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What Europe has learned about Greenhouse Gas Emissions Trading

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Unit B3 – International carbon market, aviation and maritime

DG Climate Action

European Commission

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Why?

- Risk Management vs Religion
  - *Does the balance of evidence present this as a risk?*
    - *Does it indicate high, medium, low likelihood?*
    - *Impacts – high, medium, low?*
- Europe 550 million people, 14% global emissions, around 11 tonnes per annum per head
- Energy security, air quality issues
- Cheaper to act sooner rather than later
- Creating low carbon economy increasingly seen as a positive benefit

What?

- Policy options
  - *Tax*
  - *Standards*
  - *Cap and trade*
  - *Subsidies*
  - *Information – labelling etc*
  - *Horses for courses – what suits [illegible] sector*

Which sectors and point of regulation

- Debates about whole economy vs certain sectors
- Closely allied to point of regulation
  - Economic theory indicate whole economy, upstream, high price – so deep scarcity
  - But political nervousness – and impacts on competitiveness and household costs indicate slow start (in terms of costs)
  - Slow start indicates behavioural impacts very important
    - downstream point of obligation may maximise the opportunities of behavioural changes
- Sector choices related to abatement and investment opportunities, ability to benefit from flexibility

What Europe has done

EU Emissions Trading System

Since January 2005

Learning pilot 2005-2007

Kyoto Phase 2008-2012

2013 – 2020 and beyond – no sunset clause

27 EU countries plus

Norway, Iceland and Lichtenstein have joined the EU ETS

EU ETS design fundamentals

- Simple "downstream" cap-and-trade system for major emitting industries
- Comprehensive climate policy including many other measures
- Initially, largely free allocation based on historical emissions – moving to benchmarks and auctioning
- Monitoring rules for direct emissions, independent verification
- Robust penalties to ensure compliance (€100 + shortfall)
- Electronic registry system to record holding, transferring and surrendering allowances
- Market development driven by the private sector

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Coverage

Activities	Greenhouse gases
Energy activities	
Combustion installations with a rated thermal input exceeding 20 MW (excepting hazardous or municipal waste installations)	Carbon dioxide
Mineral oil refineries	Carbon dioxide
Coke ovens	Carbon dioxide
Production and processing of ferrous metals	
Metal ore (including sulphide ore) roasting or sintering installations	Carbon dioxide
Installations for the production of pig iron or steel (primary or secondary fusion) including continuous casting, with a capacity exceeding 2.5 tonnes per hour	Carbon dioxide
Mineral industry	
Installations for the production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or lime in rotary kilns with a production capacity exceeding 50 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day	Carbon dioxide
Installations for the manufacture of glass including glass fibre with a melting capacity exceeding 20 tonnes per day	Carbon dioxide
Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day, and/or with a kiln capacity exceeding 4 m^3 and with a setting density per kiln exceeding 300 kg/m^3	Carbon dioxide
Other activities	
Industrial plants for the production of	
(a) pulp from timber or other fibrous materials	Carbon dioxide
(b) paper and board with a production capacity exceeding 20 tonnes per day	Carbon dioxide

