



# YOU'D BETTER BET ON THE ETS

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# Messages

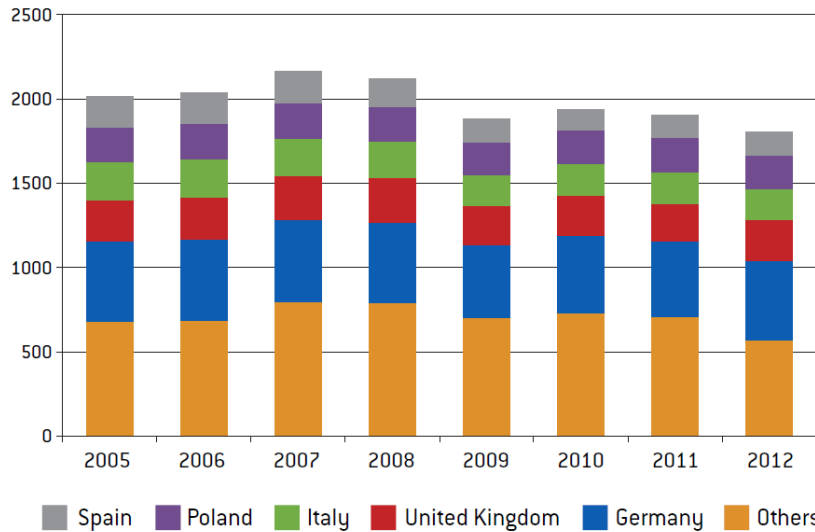
- **Emission Trading System can perform well**
- **A short-term surplus of allowances emerged**
- **Lack of confidence breaks inter-temporal arbitrage**
- **Subsequent price slump endangers the system**
- **Proposal: Reestablish confidence by selling insurances on the future allowance price**



# The ETS works!

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Figure 1: Country-level verified ETS emissions, million tonnes CO2



Source: Bruegel based on CITL.

Table 1: Relative change in the growth rate of emissions between (2005-05) and (2007-08)

Reductions caused by the shift to the second period	-3.6%**
Control variables	
Changes in turnover	19.1%***
Changes in employment	0.07%

Source: Abrell *et al* (2011). Note: significance: \*\* at 5% and \*\*\* at 1%.

**=> ETS is effective, i.e., caused additional emission reductions**



# The ETS works!

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Table 2: Relative change in the growth rate of emissions between (2005-06) and (2007-08) by sector

	Pulp & paper	Non-metallic minerals	Basic metals	Electricity & heat
Reductions caused by shift to the 2nd period	-2.9%	-8.7%***	-9.5%*	-0.1%
Control variables				
Changes in turnover	15.4%**	29.9%***	8.9%	13.6%**
Changes in employment	-6.2%	-4.6%	9.9%	1.2%

Source: Abrell *et al* (2011). Note: significance: \* at 10%, \*\* at 5 % and \*\*\* at 1%.

