

European Union (EU) Lessons Learned: The Role of Data

Craig Cheney

Daniel Waller



Overview

- What were the key elements of EU Emissions Trading System (ETS) proposal?
- Why and how were the data and information systems so critical?
- What happened when the data and the policy were disconnected?
- What are the lessons learned for US?

EU ETS Proposal Designed to Allocate Allowed Emissions



- Cap and trade scheme with allowances to emit up to the country “cap”

Phase I:

- Industry and electricity production
- CO2 only
- 95% of “allowances” must be given away

EU ETS Phase 1 Covered Largest Emitters



- Covered 15,000 installations across 27 countries
- ~46% EU CO₂
- Industrial emitters & electricity producers
- Just CO₂ (combustion and some processes)
- Each country had to use its data to allocate emissions caps to individual emitters

Preparatory Work Provided Each Country Planning Window



- Directive developed from 2002 – 2004
- Cap setting in each country based on:
 - Historic emissions
 - Projections for 2005 - 2008
- National Allocation Plan (NAP)
 - Based on sectoral share (1998 to 2002 – lowest year)

UK Realized Data of High Quality was Limiting Factor



- Baseline data would come from
 - National Atmospheric Emissions Inventory (all sectors) – available since 1950
 - Climate Change Agreements (industrial sectors)
 - Independent research on limited sectors
- Moderated by expectations of the future
 - CCA targets
 - Updating of EP68

UK Data Worked Because Comprehensive IT Planning Infrastructure Was Established



Energy Data

Forecasts

Sector Caps

Installation
Caps



Climate Change Agreements

Dataset

Contains plant specific energy data from
~2000 for 9,800 installations

- Data are used to measure performance against energy efficiency targets
- Covers ~15% of UK emissions

National Atmospheric Emissions Inventory (NAEI)



Dataset

- Industrial energy use (non-CCA)
- Power sector energy use

UK Planning Proved Accurate Within 1% of Actuals



- September 2004
 - Combined datasets gave estimate of emissions from traded sector of 736mtCO₂ (~245mtCO₂ pa)
 - Draft NAP sent to European Commission (EC)
- May 2005
 - Updated figures (+20 mtCO₂ pa) provided
 - Increase refused by EC

