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# Carbon: From Global to Local

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Presentation to the Environmental Business Council

9 November 2006

# International Framework

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- UN Framework Convention on Climate Change (UNFCCC, 1992)
  - Goal: “Prevent dangerous anthropogenic interference with the climate system”
  - Wide agreement
- The Kyoto Protocol (1997)
  - Targets and timelines for industrialized countries
  - The Kyoto mechanisms
  - Not so wide agreement, but substantial
- The Marrakech Accords (2001)
  - Procedures for making Kyoto operational
  - Needed for ratification

# Kyoto Targets and Timelines

Sets reduction targets for industrialised countries (Annex B) greenhouse gas emissions as percentage of a base year (normally 1990) for the average of 2008-2012 emissions

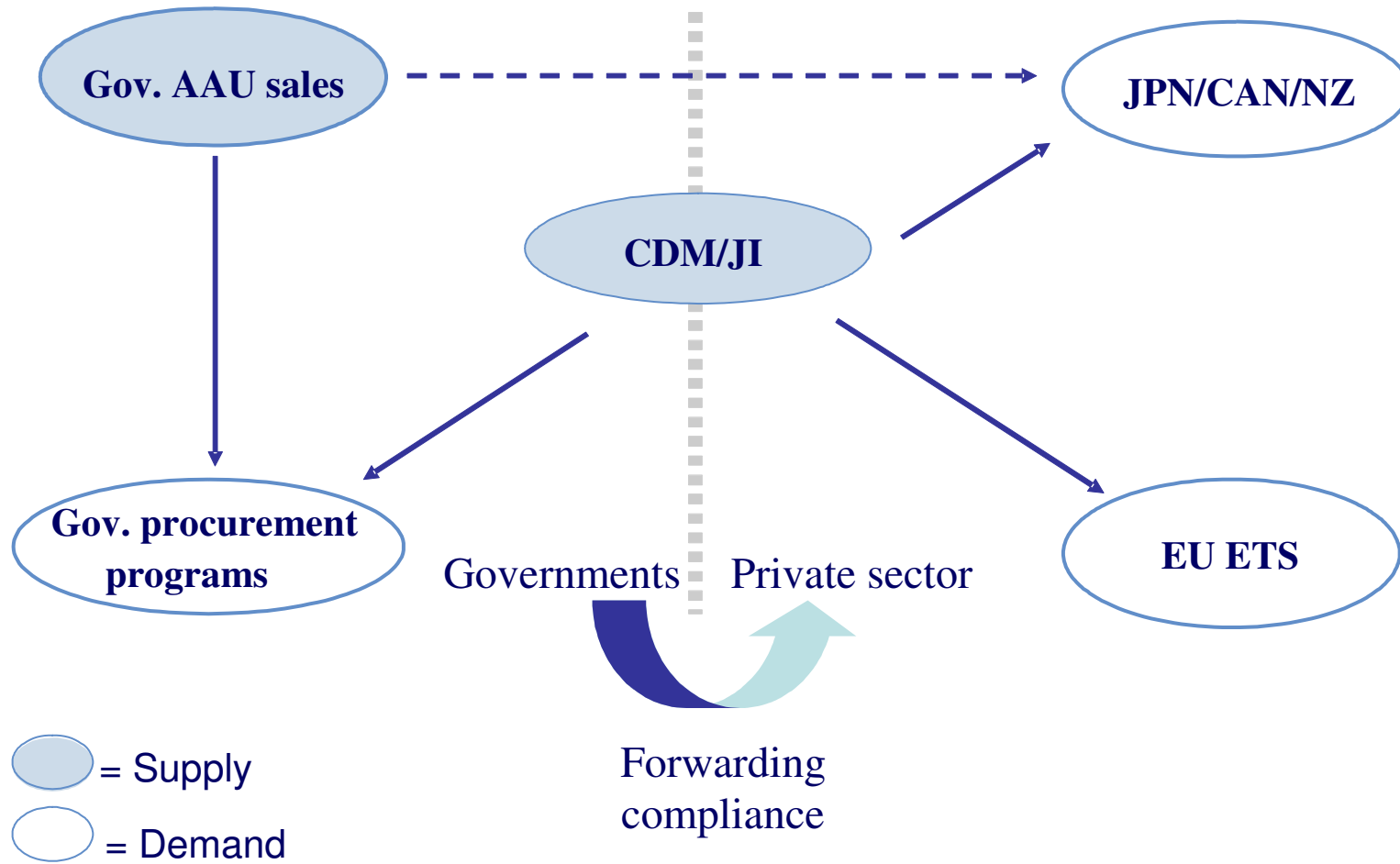
|  |      |
|--|------|
| EU, Bulgaria, Estonia, Latvia, Liechtenstein, Lithuania, Monaco, Romania, Slovakia, Slovenia, Switzerland, Czech Rep | - 8  |
| USA  | - 7  |
| Canada, Japan, Poland, Hungary   | - 6  |
| Croatia  | -5   |
| New Zealand, Russia, Ukraine   | 0    |
| Norway   | + 1  |
| Australia  | + 8  |
| Iceland  | + 10 |

# Kyoto Mechanisms

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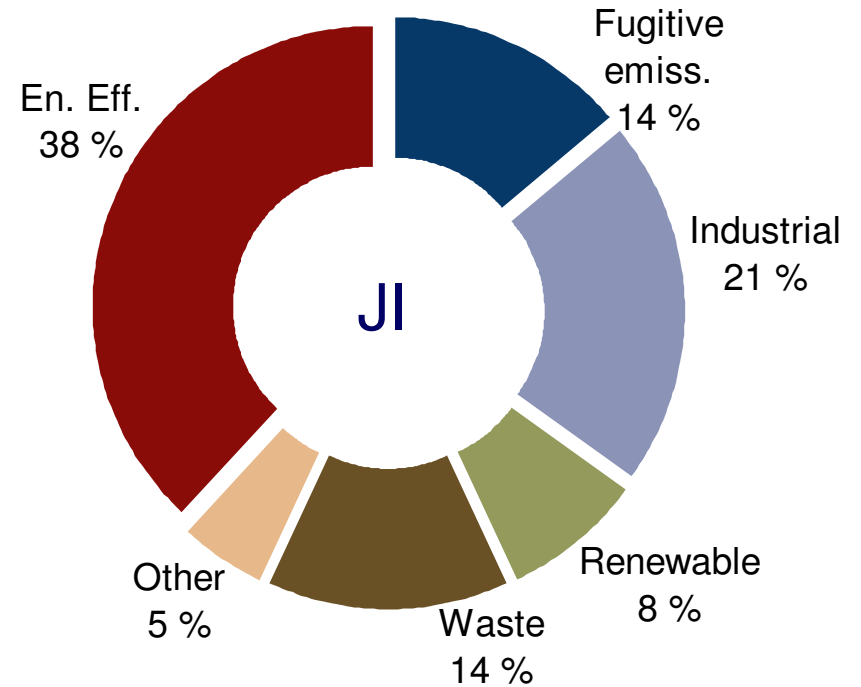
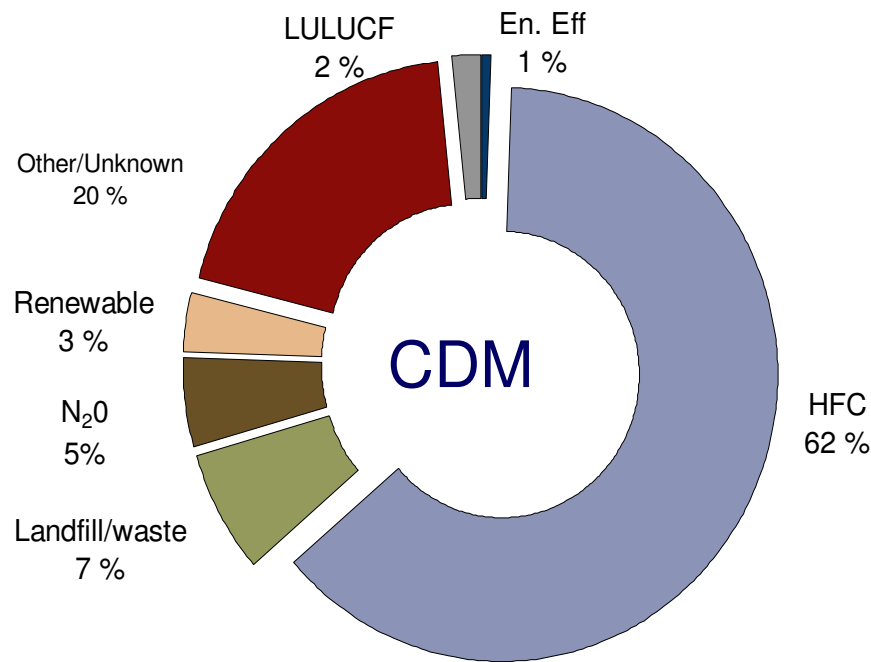
- Emissions Trading
  - Cap-and-trade between industrialized countries
  - Traded unit Assigned Amount Units (AAU)
- Joint Implementation (JI)
  - Emission reduction projects in industrialized countries
  - Traded unit Emission Reduction Unit (ERU)
- Clean Development Mechanism (CDM)
  - Emission reduction projects in developing countries
  - Traded unit Certified Emission Reductions (CER)
  - Reductions that are “additional to what would otherwise occur”