**=> ETS discriminates between sectors**



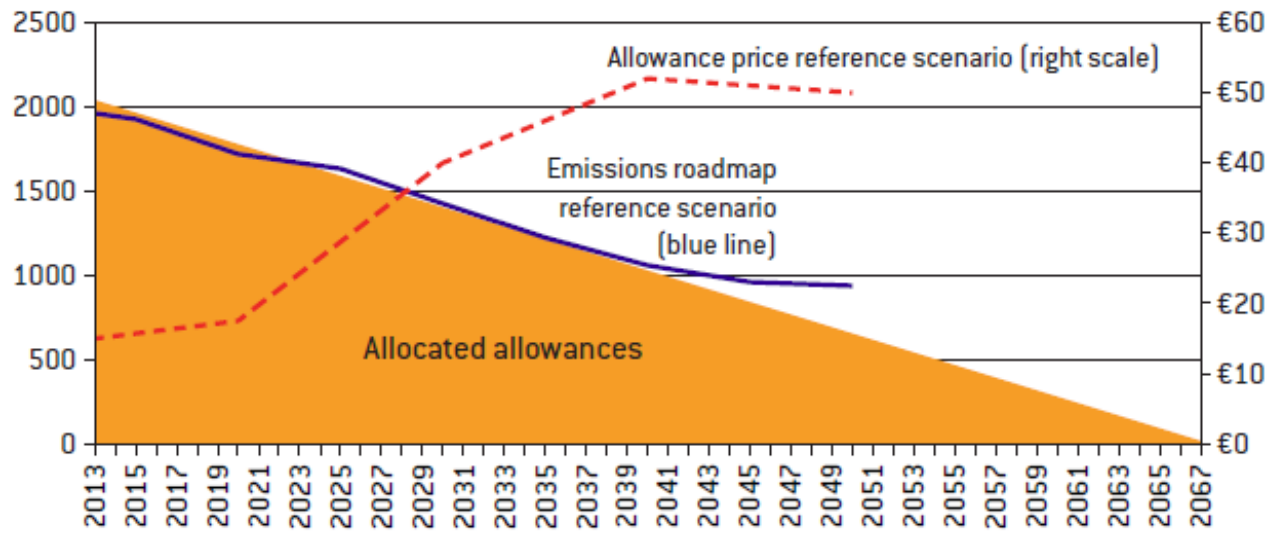
## A surplus in 2013

- **Recession:** industrial production grew from 2003 to 2007 by almost three percent per year, but decreased by almost two percent per year between 2008 and 2012.
- **Substituting policies:** 20 percent energy efficiency target as well as the 20 percent renewables target [increase in renewables would imply a carbon reduction of 41 million tonnes of CO<sub>2</sub> in 2012]
- **International credits:** 284 million tonnes per year in phase II
- **exceptional** allocation in 2012/2013: some additional 500 million allowances brought to the market (NER, NER300, early 3rd)



# The existing ETS implies high prices

Figure 3: Future development of the ETS (million tonnes CO<sub>2</sub>, left scale)



Number of allocated allowances 2013-2067: 56.6 billion

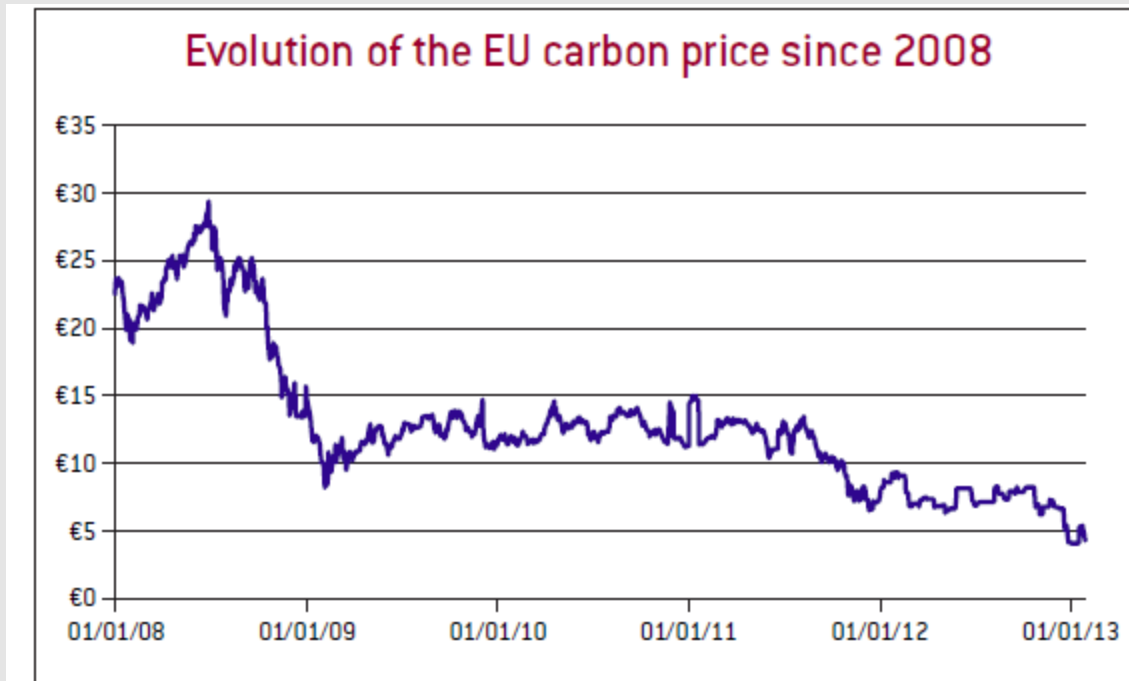
Number of allocated allowances until 2050: 51.2 billion

Number of allowances needed in the reference scenario up to 2050: 52.6 billion

- **System tightens constantly**
- **Intertemporal arbitrage should induce higher prices today**



## But, surplus translated into a price slump



Source: Datastream. Price per EU emission allowance.

