



# Expanding the International Carbon Market: Options and Outlook

get to grips with  
**climate  
change**



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# Outline

- EU – the current driver of the international carbon market
- International carbon market post-2012
  - Unilateral scenario
  - Multilateral scenario



# PRESS RELEASE

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## **Global carbon market grows 80% in 2007**

Greenhouse gas emission permits and credits were traded for €40.4 billion in 2007, against €22.5bn in 2006, an increase of 80%. A total of 2.7 billion tonnes of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) were traded over the year, up 64% on the same period in 2006.

*Oslo (18 January 2008)*

The European Union's emissions trading scheme (ETS) saw almost two-thirds of the traded volume, with 1.6bn tonnes CO<sub>2</sub>e changing hands and a financial value of €28bn. The EU ETS covers over 10,000 power stations and other stationary sources of greenhouse gas pollution in the Union's 27 countries. Most of the growth was in forward contracts for the second phase of the scheme, which runs from 2008 to 2012.

The other major market was the UN-administered clean development mechanism (CDM), under which 947m tonnes CO<sub>2</sub>e were traded, to a value of €12bn. The secondary market in issued CDM credits ballooned from 40m tonnes and €571m in 2006 to 350m tonnes and €5.7bn in 2007.



## Engaging private sector: The EU ETS in a nutshell

- Least cost solution - promoting energy efficiency, operational changes, take-up and improvement of clean technologies
- Worldwide largest emissions trading scheme started on 1 January 2005 with a learning phase from 2005 – 2007 in all 27 Member States; covers 40 – 50 % of EU CO<sub>2</sub> emissions; open scheme: links with emission reduction projects abroad (Clean Development Mechanism & Joint Implementation) and can link to other countries
- ~10,500 installations covering CO<sub>2</sub> emissions from electricity generators, heat & steam production, mineral oil refineries, ferrous metals production & processing, cement, lime glass, bricks and ceramics, pulp & paper sector
- Annual monitoring, reporting & verification (15 May)

