

# Allocation Decisions in the European Union Emissions Trading Scheme

Presentation to California Economic  
and Allocation Advisory Committee

Dr. David Harrison, Jr.  
Senior Vice President

Sacramento, California  
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# Agenda



- Overview of Allocation Choices
- Overview of EU ETS
- Allocation in Phases I and II of EU ETS
- Changes in Phase III of EU ETS
- Contrast to Prior Cap-and-Trade Programs

# Allocation Choices are Complex and Important



|  |  |  |
|--|--|--|
| <i>Basic Allocation/Exemption Type</i> | <input type="checkbox"/> <b>Free</b><br><input type="checkbox"/> Non-updated<br><input type="checkbox"/> Updated           | <input type="checkbox"/> <b>Auctioning</b><br><input type="checkbox"/> Maximum Percentage<br><input type="checkbox"/> Other  |
| <i>Point in Fossil Fuel Chain</i>      | <input type="checkbox"/> Fuel Producers<br><input type="checkbox"/> Industry / Other Consumers                             | <input type="checkbox"/> Electric Generators, Suppliers<br><input type="checkbox"/> Other (e.g., States)   |
| <i>Entity Allocation</i>               | <input type="checkbox"/> Sector, Then Entity   | <input type="checkbox"/> Directly to Entity  |
| <i>Metric Used</i>                     | <input type="checkbox"/> Emissions   | <input type="checkbox"/> <b>Benchmarking</b><br><input type="checkbox"/> Fuel Input<br><input type="checkbox"/> Product Output<br><input type="checkbox"/> Other Metrics |
| <i>Year Used</i>                       | <input type="checkbox"/> 2004 <input type="checkbox"/> 2005<br><input type="checkbox"/> 2007 <input type="checkbox"/> 2008 | <input type="checkbox"/> 2006<br><input type="checkbox"/> 2009 <input type="checkbox"/> Other Years  |
| <i>Specific Data / Formula</i>         | <input type="checkbox"/> Single Year <input type="checkbox"/> Average  | <input type="checkbox"/> Max   |
| <i>New Entrants</i>                    | <input type="checkbox"/> Purchase Allowances   | <input type="checkbox"/> <b>Receive Allowances (“Updating”)</b><br><input type="checkbox"/> Actual Emissions<br><input type="checkbox"/> Benchmarking Formula            |

# EU ETS Fundamentals



- **Scope**
  - All 27 EU Member States, with over 11,000 installations representing about 40 percent of EU CO<sub>2</sub> emissions
    - About 2 billion tonnes; allocation value would be €40 billion at €20/tonne
  - Phase I (2005-2007) and Phase II (2008-12) targets based upon National Allocation Plans (NAPs) of individual Member States
  
- **“Downstream” program** covering CO<sub>2</sub> emissions from five sectors:
  1. Electricity and heat generation;
  2. Petroleum refining;
  3. Ferrous metals industry;
  4. Cement, glass, and brick industry; and
  5. Pulp, paper, and board industry
  
