



UNSW 2008

KYOTO MECHANISMS: SUCSESSES, CHALLENGES AND REFORM

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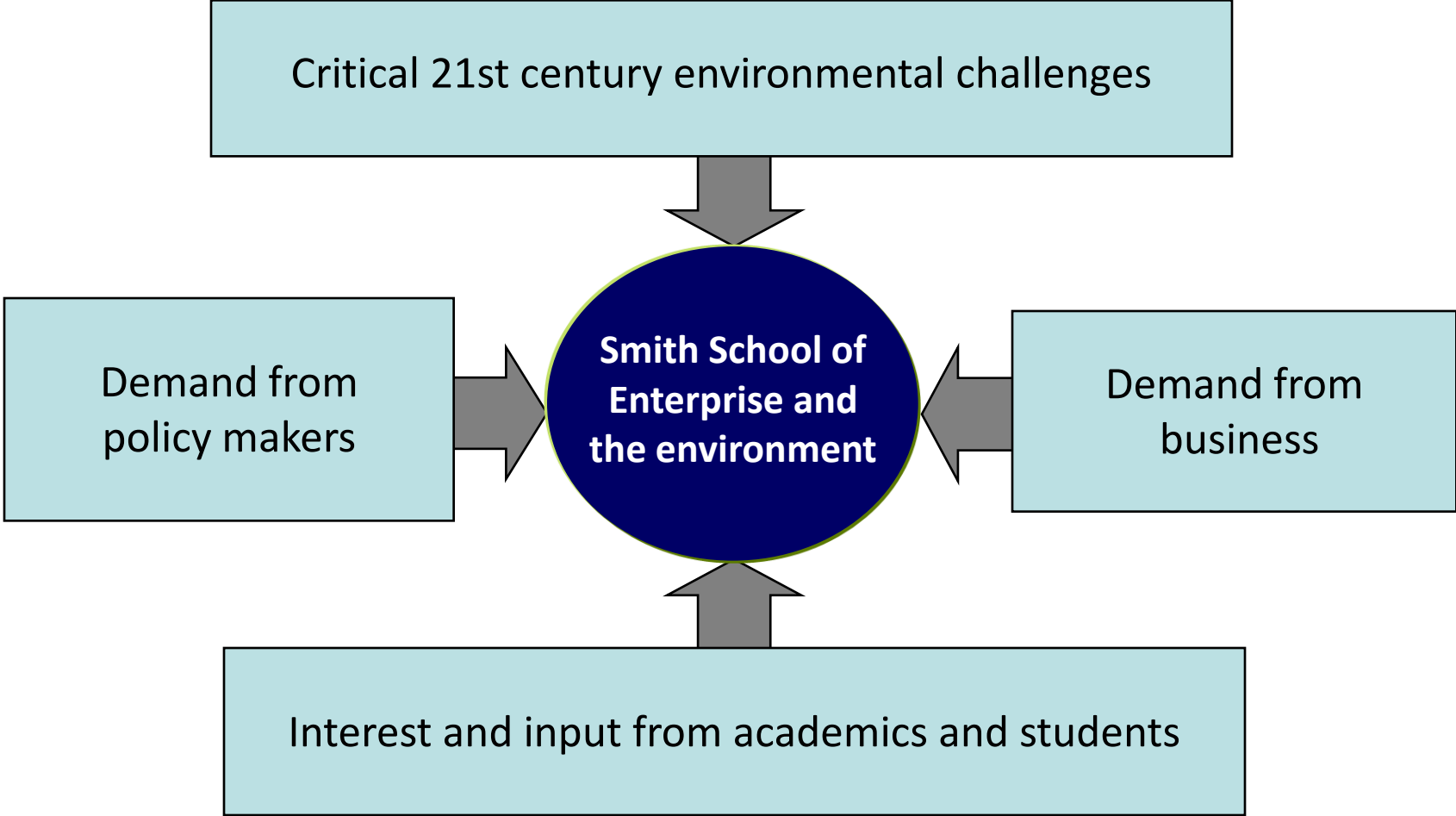
August 26, 2008



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MY RESEARCH

- Long-range ethics and economics (discounting)
- What is the right low-carbon policies? When are carbon taxes better than emissions trading?
- Emissions trading scheme design
- Policy-relevant science – alternatives to concentration targets?
- What does actual evidence about human behaviour (biases and inconsistencies) imply for environmental policy?

