

CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC MEETING TO CONSIDER APPROVAL OF ADDITIONS TO THE LIST OF EARLY ACTION MEASURES TO REDUCE GREENHOUSE GAS EMISSIONS UNDER THE CALIFORNIA GLOBAL WARMING SOLUTIONS ACT OF 2006 AND TO DISCUSS CONCEPTS FOR PROMOTING AND RECOGNIZING VOLUNTARY EARLY ACTIONS

The Air Resources Board (ARB or Board) will conduct a public meeting at the time and place noted below to consider the approval of additions to the list of discrete early action measures to reduce greenhouse gas emissions under the California Global Warming Solutions Act of 2006, and provide final direction to staff to begin the development of regulatory and non-regulatory early actions measures as described in the October 2007 final staff report titled "Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California." The Board will also consider staff concepts for promoting and recognizing voluntary early actions.

DATE: October 25, 2007

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., October 25, 2007. The meeting will then continue at 8:30 a.m., October 26, 2007. Tentatively, this item will be considered on October 25, 2007. Please consult the agenda for the meeting, which will be available at least 10 days before October 25, 2007, to determine the day on which this item will be considered.

For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette or computer disk. Please contact the ARB's Disability Coordinator at 916-323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact the ARB's Bilingual Manager at 916-323-7053.

BACKGROUND

Assembly Bill 32 (Stats. 2006, Chapter 488), the California Global Warming Solutions Act of 2006 (the "Act" or AB 32), creates a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California, with the overall goal of restoring emissions to 1990 levels by the year 2020. The Act recognizes that such an ambitious

effort requires careful planning and a well thought out set of strategies. By January 1, 2009 the Board must design and adopt an overall scoping plan to reduce GHG emissions to 1990 levels. The Board then has until January 1, 2011 to adopt the necessary regulations to implement that plan. Implementation of individual measures begins no later than January 1, 2012 so that the emissions reduction target can be fully achieved by 2020. As part of this comprehensive effort, the Board is empowered to use traditional regulatory methods and to adopt and implement market-based compliance mechanisms provided certain criteria are met.

The Act also recognizes that immediate progress in reducing greenhouse gas emissions can and should be made. Accordingly, the Act requires ARB to identify a list of “discrete early action greenhouse gas reduction measures” by June 30, 2007 (Health and Safety Code section 38560(a)). Discrete Early Actions are GHG emission reduction measures underway or to be initiated by ARB that meet the AB 32 legal definition, are enforceable by January 1, 2010, and are technologically feasible and cost-effective. The ARB staff must make the presumption, based on the best information currently available, that all of the measures that it is proposing will meet the Act’s legal requirements. If additional information or analysis reveals that a particular strategy cannot meet one or more of the requirements, it will not be put into effect.

In addition to the statutorily required list of discrete early action measures, additional strategies for reductions in GHGs have been identified. These early actions are GHG emission reduction measures underway or to be initiated by ARB in the 2007–2012 timeframe. These measures may be regulatory or non-regulatory in nature. While staff does not believe that these strategies meet the criteria for “discrete early action measures,” the staff is recommending aggressively developing all potentially viable options for mitigating GHG emissions.

CHRONOLOGY OF KEY DECISION POINTS

In April of 2007 ARB staff released a report entitled “Proposed Early Actions to Mitigate Climate Change in California.” In that report staff proposed 37 early actions to reduce GHG emissions in California, with a cumulative estimate in the range of 33-46 million metric tons of carbon dioxide equivalent (MMTCO₂E) by 2020. Existing ARB regulations contributing an additional 30+ MMTCO₂E (principally the AB 1493 regulations on vehicle GHG emissions) were also discussed. Thus, staff recommended a suite of strategies with the potential to yield over 60 MMTCO₂E by 2020, representing an important down payment towards the estimated 2020 reduction target. In its April 2007 report, staff recommended that three of these strategies be developed on a schedule that met the AB 32 legal requirement for discrete early action measures – the Low Carbon Fuel Standard (LCFS), reduction of refrigerant losses from motor vehicle air conditioning maintenance, and increased methane capture from landfills. The remaining 34 additional GHG reduction measures included both regulations and other measures as well as 10 conventional air pollution control measures that are scheduled for rulemaking by 2009 that are expected to yield GHG emission reduction co-benefits. Voluntary and educational efforts are prominent examples of non-regulatory actions that

can deliver real GHG emission reductions, and staff plans to pursue these efforts aggressively.