# Market Structure



# Kyoto Projects: What is the Market Buying?

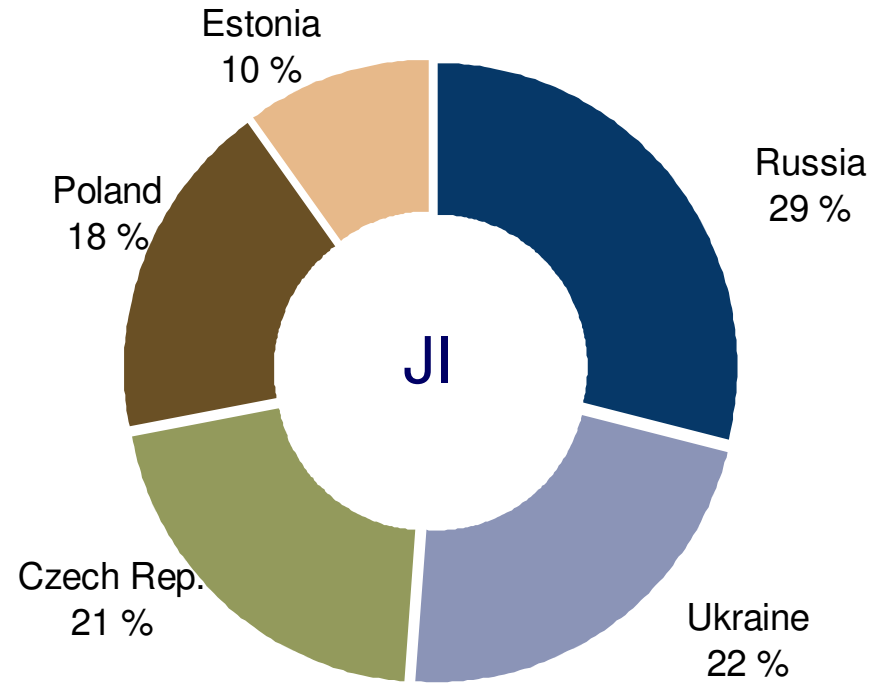
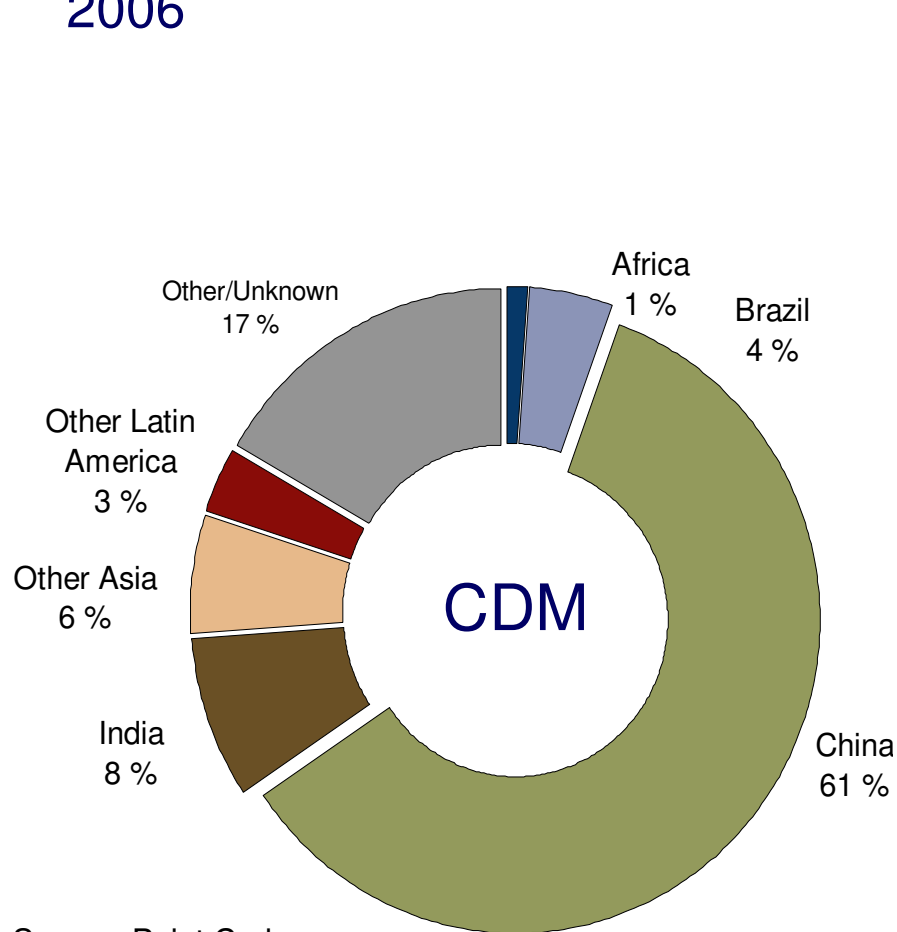
Relative share of project types, 1st half of 2006



