

Emissions Trading - A Financial Instrument

Rob Gemmill
Technical Advisor
Releases Monitoring, IWPTS

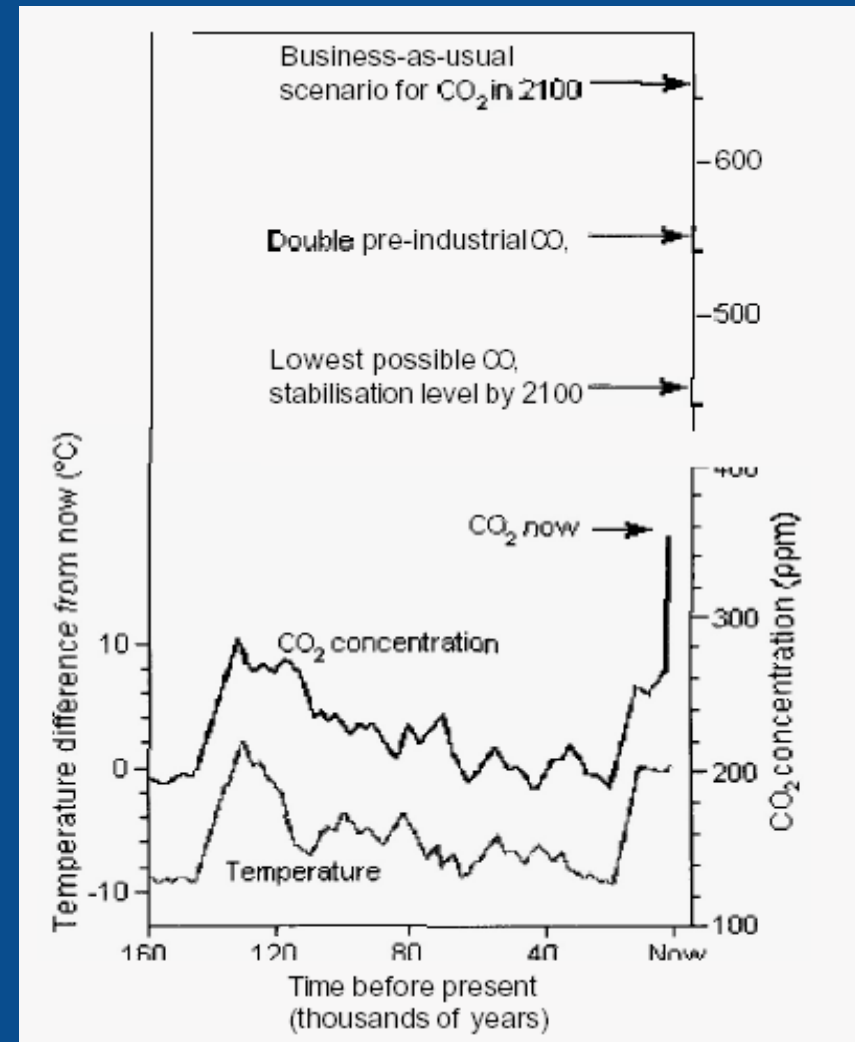
Understanding the Low Carbon Economy
University of Birmingham, 14th November 2007

Outline

- Background to GHG emissions trading
- The EU ETS Directive
- Core elements of the EU ETS and “cap and trade”
- Implementation update
- On-going challenges
- The need for a common currency

The Greenhouse Gas “Effect”

- Natural - atmospheric gases controlling global temperature. Problem: concentrations increasing!
- Strong correlation between CO₂ concentration and atmospheric temperature
- Over the past 200 years human activities have increased CO₂ by over 30%
- The average rate of warming of the climate considered greater than at any time during the last 10,000 years



Climate Change Concerns

- Climate models predict increases in temperature by 2-5°C by the end of the century
- 10 warmest years on record since 1990
- Average summer rainfall in the UK predicted to drop by 60% by 2080
- Extreme weather events more frequent
- 2003 record breaking summer blamed for 2045 excess deaths in the UK and 14,802 excess deaths in France
- Thermal expansion of ocean water and accelerated melting of glaciers means that sea level is expected to rise significantly

International Action

- United Nations Framework Convention on Climate Change agreed at the Earth Summit, Rio de Janeiro, 1992
- Kyoto Protocol, 1997 - Some developed countries agreed targets to reduce overall emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride by 5.2 % below 1990 levels by 2008 -2012
- EU ETS part of EC commitment to meet a Kyoto Commitment to reduce all Greenhouse Gases by 8% based on 1990 levels by 2008 - 2012 (UK: 12.5%)
- UK goal to cut CO₂ emissions by 20% by 2010 (60% by 2050)