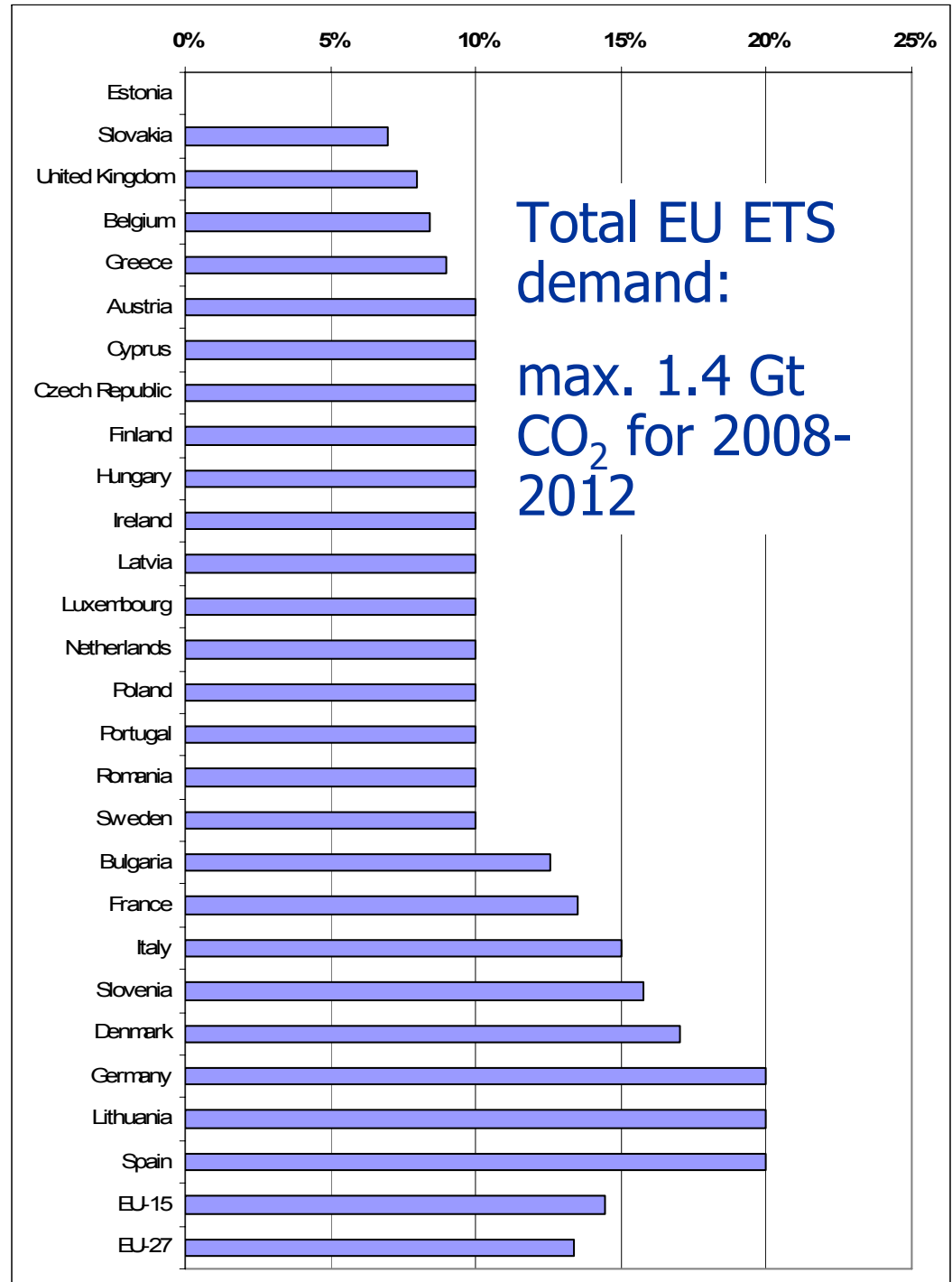


## EU ETS: 2<sup>nd</sup> phase from 2008 -2012

- Assessment of National Allocation Plans for 2008 – 2012 completed:
  - Total size of the EU carbon market in terms of allowances to be issued: max. 2.08 Gt CO<sub>2</sub> per year
  - EU-15: Reduction of 146 Mt CO<sub>2</sub> p.a. and limit of JI/CDM of 227 Mt CO<sub>2</sub> p.a.
  - EU-27: Reduction of 134 Mt CO<sub>2</sub> p.a. and limit of JI/CDM of 278 Mt CO<sub>2</sub> p.a.
- Compliance penalty: €100 per t CO<sub>2</sub>
- Increased use of auctioning
- Linking to Norway, Iceland, Liechtenstein

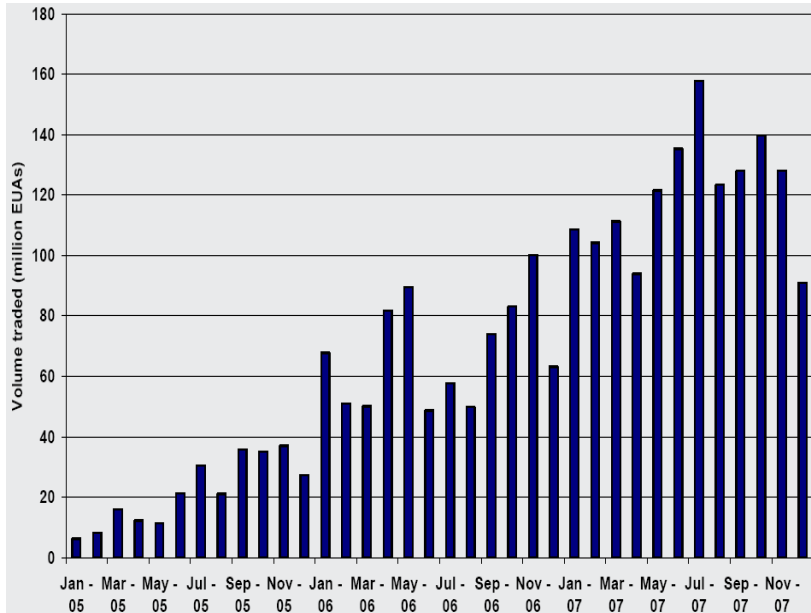


Ensuring scarcity in the EU carbon market (2): maximum use of CDM/JI during 2008-2012, in % of total allocation



