

# EU Emissions Trading System



Five Things to Watch as the Program Develops

# Overview

- Introduction
- Description of the EU Trading Directive
- Five Things to Watch as the Program Develops:
  - Can EU Member States develop their programs?
  - Are roles of EU, Member States appropriate?
  - Will there be adequate liquidity?
  - How will Kyoto affect the EU program?
  - How will the EU ETS affect a future climate regime?
- Conclusions

# Introduction

- EU system will be the largest cap and trade system in the world
- The architects drew heavily from US experience, but there are some important differences
- Could set precedents, provide positive and negative “lessons learned”

# Summary of the EU Trading System

- **Participants:** 25 Member States (MS)
- **Timing:** Periods are 2005-2007 and 2008-2012
- **Gases:**
  - Direct CO<sub>2</sub> only in first period
  - Other gases may be added in second period
- **Coverage:**
  - **Sectors:** Energy activities (including electric power), iron & steel, minerals, pulp and paper
  - ~12,000 installations covering 46% of CO<sub>2</sub> emissions

# Summary of the EU Trading System (cont.)

## ● Allowance Distribution

- Allowances \$20 – \$40 billion annual value
- MS were to submit National Allocation Plans by end of March
- Commission will review all 25 national plans and can veto
- Not clear how many MS's will use auction provision

<b>Compliance Period</b>	<b>Mandatory Free Allocation</b>	<b>Optional Auction</b>
2005-2007	Minimum 95%	Max 5%
2008-2012	Minimum 90%	Max 10%

# Summary of the EU Trading System (cont.)

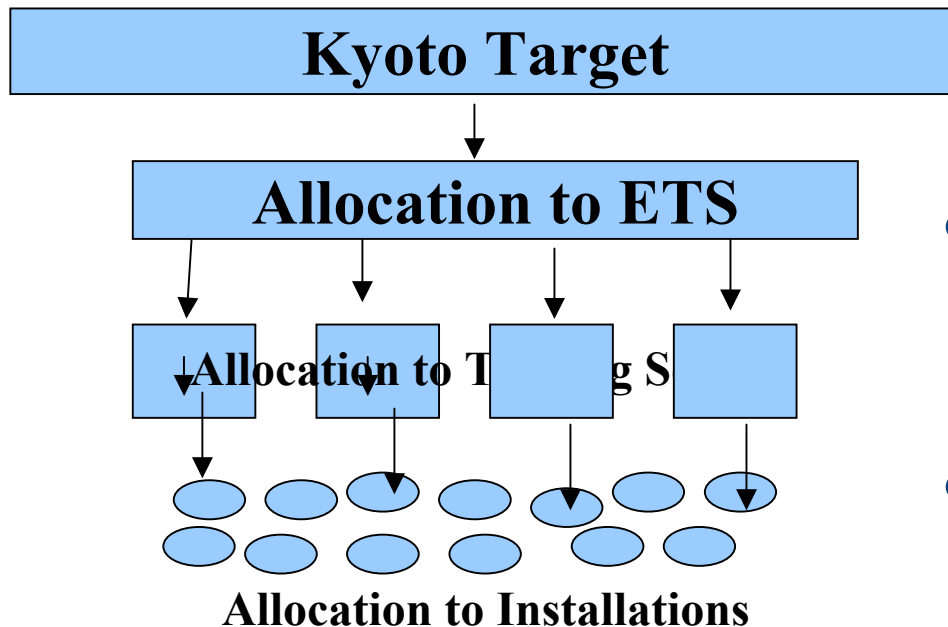
- Offsets
  - JI/CDM credits can be used to meet facility caps
  - Excludes certain project types (nuclear, sinks)
- Banking
  - First phase: allowed “in principle”; restricted by MS’s
  - Subsequent phases: mandatory
- Linking to other trading systems
  - In general, other countries must have ratified Kyoto
  - However, leaves door open to linking with non-Kyoto parties under some circumstances

# #1: Can Member States develop their programs?

- National Allocation Plans (NAPs)
- Monitoring and Verification
- Registries
- Compliance and Enforcement
- Special Issues of Accession Countries

# #1: Can MS's develop their programs? (cont.)

## NAPs: Multiple Decisions



- Decision #1: How much of Kyoto target will be in trading program?
- Decision #2: What will be the target for each sector?
- Decision #3: How will allowances be allocated to each installation?