“EU ETS Directive”

- Directive 2003/87/EC of 13 October 2003 *establishing a scheme for GHG emission allowance trading within the Community and amending Council Directive 96/61/EC*
- Article 1: *This Directive establishes a scheme for greenhouse gas emission allowance trading within the Community **in order to promote reductions of greenhouse gas emissions in a cost-effective and economically effective manner***
- Predicted to deliver EU Kyoto target at a cost of €2.9-3.7 billion annually (<0.1% EU GDP - compared €6.8 billion/year compliance costs without the scheme)
- **Cap and trade - emissions cut wherever cheapest**

Core Elements of Cap & Trade

- Cap overall emissions
- Distribute allowances
- Impose obligations
 - Permit
 - Monitor and report emissions, verification
 - Surrender allowances
- Trading mechanism: buy and sell, Registry
- Sit back ... and enforce!

Comparison with Command & Control

- Emphasis on *what* rather than *how*
- Establishes ceiling emission level
- Enforces cap by placing emphasis on monitoring & reporting and surrender obligations
- Avoids dictating how each source is to comply
- Financial incentive to improve
- Changes government industry relationship
- Harmonised implementation key to equity, confidence and credibility

Race to Implement

- Directive (2003/87/EEC): October 2003
- UK GHG Emissions Trading Scheme Regulations entered into force 31st December 2003
- Commission Decision establishing guidelines for M&R of GHG Emissions 29th January 2004
- 1,100 Permits issued by 31st March 2004
- Re-issue of 1,100 permits including approved monitoring plans by 31st December 2004
- Re-issue of Consolidated Regulations 2005
- Start of Phase 1 on 1st January 2005 - just CO₂

