Cap-and-Trade Health Impact Assessment Overview

Introduction

What is the proposed Cap and Trade Program?

Among the many regulatory and voluntary actions proposed in the Scoping Plan[1] to reduce greenhouse gas (GHG) emissions is a cap-and-trade program. The cap establishes a limit on emissions that declines over time. Like all regulatory programs, an effective cap-and-trade system must be well designed, and include strong monitoring, reporting and enforcement rules, including strict penalties for non-compliance. In addition, the law (AB 32) includes specific criteria that ARB must consider before adopting regulations for market-based measures, and directs the Air Resources Board (ARB) to the extent feasible to design any market-based compliance mechanisms to prevent any increase in the emissions of toxic air contaminants or criteria air pollutants (HSC §38570(b)).

Why do a Health Impact Assessment?

To evaluate the potential health impacts of the preliminary draft cap-and-trade regulation, ARB and the California Department of Public Health (DPH) are working together to conduct a health impact assessment (HIA) of the proposed regulation. The primary goal of the HIA is to assess the public health impacts of a cap-and-trade regulation to help inform the rule development process. The HIA process will also explore potential mechanisms that would achieve reductions in criteria and toxic pollutants and other health co-benefits, as well as reductions in greenhouse gas emissions. The HIA will supplement a variety of the ARB staff analyses being conducted to support the cap-and-trade rulemaking. HIA is defined as "a combination of procedures, methods, and tools by which a policy, program, or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population[2]."

To guide the HIA, DPH developed working draft HIA guidelines[3]. The guidelines complement the recently developed *Practice Standards for Health Impact Assessment* published April 2009 by the North American HIA Practice Standards Working Group[4]. As referenced in these documents, HIA has been used previously to evaluate programs, policies and projects. No examples of the use of HIA in a regulatory context have been identified, but ARB and DPH staff believes the HIA process provides a useful framework

[1] The Scoping Plan proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health.

[2] 1999 Gothenburg consensus statement, http://www.euro.who.int/document/PAE/Gothenburgpaper.pdf

[3] Bhatia R. A Guide for Health Impact Assessment: Working Draft provided for review and use by the California Department of Public Health (Sept. 2009)

[4] North American HIA Practice Standards Working Group. Practice Standards for Health Impact Assessment, Version 1. North American HIA Practice Standards Working Group, April 2009. Available at: www.sfphes.org.

to examine potential public health impacts of the cap-and-trade rule. The intention is to tailor this HIA to ensure it provides useful information for ARB's regulatory process.

ARB has received numerous comments that suggest the cap-and-trade program be designed to achieve additional decreases in criteria pollutants. In concept, additional reductions in criteria pollutants could be achieved through design considerations in the cap-and-trade regulation or through strategies involving revenue generation and allowance distribution.

Health Impact Assessment Process

What are the general elements of an HIA?
Health impact assessment (HIA) is a systematic process to evaluate the potential health impacts of public decisions[5]. The two primary outputs of HIA include an assessment of potentially significant health impacts as well as strategies for policy design and implementation to ensure decisions protect and promote health. The typical procedural steps in HIA are similar to those for other forms of impact assessment (e.g. environmental, social, and strategic) and include screening, scoping, assessment, reporting, and monitoring. Briefly, the tasks associated with each step are:

1. Screening involves determining whether or not an HIA would be valuable and feasible in a particular decision-making context.

2. Scoping involves determining health issues for analysis, the temporal and spatial boundaries for analysis, and the data and research methods employed in the analysis.

3. Assessment involves using data, expertise, and qualitative and quantitative research methods to judge the magnitude and likelihood of potential health impacts, their significance, and identify potential design alternatives.

4. Reporting involves documenting and synthesizing the assessment findings, and communicating the results of the assessment.

5. Monitoring describes the process of tracking the decision and implementation effect on health determinants and health status.