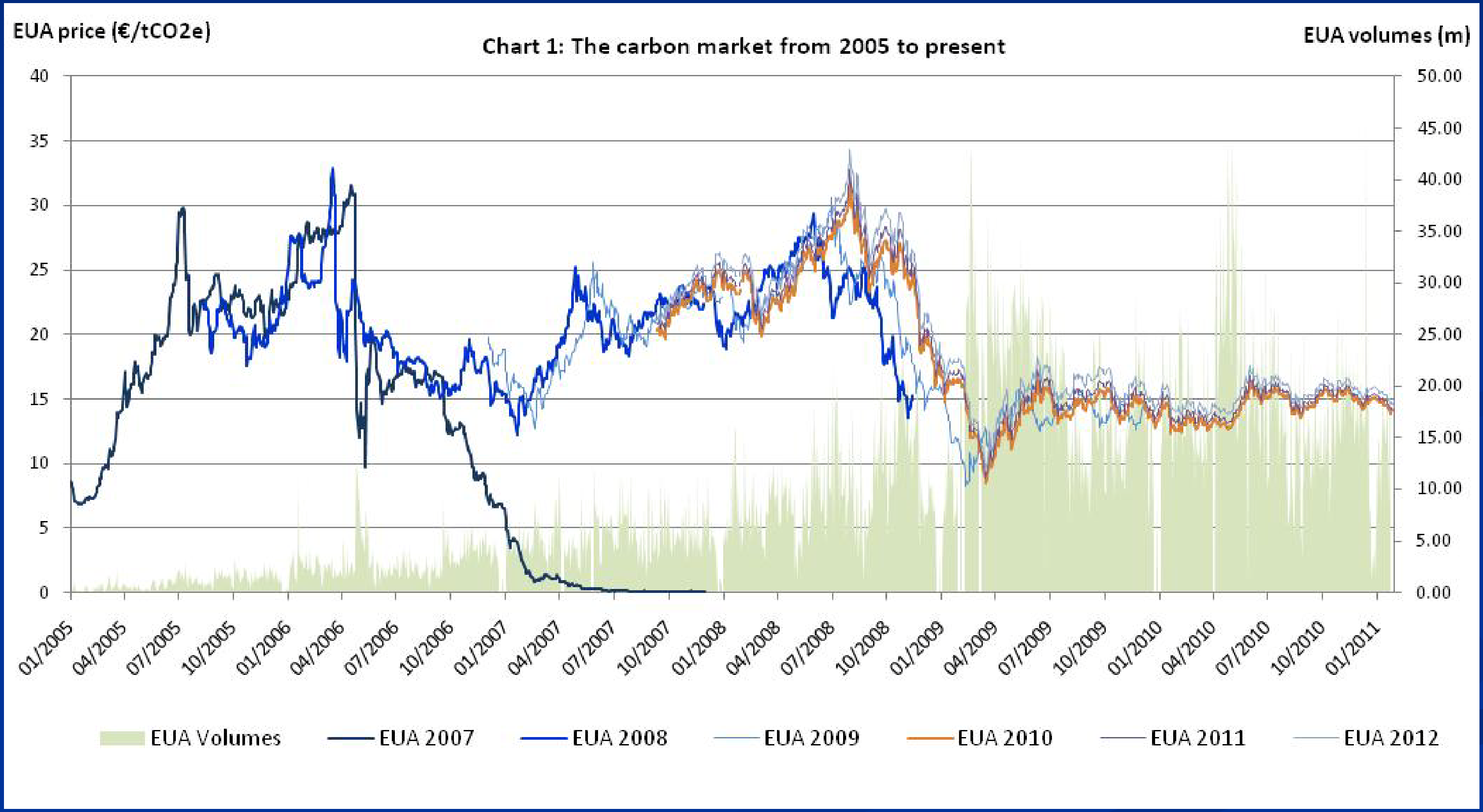
How EU ETS has developed

- Initial learning phase largely free allocation based on historic emissions– to account for 'stranded assets'
- Problems with free allocation
  - Data – rarely granular enough
  - Does not reward early action
  - Encourages lobbying – and can lead to lack of transparency and competitive distortions
  - Windfall profits for some participants
- BUT was needed for political acceptability and to insulate against the competitiveness impacts

Transparency and trust – changes for phase 2

- Member States (and much of Industry) revelation on need to harmonise
- Phase 2 – no legal change but Member States – voluntarily – agreed to adopt consistent definitions of activities for scope
- Recognised need for common rules
- And were quickly ready to agree the changes that have been made for Phase 3

