

TranSust.Scan Workshop
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Over-allocation or Abatement?

A Preliminary Analysis of the EU ETS Based on the 2005 Emissions Data

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The problem

- **EU ETS 2005 data revealed many “long positions”**
- **Are “longs” an indication of over-allocation or of abatement or what?**
- **Impossible to distinguish given emissions and allowance data alone**
- **Any trading system implies some will be short and others long**

⇒ **WIFO work**

Summary on over-allocation

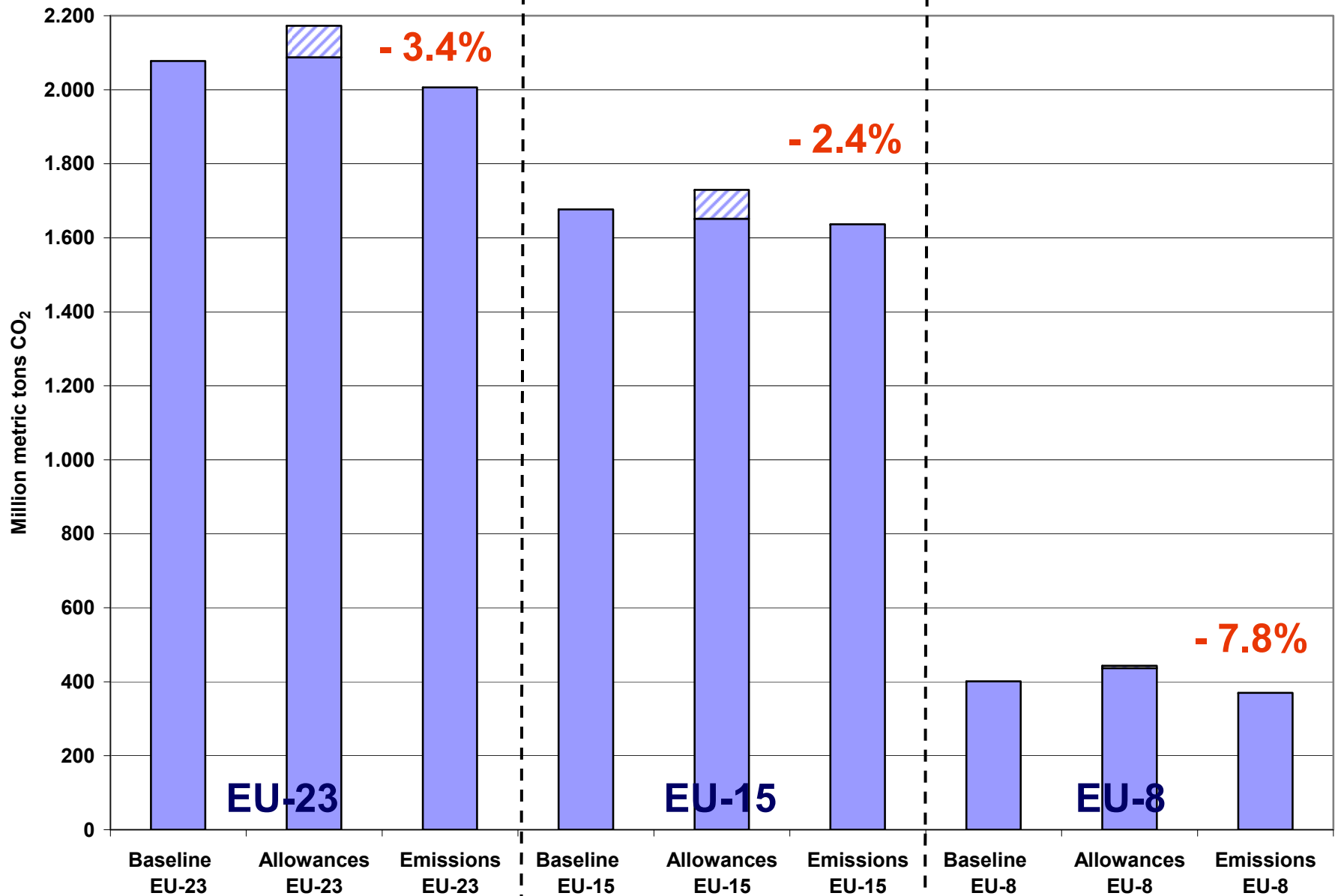
- **There has been over-allocation, but important to see that several member states appear to be without evident over-allocation**
- **(Our analysis indicates that over-allocation has taken place in 12 MSs; about 24% were needed to cover emissions in 2005; ≤ 100 MEUAs surplus)**
- **But not necessary complete indicator of overall length of EU ETS...**
- ⇒ ***Over-allocation indicates very little about the reduction of emissions***