# #1: Can MS's develop their programs? (cont.)

## Criteria for NAPs

- Consistent with achieving overall Kyoto target
- Take into account
  - Proportion of emissions in capped sector
  - Other policies
  - Technical potential of activities within sector
  - Early action
  - Competition from non-EU countries
- Address new entrants
- Over-arching concern of EC: “State Aid”

# #1: Can MS's develop their programs? (cont.)

## NAP Implementation Issues

- Challenges during NAP Process
  - data availability and quality (e.g., number of sources, emissions, fuel use, output)
  - modeling and other analytical capability

# #1: Can MS's develop their programs? (cont.)

## Progress on NAPs

### Assessed

- Germany
- UK
- Denmark
- Netherlands
- Ireland
- Austria
- Slovenia
- Sweden
- Belgium
- Portugal
- Slovak Republic
- Latvia
- Luxembourg
- Finland
- Estonia

### Notified

- Spain
- Italy
- France
- Lithuania
- Poland
- Czech Republic
- Hungary

### Outstanding

- Greece
- Cyprus
- Malta

## #1: Can MS's develop their programs? (cont.)

# Common characteristics of NAPs

- Most Member States have chosen 100% free allocation
- Most Member States will be purchasing Kyoto Protocol project credits
- In general, electricity sector required to take the most reductions
- Most Member States have opted to grandfather allowances using historical data from most recent years available...
- Most Member States have not opted to explicitly recognise early action
- All Member States have opted for building a new entrants reserve

# #1: Can MS's develop their programs? (cont.)

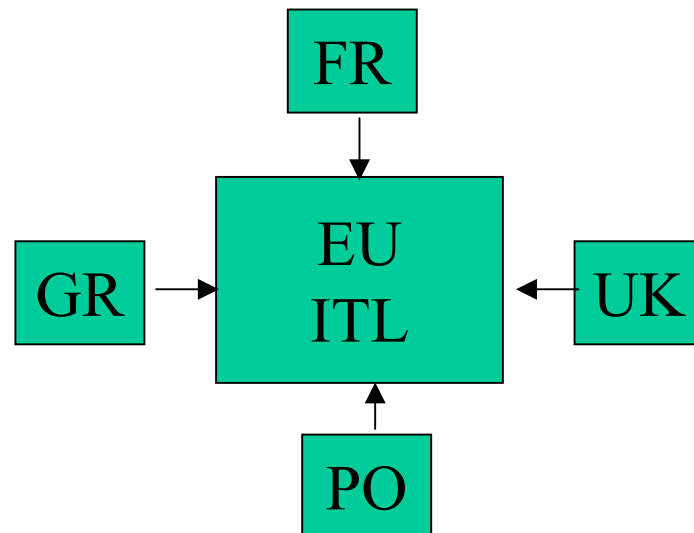
## Monitoring & Reporting

- Monitoring principles set out in Annex
  - CEMs are optional; most sources will use emission factors and activity data (e.g., fuel use)
  - Emission reports must be independently verified
  - MS's set up process to certify 3<sup>rd</sup> party verifiers
  - MS's receive reports and may give variances from “top tier” methods
- No standardized electronic reporting

# #1: Can MS's develop their programs? (cont.)

## Registries

- Each MS may have a national registry for its allowances
- Registries will communicate with each other
- EU will develop an independent transaction log (ITL) to verify transactions between MS's