Carbon Prices Crashed When Planning Data Were Wrong and Trading Was Not Needed



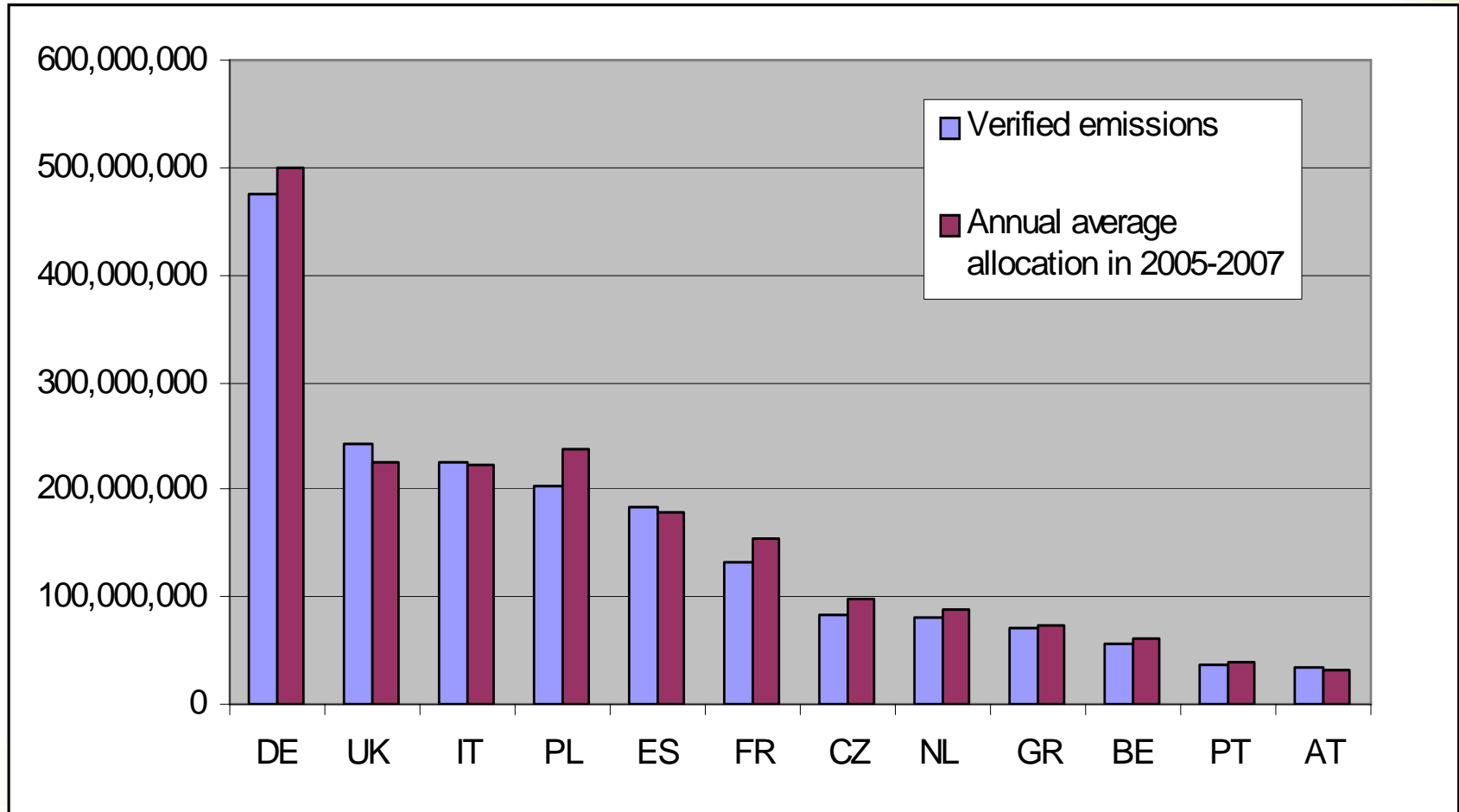
- Jan 1st 2005 – trading started

Figure 1