Now, to abatement

- **How do 2005 emissions compare to historical emissions, not allowance totals?**
- **Only historical data is that for baselines for 1st period allocation**
 - Varying dates, but all centered on 2001-03
 - Potential bias (data collection process)
 - Also, some problems of comparability

For now, a proxy for the counterfactual

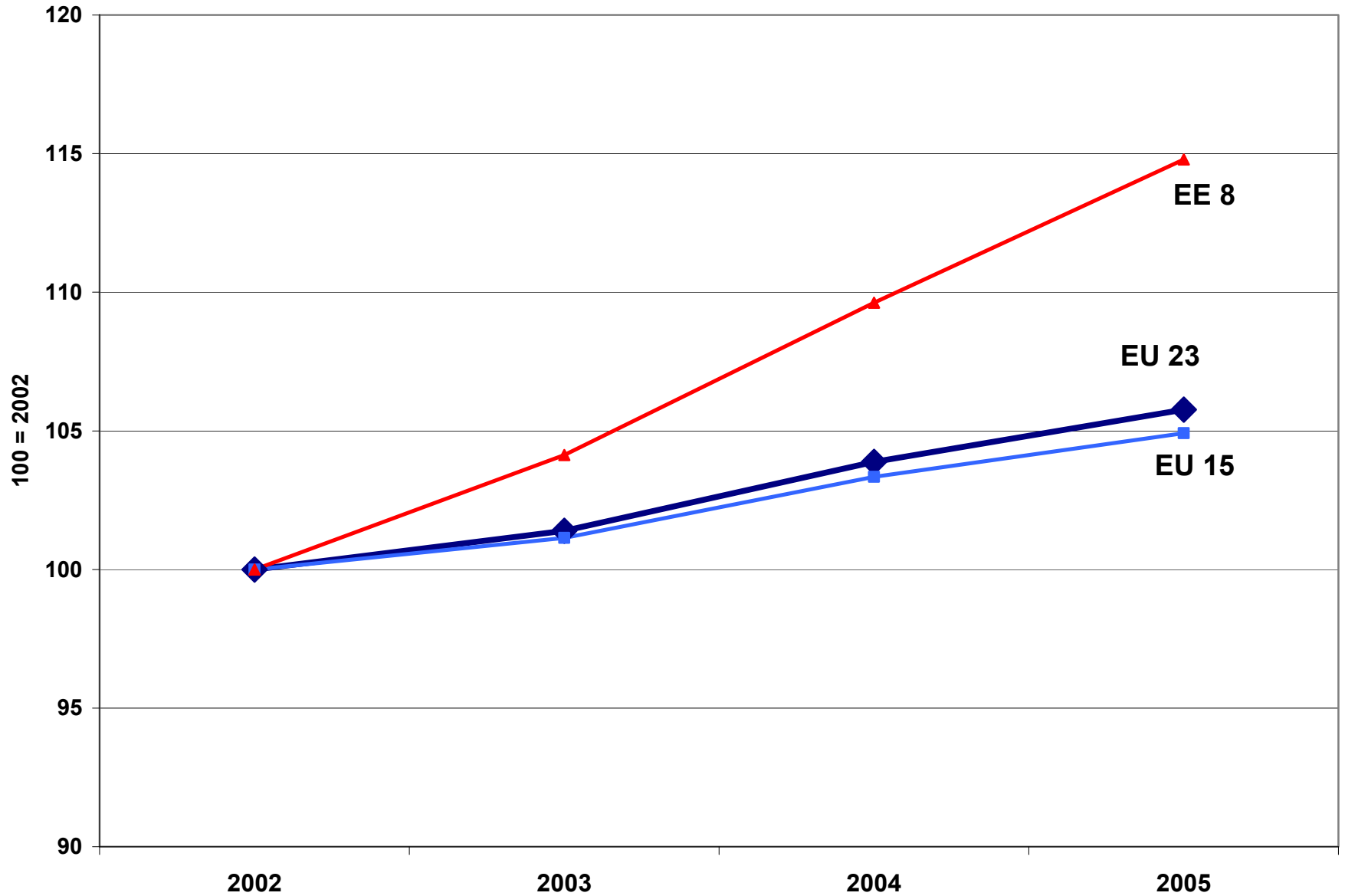
2005 emissions, base period emissions and total allowances: a regional breakup