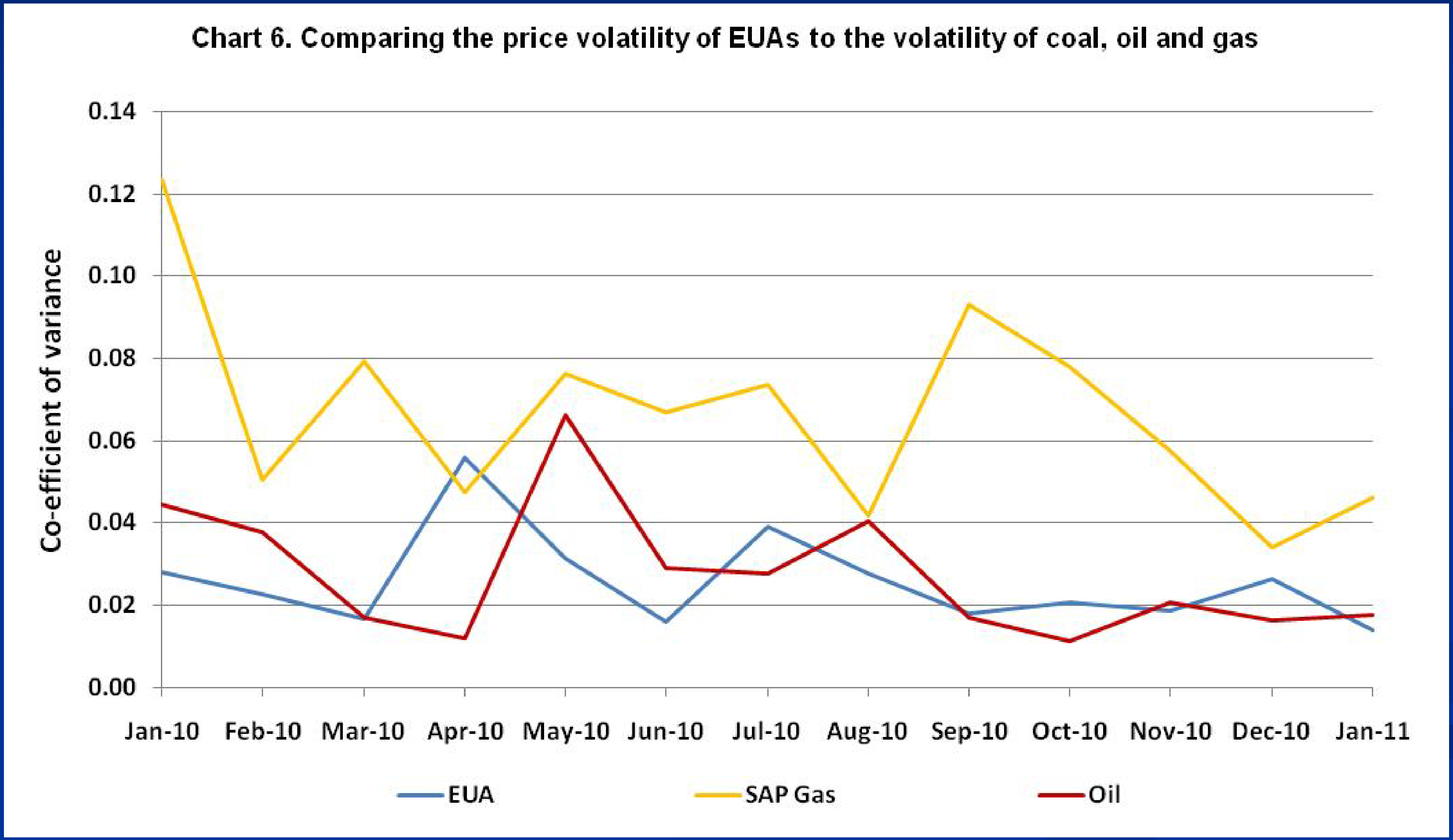
Price volatility or price stability



Is it a liquid market?

- 12,000 installations across Europe
- Europe seven main emissions trading platforms handled a total of 5.12 billion EUAs in 2010
- 270% of the compliance volumes required

Related to other commodities



The revised EU ETS

The shape of things to come

Climate and Energy Package – 20-20-20 by 2020

- A set of comprehensive policies and targets to help decarbonise Europe
- 20% renewables
- 20% improvement in energy efficiency
- 20% cut in emissions relative to 1990

