that year; the operating and maintenance cost in that year; the *value of the energy savings* or costs in that year; and *any other strategy-specific savings* or costs identified for that year. These data are used to estimate the cost effectiveness of each strategy in terms of dollars per ton of emissions avoided." Emphasis added).

⁸ NRDC, *Boosting the Benefits: Improving Air Quality and Health by Reducing Global Warming Pollution in California*, June 2008, available at <http://www.nrdc.org/globalWarming/boosting/boosting.pdf>. In this report, we estimate co-benefits of up to 720 premature deaths avoided with a cost-benefit of up to \$5

maximize co-benefits, and we believe there are additional opportunities beyond the Draft Scoping Plan's recommendations. We support the commitment to assess the co-benefits of each measure as well as any potential increases in co-pollutants. Further, we strongly urge CARB to incorporate the avoided health costs within the total cost of each measure; CARB must include co-benefits in its cost-effectiveness analysis, as discussed above.

10. De Minimis Threshold

The draft plan asks for comment on its proposal that “a de minimis threshold for combustion carbon dioxide should be higher than that for non-carbon dioxide gases” (p.64). We support a *single* de minimis threshold expressed in terms of tons of CO₂-equivalent (CO₂e). There is no need to adopt separate de minimis requirements for high global warming potential (GWP) greenhouse gases. Tons of CO₂e already expresses the global warming potential of various greenhouse gases in a common currency that can be summed across CO₂ and non-CO₂ gases to provide total greenhouse gas emissions. A de minimis threshold that is defined in CO₂e would mean that smaller masses of high-GWP gases would be captured because they represent higher levels of CO₂e. We urge CARB to adopt the same de minimis threshold across all greenhouse gases expressed in CO₂e.

D. Suggestions for Legislative Action

We urge CARB to include in the Proposed Plan recommendations for policies that should be implemented through legislation. CARB could make these recommendations for policies that it has the authority to implement under AB 32, but that could benefit from additional attention from the legislature in order to expedite the implementation process. For instance, there are several current bills that could complement the Scoping Plan's goals, or enact a Scoping Plan recommendation, including: SB 375 (Steinberg) that would provide incentives for cities to plan and build more efficient neighborhoods and AB 2175 (Laird, Feuer) that would make water efficiency requirements a statewide policy. In addition, legislation to require a statewide 33% RPS by 2020 and address identified barriers could help support the Draft Scoping Plan's recommendation.

billion. The Draft Scoping Plan estimates 340 premature deaths avoided, valued at up to \$2.4 billion. (page 61)

In addition, we urge CARB to include policies in the Proposed Scoping Plan that could benefit from additional legislation to implement, such as time-of-sale energy and water efficiency requirements.

E. Summary of Comments on Specific Sectors

We have separately submitted comments on other specific sectors. Those are summarized below.

Transportation and Land Use

- The Draft Scoping Plan's target of 2 MMTCO₂E for land use is far too low. CARB must set a more aggressive target for land use.
- CARB should strongly support the introduction of Pay As You Drive (PAYD) Insurance in California.
- The Draft Scoping Plan neglects the role public transportation can play in reducing CO₂. CARB should set a target for expanded public transportation availability and consider public transportation capital and operating costs in assigning AB 32 fee revenue.
- Accordingly, the Scoping Plan should be restructured to create a package of "Policies to Reduce Vehicle Miles Traveled," to include the regional planning framework laid out in the Draft Plan, as well as supportive policies such as Pay-as-You-Drive Insurance, employer Transportation Demand Management practices, road pricing strategies and aggressive investments in public transportation.

Electricity and Natural Gas

- NRDC strongly supports the statewide goal of capturing all cost-effective energy efficiency for both electricity and natural gas.
- We support the measure for energy efficiency audits for large industrial sources, but stress that cost-effective opportunities need to actually be captured.
- CARB should also pursue these additional policies:
 - Time-of sale energy efficiency requirements;
 - Appliance feebates;
 - Alternative financing options;

Electricity

- We strongly support the 33% RPS.
- The Scoping Plan should reflect the fact that SB 1368 is a core part of the state's global warming emission reduction strategy.
- Carbon Capture and Storage (CCS) could safely and effectively contribute to reducing emissions.

Natural Gas

- CARB should work with the CPUC, the CEC, and the legislature to adopt a “loading order” for natural gas.
- CARB should tie incentives for solar hot water on existing homes to energy efficiency requirements, and should pursue a performance-based standard for encouraging solar hot water on new homes.
- CARB should develop policies to encourage the use of biomethane to replace traditional natural gas.

