



Comments on Japanese Sectoral Approach

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Sectoral Approaches can help achieve Climate Progress

- GHG goals require contributions from developing countries
 - » Annex I reductions alone can't ensure stabilization
 - » Bali Action Plan calls for “Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, and
 - » Supported and enabled by technology, financing, and capacity-building
- Sectoral approaches can facilitate these contributions
 - » Benefits to developing countries
 - » Focus on energy and GHG-intensive sectors
- Together with stringent Annex I targets, sectoral approaches can keep global emissions at levels that preserve potential for longer-term stabilization

Industry Suitability to Sectoral Approaches

- No “one size fits all” for sectoral approaches
 - » Variations within industries
 - » Variations across different industries
- Some characteristics suitable for sectoral approaches
 - » Relatively uniform product
 - » Limited number of co-products
 - » Production processes that can be compared
 - » Abilities to measure, report, & verify data
- Some industries may ultimately be deemed as too complicated for sectoral approaches

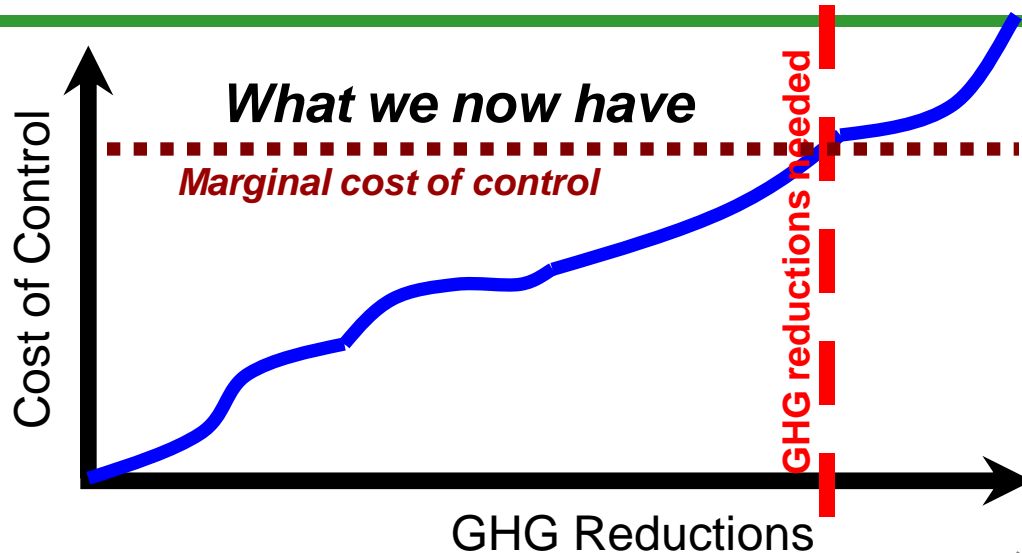
Does one approach work for both developed & developing countries?

- Developed countries take on binding national commitments
 - » Bottom-up may inform, but should not replace
 - » For economy-wide, no guarantee that every sector can be evaluated
 - » All sectors which can substitute for each other need to be covered (eg steel and aluminum, various building materials)
- For developing countries, sectoral approaches *may* play a more definitive element in a post-2012 framework
 - » But does one approach work for all countries?
 - » Does one approach work for all industries and sectors?

