Proposed Pathways for the Cap-and-Trade HIA

CAT Public Health Workgroup Meeting
Original presentation: December 17, 2009

This presentation was modified January 2010 to reflect corrections by the CAT Public Health Workgroup.

California Department of Public Health
Meeting Objectives

• Overview of Cap-and-Trade Proposed Draft Regulation

• Overview of initial thoughts on scope, pathways, and research questions for HIA

• Discussion of HIA questions

• Record stakeholder comments/recommendations
Health Impact Assessment (HIA)

1. Screening

2. Scoping

3. Analysis
   - Profile existing baseline conditions
   - Impact analysis
   - Identification of cap-and-trade policy levers to maximize positive health outcomes

4. Reporting

5. Monitoring
Today’s Questions

• Is the proposed scope reasonable and feasible?
  ▪ Should we include all covered sectors or limit to stationary large emitters?
  ▪ How to deal with climate change health impacts?

• What about the draft health pathways?
  ▪ Additional pathways?
  ▪ Pathways that seem less important?

• What about the draft research questions?
  ▪ Additional research questions?
  ▪ Research questions that seem less important?
What Health Impacts to Include?

- Examples identified through literature review and expert consultation

- Examples of health impacts:
  - Air pollution (criteria air pollutants, toxics), land use and related health impacts, ecological impacts, traffic, employment, noise, economic impacts, heat, etc.

- Final non-air related impacts to include will be based on:
  - Impacts of highest public health significance
Proposed HIA focuses on the potential impacts of the proposed Cap-and-Trade program design on the health of people in California, through multiple pathways, with particular attention to vulnerable and already impacted communities.
Big Picture: Cap & Trade HIA Components

**CA Cap & Trade**

1. **# of Allowances & Allocation Strategy**
2. **Covered entity**
3. **Buy/Sell Allowances**
4. **Buy/Sell Offsets**
5. **On-site Reductions**
6. **Policy Design Alternatives**
7. **Potential Health Impacts**
8. **Proceeds**

1. Potential health impacts can be positive, negative or neutral
2. Consistent with the proposed draft regulation (PDR), the covered entities are entities with one or more defined processes or operations like stationary combustion, cement manufacturing; cogeneration, etc.; electricity deliverers; transportation fuel delivers; natural gas deliverers; and deliverers of natural gas liquids (PDR (pg 25-26) at: [http://www.arb.ca.gov/cc/capandtrade/meetings/121409/pdr.pdf](http://www.arb.ca.gov/cc/capandtrade/meetings/121409/pdr.pdf))
Choices Available to a Covered Entity

Covered entity

Buy/Sell Allowances

Buy/Sell Offsets

Reduce emissions
(e.g. install new boilers, increase energy efficiency, improve maintenance, decrease output etc)
Allowance Allocation Strategy

Allocation Strategy (# of allowances or auction vs. free distribution) → Cost → Change in Emissions → Proceeds Amount and Distribution → $ to households/communities/individuals/others → Potential Health Impacts

1Potential health impacts can be positive, negative or neutral
Allowance & Offset Trading

Allowance Trades and Offset Trading

Inside Community of Emitting Facility

Potential Health Impacts

Outside Community of Emitting Facility

¹Potential health impacts can be positive, negative or neutral
Example: Allowance Trading

1Potential health impacts can be positive, negative or neutral
2If the buyer and seller are in the same community, there will potentially be a net reduction of emissions in that community (e.g. emissions stay the same for buyer of allowance, but are reduced for seller of allowance).

- If they are not in the same community, the community of the buyer loses potential health benefits of reductions.
- In the next iteration of the slides, the potential relationships between buyers and sellers inside and outside of a community will described in more detail.
Example: Offset Trading

**Offset Project** → **Location**
- **Project is Outside Community** → **Potential health impacts**
- **Project is Inside Community** → **Reduced CO₂ levels**

**Potential changes in co-pollutant emissions and other risk factors in entity’s community** → **Potential change in respiratory disease, cancer, cardiovascular disease**¹

**Offset Type**² (e.g. urban forestry) → **Potential positive health impacts**¹ (e.g. nutrition, jobs, social capital, pollution absorption)

**Potential negative health impacts**¹ (e.g. pesticide exposure)

¹Potential health impacts can be positive, negative or neutral.
²No offset types have currently been approved by ARB.

Note: The buyer and recipient of the offset may or may not be in the same community. If in the same community, the community of the buyer gets the health impacts of the offset and the impacts of potential reductions of emissions. If they are not in the same community, the community of the buyer loses potential health benefits of reductions and likely gains nothing from the offset. More details in next slide iteration.
Potential health impacts can be positive, negative or neutral.

1Potential health impacts can be positive, negative or neutral
Example: Entity Reductions

Entity Reductions → Installation of combined heat and power system (CHP)

- Potential decreased criteria pollutant emissions (compared to older boiler)
- No change in co-pollutants
- Potential increased criteria pollutant emissions (when compared to a new boiler of similar type)
- Potential change in respiratory symptoms and/or hospitalization for heart or lung diseases

1 Potential health impacts can be positive, negative or neutral
Potential Alternatives

Potential Health Impacts¹

¹Potential health impacts can be positive, negative or neutral

Note: As part of the health impact assessment, allowance, offset, etc. pathways will be qualitatively analyzed assuming various potential alternatives as outlined above. Quantitative analysis will occur where possible.
Cap & Trade HIA Questions
Proceeds

- How much proceeds will there be?
- How can the proceeds be used?  
  *e.g. tax rebate, community development*
- How will the proceeds be distributed?  *e.g., how much will go to impacted communities? Will proceeds go to all communities in CA?*
- For each use of proceeds (with associated amounts and locations), what are the health impacts?  
  *e.g. building a park may lead to physical activity*
- Will different pricing strategies lead to different reductions in emissions?  If so, what are the associated health impacts?
Cap & Trade HIA Questions
Trading Allowances

• How many allowances can be traded?

• Are trades restricted according to some criteria?
  *(e.g. community impact or amount of emissions)*
  ▪ What are the likely scenarios for who will trade and where?
  ▪ What are the health impacts of restricting trades based on community or facility characteristics?

• If an allowance is purchased from an entity in another community, what are the potential foregone health benefits?
  *(e.g. air quality, traffic, noise, employment, household budget, etc.)*
  ▪ What are the health impacts of each change?

• If an allowance is purchased from an entity within the community, what are the health benefits?
  *(e.g. air quality, traffic, noise, employment, household budget, etc.)*
  ▪ What are the health impacts of each change?
• How many offsets are allowed? And therefore how much emissions will be reduced?

• What is the impact of not reducing co-pollutants?

• What are the types of offsets?  
  e.g. urban forestry, forestry, livestock

• Where can offsets be used?

• For each type/location what are the health impacts of the offset?  
  e.g. urban forestry:  
  ▪ positive health impact may be physical activity, jobs  
  ▪ negative health impacts may be pesticide exposure, allergies
Cap & Trade HIA Questions

Entity reductions

• How much will emitters reduce emissions?

• What are the health impacts (long range) of reducing emissions as a result of reduced global warming?

• What are the options for reducing emissions by type of covered entity? *e.g. combined heat and power (CHP)*

• How will co-pollutants change?

• What are the health impacts of changes in co-pollutants?

• What are other changes that will result from emission reduction technologies? *e.g. traffic, noise, employment, household budget, land use, etc.?*  
  ▪ What are the health impacts of those changes?