Industry

- We are pleased that the following “Potential” measures have been included in the plan: Cement plants, concrete batch plants, concrete use, refineries, oil and gas extraction and transmission, industrial boilers, stationary engines, glass plants and off-road equipment. However, these measures, which together have the potential to deliver GHG reductions of up to 20 MMTCO₂e, should be committed to with a greater level of certainty. *Direct regulations for refineries and cement plants, at a minimum, must be included.*
- We strongly support the concept of a low carbon intensity standard for cement and concrete plants as well as concrete use reductions and particularly the design concepts to prevent leakage.
- We are concerned that the use of offsets for compliance with direct regulations will undermine co-pollutant reductions in California, particularly for refineries and cement plants. Direct regulations and other safeguards to ensure co-benefit health protections must be a priority.
- We support the recommendation for an energy efficiency and co-benefits audit for large industrial sources, but urge CARB to complete this important measure well ahead of the 2010 – 2012 timeframe suggested.
- We recommend expansion of the currently proposed coal emission reduction standard for electricity providers to include other industrial uses of coal.

Water

- We are pleased that the Scoping Plan recognizes the energy intensity of water use in California, and incorporates strategies that can be used to decrease California’s reliance on energy intensive water supplies.
- We strongly support the Scoping Plan call for a public goods surcharge on water.
- Energy and greenhouse gas emission benefits should be included in evaluating the cost effectiveness of water strategies, as greater levels of water efficiency, recycling, and stormwater capture may be cost effective than if those measures were evaluated solely on the basis of water supply benefits.
- The Scoping Plan should include strategies to expand and accelerate water efficiency programs, rather than assume the adequacy of existing efforts.
- The draft Scoping Plan does not include measures to address agricultural water use. Since agriculture uses approximately 80% of the developed water in California, it is inappropriate to omit completely that sector of water use from the Scoping Plan. We recommend that the Scoping Plan direct the Department of

Water Resources and the State Water Board to identify areas where changes in agricultural water use, including improvements in agricultural water use efficiency, can reduce greenhouse gas emissions.

- We support the Scoping Plan recommendation that National Pollution Discharge Elimination System permits be amended to require preparation and implementation of water recycling plans. We also support the California Sustainability Alliance's recommendations to increase water recycling.
- We support CARB's inclusion of LID as a measure under the Scoping Plan and encourage CARB to aggressively implement a regulatory structure to require the use of Low Impact Development for future development in California.

Forests

- The assertion that mechanical fuels treatment (as distinct from forest biomass production in the energy sector) is a viable emission reduction measure is speculative and unfounded. This measure should be omitted from the Scoping Plan. The proposal to defer the carbon accounting for fuels management practices until after implementing the strategy violates common sense and the requirements of AB32, and underscores the speculative nature of fuels management benefits.
- The emphasis placed on near-term opportunities from using residual forest wood waste from fuels management to displace fossil fuel in energy generation ignores the environmental safeguards critical to insuring that biomass fuels actually deliver a climate benefit and do not degrade California's important and unique forest ecosystems.
- The proposal to rely on the Board of Forestry and Fire Protection (BOF) to carry out primary leadership responsibilities under AB 32 raises significant questions of conflict of interest. The role of the BOF should be limited to an advisory capacity.
- The Proposed Scoping Plan should be expanded to include measures that address consumption of forest products, such as recycling and wood use efficiency, and should include a Public Goods Charge on forest products.

Recycling and waste

- While we support the Draft Scoping Plan's goal of moving toward zero-waste, we are disappointed that the only recommended policy measure is to control methane emissions from landfills, which does nothing to advance the stated goal.
- We support a number of strong policy recommendations for recycling and composting that were advanced by ETAAC, including: a commercial facility recycling requirement, disposal limits on readily recyclable materials for businesses, phasing out diversion credits for green waste used as alternate daily cover for landfills, and providing additional support for composting.

Green Buildings

- We praise the aggressive path CARB is forging to increase the environmental performance of buildings in the state, and offer suggestions to advance this goal.

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- While NRDC supports the concept of zero-net energy buildings, we caution against inflexible mandates requiring such a goal for all buildings of a certain type.
- We support further strengthening the California Green Building Standards Code and ensuring that greenhouse gas emission reduction benefits are achieved.
- We suggest that the “environmental performance rating system” take account of all potentially GHG emitting elements of green building.

Cap and Trade Program Design

- Any cap and trade program must meet the multiple objectives of AB 32.
- A tight cap should be set over as many sectors as practicable.
- Allowances should be auctioned.
- Allowance value should be used in the public interest.
- *If* offsets are allowed, they should be limited.
- The program should provide benefits to communities that suffer greatest cumulative impacts of air pollution.
- Penalties must be meaningful.
- Reporting must be transparent.
- California must ensure that other programs meet similarly strict standards before it links.
- Multi-year compliance periods and banking, but not safety valves, should be used to contain costs.

F. Conclusion

We commend CARB for a great start on the scoping plan, and we look forward to working with CARB to improve on the draft plan and to flesh out more details on how the various programs will be designed and implemented.