

Health Impact Assessment of the Cap-and-Trade Program Progress to Date

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Health Impacts of Climate Change

- Extreme heat episodes
- Increased air pollution
- Physical health risks due to wildfire and flood
- Increased risk of exposure to disease

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California's Climate Change Program

- Scoping Plan describes State's plan to reduce global warming emissions to 1990 levels by 2020
- Addresses every major sector of the economy
- Includes mix of regulations, incentives and voluntary programs

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Scoping Plan Measures

- Direct regulations – 80% of reductions
 - Advanced Clean Cars
 - Low Carbon Fuel Standard
 - Renewable Electricity Standard
 - High global warming potential gases
- Cap-and-trade regulation – 20% of reductions

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Elements of Cap-and-Trade Program

- Firm, declining cap on greenhouse gas emissions
- Individual facilities have flexibility to choose compliance options
- Allowances may be freely allocated or auctioned
- All capped facilities subject to District regulations and permit requirements

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Health Determinants

Identified through Public Process

Change in **co-pollutant emissions** in the community

- Particulate matter
- Oxides of nitrogen
- Reactive organic gases
- Toxic air contaminants

Change in **employment** in the community

- Labor leakage
- Labor demand
- Income

Change in **consumer economic cost** in the community

- Price of electricity
- Price of residential & transportation fuel
- Price of goods & services

Change in **social & physical factors** in the community

- Social cohesion
- Built environment
- Greenspace
- Vulnerability to air pollution
- Construction impacts

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Health Outcomes

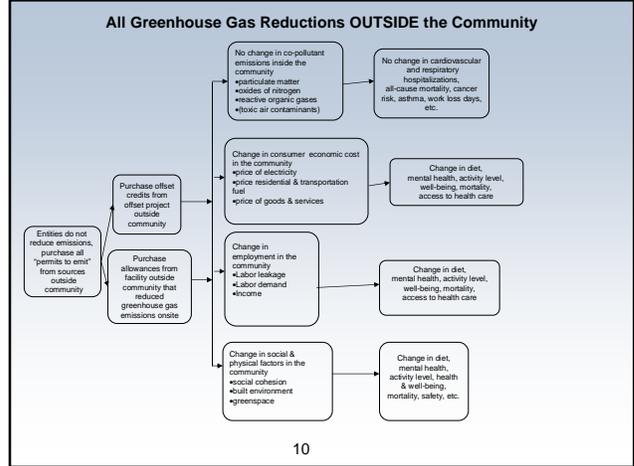
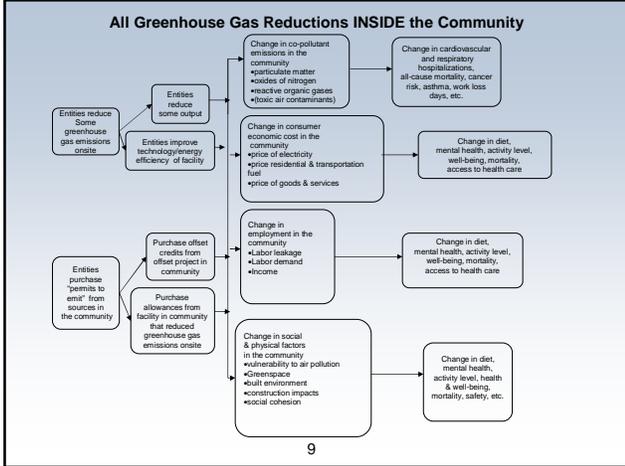
- Quantitative
 - Mortality due to exposure to air emissions
- Qualitative
 - Additional outcomes

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Scope of the HIA

- Focus on impacts in California
 - Statewide, regional, community case studies
- Bound potential outcomes
 - All emission reductions in the community
 - All emission reductions outside the community
- HIA will be completed prior to rule adoption

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Air Quality and Health South Coast Region

- Emissions of "co-pollutants" are decreasing due to:
 - State Implementation Plan measures
 - Diesel program

Tons per day	NOx	ROG	PM2.5	SOx
2008	720	619	68	61
2020	430	520	66	27

- California's greenhouse gas program will continue to reduce co-pollutant emissions

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Air Quality and Health Wilmington Case Study

Legend

- Stationary Point Source Facilities
- Wilmington Study Area
- UP Railyard - ICTP
- BNBF Railyard - Watson-Wilmington

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Air Quality and Health Wilmington Case Study

- Identified as a community “highly impacted” by air pollution for purposes of AB 32 assessments
- Community includes industrial, transportation, port and area-wide sources
- SIP and diesel measures are reducing emissions
- Significant emissions reductions expected from 2008 to 2020 without Scoping Plan reductions

NOx	ROG	PM2.5	SOx	DPM*
-23%	-4%	-28%	-78%	-85%

*Reduction from 2000 levels

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Air Quality and Health Wilmington Case Study

- Assuming all cap-and-trade reductions occur at local facilities has a very small impact on total reductions expected in 2020

	NOx	ROG	PM2.5	SOx	DPM**
W/out C&T	-23%	-4%	-28%	-78%	-85%
With C&T*	-24%	-4%	-29%	-79%	-85%

*Assumes industrial sources in Wilmington reduce emissions 8%
**Reduction from 2000 levels

- Options for offsets would be within this range
- Trading restrictions would be within this range

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Air Quality and Health Additional Case Studies

- 2 more communities
- Sectors covered
 - Power plants
 - Refineries
 - Cement manufacturing facilities

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Further Assessment

- Qualitative HIA focused on potential use of revenue or allowance value generated by cap-and-trade

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