In June 2007 the Board approved the staff recommendations. Staff was directed to pursue 37 early actions for reducing GHG emissions under AB 32. The spectrum of strategies to be developed reflects the fact that the serious threat of climate change requires broad action as soon as possible. The Board also directed that three of these 37 strategies were to be developed into regulations meeting the legal definition of discrete early action measures. In addition, the Board directed staff to further evaluate early action recommendations made at the Board meeting by the AB 32 Environmental Justice Advisory Committee (EJAC), the California Air Pollution Control Officers Association (CAPCOA), and the South Coast Air Quality Management District (SCAQMD), and to report back to the Board within six months. The general sentiment of the Board suggested a desire to try to pursue greater GHG emissions reductions in California in the near-term.

Since the June 2007 Board hearing, ARB staff has evaluated all 48 recommendations submitted by the EJAC, CAPCOA, and SCAQMD, as well as several other stakeholder suggestions and several internally-generated staff ideas. A revised report that recommended an expansion of the list of early actions was released on September 7, 2007 and discussed at a public workshop held on September 17, 2007 in Sacramento. In the revised document, staff described the additional analysis conducted for each of the recommendations for early action with respect to potential emissions reductions, technological feasibility, estimated costs, and economic impacts. The document reported staff's findings and made further recommendations for a revised list of early actions, including the addition of six discrete early action measures. The report also provided much greater detail on the evaluation of measures that staff has conducted since the previous April 2007 draft early actions report was released. An updated version of the staff report, which takes into account comments received at and following the workshop, was released on October 5, 2007.

STAFF RECOMMENDATIONS

In summary, based on its additional analysis, ARB staff is recommending the expansion of the early action list to a total of 44 measures. Additions to the list triple ARB's commitments to measures that would be pursued to meet the AB 32 accelerated timeframe for discrete early actions. In total, the 44 recommended early actions have the potential to reduce GHG emissions by at least 42 MMTCO₂E by 2020, representing about 25% of the estimated reductions needed by 2020. ARB staff is working on 1990 and 2020 GHG emission inventories in order to refine the projected reductions needed by 2020 and expects to present its recommendations to the Board by the end of 2007. The 2020 target reductions are currently estimated to be 174 MMTCO₂E.

Efforts to develop several of the strategies are already underway, with workshops planned for fall 2007 and early 2008. Further, the Climate Action Team (CAT) member agencies are also moving forward with early actions with a targeted reduction of 68

MMTCO₂E by 2020. Both the ARB and CAT emission reduction projections are best estimates that are subject to revision as additional information on individual measures becomes available. The ARB staff will report on the early actions progress to its Board every six months. The CAT will also periodically update its efforts and progress on a similar schedule. A list of all 44 early actions is presented in the revised and final staff report, with recommended additions as well as the discrete early action measures identified.

Staff has received and continues to receive numerous comments and suggestions from a broad spectrum of stakeholders. Comments were provided during the June 21, 2007 Board hearing and at the January 22, April 23, and September 17 public workshops on early actions. The suggestions ranged from support of the measures as proposed to recommendations for additional action or modification of a proposal. Staff is seeking Board approval of the additions to the list of early actions in order to begin the measure development process for each of the proposed actions.