- **Two possible reasons:**

- Structural oversupply (low growth, new technologies)
- No credible commitment (tools and incentives to deviate ex post)



# **Low prices are a problem!**

- **risk of locking-in high future emission patterns**
  - **encourages national emission reduction policies**
  - **encourages sectoral emission reduction policies**
- => self-fulfilling prophecy**





# Reestablishing confidence

- **Need for a long-term commitment device**
- **Selling guarantees on the future minimum carbon price (i.e., a put-option):**
  - Public money at stake -> market participants reassured of the long-term nature of the ETS
  - Targeted intervention -> can encourage investments today
  - In the central scenario a positive cash-flow for the public sector
  - Otherwise, cost of changing policies are socialised



## Example

- **EIB auctions off guarantees for buying 1 bn emission allowances in the year 2030 at €40**
- At current carbon price the value of the guarantee is about €25 => **significant upfront revenues**
- **Confidence in the system increases => present carbon price rises [risk free price is about €28]**
  - Enables low-carbon investment
  - Increases allowance auctioning revenues
  - Makes national decarbonisation measures redundant
  - Gives time for discussing structural tightening
- **If politically stabilising ETS by 2030 is successful, public sector makes money**
- **If politically stabilising the ETS by 2030 fails, the cost of early low-carbon investments is partly socialised**

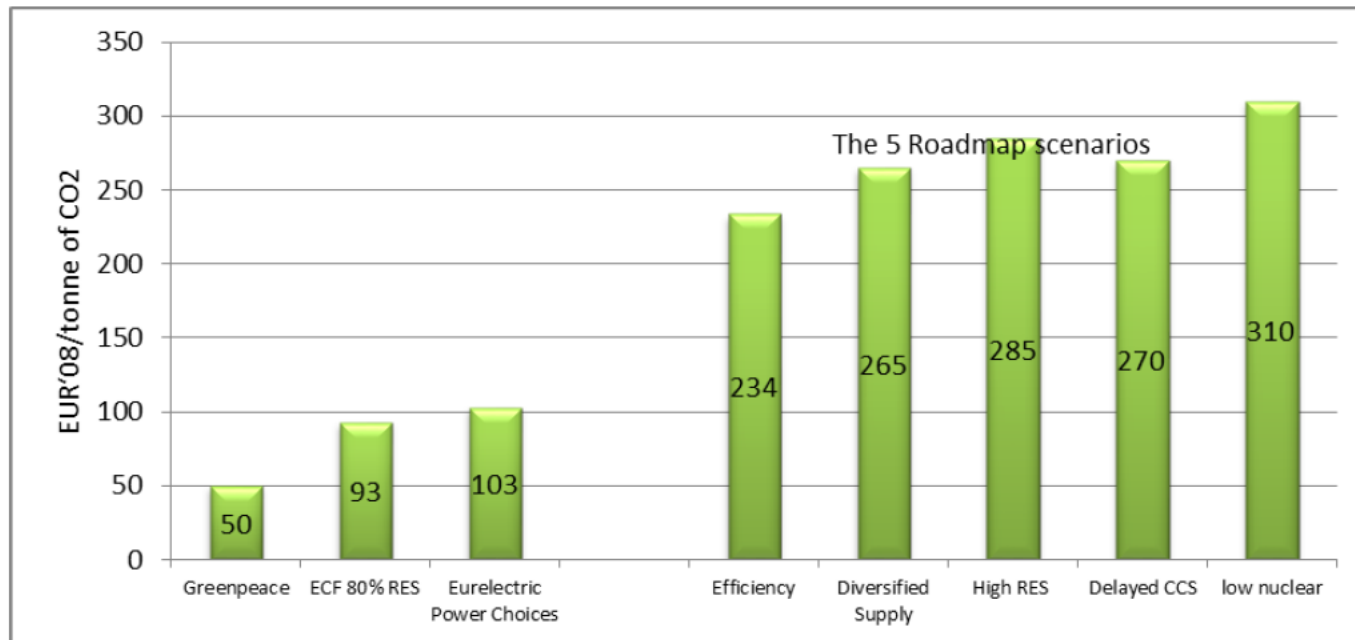


# Back-up



# Allowance prices at envisaged decarbonisation levels are likely to be higher

Figure 4: 2050 Emission prices



**Notes:** Greenpeace is the decarbonisation scenario of the Greenpeace/EREC (2010) “Energy Revolution” study. ECF 80% RES is a scenario of the European Climate Foundation– Roadmap 2050 study (ECF, 2010) that assumes 80% renewables. Eurelectric Power Choices is a Eurelectric (2009) study on cutting greenhouse gas emissions by 75% in 2050. Source: EC (2011c, p34), EC (2011d, p99)