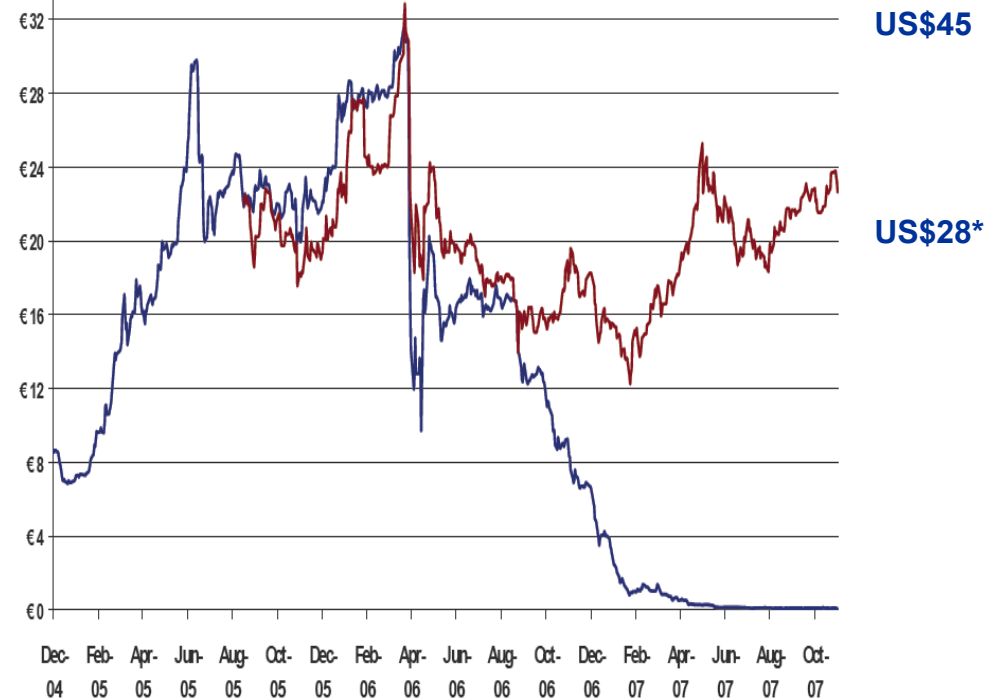


# Development of EU ETS allowance trading, Jan 2005 – Dec 2007



## Volume of allowances traded (in millions)

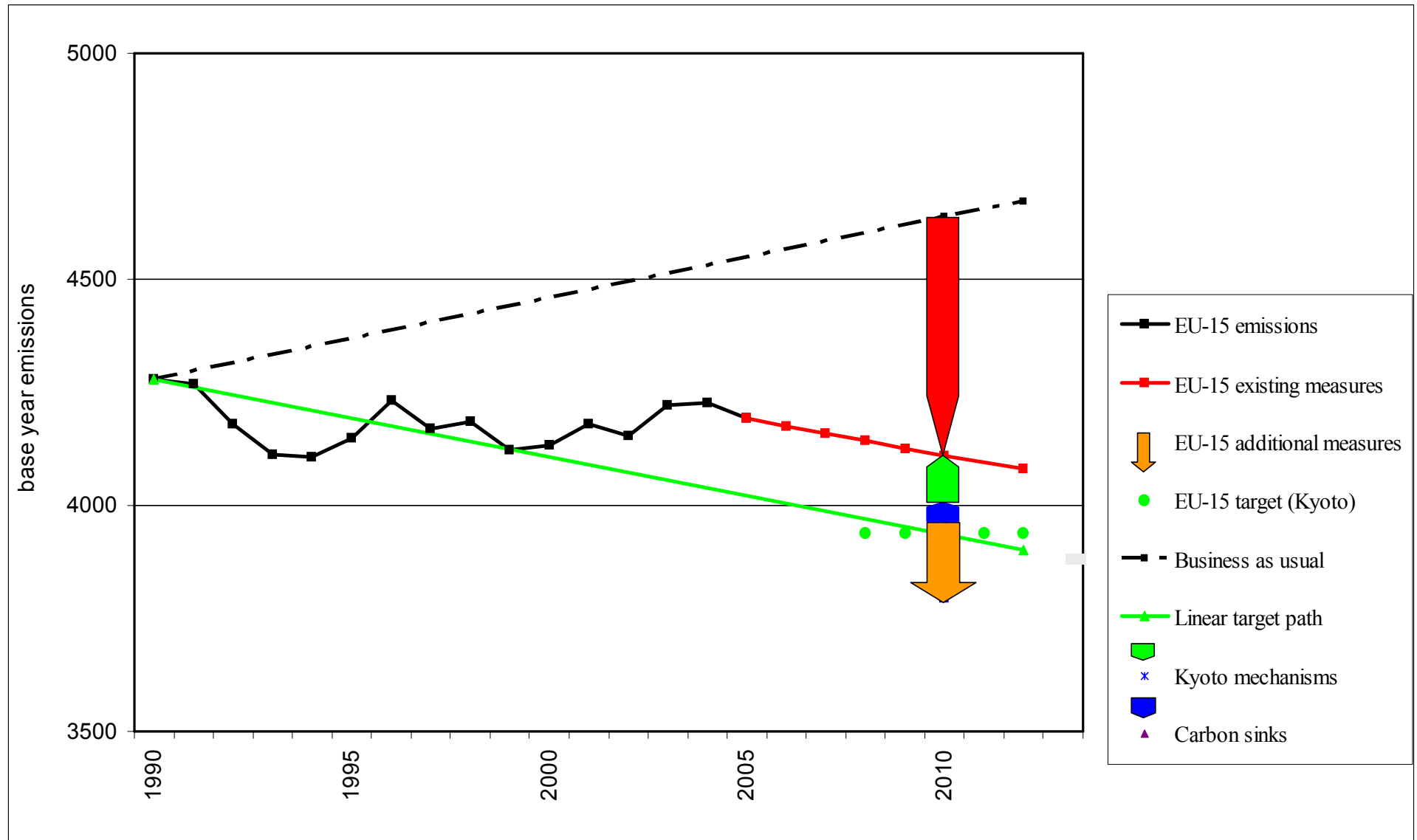
## Allowances prices for Phase I (blue line) and Phase II (red line)



Source: Point Carbon



# EU-15 Member States use of credits from CDM/JI or international emissions trading







## EU Member States' public purchase programmes

	Million tonnes of CO <sub>2</sub> eq.
Austria	45
Belgium	35
Denmark	21
Finland	12
Ireland	18
Italy	95
Luxembourg	23.5
Netherlands	100
Portugal	29
Spain	159
Sweden	6

