

The Impacts of Program Design on the Economics of Offsets

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RGGI Offsets Workshop

June 25, 2004



Overview

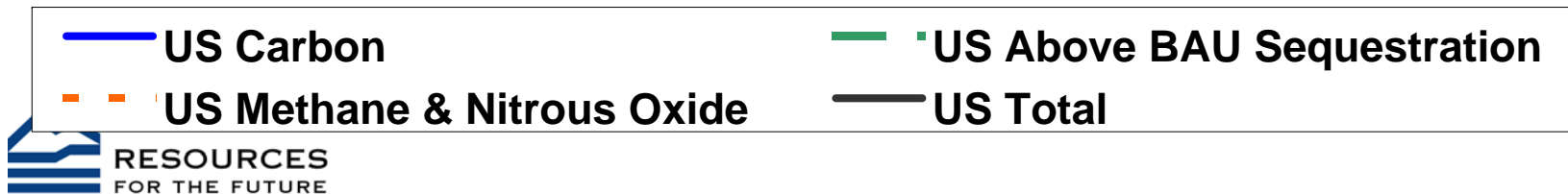
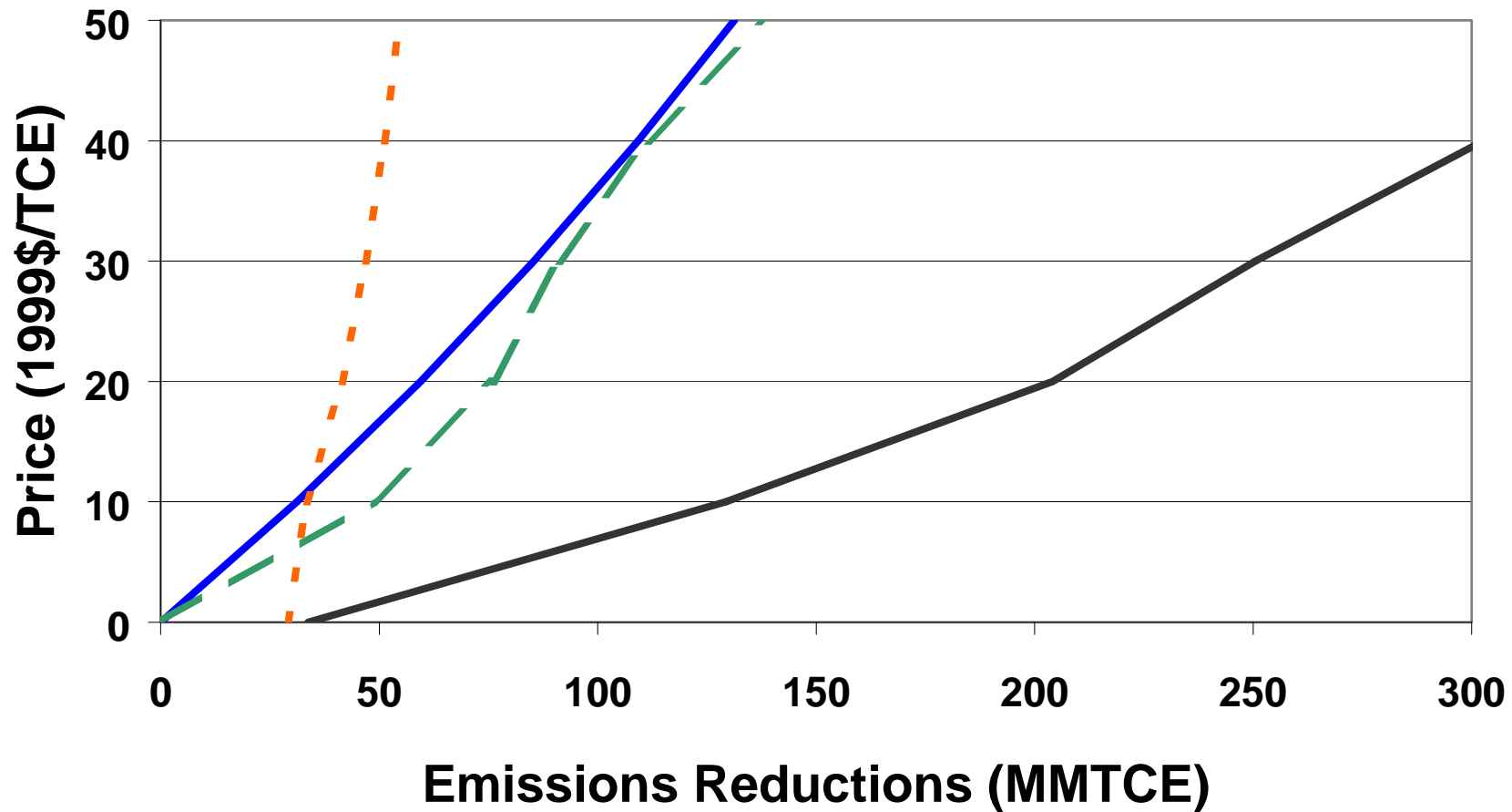
- Describe the pure economic case for offsets
- Discuss where reality intrudes on the economic ideal
- Review lessons learned from conventional pollution offset programs
- Conclusions