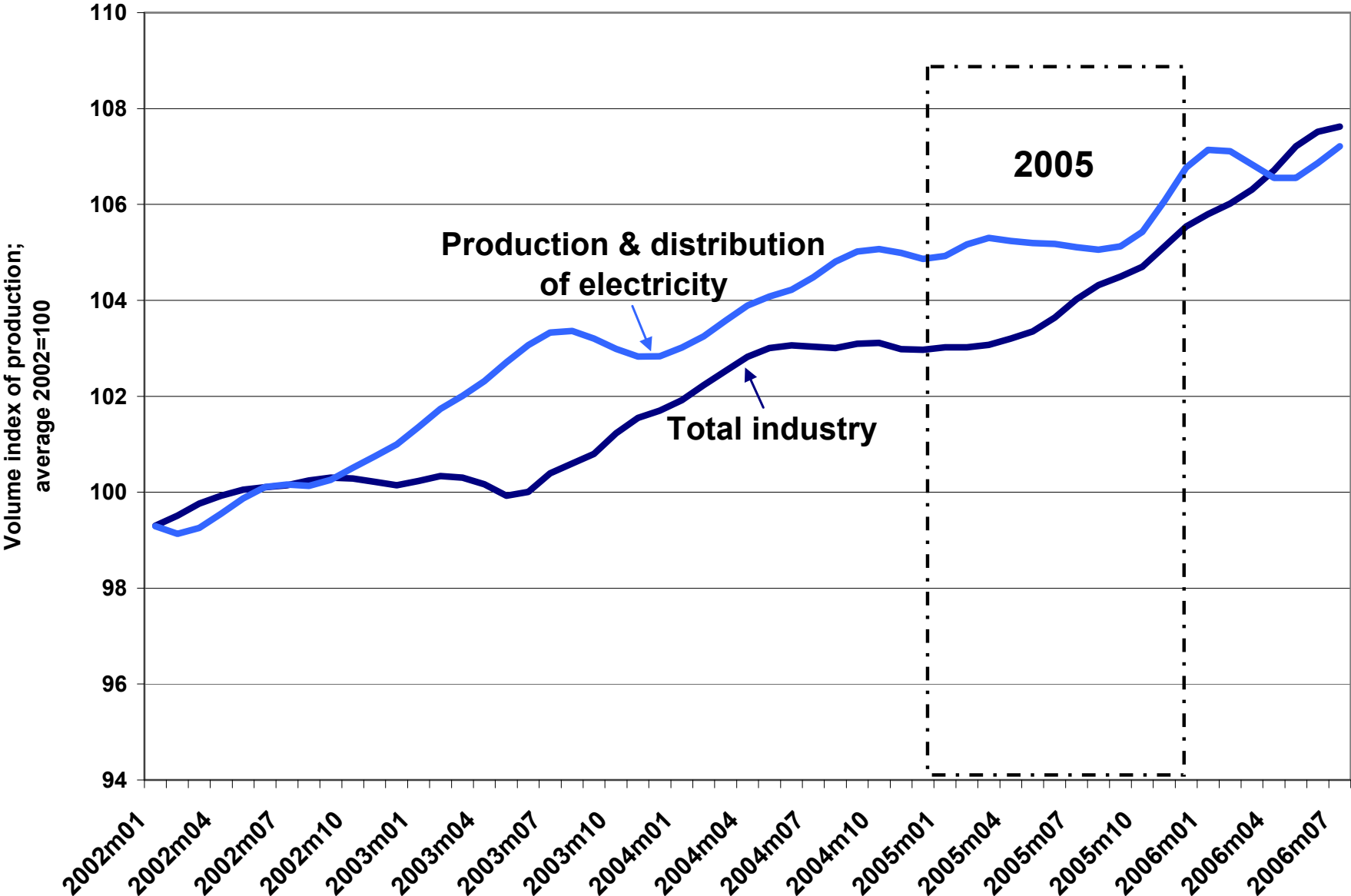
Would 2005 BAU Emissions have been different from baseline emissions?