**> 0.54 Gt of CO<sub>2</sub>eq  
(2008-2012) ~ €2.9  
billion**  
excluding demand from  
companies in the EU-ETS



International carbon market post-2012

Unilateral vs. Multilateral scenario

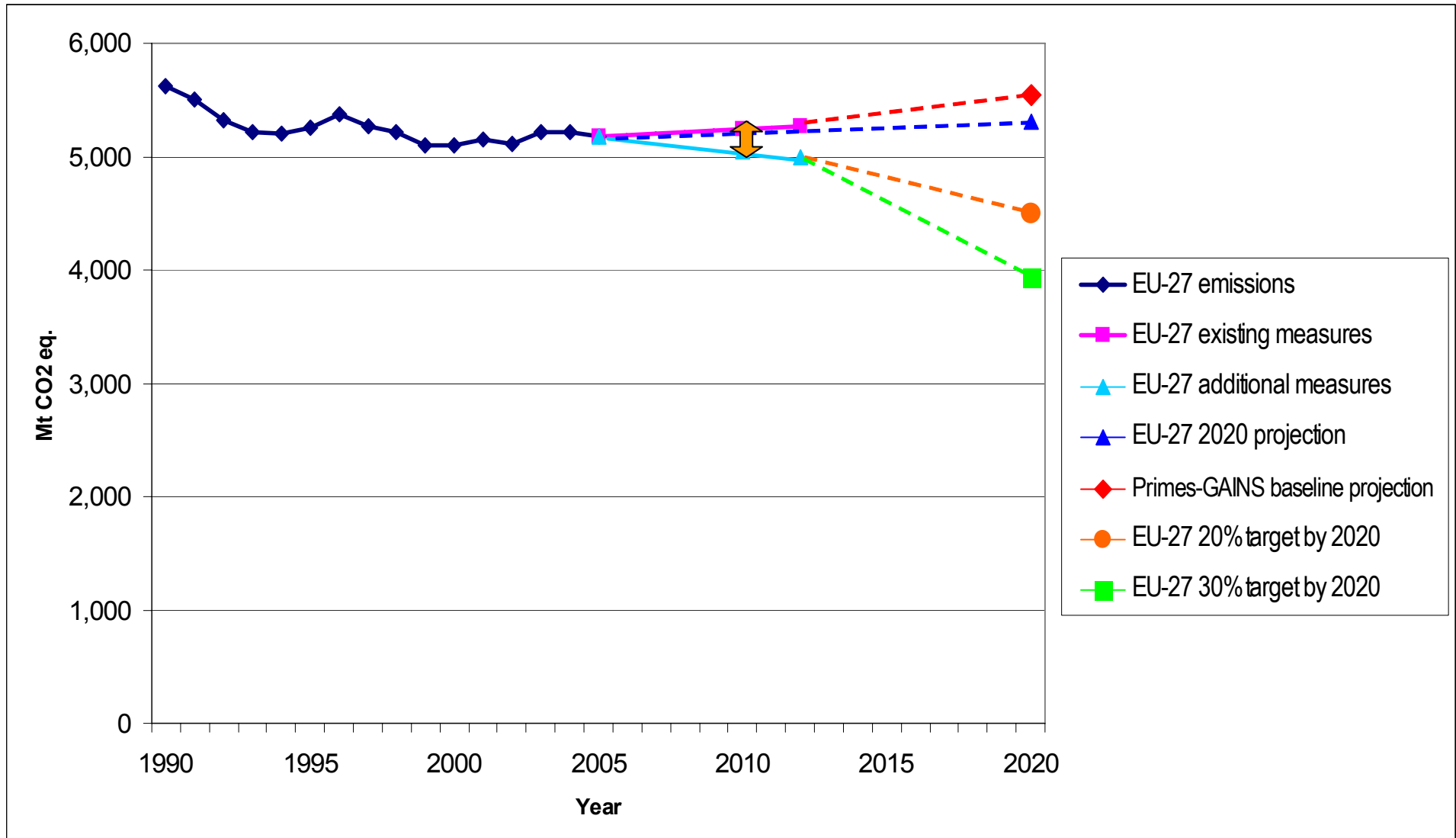


## Post-2012 mitigation scenarios

- Unilateral
  - EU only
  - At least - 20 % by 2020 compared to 1990
- Multi-lateral
  - Group of developed countries reduces by 30 % by 2020 compared to 1990; comparable efforts
  - Advanced developing countries undertake efforts in accordance with responsibility and capability
  - Developing countries will be incentivised to reduce emissions
  - LDC's excluded



# EU-27 emissions path until 2020: unilateral vs. multilateral scenario





# Unilateral scenario: certain, at least – 20 % by 2020, but EU only

- **EU independent commitment: Reduce EU-27 GHG emissions by at least 20% by 2020 compared to 1990**
- Energy Package:
  - Energy efficiency: 20% improvement by 2020
  - Renewable energy: 20% mandatory objective by 2020
    - differentiation of targets between countries
    - flexibility in target setting within a country between sectors
  - Biofuels target of 10% by 2020
  - Sustainable power generation from fossil fuels: 12 large scale CCS demonstration plants by 2015; aiming at near-zero emissions by 2020
  - Strategic energy technology plan
  - Internal market-options unbundling & regulatory powers:
    - Important for functioning EU ETS
    - Overcome hurdles for renewables
  - Nuclear: member states' choice
- Climate Strategy:
  - EU ETS (Review, aviation)
  - Other policies (e.g. fuel quality)
  - Global carbon market (incl. CDM)