Source: Point  
**PointCarbon**

# From whom did they buy ?

Relative share of seller countries, 1st half of 2006

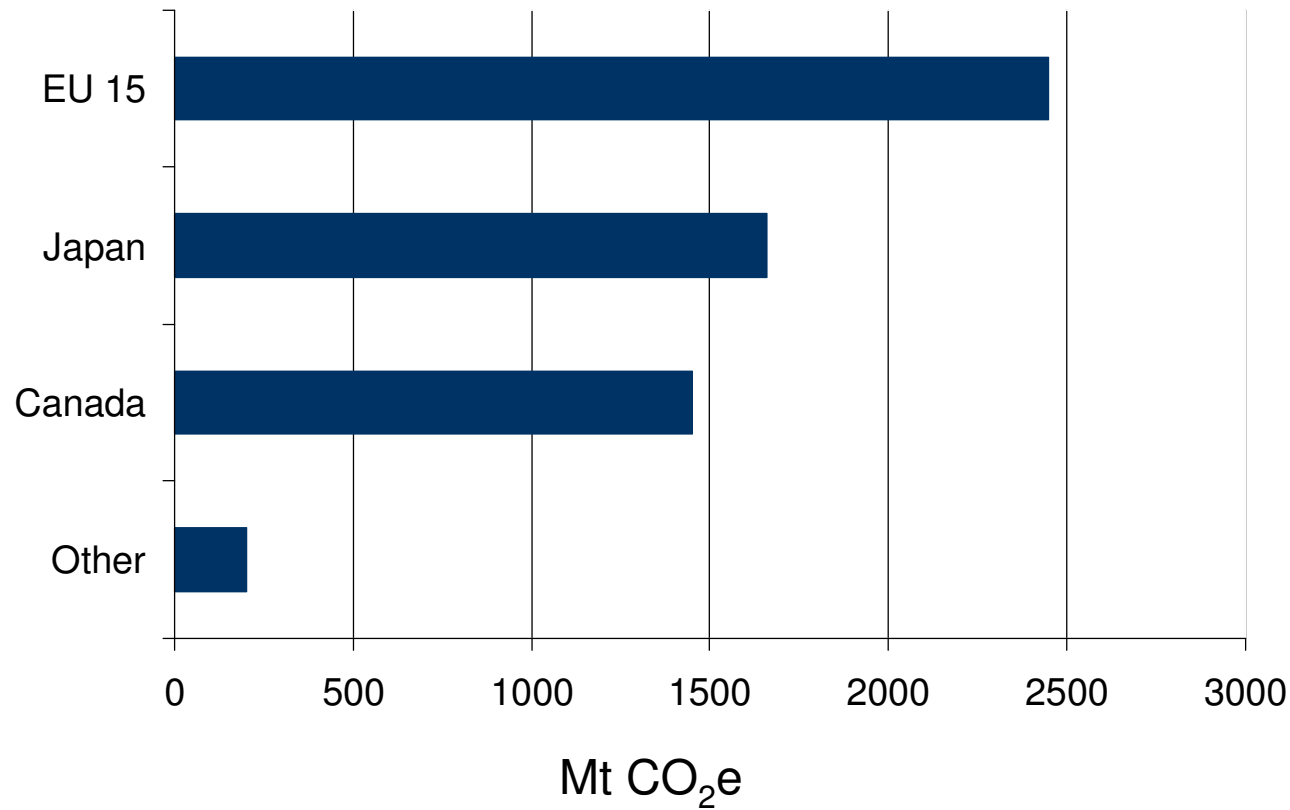


Source: Point Carbon  
**PointCarbon**

Providing critical insights into energy and environmental markets

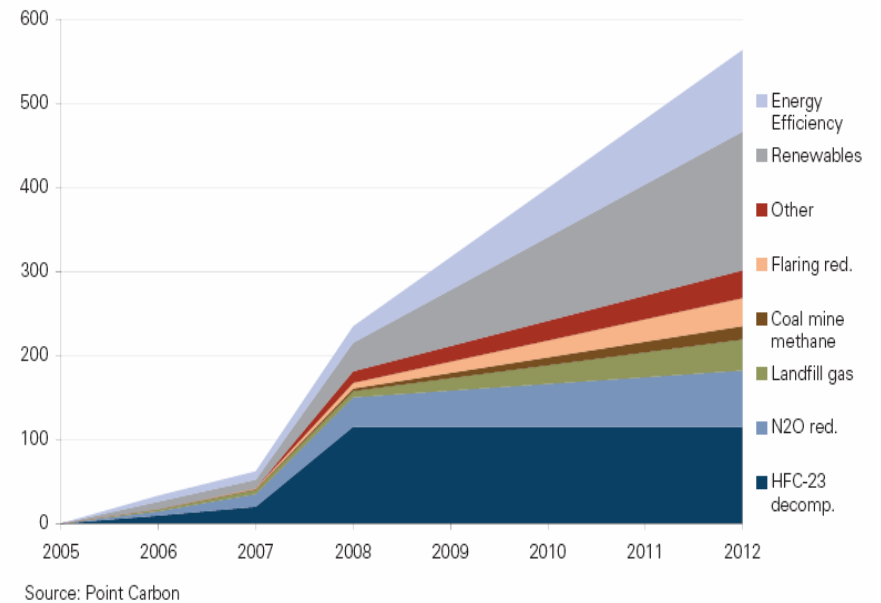
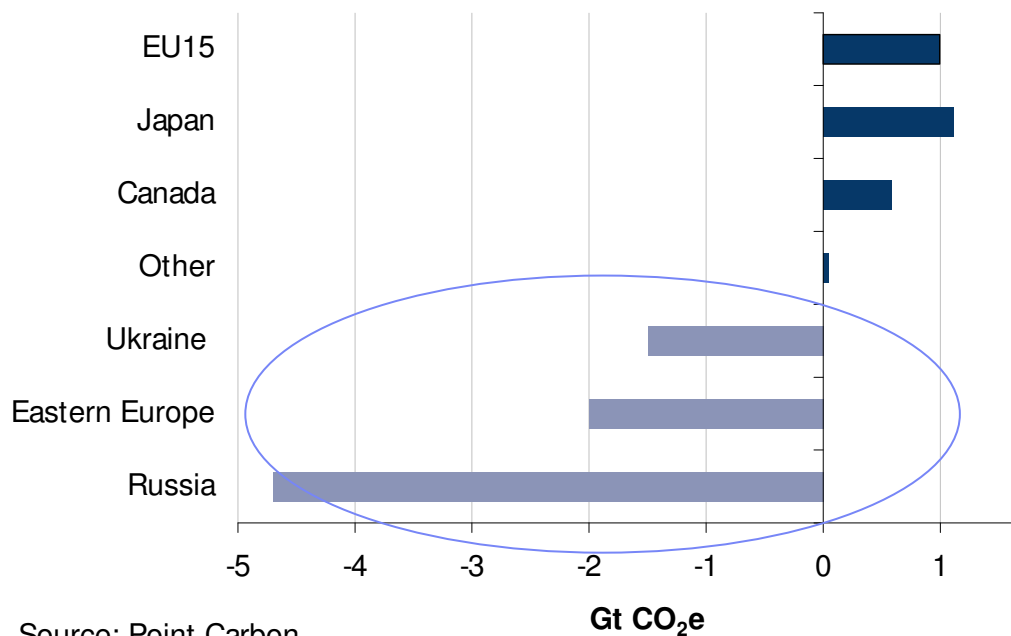
[www.pointcarbon.com](http://www.pointcarbon.com)

# Where do we stand? Strong growth if unchecked



- Business-as-usual emissions
- Aggregate 5 year short positions 2008-2012

# But Supply may be Plentiful



- Potential AAU supply is 7-8 Gt
- Potential CER/ERU supply is 1-3 Gt

***Does NOT mean that prices will go to zero!***

# EU Bubble

In June 1998 the EU redistributed the -8% target on its 15 Member States as part of a burdensharing agreement.

|         |       |             |        |
|---------|-------|-------------|--------|
| Austria | - 13  | Italy       | - 6.5  |
| Belgium | - 7.5 | Luxembourg  | - 28   |
| Denmark | - 21  | Netherlands | - 6    |
| Finland | 0     | Portugal    | + 27   |
| France  | 0     | Spain       | + 15   |
| Germany | - 21  | Sweden      | + 4    |
| Greece  | + 25  | UK          | - 12.5 |
| Ireland | + 13  |             |        |