- **“Laboratory”** for well-structured cap-and-trade program for CO<sub>2</sub>

# Potential for Linkage of EU ETS to Other Trading Programs



## “Non-Kyoto” Parties

### Other National ETS

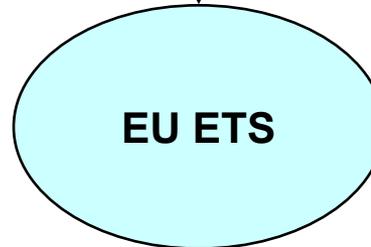
- Australia
- Canada

### Other Sub-National ETS

- RGGI
- California
- Western Gov's

## “Kyoto” Parties

CDM / CERs  
2005

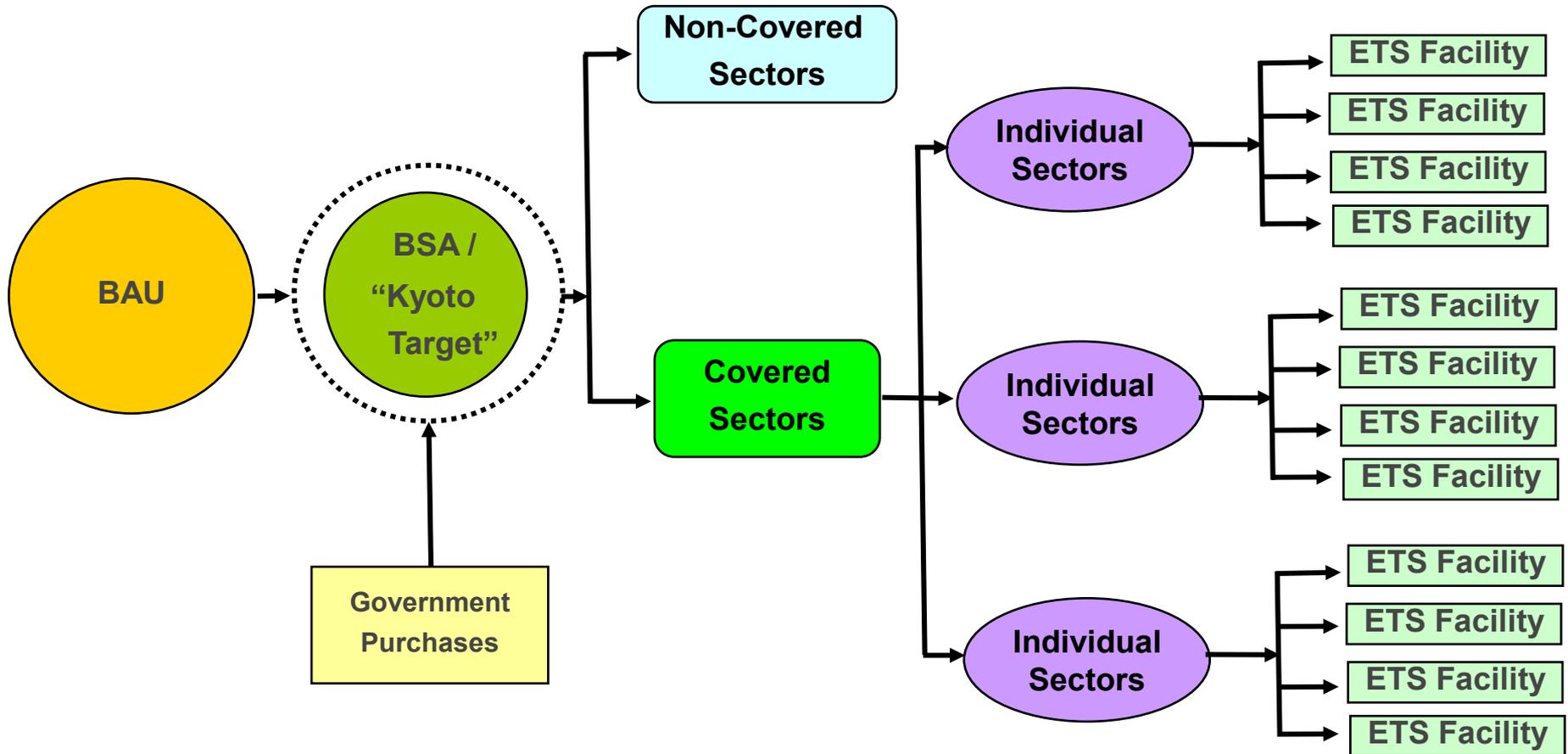


### Other National ETS

- UK
- Norway
- Switzerland
- Japan

JI / ERUs  
2008

# EU ETS Overview of National Allocation Plans (NAPs)



# Overview of Major EU ETS Elements in Phases I and II



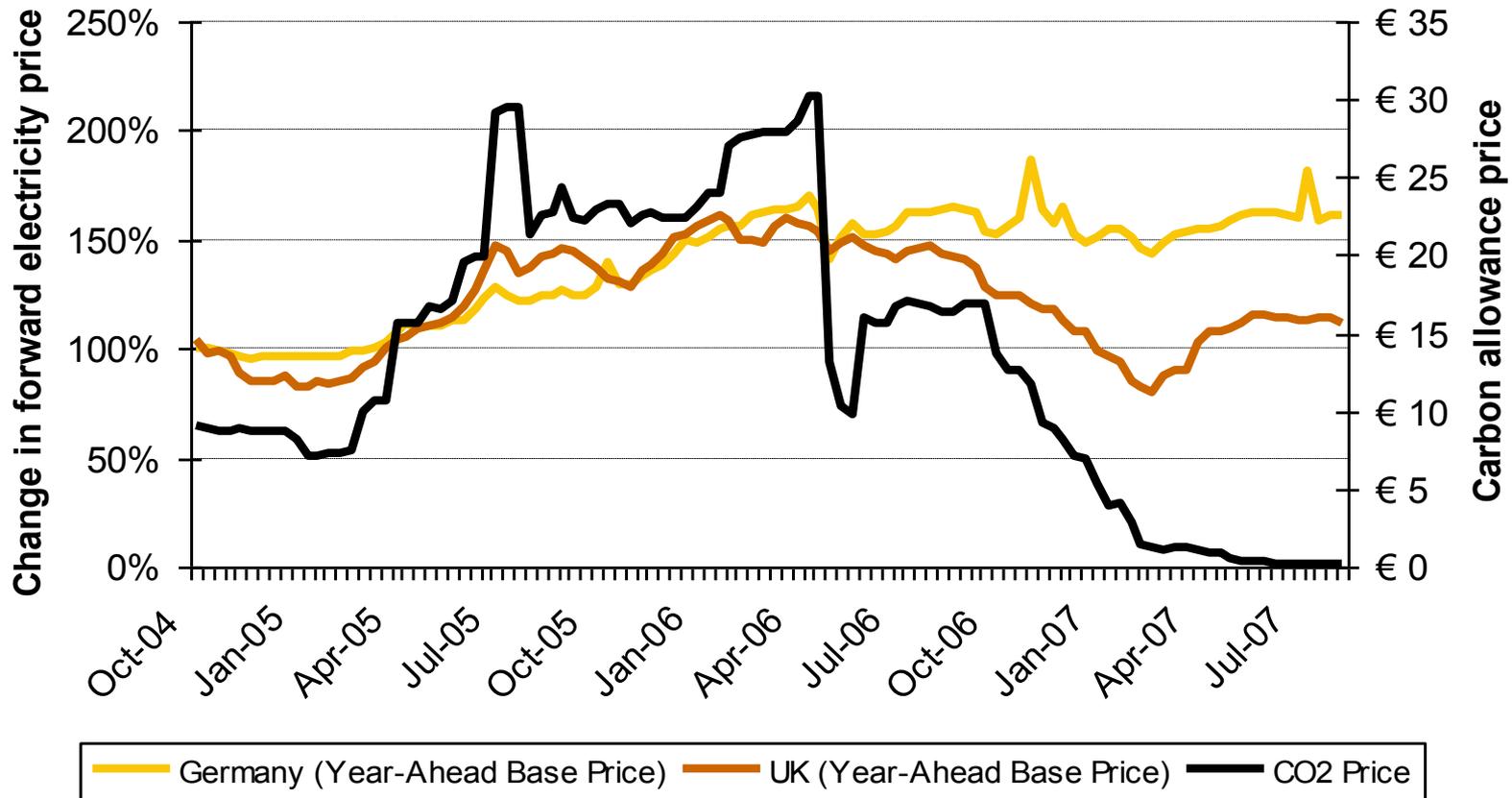
|                         | Phase I (2005-2007)   | Phase II (2008-2012)   |
|-------------------------|---|--|
| Cap-setting             | <b>Via Member State (“MS”) NAP; some Commission oversight</b>               | <b>Via MS NAP; more harmonised (and stringent) oversight</b> |
| Auction levels          | <b>5% maximum; less than 1% used</b>  | <b>10% maximum; less than 5% used</b>                        |
| Allocation methodology  | <b>Mostly historical emissions, some benchmarking</b>                       | <b>Mostly historical emissions; more benchmarking</b>        |
| Sector differentiation  | <b>Many MSs used sector-specific growth projections and other factors</b>   |  |
| Installation allocation | <b>By MS</b>  |  |
| Banking                 | <b>No</b>   | <b>Yes</b>   |
| New entrants / closure  | <b>New entrant allocation provided in most MSs; closures forfeit rights</b> |  |
| Ex-post adjustment      | <b>Rejected by EC; permitted by Court of First Instance</b>                 | <b>Rejected by EC; legal challenges may go forward</b>       |