Some sectors problematic for bottom-up analysis

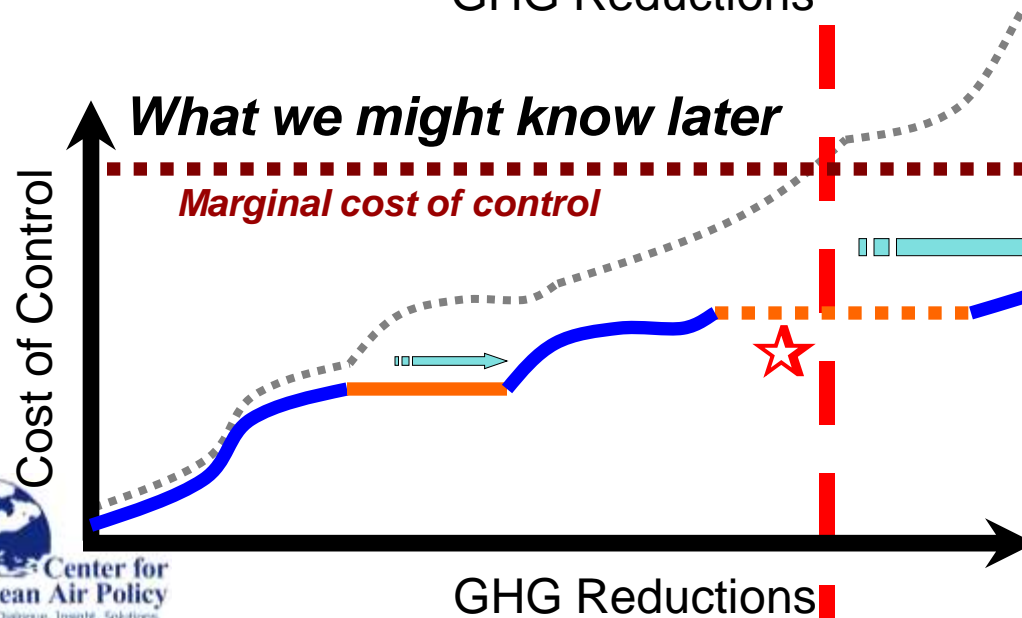
- Complexity within sector
 - » Multiple inputs, multiple outputs
 - » Wide variations within and among regions
 - » Overlapping sectors and subsectors
 - » Changes in boundaries over time
- Data issues and availability
- Potential for systematic undercounting in bottom-up
 - » Options must be known
 - » Options must be measurable
 - » “Known but unmeasurable” often excluded
 - » “Unknown” often excluded

Effects of finding more possibilities for GHG reductions



ARE OPTIONS LEFT OUT?
What if we didn't know about

- Unknown "A"
- ⋯ Unknown "B"
- - - Unknown "C"



If there are additional GHG reduction actions that bottom-up analysis doesn't "see", then the implicit supply curves are shorter and steeper. Extra actions can (1) lower the cost of meeting a GHG reduction goal, and/or (2) enable more GHG reductions for a given cost.