The Economic Case for Offsets

- Low-cost emission reductions from sources outside cap are substituted for higher-cost reductions inside cap
- The broader the scope, the more low-cost reductions may be available
 - “what” flexibility = types of sources/ gases
 - “where” flexibility = geographic scope (e.g., regional vs. national vs. international)

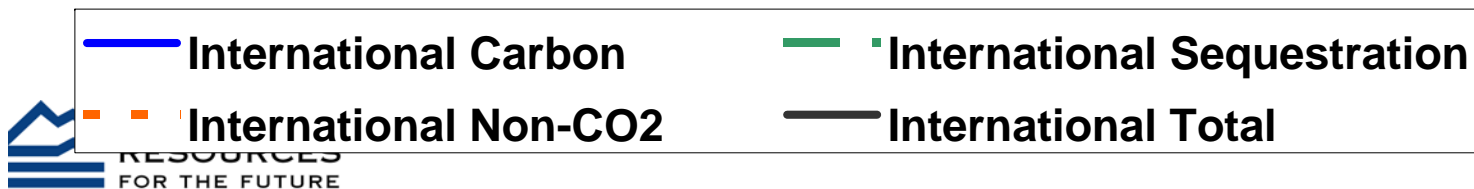
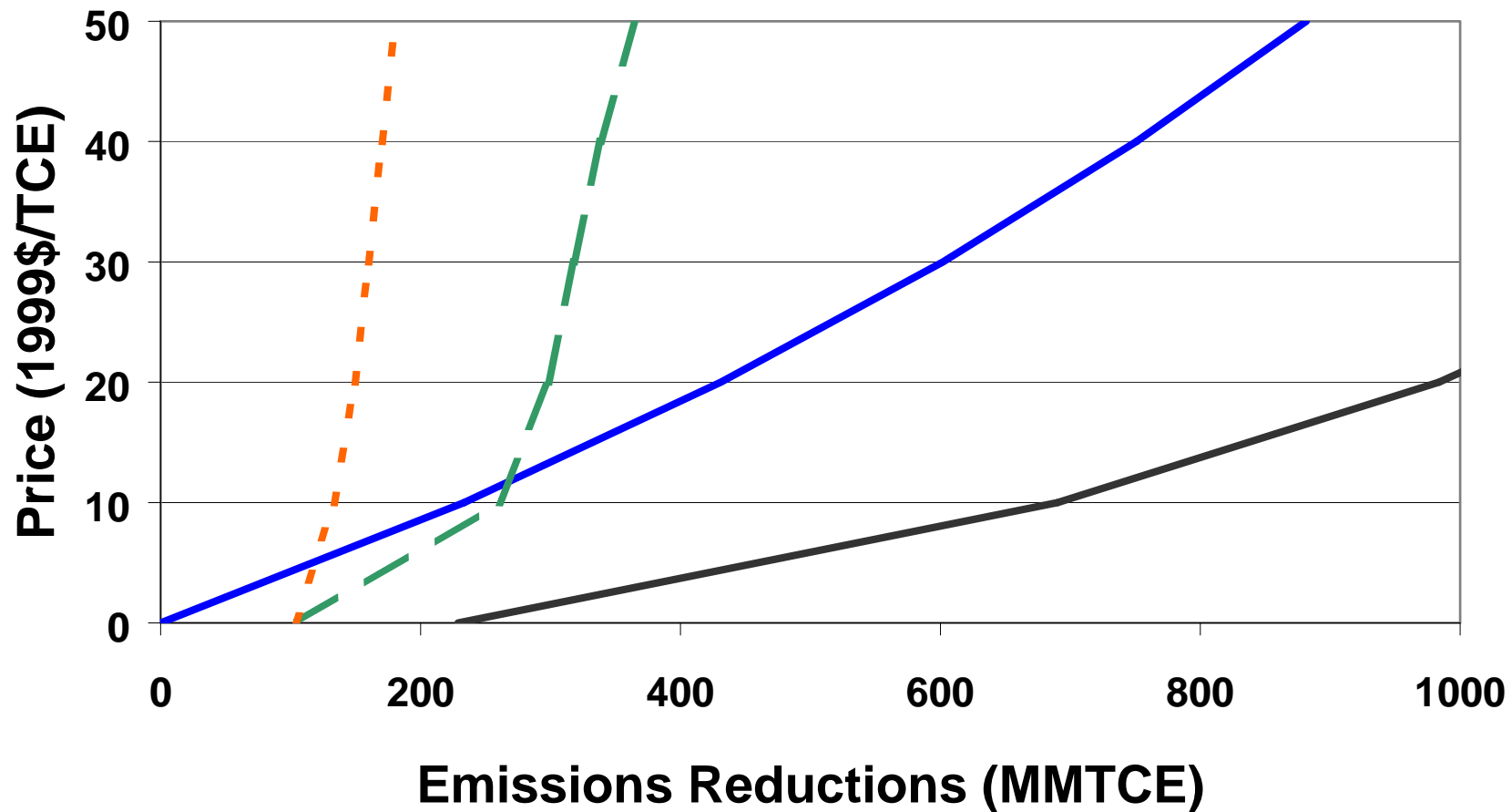
U.S. GHG Abatement Costs (2010)