Climate and Energy Package

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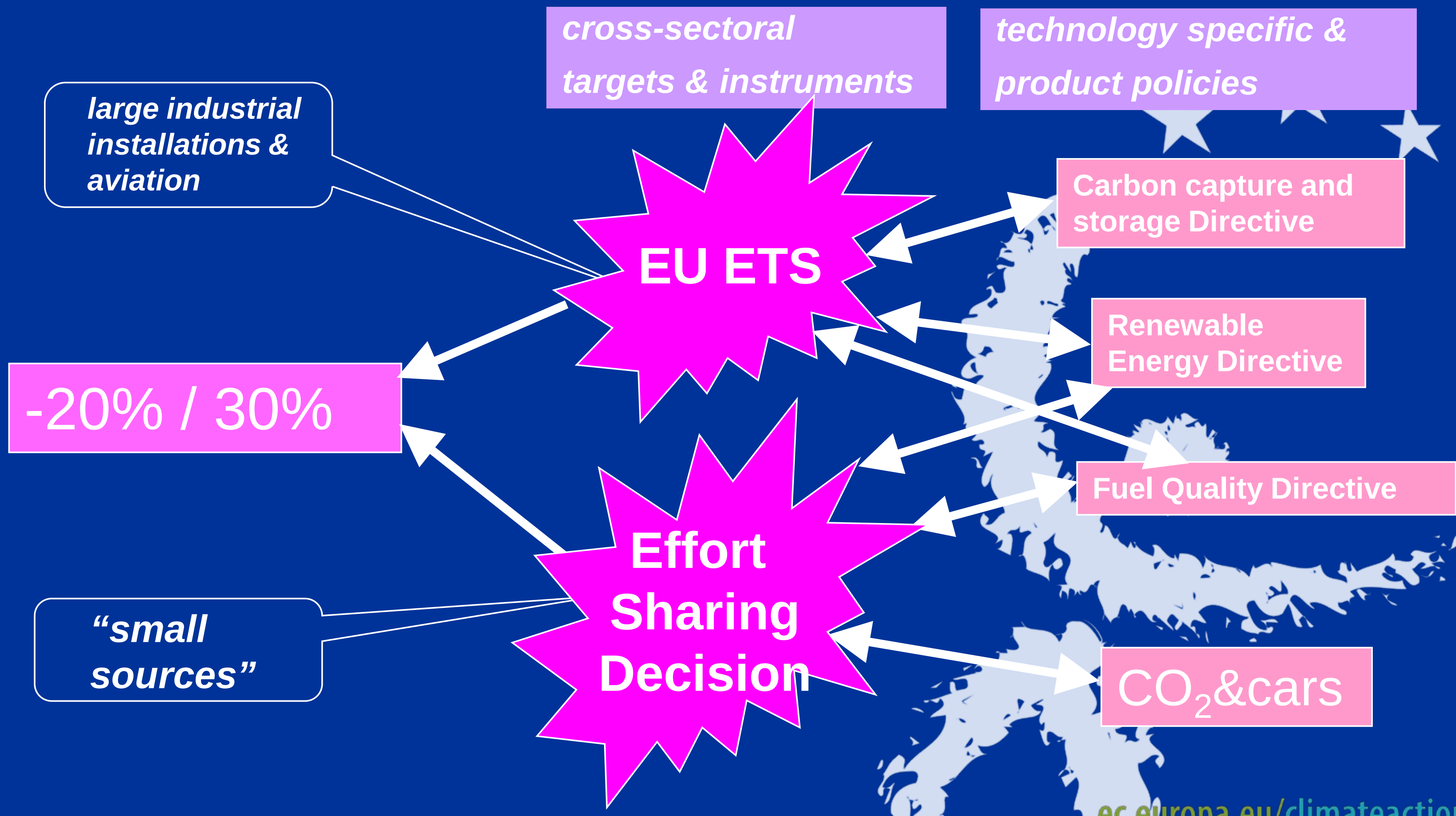