# European Union Emission Trading Scheme in brief

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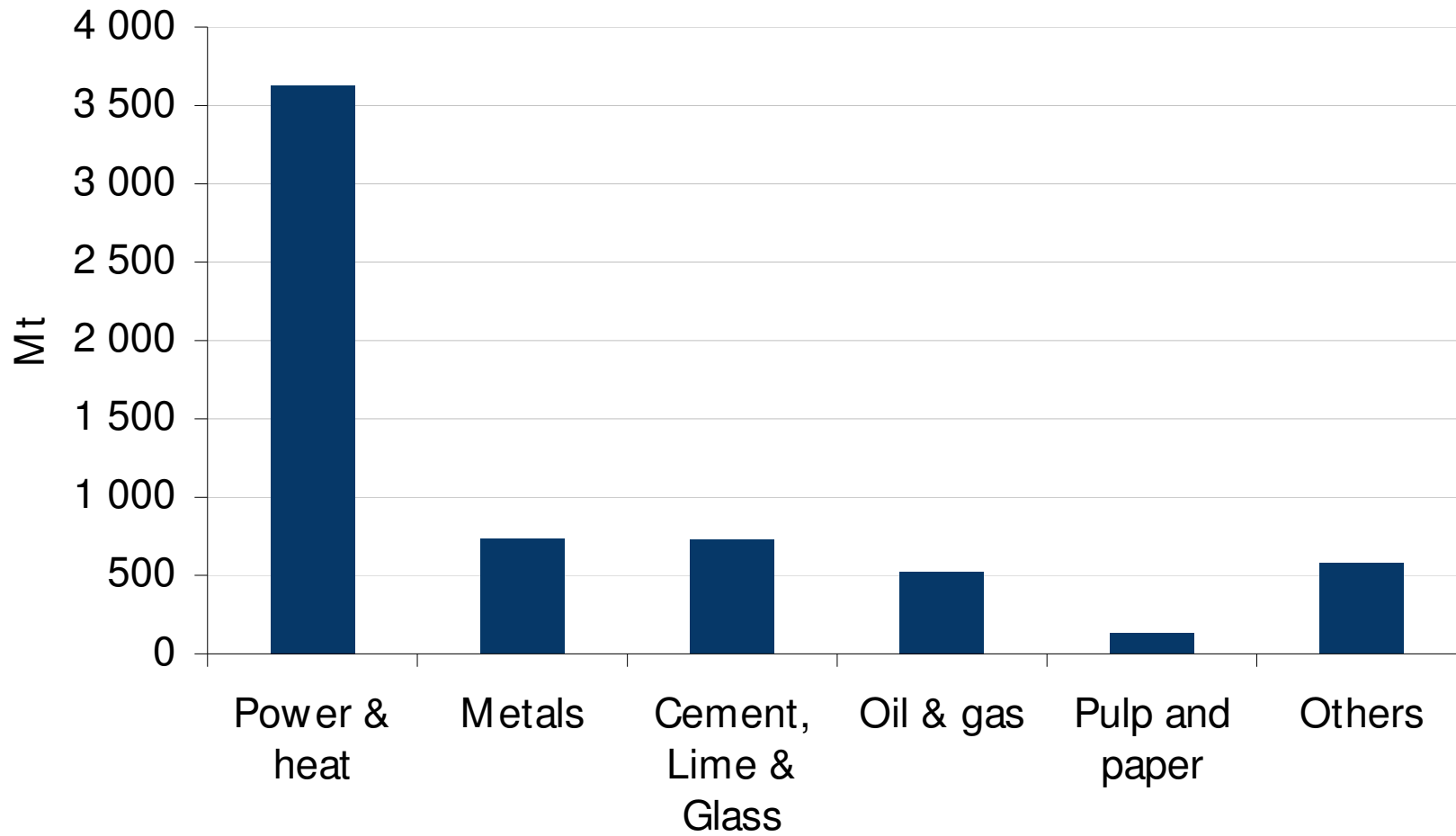
- ETS directive (2003/87/EC) entered into force 25 October 2003
    - First compliance period 2005-2007
    - Second compliance period 2008-2012
  - Covers all 25 Member States (soon 28)
    - Installation specific caps (NAPs)
    - Power and heat, refineries, metals, minerals, pulp and paper
  - Phase I
    - 11,400 installations, 2.1 GtCO<sub>2</sub>/year
    - Some 4,000 companies
    - Overallocated by approx. 100Mt/year
  - Phase II allocation
    - Ongoing process
    - Allocation will end up ~11% below proposed NAP levels
    - 2008-2012 market will be short ~1.7 Gt
  - May link to schemes in non-EU countries
    - Norway, Japan, Canada, Russia, US ...
  - Links to Clean Development Mechanism from 2005, Joint Implementation from 2008
    - Approx. 100 countries involved
    - Expected to supply the EU ETS with 1 GT of reductions over the 2008-2012 period
- By far the largest cap-and-trade scheme in the world!

# How Does it Work?

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- Installations receive EU allowances (EUAs) as defined in their country's allocation plan
  - 28 February 05, 06, 07
- Trade freely with the EUAs
  - Spot, forward/future, options, swap, etc.
  - Bilaterally, brokers, exchanges
- Deliver EUAs corresponding to cap for compliance each year
  - 30 April 06, 07, 08
  - Note that compliance is after issuance of following year
  - Bank or borrow between years (but not into 08-12 period)
- What happens if target missed
  - €40 fine plus purchase shortfall in market