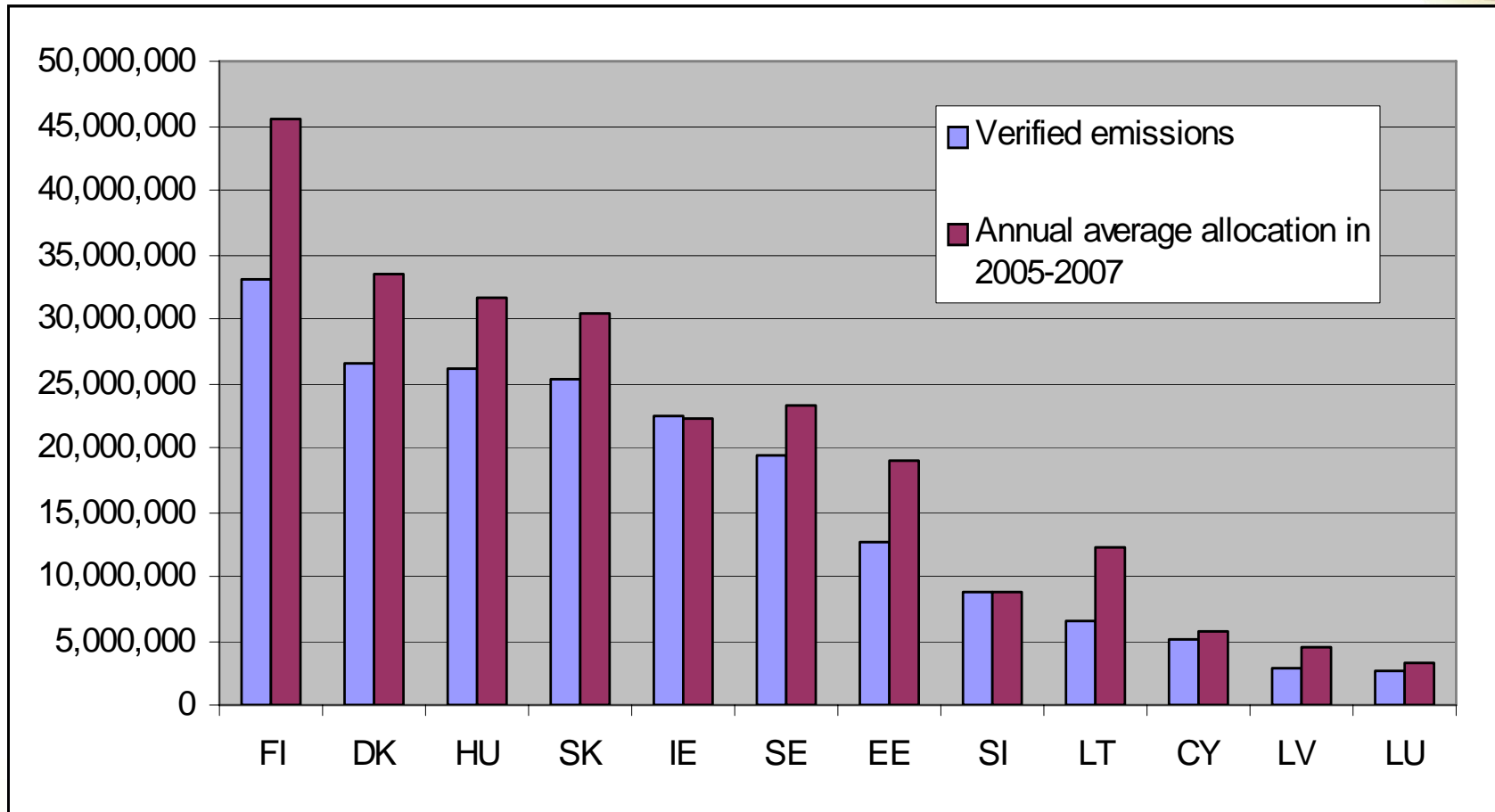


Source: Point Carbon as compiled by the authors.

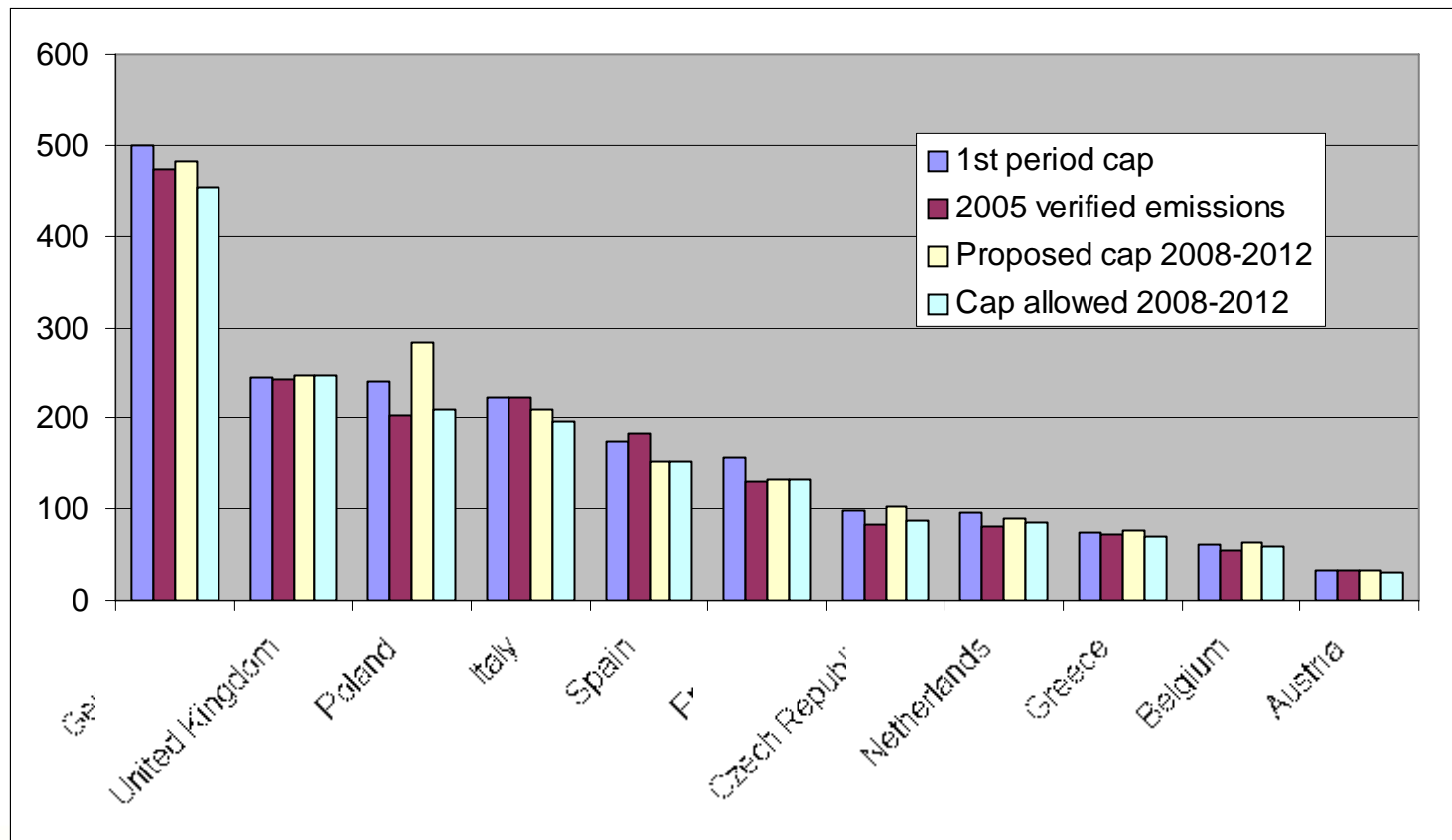
Most EU Member States Gave Away Too Many Allowances