DISCRETE ARB EARLY ACTIONS PURSUANT TO AB 32

In total, ARB staff is recommending the addition of six discrete early action measures to the original three approved by the Board in June 2007. Collectively, the tripling of the discrete early actions will yield on the order of 16 MMTCO₂E of GHG emission reductions annually by 2020 relative to projected levels. These measures will be brought to the Board in the form of proposed regulations within in the next 12 to 18 months. The discrete early actions are as follows:

Discrete Early Actions approved by the Board in June 2007:

1. Low Carbon Fuel Standard: Will require transportation fuel providers (including producers, importers, refiners, and blenders) to ensure that the mix of fuels they sell in California meets, on average, a declining standard for greenhouse gas emissions that result from the use of transportation fuel.
2. Restrictions on High Global Warming Potential (GWP) Refrigerants: Would restrict the use of high GWP refrigerants for non-professional recharging of leaky automotive air conditioning systems.
3. Landfill Methane Capture: Would set statewide standards for the installation and performance of active gas collection/control systems at municipal solid waste (MSW) landfills.

New Discrete Early Actions recommendations to be considered by the Board:

4. Sulfur Hexafluoride (SF₆) Reduction in the Non-Electric Sector: Involves the potential ban of SF₆ in non-utility, non-semiconductor applications where safe, cost-effective alternatives are available.

5. Reduction of High GWP GHGs in Consumer Products: Reduction of high-GWP GHGs used as propellants in aerosol products, tire inflators, electronics cleaning, dust removal, hand held sirens, hobby guns (compressed gas), party products (foam string), and other formulated consumer products when viable alternatives are available.
6. SmartWay Truck Efficiency: Requires existing trucks/trailers to be retrofitted with the best available "SmartWay Transport" and/or ARB-approved technology to reduce aerodynamic drag and rolling resistance.
7. Tire Inflation Program: Pursue actions to ensure that vehicle tire pressure is maintained to manufacturer specifications.
8. Reduce Perfluorocarbons (PFCs) in the Semiconductor Industry: Establish a PFC emissions reduction goal and determine measures to achieve that goal.
9. Green Ports: Provide an alternative source of power for ships while they are docked. Strategy will also result in reduced emissions of nitric oxides (NOX) and particulate matter (PM).

ARB EARLY ACTIONS TO BE DEVELOPED BY 2012

New Early Actions recommendations to be considered by the Board:

The ARB staff is recommending the addition of early actions as summarized below.

1. Refrigerant Tracking, Reporting, and Recovery Program: The strategy involves the reduction of emissions of high GWP GHGs through establishing requirements for enhanced monitoring, enforcement, reporting, and recovery. It may be determined that more than one strategy is required to effectively address the sources of interest and that the strategy or strategies are likely to include both regulatory and non-regulatory elements.
2. Cement (A): Energy Efficiency of California Cement Facilities: The strategy involves reducing CO₂ emissions from fuel combustion, calcination, and electricity use by converting to a low-carbon fuel-based production, decreasing fuel consumption, and improving energy efficiency practices and technologies in cement production.
3. Cement (B): Blended Cements: The strategy to reduce CO₂ emissions involves the addition of blending materials such as limestone, fly ash, natural pozzolan and/or slag to replace some of the clinker in the production of Portland cement. Currently, ASTM cement specifications allow for replacement of up to 5% clinker with limestone. Most manufacturers could in fact replace up to 4% with limestone. Caltrans allows for 2.5% average limestone replacement until testing of the long term performance of the

concrete is complete. Caltrans currently has over \$1 million in task orders and is devoting considerable staff resources to the evaluation of limestone blending in cement. Caltrans also currently has standards for using flyash and slag in concrete. Other blending practices will be explored.

4. **Anti-idling Enforcement:** The strategy guarantees emission reductions as claimed by increasing compliance with anti-idling rules, thereby reducing the amount of fuel burned through unnecessary idling. Measures may include enhanced field enforcement of anti-idling regulations, increased penalties for violations of anti-idling regulations, and restriction on registrations of heavy-duty diesel vehicles with uncorrected idling violations.

5. **Collaborative Research to Understand How to Reduce GHG Emissions from Nitrogen Land Application:** The strategy involves the identification of methodologies for better characterizing California's nitrogen cycle. An important first step to better characterizing the relationship between nitrogen land application and nitrous oxide formation in California agriculture, landscaping and other uses as well as opportunities for emission reductions is a collaborative research effort with stakeholders. The research is expected to focus on identifying optimal ways to reduce nitrous oxide emissions while increasing soil retention of nitrogen for plant uptake. As part of the research the ARB will collaborate with the California Department of Food and Agriculture, the Department of Pesticide Regulation, commodity groups, and other stakeholders. The research is expected to ultimately support the development of guidance to improve the characterization of nitrous oxide emissions from nitrogen land applications as well as identify effective strategies for emission reductions.