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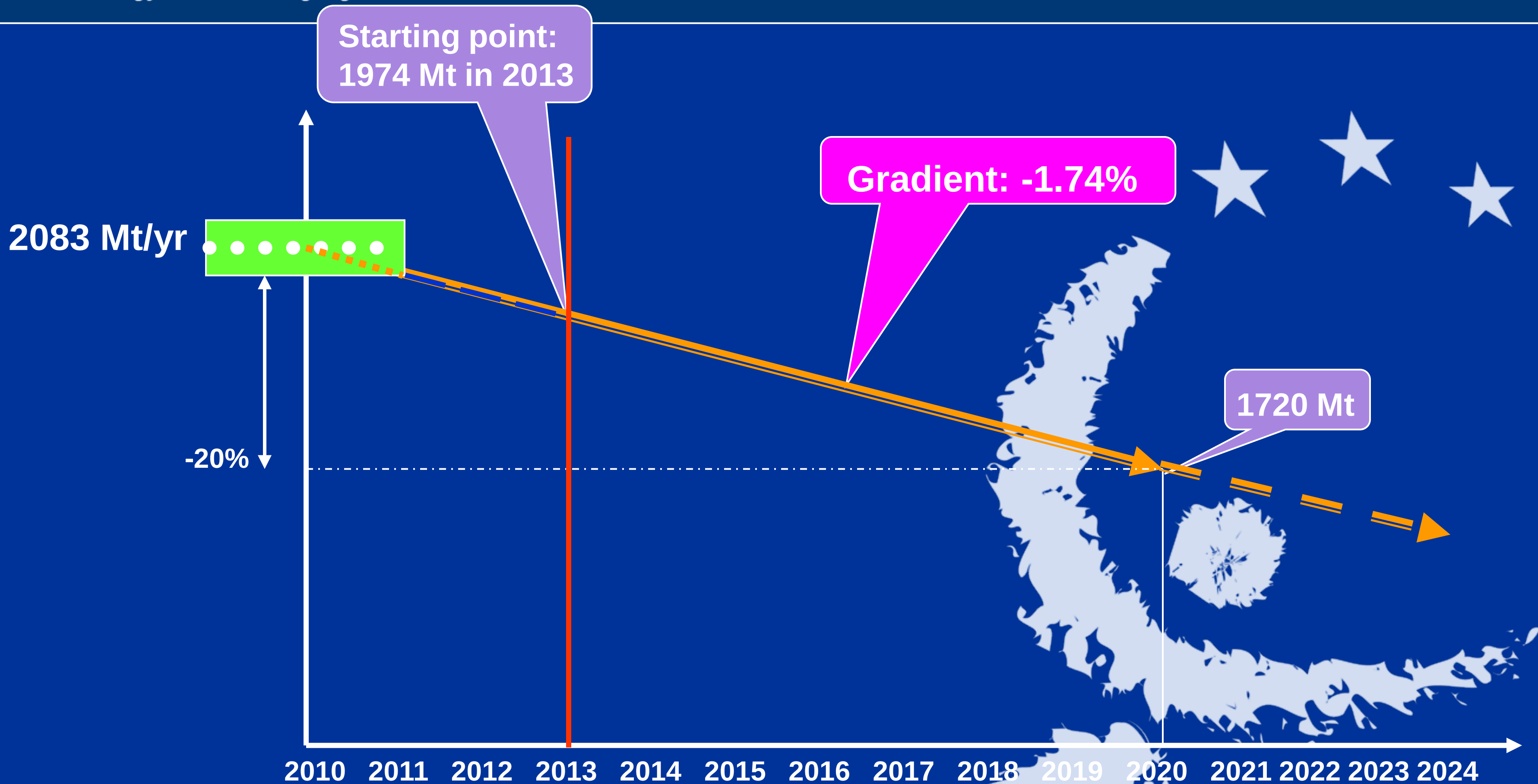
Straight line emissions reductions to decarbonisation

- Single European Cap setting the framework for business investment
- Linear annual reduction factor of 1.74% that continues beyond 2020 (-70% in 2050)
- Effort sharing – 20% reduction on 1990 by 2020 means around 40% reduction for Germany or about a 35% reduction for the UK
- ETS cap in 2020: Review of linear reduction factor as from 2020



- Linear factor to be reviewed by 2025
- Aviation to be included; will change figures correspondingly, but cap not reduced
- Disclaimer: all figures are provisional and do not account for new sectors in third period

Thinking targets

- European target of 20% reductions included growth targets for developing states – Romania, Bulgaria et al
- Germany -40%, UK -34% on 1990 by 2020
- Some states pressing for tightening targets to increase the carbon price
- But major European states now see benefit in domestic action – sets framework for economic investment

Scope

- New sectors
  - Aluminium
  - Basic chemical production
- New gases:
  - PFCs from aluminium
  - Nitrous oxide (N2O) from certain chemicals
- Combined effect: ca. 6-7% increase of scope
- Confirmation that all sectors should contribute to emission reduction commitments
  - Aviation
  - Maritime: future action foreseen to have maritime contribute (COM proposal by 2011 if no international agreement)

Strengthened monitoring, reporting and verification

- Monitoring and Reporting Regulation
  - To replace current guidelines
  - COM proposal by 31 December 2011
- Verification and Accreditation Regulation
  - Rules for accreditation is new
  - COM proposal by 31 December 2011
- Harmonised €100 penalty for non-compliance
  - inflation-linked
  - 'non-libératoire' (requirement to surrender shortfall of allowances remains)
- Single Community registry
  - Amendment of Registries regulation (comitology): adopted in CCC in Feb 2010

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Auctioning

- 2013, full auctioning for electricity sector:
  - more than half of all allowances will be auctioned
  - Potentially some transitional free allocation to electricity producers in up to 10 new Member States