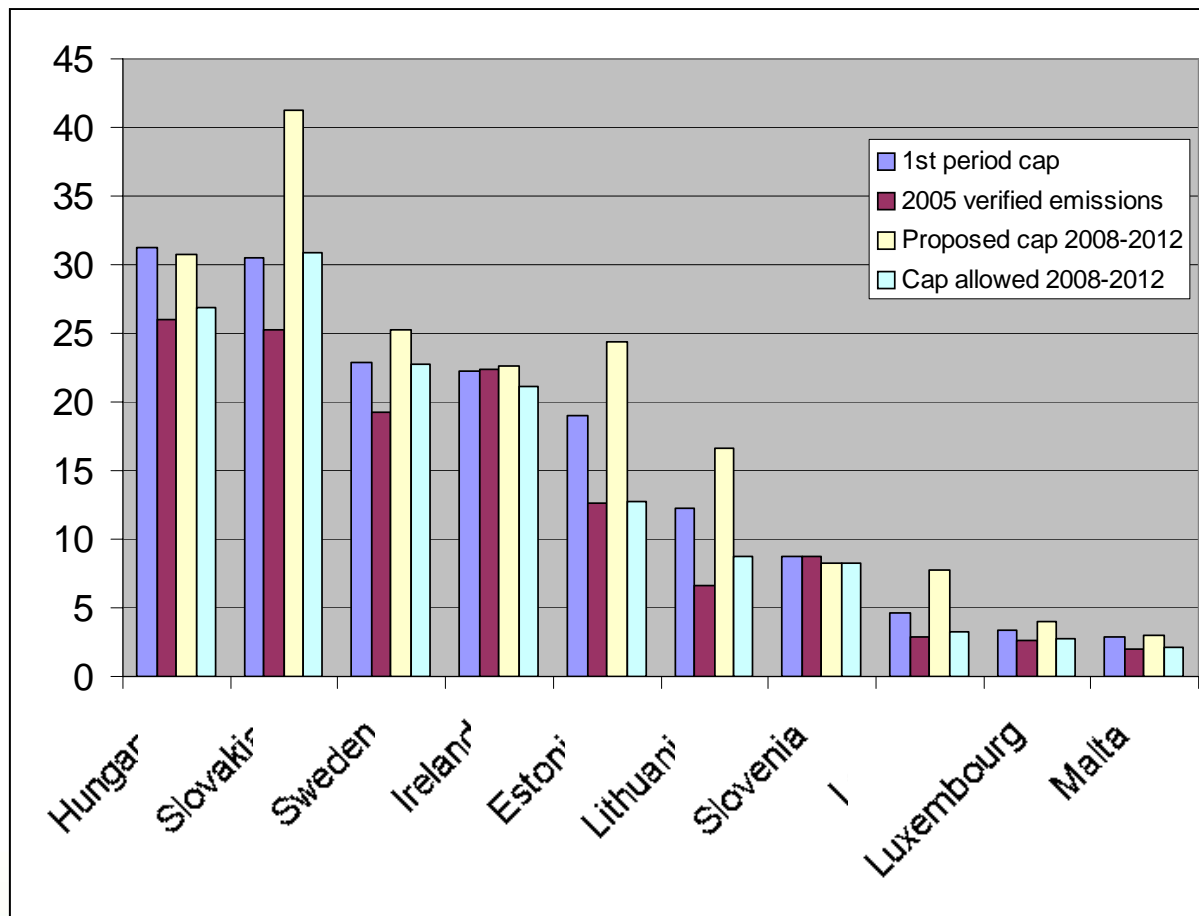
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Allocations, Emissions and Phase II Caps



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Lessons Learned for the United States



- Consistency and integration of emissions data
 - State registries vs. national registry integration
 - Methodology harmonization
 - Data gaps – what is required research to complete?
 - What are metrics for data management success?

Lessons Learned for the United States



- Predictive data
 - Given industry restructuring, relocation, economic impacts
 - Given change over and adoption of new alternative energy sources

Lessons Learned for the United States



- Data reuse potentials
 - How can data used for cap and trade meet other environmental (EPA) and energy (Department of energy) business needs
 - GeoSpatial Nature of data should not be built from scratch, nor should data collection (CDX)
- So what is the architecture needed for climate change management data?
- And what if “cap and trade” is not the policy approach?