How will the HIA process be tailored to meet ARB's regulatory requirements and timeline?
The timeline for the HIA completion is primarily driven by the cap-and-trade regulatory timeline. In order to provide timely input into the development of the cap-and-trade regulation, a draft HIA needs to be completed early in 2010. To conduct the best possible HIA within the given timeframe, an academic advisory committee was convened by ARB and DPH to help guide the development of the cap-and-trade HIA.

[5] Bhatia R. A Guide for Health Impact Assessment: Working Draft provided for review and use by the California Department of Public Health (Sept. 2009)

Additionally, DPH and ARB convened the Public Health Workgroup of the California Climate Action Team to provide stakeholder input into the HIA. As is normal ARB practice, preliminary HIA concepts and findings will be presented in a public meeting(s) prior to finalizing the HIA.

What is the anticipated HIA work product?

The HIA is not expected to provide exhaustive documentation of all potential health impacts of a cap-and-trade rule, nor quantify the majority of the potential impacts. Instead, the purpose of the HIA is to highlight aspects of a cap-and-trade program most likely to influence public health, and to quantify effects where feasible and appropriate. These impacts can occur via pathways or linkages between the cap-and-trade rule elements and potential health outcomes. The purpose of the HIA is to delineate these pathways in order to assess the potential impact of the cap-and-trade program on health, including local impacts and strategies to maximize criteria and toxic pollutant reductions to the extent feasible.

Scope of the cap-and-trade Health Impact Assessment

What is the Baseline?

The proposed baseline is the cap-and-trade preliminary draft regulation (PDR), released on November 24, 2009[6]. Additionally, staff will assume implementation of existing Federal and State programs reduce criteria and toxic pollutants and that other climate policies[7]. This includes the most recent California State Implementation Plan (SIP) and the Scoping Plan[8]. In the baseline, no additional program design elements are incorporated into the cap-and-trade program specifically to maximize co-benefits and none of the allowance value is invested in projects, programs or communities to decrease pollution from criteria air pollutants or toxics.

[6] Download a copy of the Cap and Trade Preliminary Draft Regulation at: http://www.arb.ca.gov/cc/capandtrade/meetings/121409/pdr.pdf

[7] In the baseline it is assumed that only greenhouse gas emission reductions that are additional to those achieved by the complementary policies are attributed to a cap-and-trade program.

[8] The Assembly Bill 32 Scoping Plan contains the main strategies California will use to reduce the greenhouse gases (GHG) that cause climate change. The scoping plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program. The Scoping Plan was adopted by the Air Resources Board in 2008. More information is available at http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm .

How is the cap-and-trade program designed in the baseline?

- The cap decreases linearly from 2012 to 2020; post 2020, cap levels will be determined as the program evolves
- The greenhouse gas pollutants covered in the program are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), hyrofluorocarbons (HFCs), nitrogen trifluoride (NF_3)
- The sectors covered in the cap-and-trade program are
    - electricity (including imported electricity)
    - large industrial facilities emitting at least 25,000 $MTCO_2e$ per year
    - all natural gas and propane delivered to smaller industrial facilities and for commercial or residential uses
    - transportation fuels
- Covered entities are allowed to substitute offset credits for allowances not to exceed 4% of what must be surrendered at the end of a compliance period
- All of the complementary policies in the Scoping Plan are assumed to be implemented. Therefore, only a small percentage of the reductions in greenhouse gases result from the cap-and-trade program alone.