## Unilateral scenario: CDM could undermine EU domestic effort and carbon price

	Broad global participation	Autonomous domestic emissions reductions (EU-27)			
<b>EU-27 emissions target</b>	- 31 %	- 21 %		- 31 %	
	<b>With CDM</b>	<b>No CDM</b>	<b>With CDM</b>	<b>No CDM</b>	<b>With CDM</b>
Domestic emissions	- 21 %	- 21 %	+ 4 %	- 31 %	- 7 %
Carbon price [€]	31	44.2	4.2	77.6	9.4
Global emission reduction (compared to baseline)	- 24 %	- 3.5 %		- 4.6 %	



# Unilateral scenario: EU Climate Action & Renewable Energy Package leaves only few questions open

- EU ETS domestic features
  - Contribution to overall EU GHG reduction target: -21 % compared to 2005 or 1720 million allowances in 2020, linear decrease until 2020 and beyond
  - Expanding the scope
    - new gases: nitrous oxide, perfluorocarbons
    - more sectors: chemical industry, aluminium
    - small emitters: opt-out
  - EU-wide cap
  - Auctioning will become the rule
    - 100% for power sector
    - Gradually increasing proportion for all other industries on the basis of benchmarking
    - Specific report on energy intensive industries in 2010
  - Fairness: 10 % of auctioning allowances to be redistributed to MS with lower GDP per capita
  - MS should earmark proportion of revenues from auctioning



## Unilateral scenario: EU Climate Action & Renewable Energy Package leaves only few questions open

- EU ETS links to international carbon market
  - Use of CERs
    - Maximum of 1.4 Gt for the period 2008 – 2020; could translate into up to 45 % of the reduction effort in 2013-2020
    - Banking of 2008-12 vintage of CERs/ERUs will be allowed
    - 2008-12 CDM projects will continue to deliver credits, scope & quality
    - Bilateral agreements on CDM post-2012 with the exception of LDC's
  - Expansion of carbon market through linking to national, sub-federal and regional company-based trading schemes possible
    - US States, Australia, New Zealand
    - International Carbon Action Partnership







## Unilateral scenario: EU Climate Action & Renewable Energy Package leaves only few questions open

- Sectors not covered under the EU ETS
  - use of CERs up to 3% of 2005 non-EU ETS emissions
  - tradable between Member States within the same year
  - could be between 30 – 60 % of reduction effort between 2013-2020



