

Cap-and-Trade Design: MAC Recommendations and Other Issues

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Elements of Cap and Trade

1. Establish an overall cap – total emissions allowed by the program
 - “overall cap” is not the same as the statewide emissions target
2. Allocate emissions allowances (emissions permits) to facilities covered by the program
3. Allow for trading of allowances
 - trading is key to achieving cost-reductions
4. Monitor and enforce

How Can Trading Yield Lower Costs?

With voluntary trading ...

- Sources for which it is especially costly to cut emissions can purchase additional allowances and thereby avoid high costs
- Sources for which it is relatively inexpensive to cut emissions will find it advantageous to sell allowances and take on extra responsibilities
- Total allowances in circulation (overall allowable emissions) are unchanged

Both buyers and sellers (and workers and consumers) benefit.

California benefits because more of the work is carried out by facilities that can reduce emissions most cheaply.

Contrast with Carbon Tax

Carbon tax:

regulator sets price, market determines aggregate emissions

Cap-and-trade:

regulator sets aggregate emissions, market determines price

The MAC's Cap-and-Trade Design Criteria

1. Environmental integrity
2. Cost-effectiveness
3. Fairness
4. Simplicity

The MAC's Design Recommendations

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 - Power, manufacturing, and transportation

Double Jeopardy for the transportation sector?

-- No.

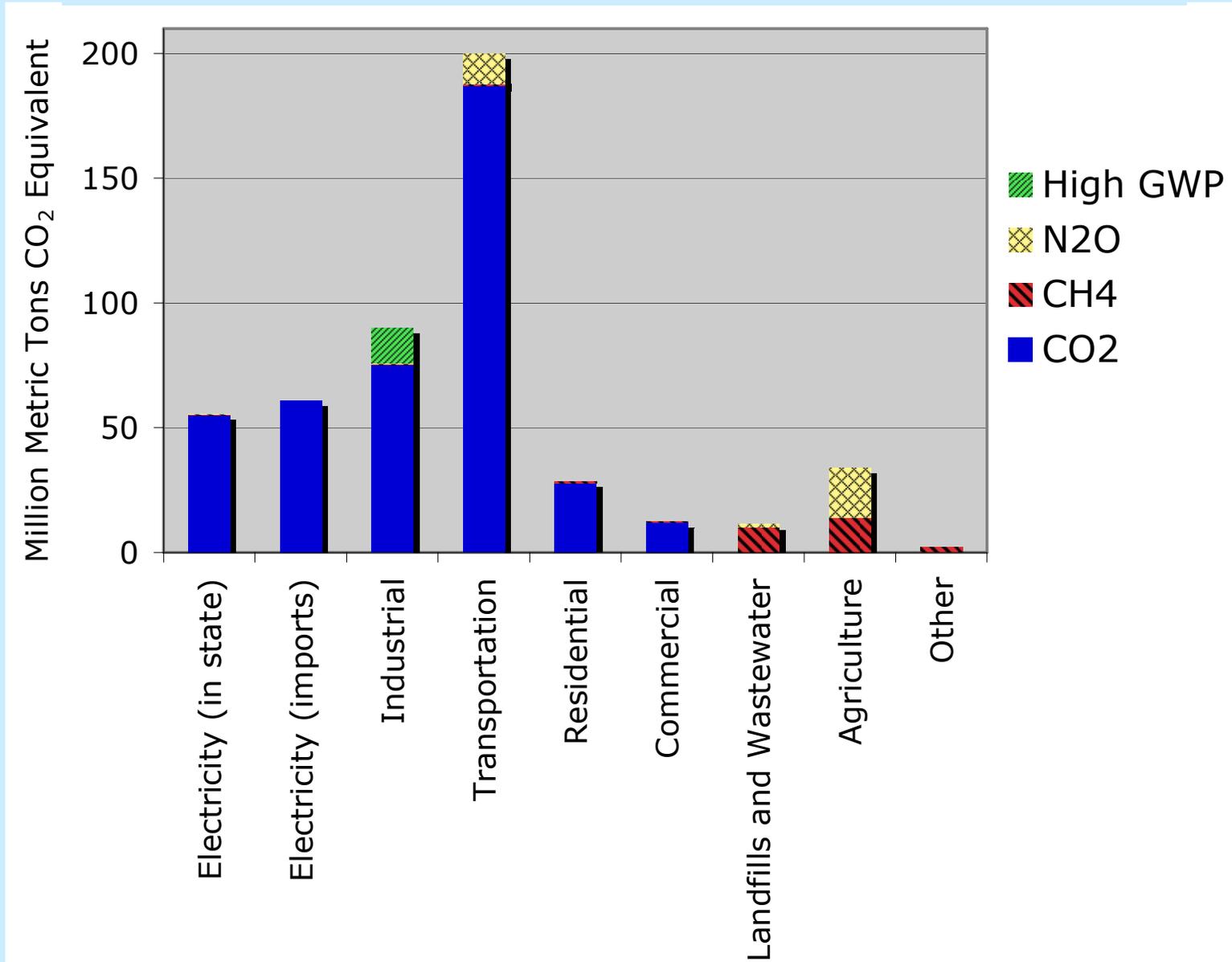
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California Greenhouse Gas Emissions, 2004



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Allowance Allocation: Free or via an Auction?

Attractions of auctioning: The auction revenues...

- promote efficiency: reduce the state's need to rely on ordinary, distortionary taxes
- can be used for beneficial social purposes (e.g., technology promotion)

Small amount of free allocation is all that is needed to prevent profit losses (cf. EU ETS)

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- How to avoid electricity-sector “emissions leakage?”

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 - Include emissions associated with imported electricity (first-deliverer approach)

Further Issues

1. Direct Regulation vs. Cap and Trade

A Cap-and-Trade System Complements Direct Regulation

Suppose the cap requires a reduction of **50 million** metric tons in the electricity and industrial sectors.

If new direct regulations (e.g., tighter efficiency standards) in these sectors yield reductions of **20 million** tons – this contributes to the 50 million target.

The limited supply of allowances assures a total of 50 million tons in reductions. Allowance prices will rise enough to bring about the needed additional **30 million** tons of reduction.

-- Direct regulation contributes to meeting the cap!

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4. Linkage with Regional (and upcoming Federal?) System
 - this yields cost savings while substantially reducing leakage challenges.
 - a “tighter” CA system can be made compatible with a less stringent Federal system.

In Sum ...

1. Like a carbon fee, a cap-and-trade system encourages emissions reductions by those sources that can accomplish this most cheaply. It may have political advantages over a carbon fee.
2. The MAC favored a broad system, and one which relies principally on auctioning the allowances.
3. Cap and trade need not preclude direct regulation. Indeed, direct regulation offers a way to achieve the system's cap.
4. Disagreements remain regarding the best point of regulation (upstream or downstream).
5. I believe a cap-and-trade system can achieve cost-effectiveness goals while addressing environmental justice concerns.
6. I recommend that the ARB expedite linkages with a broader regional system and (if applicable) a Federal system.