OTHER INTERESTS



Climate Bridge Sample VER Projects


19 August 2008

Please note: This is only a selection of Climate Bridge portfolio. We are happy to prepare bundles of alternative projects of different sizes, standards, and technologies to optimally meet your needs.


Wind power	
Type of project	Pre-registration
Standard	VCS 2007 (possibly GS VER)
Estimated issuance	November 2008*
Est. Annual ERs	100,927**
Est. Available VERs	50,000
Vintage(s)	2008
<p>Note: This high profile project is supplying renewable power to the Beijing Olympics Games and is the first wind power plant in Beijing. Please inquire for more information.</p>	



Coal Mine Methane Electricity	
Type of project	Pre-registration
Standard	VER+
Estimated issuance	Issued!
Est. Annual ERs	41,348**
Est. Available VERs	81,200
Vintage(s)	



Medium hydropower (<20 MW)	
Type of project	Pre-registration
Standard	VCS 2007
Estimated issuance	Nov 2008*
Est. Annual ERs	68,535**
Est. Available VERs	90,000
Vintage(s)	2007, 2008



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Defra

Peer Review: Reform of the Clean Development Mechanism



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CLIMATE BRIDGE PROJECT EXAMPLES



Wind Energy

China (Hebei, Liaoning,
Nei Mongu, Jilin, Jiangsu
Xinjiang & Ningxia provinces)



Micro hydro-electricity

China (Yunnan, Sichuan
Qinghai, Gansu, Hunan &
Fujian provinces)



Landfill incineration / methane

China (Jiangsu, Hubei,
Guangdong, Sichuan & Shanxi
provinces), Taiwan



Coal mine methane

China (Shanxi, Henan,
Hubei & Heilongjiang
provinces)



Pig farm bio gas

China (Hunan, Guangxi
& Jiangxi provinces)



Energy Efficiency

China (Hubei, Sichuan,
Xinjiang provinces),
Philippines



Biofuels & biomass

China (Sichuan & Shanxi
provinces), Malaysia and
Indonesia



Cement

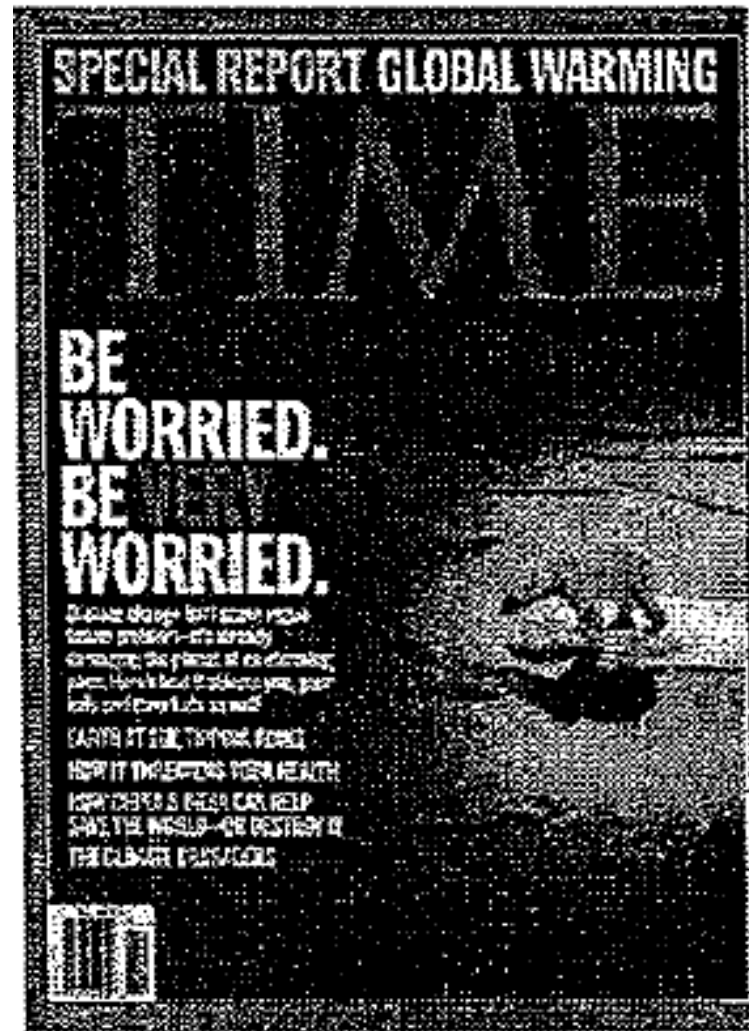
China (Ningxia, Sichuan
& Shanxi provinces)