# Power & Heat in Driver's Seat

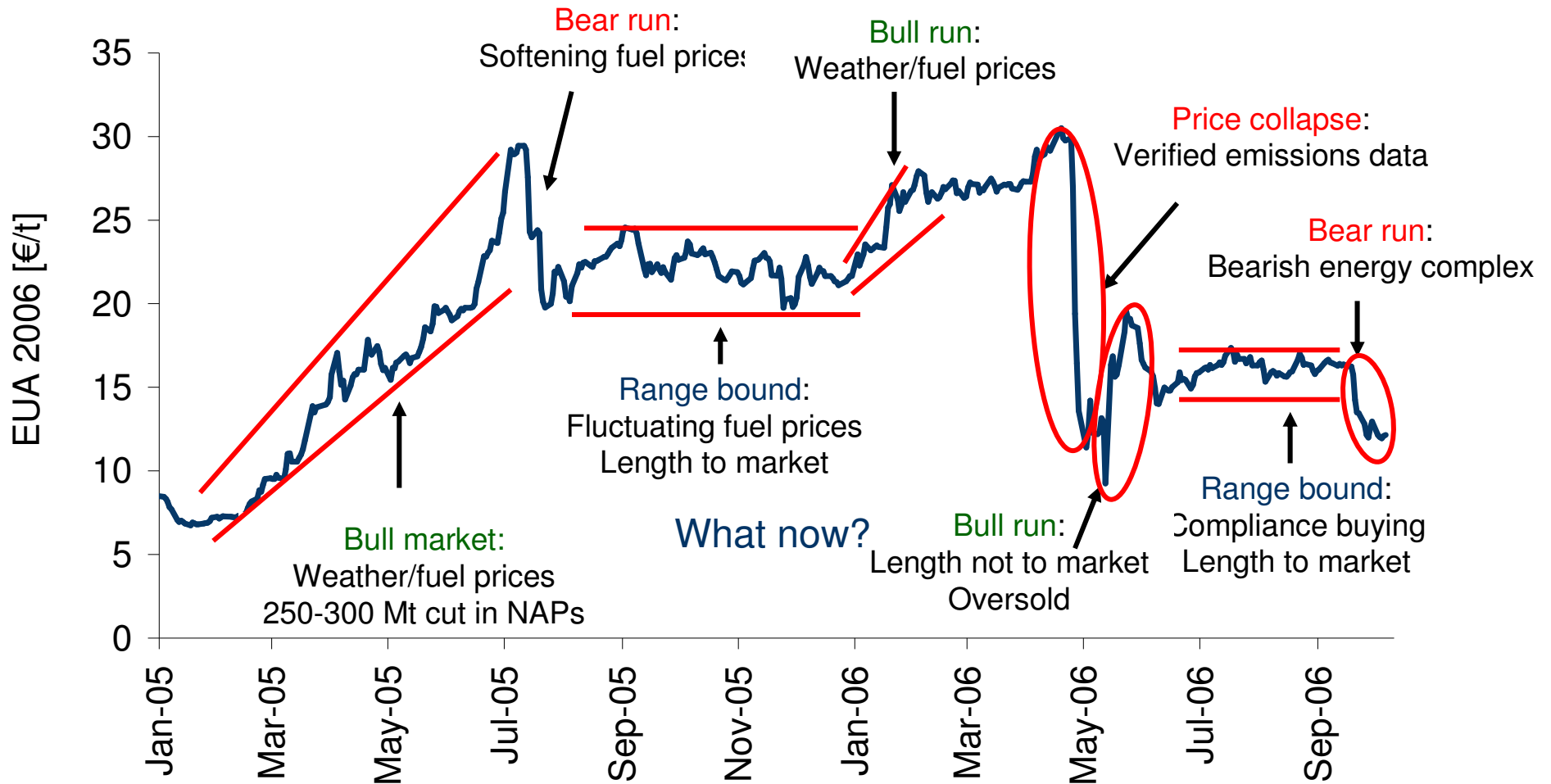


Source: Point Carbon  
**PointCarbon**

Aggregated for 2005-2007



# Can Price Developments be Accounted for?



Source: Point Carbon

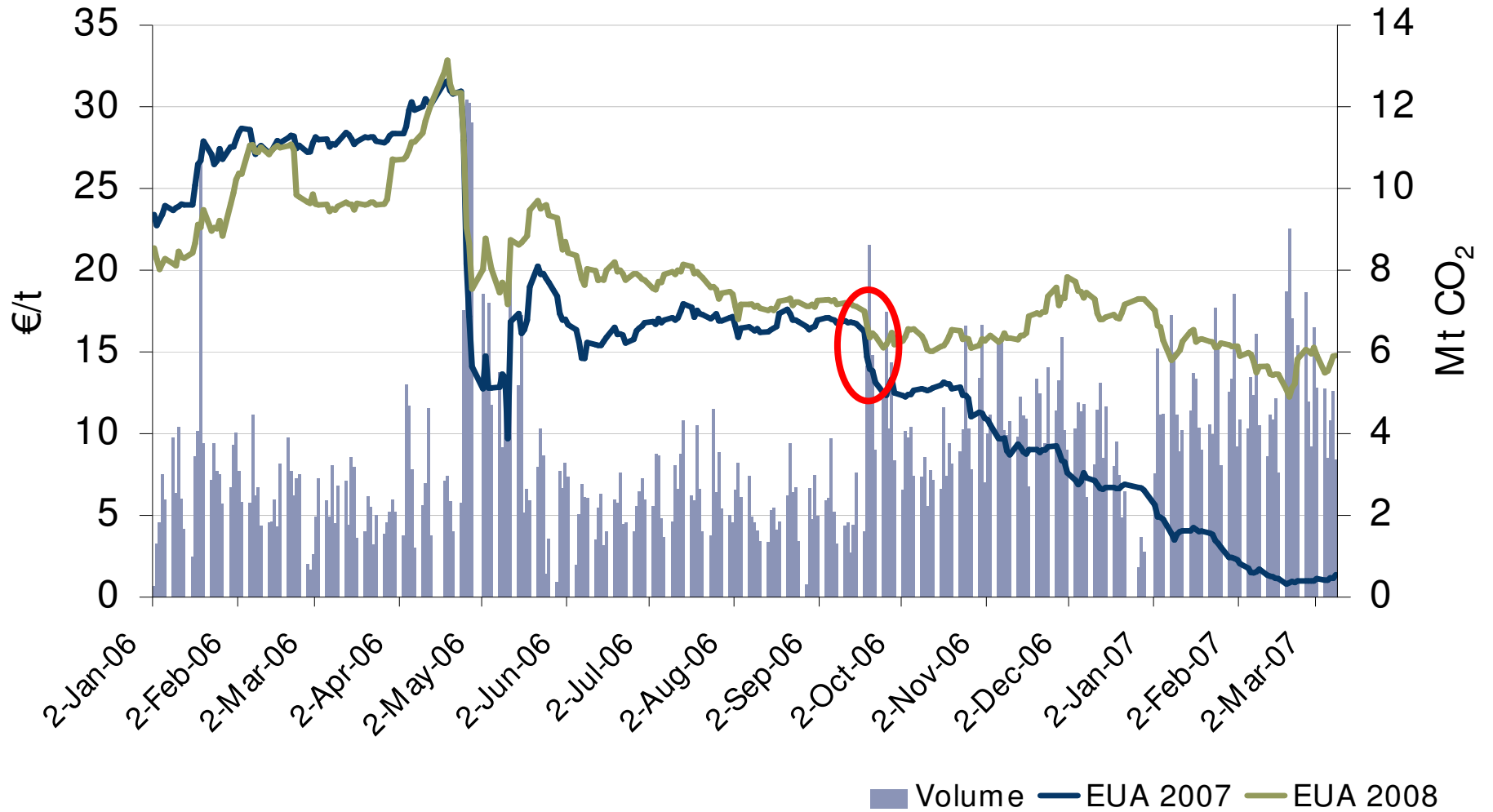
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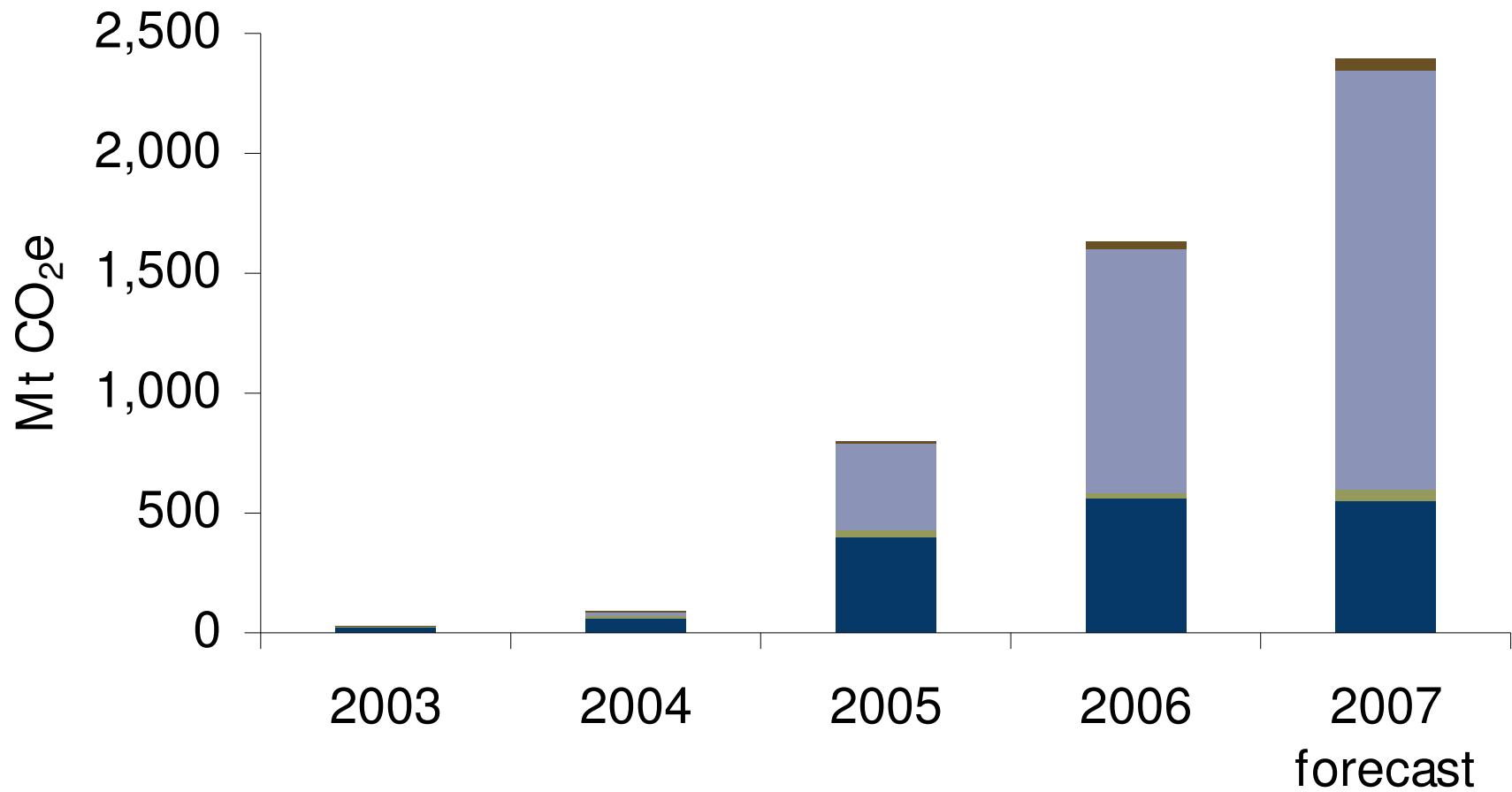