# #1: Can MS's develop their programs? (cont.)

## Compliance and Enforcement

- Uniform excess emissions penalties
  - € 40 (\$50)/ton CO<sub>2</sub>e in 1<sup>st</sup> Phase (2005-2007)
  - €100 (\$125)/ton CO<sub>2</sub>e in 2<sup>nd</sup> Phase (2008-2012)
  - Excess emissions must be offset in following year
- MS's must set additional penalties (e.g., for fraudulent reporting) but have broad discretion
- “Naming and Shaming” provision for violators

# #1: Can MS's develop their programs? (cont.)

## Challenges of Accession Countries



- 10 Accession Countries expected to participate starting in 2005
- Can provide significant supply of allowances
- But, capacity-building is necessary
- Poland is key (1200 facilities) but Slovakia, Czech Rep., Hungary also important

## #2: Centralization vs. decentralization?

- Implementation is less centralized than in U.S. multi-jurisdictional NO<sub>x</sub> trading programs
  - Selection of sectoral targets
  - Verification of emissions data
  - Discretion on criminal/civil penalties
  - Separate registries
- But level of “harmonization” is much greater than in past EU environmental programs
  - Common excess emissions penalty
  - EU has veto over allocation

# #3: Will there be Adequate Liquidity?

- EU Economic Analysis (POLES Model)
- Assumptions
  - Kyoto targets met
  - Marginal costs equalized for trading/non-trading sectors
  - Kyoto offsets (JI/CDM) allowed
    - Competition for offsets from EU governments for non-trading sectors and from other Annex B countries (not U.S.)
    - Russia ratifies and makes JI credits available (but no “hot air”)

### #3: Will there be adequate liquidity? (cont.)

## Annual Costs (2008-2012)

Scenario 2008-12	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 <sub>2</sub> e	€20/ton CO <sub>2</sub> e	€14/ton CO <sub>2</sub> e	€13/ton CO <sub>2</sub> e
Amount of offsets in the system	n/a	3%	6%	7%
Annual EU emissions	4,664 MMTCO <sub>2</sub>	+ 171 MMTCO <sub>2</sub>	+ 208 MMTCO <sub>2</sub>	+ 224 MMTCO <sub>2</sub>

Costs 2005-2008 will be lower, but will depend on targets chosen by Member States