AGENDA

1. Introduction
2. Big Picture
3. Market overviews
4. EU ETS Assessment
 - Achievements
 - Challenges
5. CDM Assessment
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6. Where to post-2012?
7. Discussion



INTRO: A LOT OF PRESS



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INTRO: FUSS OVER EMISSIONS TRADING

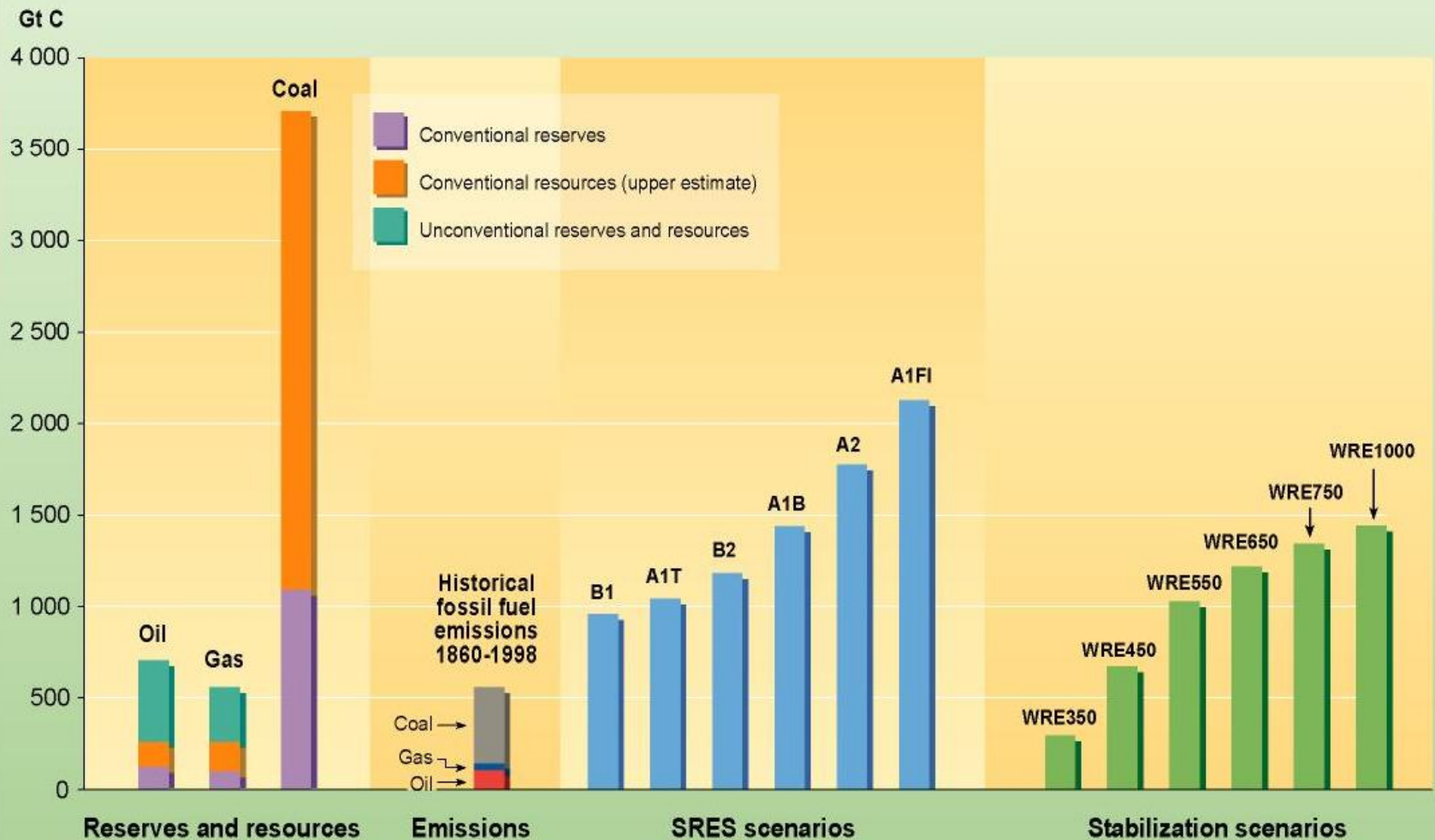
- Three Kyoto mechanisms are just forms of emissions trading
 - Emissions trading between rich countries
 - Joint implementation (JI)
 - Clean Development Mechanism (CDM)
- Theory of emissions trading is old
 - Pigou (1920)
 - Coase (1960); Dales (1968)
- Nothing new about practical experience
 - U.S. Acid Rain markets in SO₂ and NO_x in 1990s
 - Environmental markets in water, particulates etc
- CO₂ trading tested in U.K. emissions trading and NSW GGAS
- What is new? **SHEER SCALE**