- **Economic growth ⇒ +++**
- **Higher natural gas/oil prices ⇒ +++**
- **Unfavorable weather conditions ⇒ +++**
- **Continuing decline in EU15 industry emissions ⇒ ---**
- **Continuing improvement in energy/carbon intensity ⇒ ---**
- **Continuing structural changes in Eastern Europe ⇒ ---**

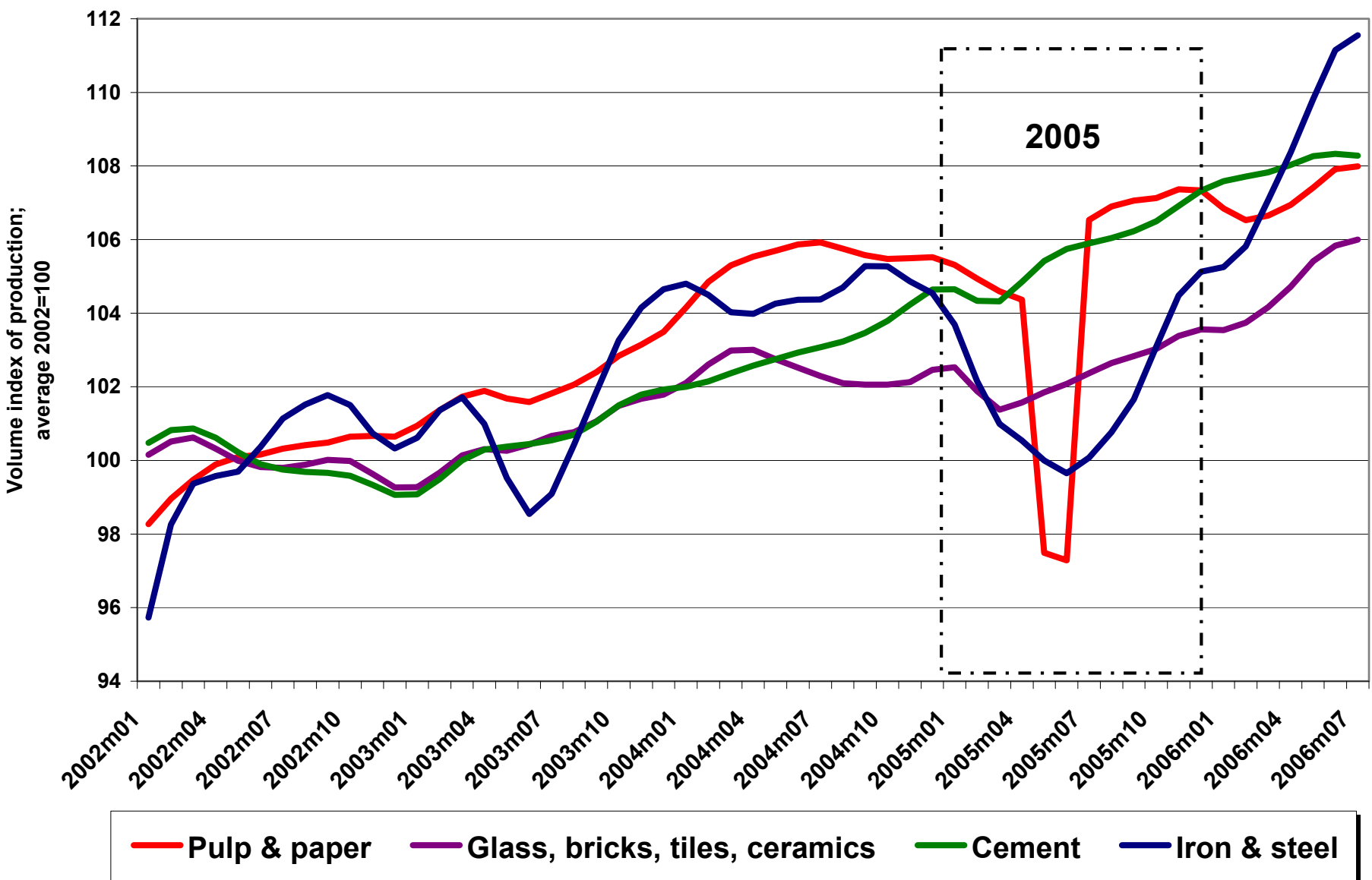
EU 23 GDP growth, 2002 - 2006



Indicators of economic activity in the EU25, 2002-2006



Indicators of economic activity in the EU25, 2002-2006



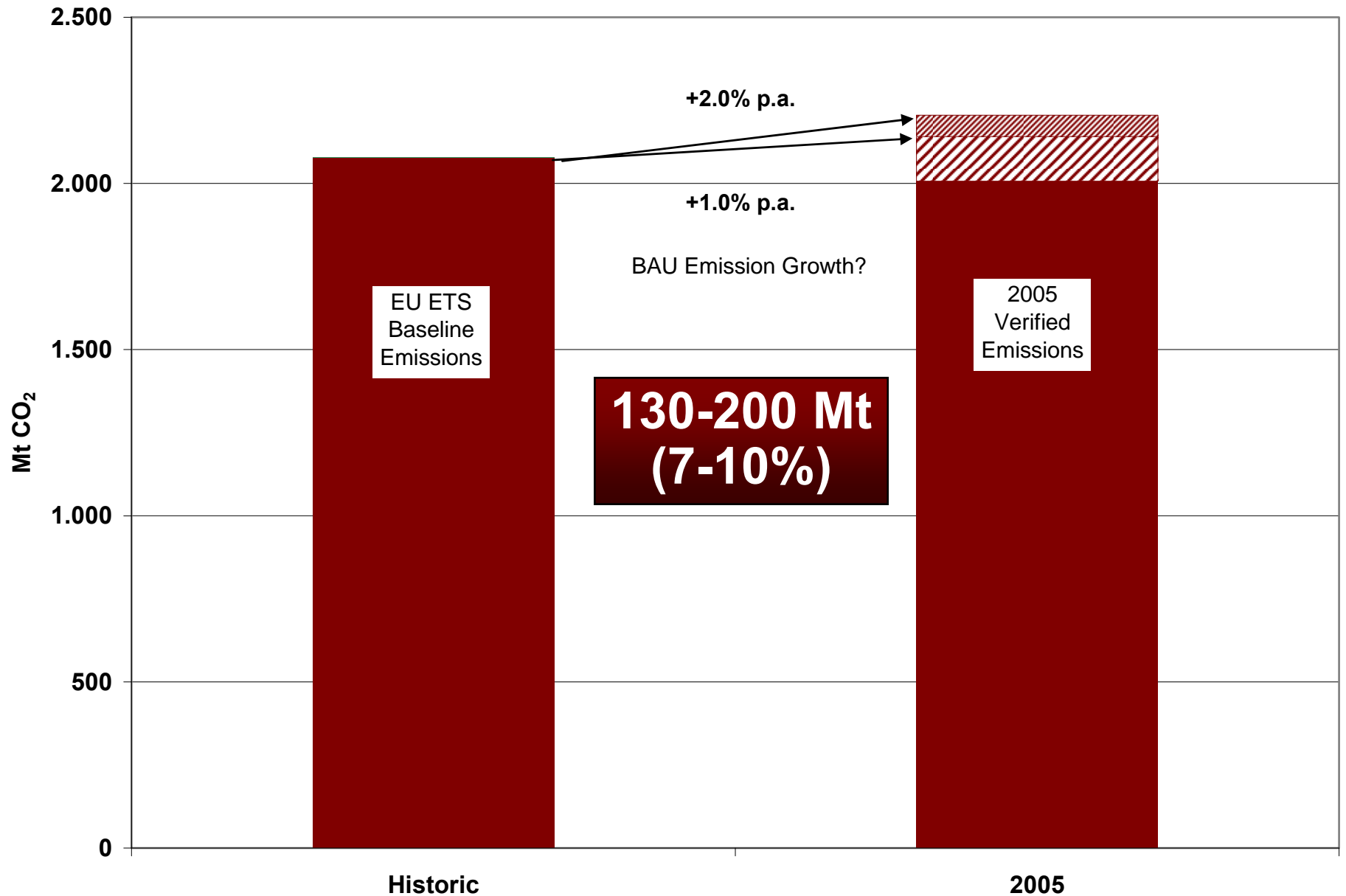
Trends in Real GDP, CO₂ emissions, and CO₂ intensity