Common Auction Platform

- A common auction platform
  - Joint procurement under EU law
  - One common platform for spot, potentially two transitional platforms for forwards and futures
- Germany, UK and Poland will run their own auctions – but they can join the common auction platform in the future

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Auction oversight

- Platform will monitor the trading in its market
- Platform must be authorised by and subject to oversight by national regulator
- Single auction monitor
  - To be procured jointly with the Member States
  - Reports on individual auctions, annual reports and possibility of ad-hoc reports

Use of auction revenues

- Member States should use at least 50% of revenues for climate and energy related purposes
  - 100% earmarking for the revenues from auctioning ‘aviation allowances’
- New Monitoring Mechanism Decision, to be adopted, will include requirement for Member States to report on use of auction revenues

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Carbon market oversight

- Comprehensive study to look at market oversight
- Options under consideration:
  1. Full coverage of the European carbon market by financial markets legislation (e.g. by classifying allowances as financial instruments)
  2. A tailor-made regime for emission allowances building on the financial markets rules
- If appropriate, legislative proposals in the course of 2011

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Use restrictions for international credits

- Not all CDM accepted – eg forestry and nuclear
- Limits on the quantity of international credits – offsets won't get us to a stabilisation goal
- Full use restrictions for credits from HFC23 and adipic acid N2O projects
  - 23 out of about 2700 projects
  - Strong environmental concerns:
    - incentive to increase emissions
    - undermine the Montreal Protocol
    - disincentivise appropriate action in LDCs
  - Low value for money: other instruments can reduce these emissions much more cost-efficiently
  - Need to limit distortions of competition
- Climate Change Committee agreed the proposal on 21 January 2011

Transitional allocation for free to the power sector

- Article 10c: option for 10 new Member States to transitionally derogate from the principle of full auctioning for the power sector
- Objective: modernisation of electricity generation
  - Amount of investments must be equivalent to the market value of free allocation
- Commission intends to adopt a Decision on allocation methodology and a Communication with guidance on other issues very soon
  - Decision received unanimous favourable vote by Member States
- Applications to be submitted by 30 September 2011 – will there be any?
  - Less auction rights for Member State concerned

Addressing carbon leakage

- Criteria and thresholds laid down in Directive:
  - 5% cost increase and 10% trade exposure
  - 30% for one of the two
- List of sectors and subsectors to be determined by 31 December 2009: 164 sectors, list adopted 24/12/09 (comitology)
- Following qualitative analysis, list of exposed sectors may be supplemented annually
- New list every five years

Benchmarking not historical emissions

- **Main principle: one product – one benchmark**
  - **no modification based on which fuel is used, which technology is used, which inputs are used**
  - **~50 benchmarks cover ~80% emissions**
- **Starting point for benchmark values: average performance of 10% most efficient installations in (sub)sector**

Incentivising CCS and RES projects

- Carbon price over time to become the main incentive for carbon capture and storage (CCS) and renewable energy sources (RES)
- Value of 300 mio. allowances from New Entrants Reserve (NER) available for CCS and innovative renewable energy demonstration projects

Aviation included from 2012

- Cap
  - 2012: 97% of 2004-06 emissions
  - From 2013 onwards: 95%
- Auctioning: 15% as from 2012
- Scope: EU internal as well as inbound/ outbound aviation
- All airlines will be treated equally
- Costs expected to be passed on to consumers
- For greater reductions, EU continues to seek agreement on global measures to reduce emissions

A new sectoral crediting mechanism

- Bring about a more comprehensive and broad price signal
- Increase environmental ambition ("own" contribution)
- Crediting against a benchmark for actual reductions
- Crediting at sectoral level for broader approach than installation performance
- Administratively less cumbersome
- Facilitating eventual move to a comprehensive multi-sectoral cap-and-trade system