## #3: Will there be adequate liquidity? (cont.)

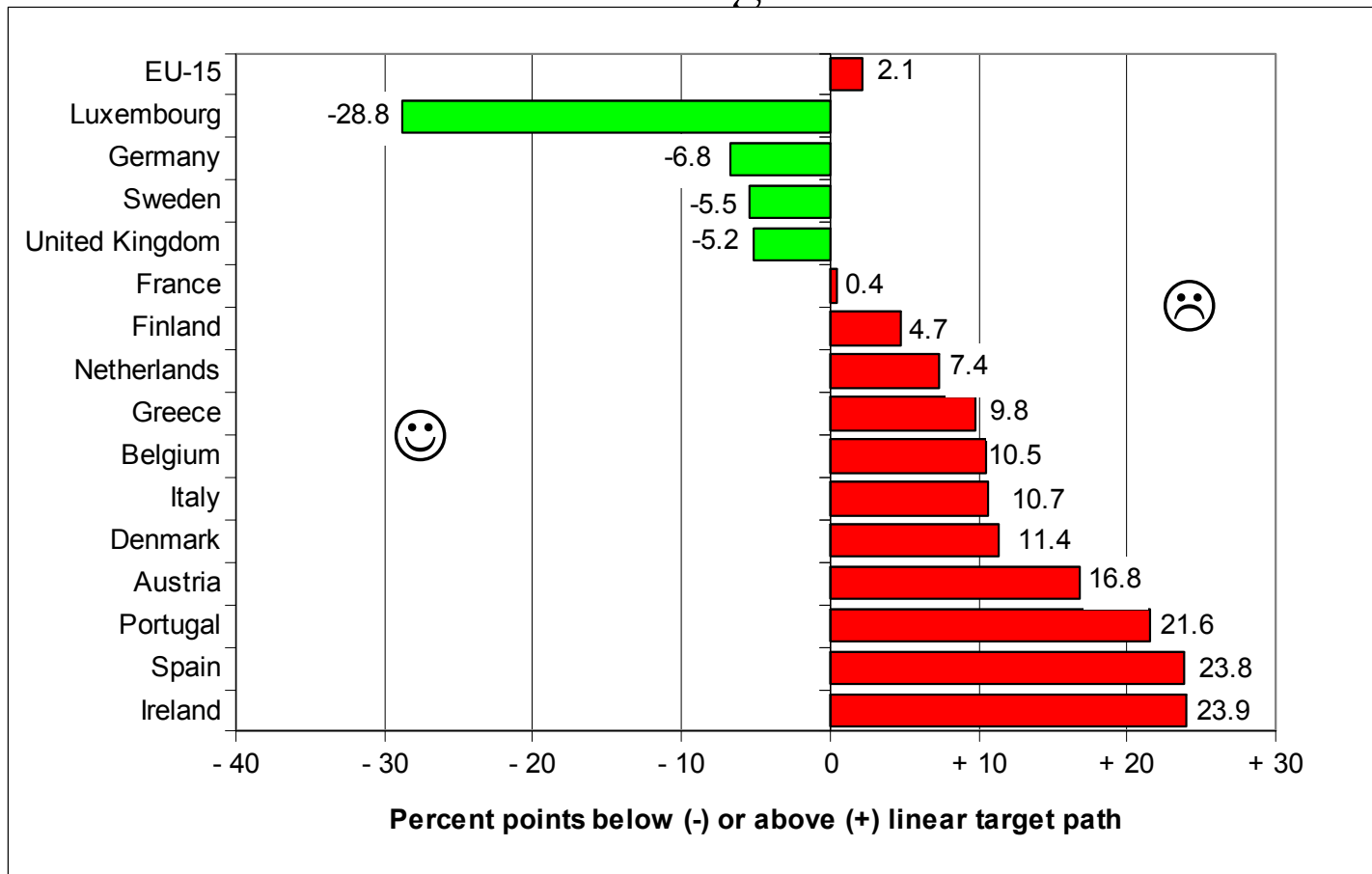
# Uncertainties

- How rapidly will EU emissions grow?
- Will the CDM process work and supply adequate liquidity?