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# Delinking Phase 1 - 2 . A sort of goodbye...



# Growing....up ...

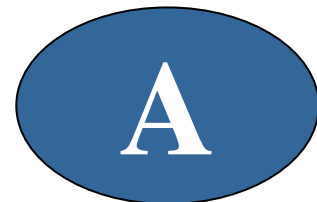


■ CDM ■ JI ■ EU ETS ■ Other

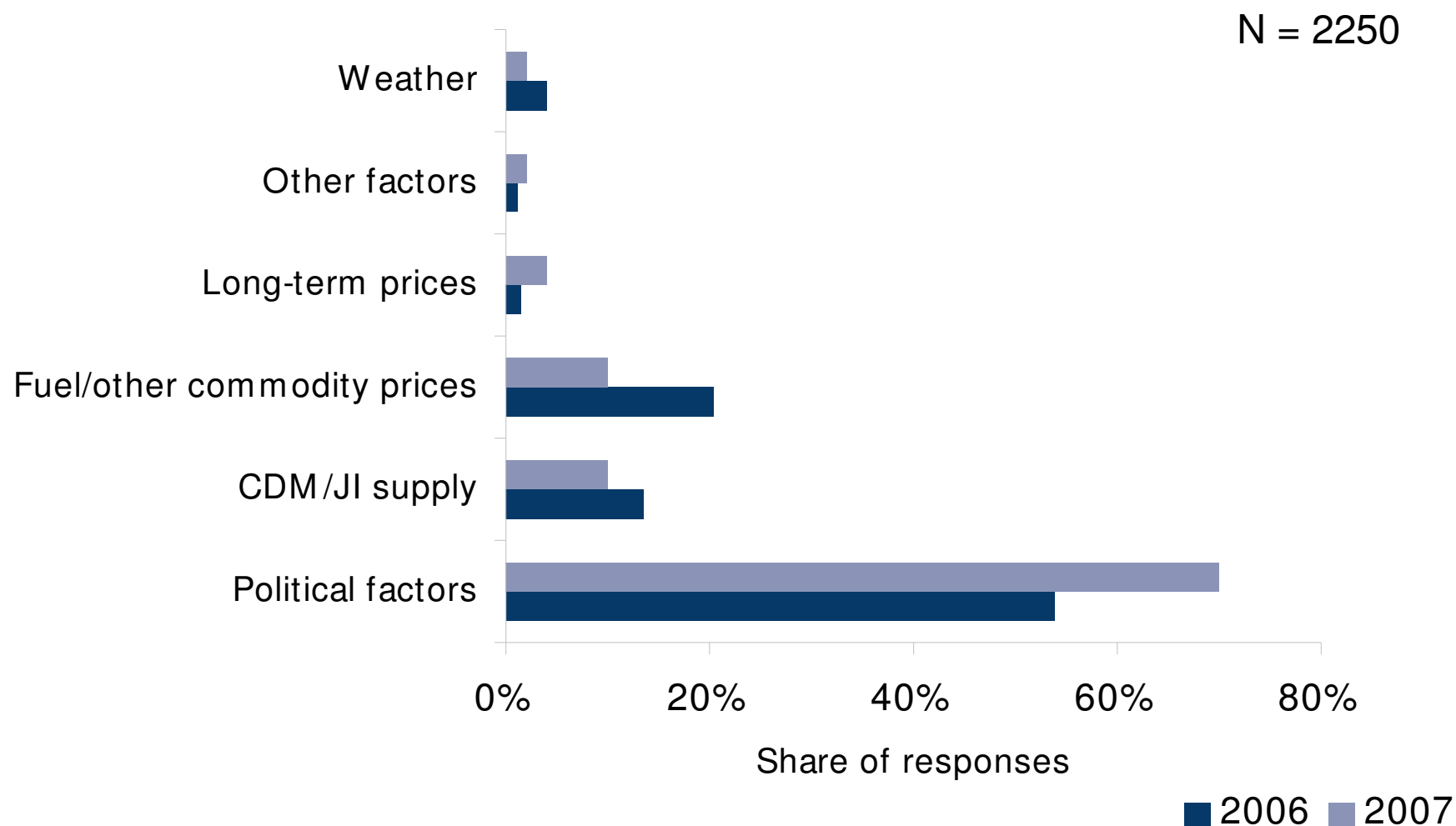
# Information Sources

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- **Carbon Market Survey 2007**
  - Sent to ~16,000 unique e-mails taken from Point Carbon's subscription lists
  - Designed along the same lines as Carbon Market Survey 2006
  
- **2250 respondents**
  - 24 % of respondents are covered by CO<sub>2</sub> regulations
  - 42 % of respondents are involved in EU ETS
  - 32 % from North-west Europe
  - 30 % from non-EU Annex 1 countries
  - 15 % from non-Annex 1 countries