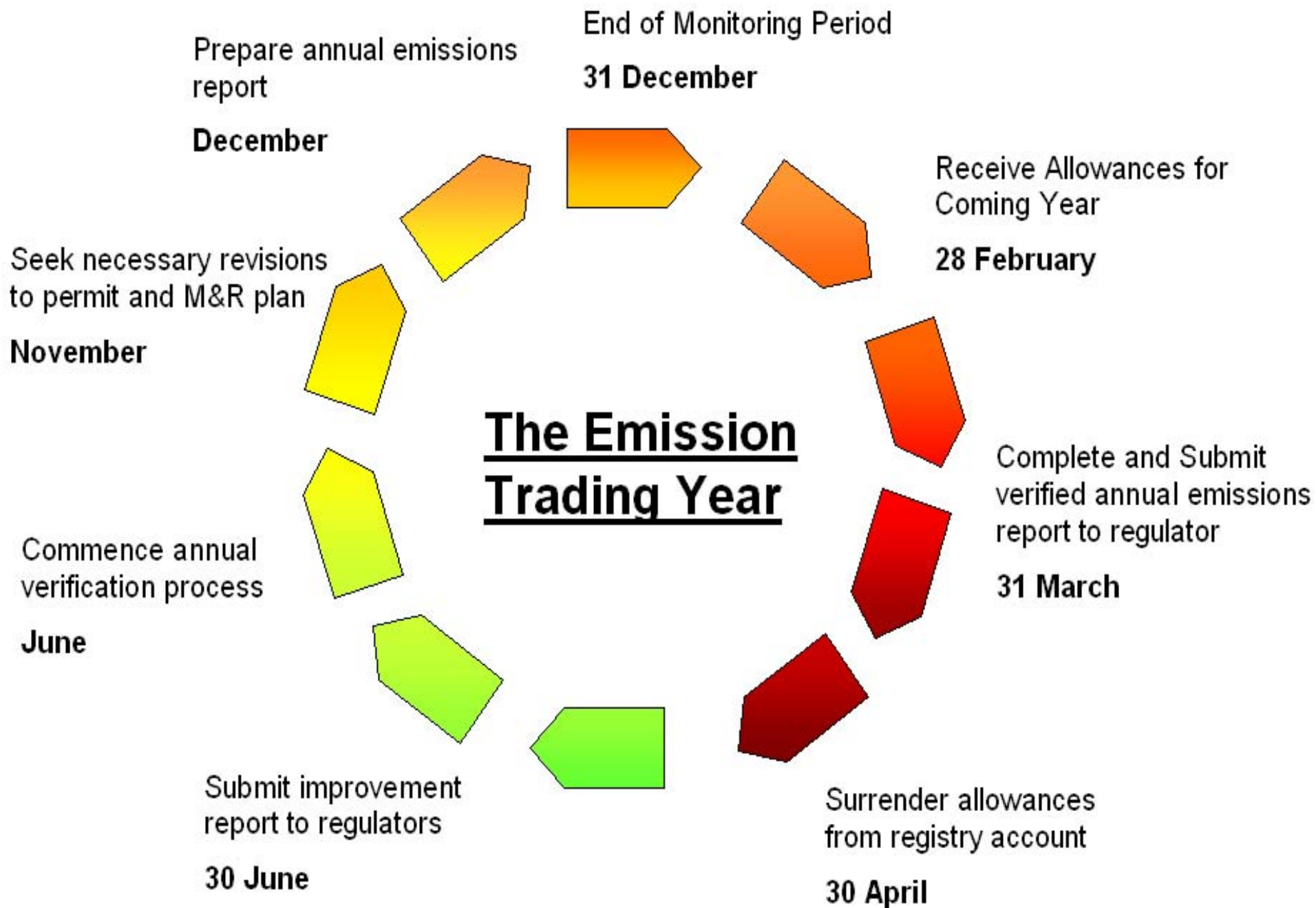
Permitting Successes

- “National Once Task and Finish Groups” established
- Strong coordination/communications between Government, Regulators, Verifiers and Industry:
 - Emissions Trading Group (also MRV and Regulators Groups)
 - Consultations/workshops
- Electronic Application and Permitting System
- Helpdesks and websites for queries and products/guidance. Standard Forms
- Lean approach: costs kept down

Roles

- DEFRA (and DBERR) - Development of Regulations, policy, and the NAP.
- Regulators - (Environment Agency, SEPA, DOENI, DBERR Offshore) - Permitting, Enforcement, Inspection.
- Operators - Permits to operate, M&R, and surrendering sufficient allowances
- Verification Bodies (accredited by the UK Accreditation Service or a fellow member of the European co-operation for Accreditation according to EA-6/03)
- Traders/Brokers - EU ETS Registry

The Emission Trading Year



Year 1 Compliance Cycle (CITL)

- CITL - Community Independent Transaction Log
 - publication of emissions data/surrender 15th May
 - early announcements led to €30/t → €9/t plunge
- 9,400 installations (21 Member States)
- Annual average allocation: 1,829.5 million allowances
- By 30/4/06:
 - 8,980 installations met 2005 reporting obligations (corresponding to 99% of allocated allowances)
 - Verified data: 1,785.3 million allowances (-44.2M)
 - 849 installations not surrendered sufficient (face a €40/t civil penalty)

Year 1 Compliance (UK)

- 99.6% of UK installations surrendered the correct number of allowances by the 30th April deadline
- Only three of ca. 700 failed to comply and faced enforcement action
- 215 million allowances issued in 2005
- 242 million emitted (+27 Mt CO₂ or +12.6%)
 - Power stations: 172.2 Mt (+36.5 Mt CO₂ or +26.9%)
 - Other sectors: 70.0 Mt (-9.5 Mt CO₂ or -11.9%)
 - Overall, half installations emitted more CO₂ and half under their allocation

Government Response

“These results represent the completion of the first year of the Scheme and are a major milestone for international efforts to tackle climate change. They show that the mechanism is sound and provides a solid base to build on for the future”

“In the UK, compliance with the Scheme has been excellent”

Rt Hon David Miliband MP, Secretary for Environment, Food and Rural Affairs

EU ETS Challenges

- The price of carbon
- Phase 2 (1st January 2008 to 31st December 2013)
- 27 schemes + linking
- Equitable allocation plans
- Uniform enforcement of monitoring and reporting standards
- New issues in the pipeline: N₂O, CCS and aviation
- Confidence in verification
- Enforcement of sanctions

Towards a Common Currency

- Directive Review
- Revised MRG (Commission Decision 2007/589/EC):
 - More prescriptive monitoring plans
 - Improved cost-effectiveness
- Common standards of verification and accreditation
- Development of an electronic workflow system
- Sharing of Best Practice: IMPEL, ETSG
- Compliance Conference

Conclusions

- Modern regulation
- Financial rather than regulatory incentive
- Designed to reduce emissions in as cost-effective manner possible (cuts where cheapest)
- High standards of MRV crucial to credibility
- On-going need to promote harmonisation (subject to EU subsidiary principle/human rights convention)
- Roll on electronic work flow
- For more information: <http://tinyurl.com/yt5qtv>

Emissions Trading - A Financial Instrument

Rob Gemmill
Technical Advisor
Releases Monitoring, IWPTS
rob.gemmill@environment-agency.gov.uk

Understanding the Low Carbon Economy
University of Birmingham, 14th November 2007