NERA
Economic Consulting

# Allocation: The Realities of Policy Choices


Daniel Radov
Associate Director

IEA-EPRI-IETA Workshop

Paris, 9 October 2007

How Markets Work℠

# Agenda


- **Overview**
- **Current Allocation Issues**
- **Starting Point: Implications of "Idealized" Alternatives**
- **Complexities in "Real World" Allocation Choices**
  - Aims
  - Empirical
  - Timing
- **Implications for Decision Making**

# Overview


**Fundamental dilemma:**
**Desire for simple and transparent approach vs.**
**Account for multiple complexities**

- **Major categories of complexity**
  1. ***Many (competing) aims*** expressed or implied
  2. ***Empirical uncertainties*** in cost burdens (and other impacts)
  3. ***Timing considerations*** magnify complexities
- **Implications—"simple" solutions (e.g., 100% auctioning) *not* really simple, and tradeoffs inevitable**
- **Solution?**
  - **Prioritize/focus aims**
  - **Develop "reasonable" choices** that deal with major tradeoffs
  - **Develop trajectories** that provide appropriate transitions

# Traditional Allocation Approach as Illustrated in EU ETS


- **Phase 1 (Start-up period)**
  - Allowances mostly allocated for free (auctioning limited to 5%)
  - Allocation in two stages (sector, then facilities) *only to participants*
  - Allocation to facilities largely on the basis of "grandfathering" (historical emissions)
  - New entrant allocations (benchmark formula varied by Member State)
- **2008-12: Phase 2 (First commitment period of Kyoto Protocol)**
  - Greater use of benchmarking and auctioning (but limited to 10%)
  - Allocations only to participants (emitters)

# Emerging Allocation Issues in US Proposals and Post-2012 EU ETS


1. **Interest in auctioning (100%?) to "solve problems"**
   - "Excessive" electricity prices and "windfall profits" often mentioned
2. **Interest in benchmarking to "solve" other problems**
   - "Level playing field" often mentioned
   - "Performance standards" based on benchmark and "actual" production
3. **Interest in *avoiding* adverse competitive effects and leakage**
4. **Interest in providing compensation to diverse groups, including non-participants**

# Starting Point: "Idealised" Options All Efficient and All Maintain the Cap


- **Three major options: (1) emissions-based "grandfathering;" (2) benchmarks; and (3) auction**
- **Choice among "ideal" options does *not* alter:**
  - **Firms' decisions** to control emissions
  - **Total compliance costs** of achieving the cap
  - **Effects in product markets** (e.g., electricity price effects)
  - **Maintenance of EU-wide cap**
- **Note "idealized" allocations based on historical information (*not* "updating")**
- **Implication of "idealized" options: choice of allocation is "only a question of distribution"**
  - **But this is too simplistic!**

# Complexity 1: "Real World" Allocation Confronts a More Complex Set of Aims


## 1. Other "traditional" environment and efficiency aims

- Environment—avoid "leakage" of emissions
- Efficiency—avoid high administrative costs
- Coordination—improve scope for linkage with other trading programs

## 2. "Fairness" aims

- Many perspectives on what is "fair," including compensate for "stranded costs"

## 3. Other energy/economy aims

- Avoid competitive disadvantages
- Promote energy security
- Promote renewables and other "clean energy"
- Improve efficiency of tax system

# Implications of "Real World" Complexity in Aims


- **General result: tradeoffs among allocation options are more complex than "just distribution"**
- **Auctioning (particularly 100%) does not "solve *all* problems"**
  - Failure to compensate for "stranded costs"? Competitiveness effects?
  - Regulated jurisdictions see higher electricity prices ("fairness" effects)
  - No "simple" way to distribute auction revenues
- **"Updating" features can further some aims**
  - E.g., new entrant allocations, closure rules, output-linked allocation
  - Leakage can be reduced by keeping capacity, investment, and output within the EU (while maintaining cap)
  - Also: Competitiveness, consumer impacts (lower prices)

# Complexity 2: Hard to Quantify "Stranded Costs" and Other Ultimate Cost Burdens


- **Ultimate burdens depend upon complex market responses**
  - Carbon, fuels, electricity, other products, labor
  - Empirical studies of free allocation to compensate for "stranded costs" vary widely (e.g., cement, iron and steel range from 30% to 100% "required)
- **Implications**

**1. Many groups bear costs (or gain "windfall profits")**

- Emitters, customers, fuel producers, employees

1. **Determining percentage free allocation to make parties "whole" is difficult, if not impossible**
2. **"All or nothing" choices (e.g., 100% auction) do not reflect large empirical uncertainties in cost burdens**

# Also Difficult to Quantify Effects on *Other* Aims


- ***Size*** of greater "leakage" due to higher product prices?
- ***Size*** of efficiency loss from new entrant allocations / closure rules (updating) – and benefit from reduce leakage?
- ***Size*** of security gain from diversity of generation / local fuels?
- ***Size*** of tax efficiency gain from *actual* use of auction revenues?
- **"All or nothing" choices also do not reflect these other empirical uncertainties**

# Complexity 3: "Real World" Timing Factors Tend to Magnify Complexity


- **Many factors change over time, thus complicating choices**
  - Stranded costs/market dynamics/new entrants
  - Control technologies/costs
  - Overall cap
  - International context
  - Aims/priorities
- **But, time also provides opportunities to change allocations over time**
  - Compensate "stranded costs" over limited time period
  - Use trajectories to provide transitions
  - Respond to international context changes
  - Length of allocation/compliance periods

# Implications of "Real World" Complexity in Timing


- **Gains from varying allocation over time**
  - Opportunity to avoid "all or nothing" decisions
  - Provide for trajectories that reflect the importance of change
- **But, importance of regulatory certainty means allocation decisions should not change frequently**
- **Key policy dilemma: complexity vs. simplicity?**

# Solutions to Policy Dilemma?


1. **Prioritize/focus aims**
   - Determine which aims are most important for GHG cap-and-trade
   - Other policies for other aims
2. **Develop "reasonable" choices that deal with major tradeoffs**
   - Both "analytical" and "political" considerations
   - Choice among alternatives not "all or nothing"
3. **Develop trajectories that provide appropriate transitions**
   - Time adds to complexities *but also* provides opportunities
   - Allocations are not "all or nothing" choices

NERA
Economic Consulting

# Contact Us


**Dr. David Harrison, Jr.**
Senior Vice President
Boston
1 (617) 621 2612
david.harrison@nera.com

**Per Klevnas**
Consultant
London
+44 20 7659 8848
per.klevnas@nera.com

**Daniel Radov**
Associate Director
London
+44 20 7659 8744
daniel.radov@nera.com



MMC Marsh & McLennan Companies