## Multi-lateral scenario: CDM in its present form could maintain meaningful carbon price

	Broad global participation	Autonomous domestic emissions reductions (EU-27)			
<b>EU-27 emissions target</b>	<b>- 31 %</b>	<b>- 21 %</b>		<b>- 31 %</b>	
	<b>With CDM</b>	<b>No CDM</b>	<b>With CDM</b>	<b>No CDM</b>	<b>With CDM</b>
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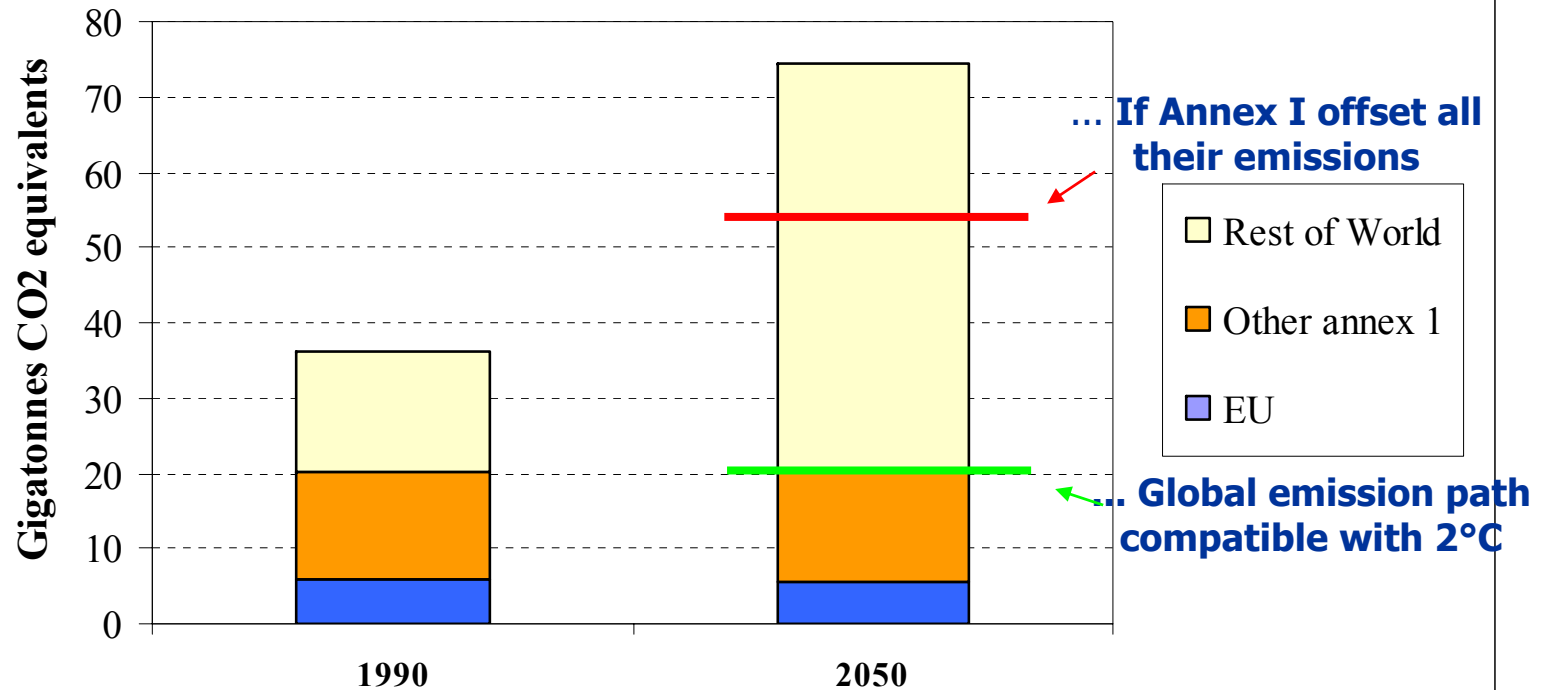
## Multilateral scenario: many open questions

- Role of emissions trading in a future framework
- Magnitude of emission reduction commitments from developed countries including banking of AAUs from 1<sup>st</sup> commitment period
- Role of CDM



# Offsetting alone cannot solve the global climate change problem

**Figure 1: Projected development of greenhouse gas emissions in different regions of the world**



Source: Greenhouse gas reduction pathways in the UNFCCC process up to 2025, CNRS/LEPII-EPE, RIVM/MNP, ICCS-NTUA, CES-KUL (2003).

