Emissions Market Assessment Committee

Introduction
Agenda

• Four Aspects of Cap-and-Trade Market
  – Resource Shuffling Policy
  – Reserve Price Policy
    • Update on MSG modeling
  – Linkage Policy
  – Information Availability Policy

• Public comment: other topics
Resource Shuffling
Resource Shuffling: Outline

• Definitions and potential scope
• Policy Options
  – Legal enforcement approaches
  – Market adjustment approaches
• Options for analysis
Resource Reshuffling

• *Academic Definition*: Changes in pair-wise matches of buyers and sellers that do not result in changes of emissions
  – Combined emissions of importing and exporting regions

• *Policy Definition* has been adjusted to account for reductions in CA GHG consumption triggered by complimentary measures
  – *For example SB 1368*
Pathways to Reshuffling

• Default emissions rates: relabeling
  – May be possible to import same power at lower emissions rate if it was higher than default

• Specified sources
  – May be possible to import from clean specified sources that had not previously been selling to CA
  – This could be swapped out for dirtier historic import sources

• Higher defaults decrease in incentives for the first, increase incentives for the second
Scope for Reshuffling & Relabeling

- 2010 Emissions from Electricity Imports about 55 mmTons
  - For 90 TWh of energy
  - About 20 TWh was zero carbon source
  - Average Intensity of 55/70 = .785 tons/MWh for the rest

- If all 70 TWh was substituted for zero carbon sources
  - 55 mmTon/year reduction

- If all was scored at default of .436 mmTons/MWh
  - About 25 mmTon/year reduction
Estimating Scope for Reshuffling

Importing Clean Power
Assuming California Generation Unchanged

CA Forecast Demand
CA Emissions Target

Electricity Output [TWh]
2007 Re-dispatch w/ Carbon Regulation: 15% reduction
Approaches for Dealing with Reshuffling

• Expand the number of participating jurisdictions

• Ad-hoc regulatory oversight of procurement
  – CPUC procurement proceedings
  – SB 1368

• Legal prohibitions

• Market-Design changes
Legal Enforcement

• Original language

“I certify under penalty of perjury of the laws of the State of California that [facility or company name] for which I am an agent has not engaged in the activity of resource shuffling to reduce compliance obligation for emissions, based on emission reductions that have not occurred as reported under MRR.”
Legal Prohibitions

• Pros:
  – Appealing in its apparent breadth and simplicity
  – Preserves freedom of action for enforcement?
  – Does not require design changes

• Cons:
  – If too open-ended, can disrupt wholesale electricity market
  – Probably very difficult to strictly enforce
    • Must distinguish between transactions motivated by “reducing compliance obligation” from other motivations
    • What will be the burden of proof?
EMAC view

• Very difficult to distinguish between transactions motivated by reshuffling vs. other reasons

• Emphasizing broad, undefined, legal enforcement can yield the market to those willing to bear legal risk

• Favor identifying types of transactions explicitly as reshuffling
  – Rather than a growing list of what is not
Examples

• One type of reshuffling (for purposes of enforcement)

    a market participant claiming a source for imported electricity to be a specific generating unit when it can later be determined that this imported energy was procured from a different generating unit with an emissions rate that is higher than the one originally claimed as the source of that energy.
Joint Proposal by IOUs

• Identifies 6-7 activities that would *not* constitute reshuffling (for purposes of enforcement)
  – RPS compliance
  – Compliance with other regs
  – Retirement of resource
  – Termination of contracts for “other reasons”
  – Expiration of contract
  – Short-term transactions
  – Transmission constraints, outages, or emergencies
Market Adjustment Approaches

• In ARB Chair’s August letter, ARB considering “adjustments to ensure that emission reductions that occur in the electricity sector as a result of California’s cap and trade program are not offset by increases in emissions elsewhere.”

• Anticipate or measure degree of reshuffling and adjust cap and/or allocations accordingly
  – How could that be approached?
Market Adjustments: Three Large Issues

• Where does adjustment come from?
• How much of an adjustment?
• Where does adjustment go?
Where does adjustment come from?

• Reduce unallocated auction amount?

• Reduce allocations pro-rata?
  – Come from all industries?
  – Reductions focused on Electricity?

• Link adjustment to market actions
  – Link adjustments to market actions?
    • What kind of actions? Anything not on IOU guidance list?
Adjustment

• How much of an adjustment?
  – Anticipate potential reshuffling?
  – Respond to specific market actions?

• Where does it go?
  – Into the auction pool?
  – Retired?
  – Into the price-reserve?
Assessing Impact of Remedies

- Potential for reshuffling
  - "pure" market potential is large
  - "soft" factors hard to quantify
    - Regulatory oversight (e.g. CPUC procurement)
    - Trade frictions on low GHG power
    - Warm glow vs. Hot glare
- Potential market impacts of adjustments
  - Impacts on expected prices
  - Impacts on volatility of prices
Complimentary Measures

• Very possible that external shocks (rainfall, economy) combined with complimentary policies will yield reductions necessary to meet the cap
  – An outcome where the market price is at or near the floor does not therefore imply a “failure” of the cap-and-trade program
Supply of Abatement

Allowance Price

Complementary Measures
Costless Reshuffling
Costly Reshuffling
Offsets

Electricity Dispatch Changes;
Industrial Processes Changes;
Fuels Consumption Changes

GHG Reductions