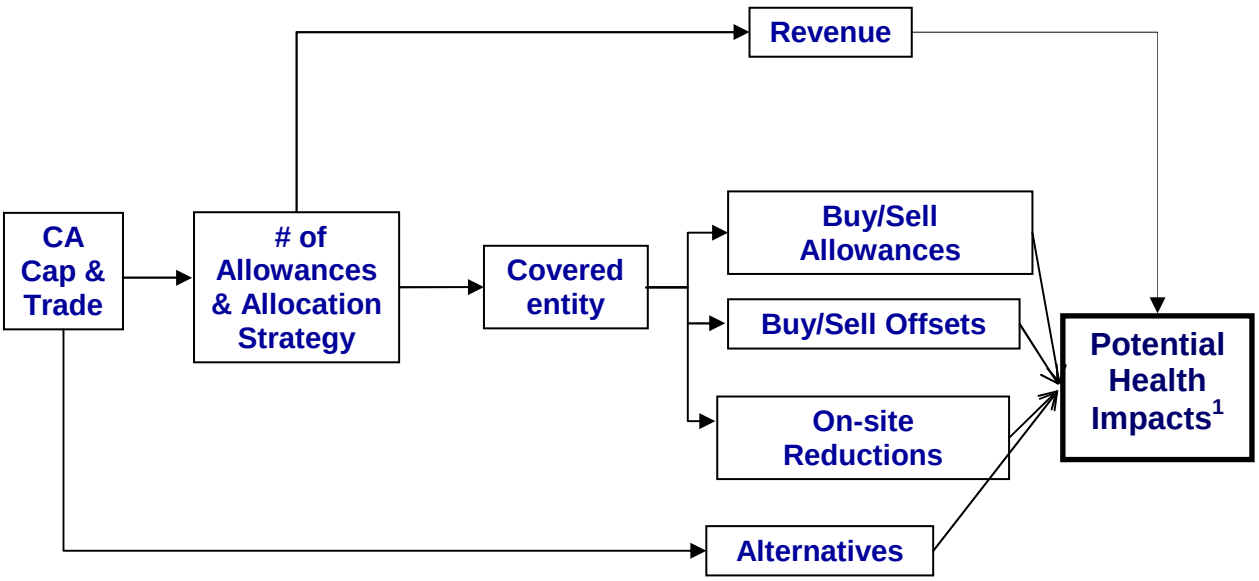
Additional details about the baseline will be presented during the CAT Public Health meeting on December 17.

Part 1: What are the potential health impacts of the preliminary draft cap-and-trade regulation?

The objective of this section is to determine the potential health impacts related to facility compliance with the preliminary draft cap-and-trade regulation, given the assumed baseline. An overview of the proposed cap-and-trade HIA components is shown in Figure 1. At the end of each compliance period, an entity will be required to surrender allowances (and potentially voluntary offsets) equivalent to its total greenhouse gas emissions for the compliance period. An entity can fulfill this obligation by some combination of 1) reducing its greenhouse gas emission, 2) purchasing allowances and surrendering them, or 3) purchasing offsets and surrendering them. If an entity has excess allowances, it can sell the allowances, bank the allowances for future use or ask ARB to retire them.

To explore the health impacts further, ARB and DPH staff expects to develop multiple "secondary" pathways to provide specific examples of potential health outcomes; these pathways will be presented and discussed during the CAT Public Health meeting on December 17.

Figure 1: Overview of the Cap-and-Trade HIA



[1]Potential health impacts can be positive, negative or neutral

All analyses will discuss the potential impact on communities already adversely impacted by air pollution.

Part 2: What are the potential health benefits of including mechanisms in a cap-and-trade regulation to maximize co-benefits?

The second section of the HIA will evaluate potential health impacts of the proposed California cap-and-trade program with program design elements to maximize co-benefits, including allocating a proportion of the allowance value towards programs that decrease co-pollutants and/or improve public health.

The results of the HIA will be considered in conjunction with the findings of additional non-health analyses, which are being conducted as part of regulation development. The health benefits or impacts of incorporating program design elements into the regulation design will also be compared to the effects that these elements could have on the efficiency, cost and feasibility of the program.

Possible program design elements to consider are:

- Incentive Programs

- Trading Restrictions (determined by facility and/or community characteristics or a geographic area) for:
    - Allowances
    - Offsets

- Revenue Distribution to:
    - Disadvantaged communities in high pollution areas
    - All high pollution areas
    - Projects, programs or research to improve co-benefits
    - Projects, programs or research to improve public health
    - Other activities pursuant to EAAC recommendations

The consideration of the potential public health impacts of these design elements is expected to be largely qualitative due to limits on appropriate data to conduct quantitative assessments.