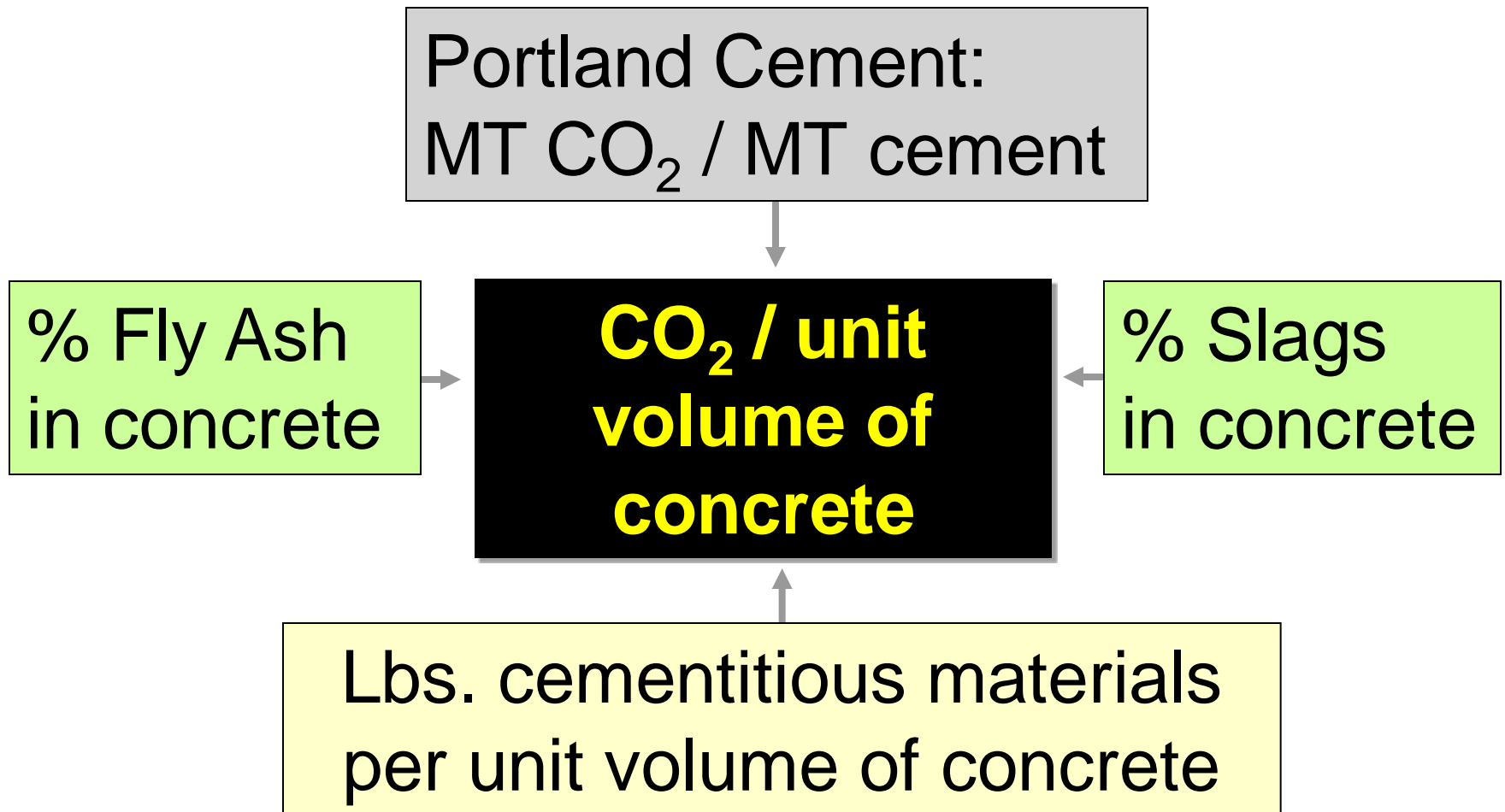
Boundary Issues

- Where we draw the boundary, or “fence” has important implications for sectoral agreements
 - » What we choose to measure (or not measure)
 - » Energy use vs. emissions or both
 - » Direct use, indirect use, & process emissions
 - » How far to go “upstream”?
 - » How far to go “downstream”?
- Poor choices for boundaries and metrics can limit the potential benefits
 - » Attractive opportunities may be overlooked
 - » Good actions may be taken but not counted
 - » Unproductive activities may be rewarded

Measurement Issues: Downstream

- Performance often measured on intermediate products
- But opportunities for energy & GHG savings often come later
- Example: flyash & slag use in blended cements
 - » Many cement makers blend these materials, saving energy and GHGs from clinker production
 - » In the U.S., this is typically done at the *concrete* plant
- Point of measurement has important implications
 - » Intensity of clinker production
 - » Intensity of cement production
 - » Intensity of concrete manufacturing

Concrete's CO₂ Drivers



Source: Thomas M. Pounds, CalStar Cement, *Concrete Data: CO₂ from Cement and Concrete in the U.S., 1990 – 2050*, presented to American Coal Ash Association, 02-July-2008.

U.S. Cement Intensity Trends: 1990 to 2005

Variable	1990	2005	Δ	
Portland Cement: MT CO ₂ /MT cement	0.99	0.94	-5%	✓
% flyash & slag in concrete	4%	12%	+200%	✓
Lbs. cementitious material per cubic yard concrete	600	550	-8%	✓
MT CO ₂ per cubic yard concrete	.26	.21	-19%	✓
Total MT CO ₂ output	77	115	+49%	✗

Kiln efficiency is only a part of overall intensity improvements!

Source: Thomas M. Pounds, CalStar Cement, *Concrete Data: CO₂ from Cement and Concrete in the U.S., 1990 – 2050*, presented to American Coal Ash Association, 02-July-2008.

Additional Comments on Japanese Proposal

- Financing: needs to include up-front financing and technology incentives – this is key to Bali roadmap and key to winning DC support
- Mandatory participation by EDEs in sectoral - Not desirable – offering incentives for participation coupled with differentiation on current CDM is better path to expanded EDE participation
- Favor addition of car manufacturing to list of industry sectors well-suited to sectoral approach
- Favor allowing other non-EDEs to opt-in to sectoral
- Labelling of products – valuable new addition to the debate

Additional Comments (2)

- Proposal includes three key processes in setting sectoral targets: 1) boundary setting, 2) measuring efficiency, and 3) defining intensity targets
- These are the key issues – but a mandatory minimum intensity target is too top-down
- As my presentation demonstrates, the shape of the supply curve is key and needs to be factored in to the national decision on the sectoral target or targets
- Yesterday the EU also raised the equity issue – is it fair to require DCs to make all the same reductions at their own cost that A1 countries will be making?
- Geographical distribution: while sectoral could improve this in the current CDM, how does this create an incentive for EDE participation?