# #3: Will there be adequate liquidity? (cont.)

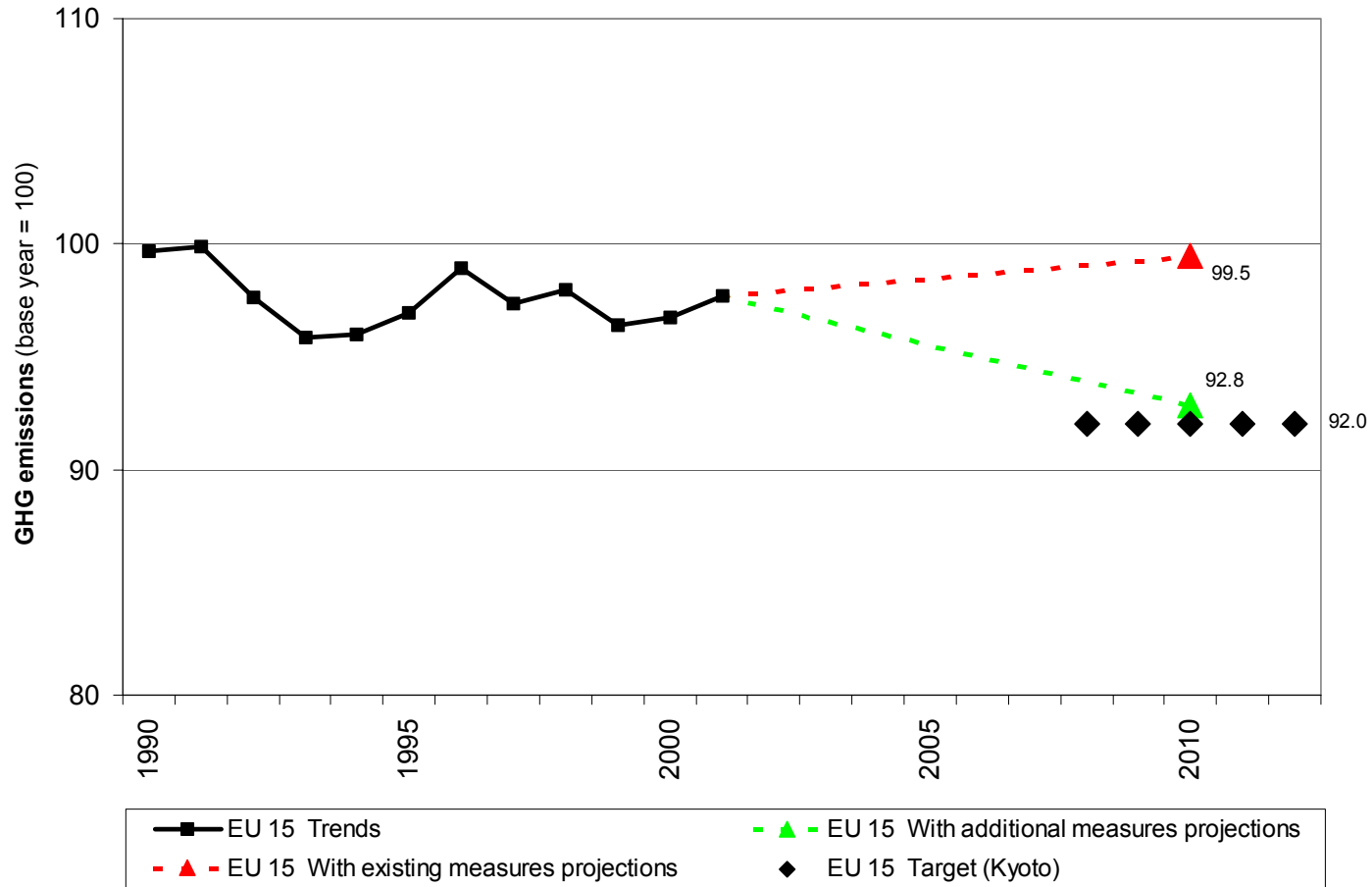
## Emissions Growth

### Distance to Target in 2001



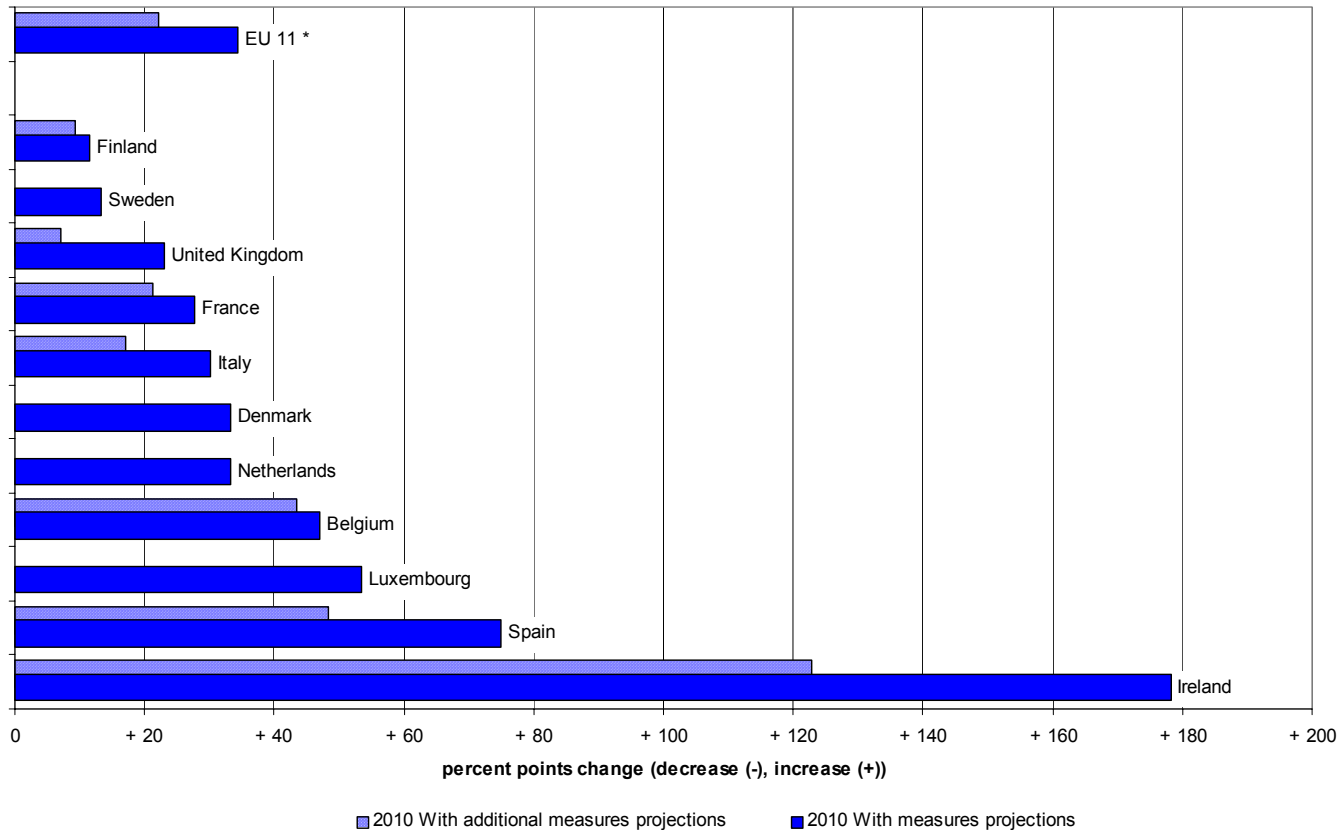
# #3: Will there be adequate liquidity?(cont.)

## Emissions Growth



# #3: Will there be adequate liquidity? (cont.)

## Emissions Growth in Transport Sector



Projected to increase 34% “with existing measures”  
from 1990 levels by 2010

What are implications for 2008 – 2012 period?

### #3: Will there be adequate liquidity? (cont.)

## Demand for Offsets

Source of Demand	Tons (mtCO <sub>2</sub> e)	Projects
EU	208	530
Annex B	220	540
<b>Total</b>	<b>428</b>	<b>1070</b>

Assumes average project size of 400,000 CO<sub>2</sub>e/yr

**More than 1,000 projects must be approved by the CDM Executive Board by 2010 to meet world-wide demand**

CDM Executive Board has not yet approved any CDM projects

# #4: What is the impact of Kyoto on the EU ETS?

- Kyoto has driven the development of the EU ETS
- However, Kyoto framework constrains some aspects of EU ETS
  - Driving hurried startup of first phase
  - Tied to cumbersome CDM process
  - Constrains banking from first to second period
  - Planning beyond 2012 is difficult

# #5: What will be the impact of the EU ETS on a future climate regime?

- Directive may allow EU to link to other non-Kyoto systems
- EU ETS could be highly influential in future climate regime architecture
- Important experience on linking/harmonization
  - How much compatibility is necessary for
    - Allocation schemes
    - Measurement/registry standards
    - Penalties and enforcement procedures

# Conclusions

- Builds on many lessons of past programs
- Contains innovative features (e.g., auction, linking of domestic programs, etc.)
- There are many uncertainties
  - Delays with difficult NAP process
  - Cost, liquidity issues in second phase
  - MS's with weaker environmental institutions
  - Political will to meet Kyoto targets
- Opportunity for mid-course corrections?
  - Commission can recommend changes in June 2006 report