(Source: EPA)



International GHG Abatement Costs (2010)

(Source: EPA)



Estimated Annual Costs in EU ETS in 2010

Unlimited offsets cut allowance price by 50%

Scenario 2010	No Offsets	3% Limit to Offsets	6% Limit to Offsets	Unlimited Offsets
Annual Costs	€2.9 billion	€2.8 billion	€2.4 billion	€2.2 billion
Estimated Allowance price	€26/ton CO ₂ e	€20/ton CO ₂ e	€14/ton CO ₂ e	€13/ton CO ₂ e
Amount of offsets in the system	n/a	3%	6%	7%
Tons of Offsets	0	171 MMTCO ₂	208 MMTCO ₂	224 MMTCO ₂

Source: European Commission

Limits on the Technical Potential of Offsets

- Certain factors limit the potential for offsets
 - **Less direct incentives than cap and trade**
 - not all emissions reductions are appropriate for offsets projects
 - not all actors are aware of the program
 - **Addressing environmental integrity**
 - Imperfect information about “anyway tons”
 - Requires administrative rules, which may limit project eligibility
 - Drives up transactions costs

Example: Offsets for the EU ETS

- Modeling shows demand for 208 mmtCO₂e of offsets in Europe; 428 mmtCO₂e worldwide
 - Assume 250,000 per project
 - ~830 projects to satisfy EU demand
 - ~ 1,700 projects to satisfy worldwide demand
- Can the CDM administrative process handle this many projects?

Project-Level Trading for Conventional Pollutants

- Long history of “flexibility mechanisms” to meet conventional pollution standards (netting, bubble policy, etc.)
- Two main types of emissions credit programs:
 - Emissions Reduction Credits (ERCs)
 - Used to “offset” emissions of new sources (or major modifications) in nonattainment areas
 - Limited types of measures; Most credits generated by shutdowns
 - Discrete Emissions Reductions (DERs)
 - Used to give flexibility to meet Federal or State standards
 - Six States have programs
 - More analogous in structure to GHG offsets

ELI Assessment of DER Programs

- Environmental Law Institute (ELI) study found some DER programs have innovative features relevant to GHG offset programs
- However, many programs characterized by
 - *high transaction costs* with lengthy case-by-case reviews of projects and costly development of project-specific quantification protocols;
 - *low environmental certainty* with subjective arguments and assessments;
 - *low market certainty* with no clear rules or assurance of approval.

Conclusions

- To maximize the economic benefits of offsets
 - Standardize baselines
 - Use performance standards or other objective criteria to serve as proxies for “pure” additionality
 - Create clear quantification protocols up-front
 - Minimize case-by-case administrative decisions
- No such thing as a “perfect” offset program
 - Screening criteria inevitably create both “false positives” and “false negatives”
- However, if properly designed, offsets can:
 - have environmental integrity
 - lower costs and make tighter caps more affordable
 - create important technology incentives