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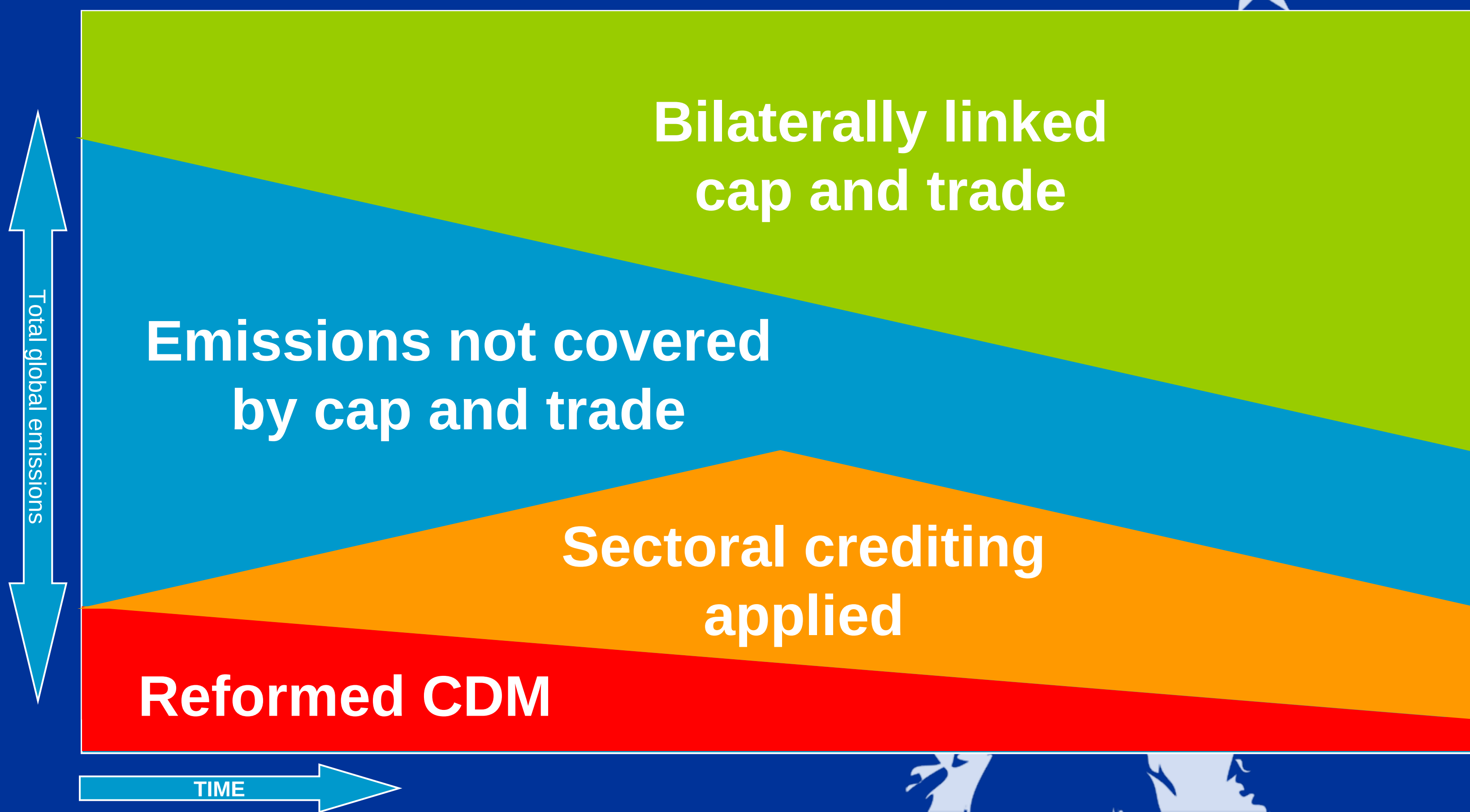
Building an international carbon market

- The EU ETS can be linked to <u>any</u> mandatory and compatible GHG emission trading system with absolute emission caps, in any country or in sub-federal entity
- Reform of CDM and replacement over time by a sectoral mechanism for advanced developing economies and sectors
- Sectoral crediting as a stepping stone to ETS

Global carbon market: EC vision for the future

- Size of market
- Incentives to move towards cap and trade



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Lessons learned from EU ETS experience

Keep emissions trading simple

- Need for strong regulator to ensure environmental integrity
- Cover installations/ gases where accurate monitoring is feasible, extend in line with technical progress
- Central cap setting, no more national allocation plans
- Auction large share of allowances is fairest allocation method
- Use revenues from auctioning in fight against climate change
- Ensure further harmonisation of monitoring, reporting and verification
- Maximize transparency and legal certainty – no ex-post regulatory intervention
- Restrict use of offsets (CDM/JI) to drive investments in low carbon technologies at home

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Visit

http://ec.europa.eu/environment/climat/emission.htm