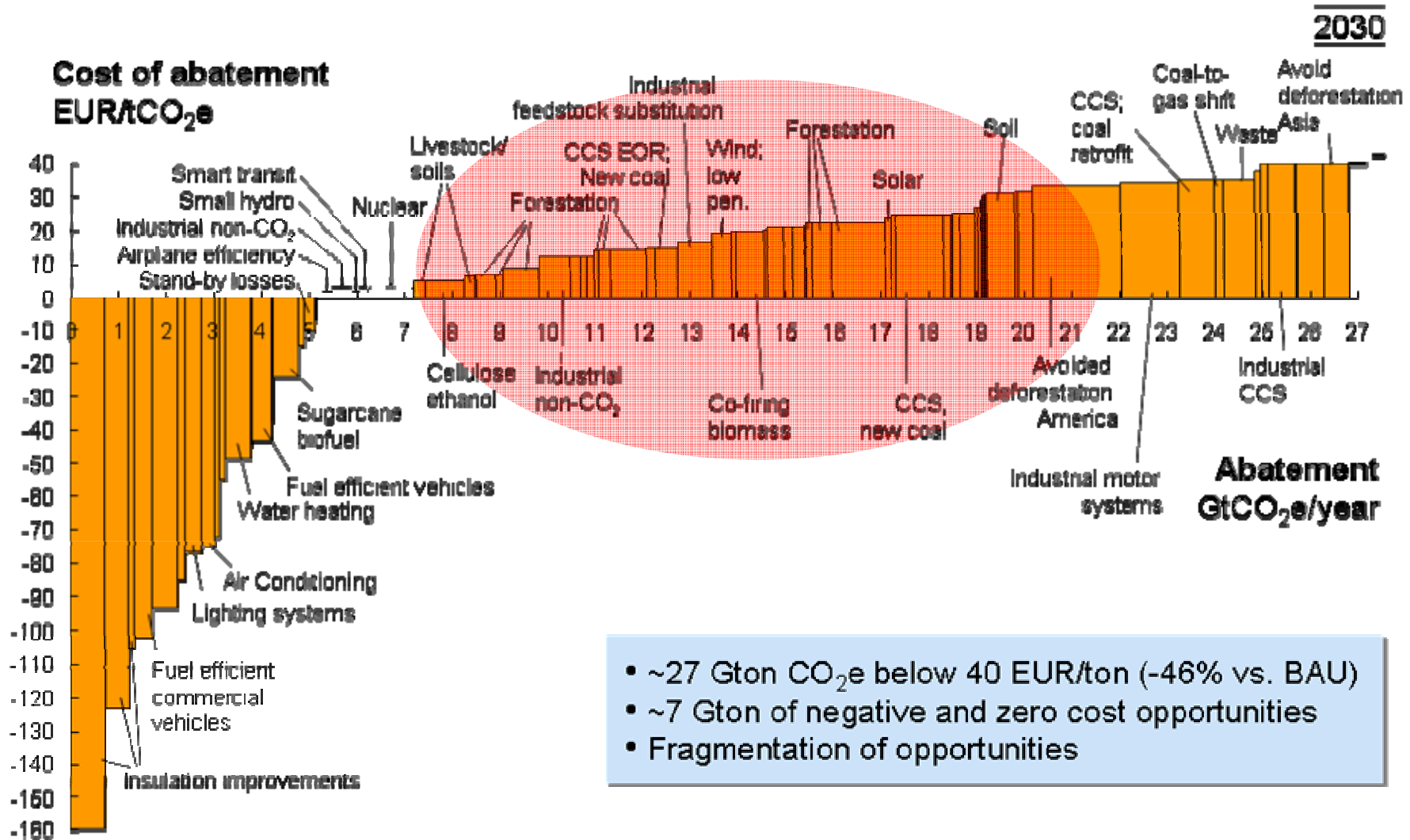


## Multilateral scenario: many open questions

- Role of emissions trading in a future framework
- Magnitude of emission reduction commitments from developed countries including banking of AAUs from 1<sup>st</sup> commitment period
- Role of CDM
  - not panacea to solve climate problem
  - political acceptability: very different in US, Canada



# Focus CDM on technology transfer



- ~27 Gton CO<sub>2</sub>e below 40 EUR/ton (-46% vs. BAU)
- ~7 Gton of negative and zero cost opportunities
- Fragmentation of opportunities



## Multilateral scenario: many open questions

- Role of emissions trading in a future framework
- Magnitude of emission reduction commitments from developed countries including banking of AAUs from 1<sup>st</sup> commitment period
- Role of CDM
  - not panacea to solve climate problem
  - political acceptability
  - focusing the CDM on technology transfer
  - role of forests
  - Offsetting vs. sectoral crediting mechanisms

CDMplus



## Conclusions

- EU, especially the ETS, will continue to drive the global carbon market, especially until 2012. CDM has picked up with great speed after a slow start.
- Unilateral EU-only post-2012 scenario: growth of the global carbon market from EU demand will be limited, depends more on level of ambition and design of new company-based trading systems outside the EU.
- Multilateral post-2012 scenario: the prospects of global carbon market will be bright. Deep emission reduction cuts could provide strong surge in demand for CDM.
- From off-setting to crediting: While CDM is not the panacea for solving the climate change challenge, it can make a significant contribution, and there are ample opportunities for improving the CDM.





**YOU CONTROL  
CLIMATE CHANGE.**



**TURN DOWN. SWITCH OFF. RECYCLE. WALK. CHANGE**

More information on EU climate policy:  
[http://europa.eu.int/comm/environment/climat/home\\_en.htm](http://europa.eu.int/comm/environment/climat/home_en.htm)