| | | Annual changes in percent | |
|------|---------------------------|---------------------------|-----------|
| | | 1995-2000 | 2000-2004 |
| EU23 | Real GDP | +2.9% | +1.8% |
| | CO ₂ Emissions | +0.1% | +1.0% |
| | CO ₂ Intensity | -2.7% | -0.8% |
| EU15 | Real GDP | +2.8% | +1.6% |
| | CO ₂ Emissions | +0.4% | +1.1% |
| | CO ₂ Intensity | -2.3% | -0.5% |
| EE8 | Real GDP | +4.3% | +3.6% |
| | CO ₂ Emissions | -1.8% | +0.2% |
| | CO ₂ Intensity | -5.8% | -3.3% |

 Slowing in rate of decline in CO₂ intensity since 2000

 Representative?

What would BAU emissions have been without EU ETS?



What about the bias...?

- **Assumption of an accurate baseline...**
 - errors in both directions
- **How much bias would have had to happen to get no abatement?**
 - **Country-specific approach**

| | Baseline Emissions (Mt CO ₂) | 2005 BAU Emissions (Mt CO ₂) | Verified Emissions (Mt CO ₂) | Indicated Reduction (Mt CO ₂) | Percent Reduction |
|---|--|--|--|---|-------------------|
| Without adjustment of baseline emissions | | | | | |
| EU23 | 2,078 | 2,150 (+3.5%) | 2,007 | -144 | -6.7% |
| EU15 | 1,677 | 1,729 (+3.1%) | 1,637 | -93 | -5.4% |
| EE8 | 401 | 421 (+4.8%) | 370 | -51 | -12.1% |
| With adjustment of baseline emissions | | | | | |
| EU23 | 1,946 (-6.4%) | 2,014 (+3.5%) | 2,007 | -7.6 | -0.4% |
| EU15 | 1,593 (-5.0%) | 1,642 (+3.1%) | 1,637 | -5.5 | -0.3% |
| EE8 | 353 (-12.0%) | 370 (+4.8%) | 370 | -0.2 | -0.1% |

- **The basic case for abatement**
 - A significant positive price is being incurred
 - Rising real output
 - Emissions are lower than historical levels (even after allowing for plausible bias)
- **Serious work on estimating abatement has yet to be done (baseline bias)**
- **Preliminary evaluation would suggest more than 50 and less than 200 Mt, adjusted downwards perhaps around 3%**
 - ↪ **Over-estimation of CO₂ emissions?**
 - ↪ **Under-estimation of abatement?**

Bottom line

- **“Over-allocation” probably existed and it may not be fair, but its main effect is to reduce the price of CO₂**
- **Notwithstanding some 1st period “over-allocation” (and the lower price), not to mention other problems that are often cited, the evidence suggests that the EU ETS did reduce CO₂ emissions**

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