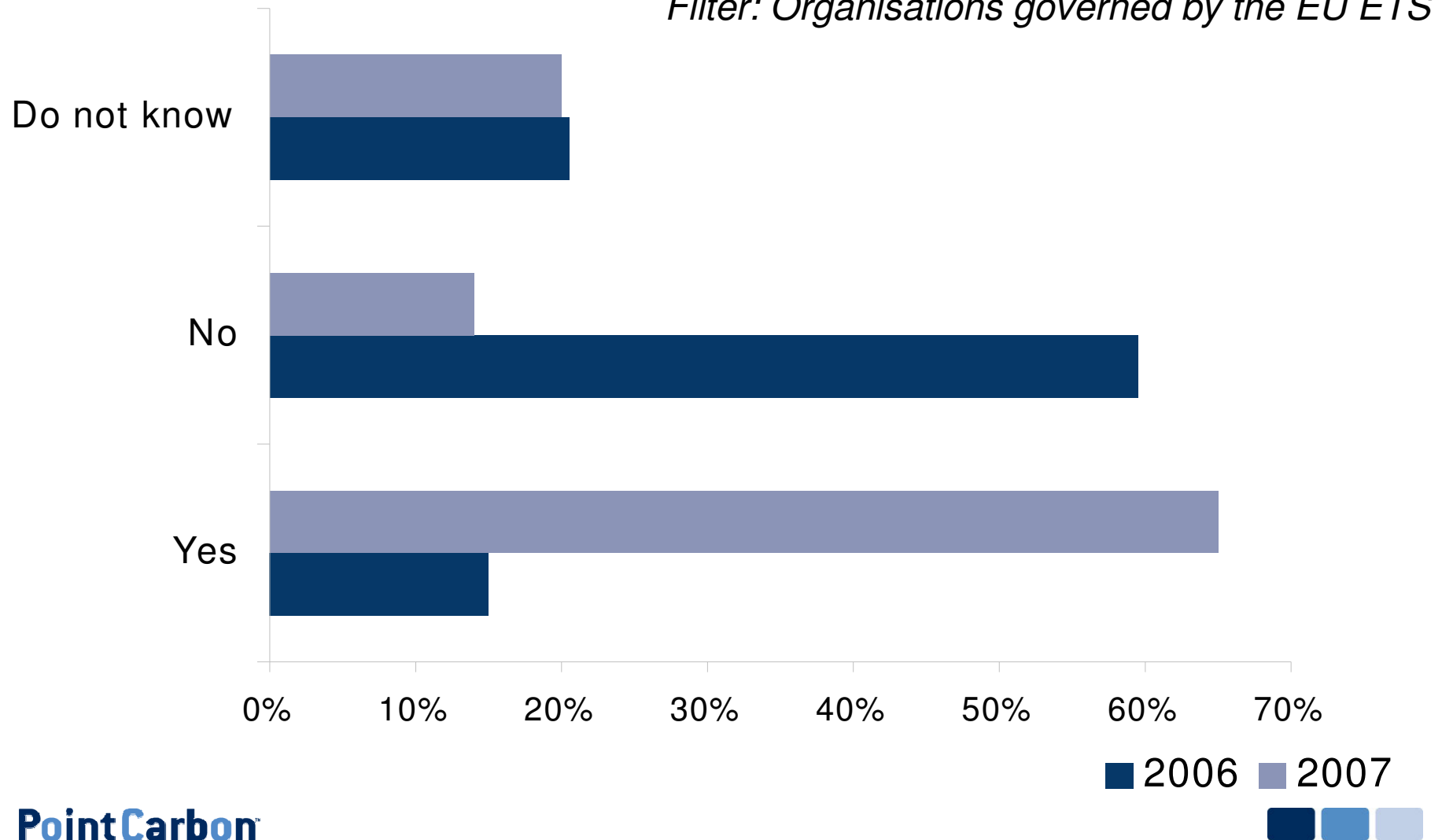


# Price Drivers (long term) – Survey

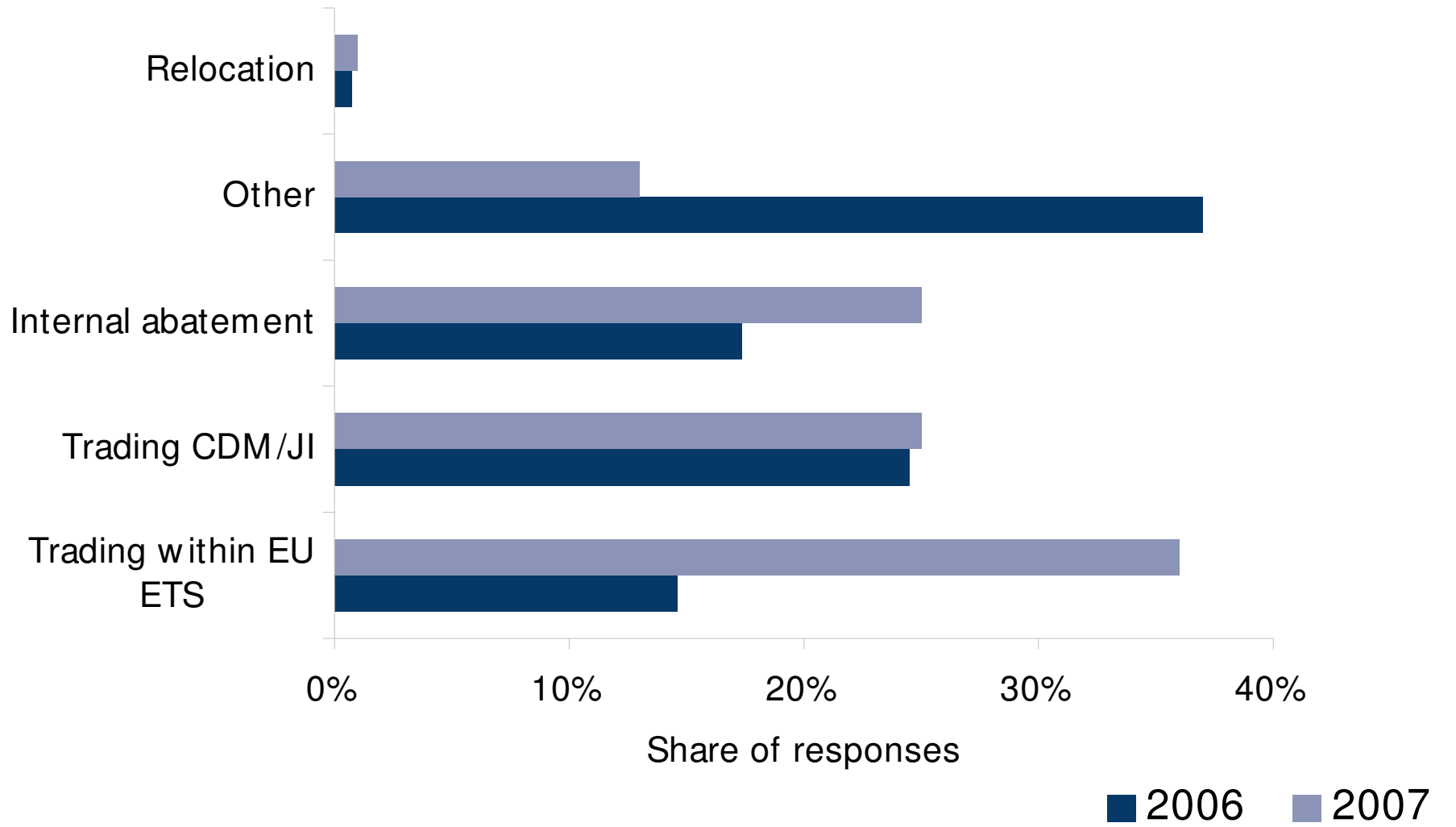


# Has the EU ETS Initiated Internal Abatement?

*Filter: Organisations governed by the EU ETS*

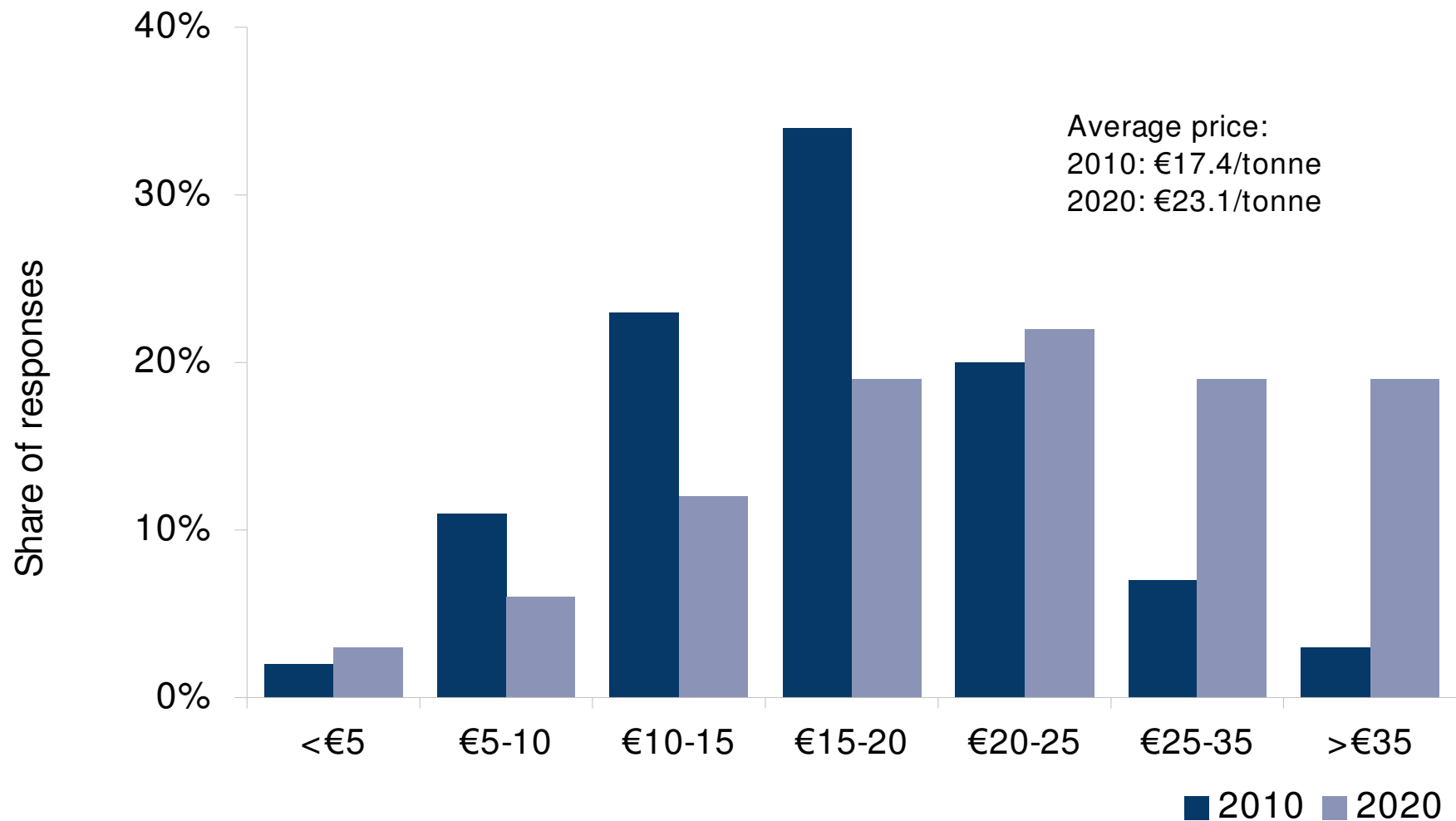


# Primary Compliance Strategy?

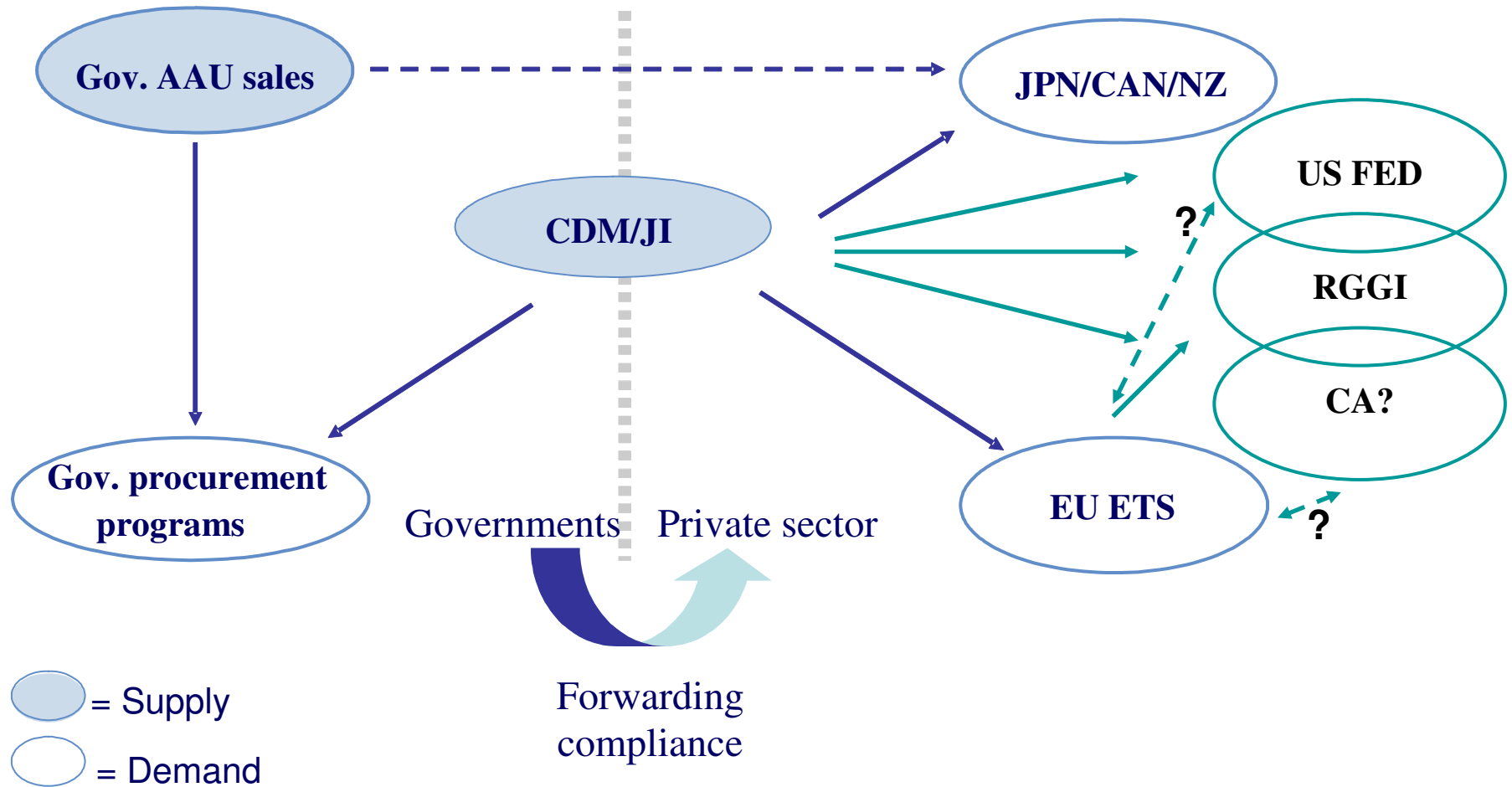




# Prices in the long run?



# How Does the US Fit in?



# Key issues in linking US and other markets

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- Potential market size:
  - Federal 1-3 times the EU ETS
  - RGGI 8% of the EU ETS
  - WCAI 30% of the EU ETS
- Price caps
  - Linking schemes is complicated, linking schemes with price caps is near impossible (RGGI, Bingaman)
- Offsets (McCain, Feinstein, RGGI)
  - Demand might exceed supply

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# Thanks!

For more information:  
[www.pointcarbon.com](http://www.pointcarbon.com)

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