# EU ETS Linkages Between CO<sub>2</sub> Price and Electricity Prices



- Electricity price rise with CO<sub>2</sub> price rise led to **concerns for “windfall profits”**
- Fall in CO<sub>2</sub> price coincided with fall in UK electricity prices



# Concerns about “Windfall Profits” to Electricity Generators in EU ETS



- **Basic “windfall profit” argument:** electricity price reflects carbon costs (of marginal supplier), but generators receive free allowances
  - Implication that if coal on margin in competitive market, all generators get “windfall”
- **“Windfall profits” critique obscures complications in electricity prices**
  - Differences among demand period (marginal fuel)
  - Differences among generators (coal vs. gas vs. nuclear)
  - Interactions of fuel/emission/electricity markets,
  - Influence of new entrant reserve/closure provisions
  - Influence of green/white certificates
- **Various country proposals (but none implemented) to limit electricity prices and “windfall profits”**
  - Re-regulation of electricity markets
  - “Industry tariffs”
  - Revenue “recycling”
  - “Windfall profits” tax

# Changes in Phase III of EU ETS

(European Directive 2009/29/EC: April 23, 2009)



- Centralization and harmonization of cap-setting and allocation
  - **No more NAPs**: single EU cap and harmonized allocation rules
  - Free allocation to be based on EU-wide **benchmarks** (top 10%), to be adopted December 2010
- Much greater use of **auctioning**
  - Electricity generation: 100% (but possibility of some free allocation in certain MSs, e.g. Poland)
  - Other sectors: 20% in 2013 → 70% in 2020 → 100% in 2027
- 300 million allowances set aside for **CCS** and “innovative” renewables
- Sectors exposed to risk of carbon **leakage** may receive higher allocation
  - Main criteria based on historical trade intensity and ratio of emissions costs to value added
  - Majority of industrial emissions likely to qualify given criteria used
  - EC to determine which sectors receive higher allocation by December 31, 2009; periodic reviews
- Broader **scope**
  - CO<sub>2</sub> emissions from aviation (starting in 2012), petrochemicals, ammonia, and aluminum
  - N<sub>2</sub>O emissions from nitric, adipic, and glyoxylic acid production and PFC production from aluminum
- Limits on use of international project **credits** (max 50% of reductions 2008-2020)
- Unrestricted **banking** between Phases II and III
- Allocations and caps may be reduced with **global agreement**

# Contrasts between EU ETS and US Non-GHG Cap-and-Trade Programs



## ■ Many Common Elements

- Shift from legal-engineering to market-based approach
- Basic architecture of a cap-and-trade program
- Allocation contentious but doable; allowance markets developed

## ■ Some Differences

- Allocations based upon recent **emissions, not benchmarking** (heterogeneity, no prior standard)
- **New entrant reserves**/closure provisions (except some NO<sub>x</sub> states)
- **Multiple, sequential cap** level and allocation
- More **long-term uncertainties** (cap, allocations, post-2012?)

# Additional Information



- David Harrison, Daniel Radov, and Per Klevnas, “Allocation and Related Issues for Post-2012 Phases of the EU ETS,” Report for the EC Directorate-General Environment, October 22, 2007
  - [http://ec.europa.eu/environment/climat/pdf/post\\_2012\\_allocation\\_nera.pdf](http://ec.europa.eu/environment/climat/pdf/post_2012_allocation_nera.pdf)
- David Harrison, Per Klevnas, Daniel Radov, and Andrew Foss, “Complexities of Allocation Choices in a Greenhouse Gas Emissions Trading Program,” Report for the International Emissions Trading Association, September 2007
  - <http://www.ieta.org/ieta/www/pages/download.php?docID=2543>

# Thank You



**Dr. David Harrison, Jr.**

Senior Vice President  
Boston  
+1 617 927 4512  
David.Harrison@nera.com

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