Early Actions approved by the Board in June 2007:

In addition to the five new measures recommended above, ARB staff is recommending to initiate work on the 34 early actions previously approved by the Board in June. Those measures are discussed in detail in the final staff report and include a diversity of strategies from multiple sectors under the jurisdiction of the Board such as fuels, vehicles, agriculture, as well as new efforts in the area of consumer choice education.

NEW FOCUSED EFFORT ON VOLUNTARY ACTIONS

A common theme during the verbal comment period of the September 17, 2007 public workshop was the need for ARB guidance for voluntary actions. Staff believes that the leadership shown by many businesses and local governments in reducing GHG emissions needs to be acknowledged and supported. A key first step to acknowledge such actions is to quantify and document voluntary emission reductions that rise beyond "business as usual". To that end, the ARB staff plans to propose at the October 25-26, 2007 Board hearing a framework for developing methodologies for the quantification of voluntary greenhouse gas emission reductions, and seek the Board's direction.

DESCRIPTION OF PROPOSED ACTION

Staff is proposing that the Board approve the revised and expanded list of 44 early actions, including the six newly proposed discrete early actions to reduce greenhouse gas emissions. Specifically, staff proposes that the Board:

- (i) Approve the revised list of discrete early action measures and direct staff to develop regulations to implement these measures;
- (ii) Direct staff to work with stakeholders to develop the additional early action strategies and to bring to the Board for consideration technologically feasible and cost-effective regulations or non-regulatory measures, as appropriate, and in accordance with the timeline published in the staff report,
- (iii) Direct staff to work with stakeholders to set in motion concrete plans for addressing voluntary actions and for developing guidance for quantification and verification of these actions in a manner consistent with the intent of the Act; and
- (iv) Direct staff to provide status reports to the Board approximately every six months on its progress on the AB 32 Early Action Plan.

PUBLIC REVIEW AND COMMENT

The staff's request for public input on its identification of early actions and subsequent revisions resulted in a broad range of suggestions. Many stakeholder comments and suggestions were coincident with the three public workshops on early actions held in Sacramento on January 22, April 23, and September 17, 2007. Substantive comments were also received by the Board during its deliberations on AB early actions at the June 21, 2007 hearing. Details on the nature and scope of the comments are discussed in the final staff report.

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

Staff has prepared a final report titled "Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California" (Staff Report) that was released on October 5, 2007.

Copies of this notice, the Staff Report and all subsequent related documents are available on the ARB Internet site for climate change at: <http://www.arb.ca.gov/cc/cc.htm> or from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1st Floor, Sacramento, CA 95814, (916) 322-2990.

Inquiries concerning the substance of the proposed resolution may be directed to the designated agency contact persons, Richard Corey, Assistant Chief of the Research Division at (916) 322-7077, or by email at rcorey@arb.ca.gov, or Michael Robert, Manager, Greenhouse Gas Reduction Strategy Section, at (916) 327-0604, or by email at mrobert@arb.ca.gov.

Further, the agency representative and designated back-up contact persons to whom non-substantive inquiries concerning the proposed administrative action may be directed are Alexa Malik, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-4011, and Amy Whiting, Regulations Coordinator, (916) 322-6533.

SUBMITTAL OF COMMENTS

The public may present comments relating to this matter orally or in writing at the hearing, and in writing or by e-mail before the hearing. To be considered by the Board, written submissions not physically submitted at the hearing must be received **no later than 12:00 noon, October 24, 2007**, and addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Facsimile submittal: (916) 322-3928

The Board requests but does not require that 30 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing so that ARB staff and Board Members have time to fully consider each comment. The board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed recommendations.

CALIFORNIA AIR RESOURCES BOARD

/s/ Tom Cackette
Acting Executive Officer