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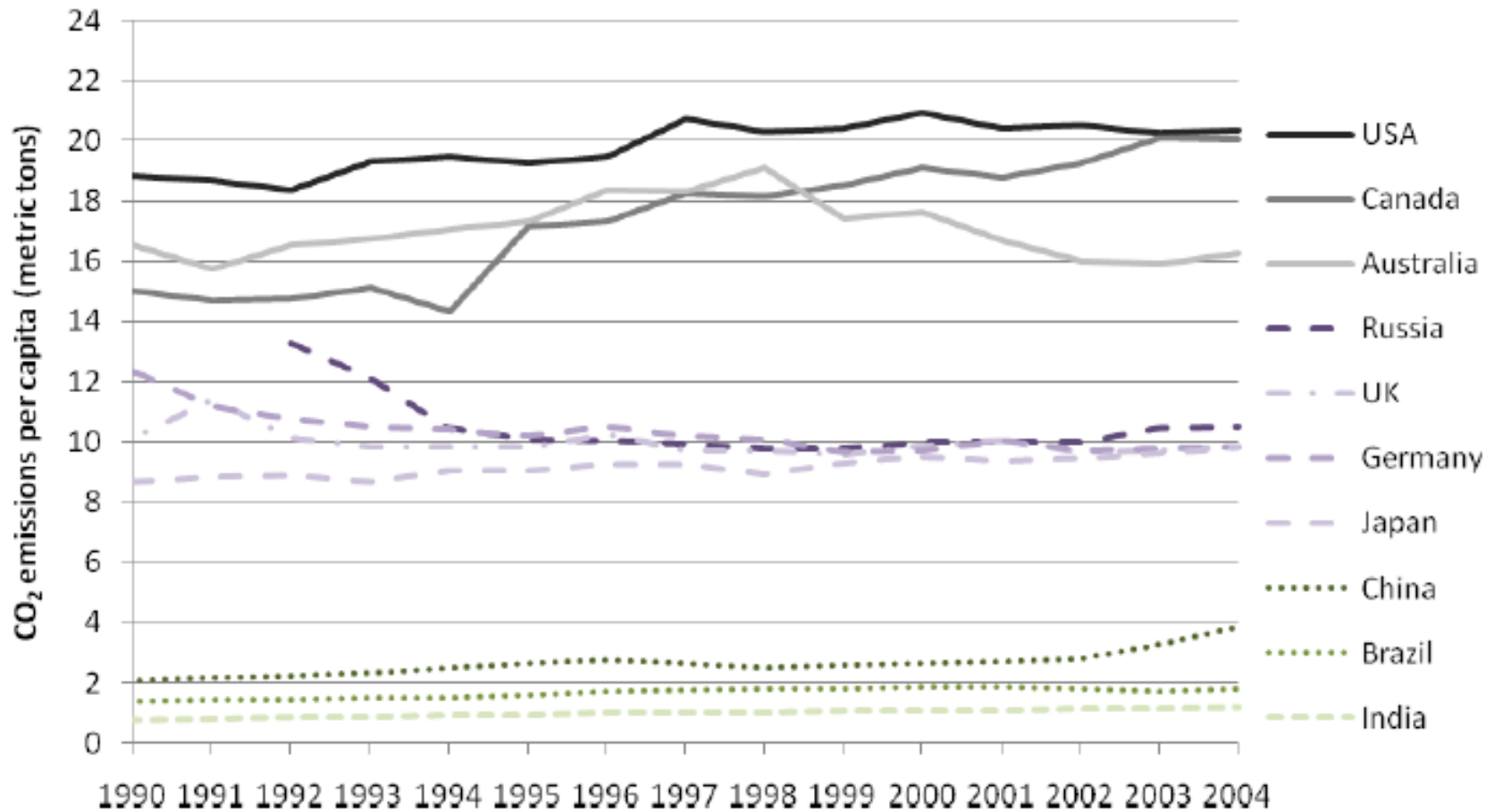
THE SCALE OF THE CHALLENGE

Carbon in fossil fuel reserves and resources compared with historical fossil fuel carbon emissions, and with cumulative carbon emissions from a range of SRES scenario and TAR stabilization scenarios up until the year 2100



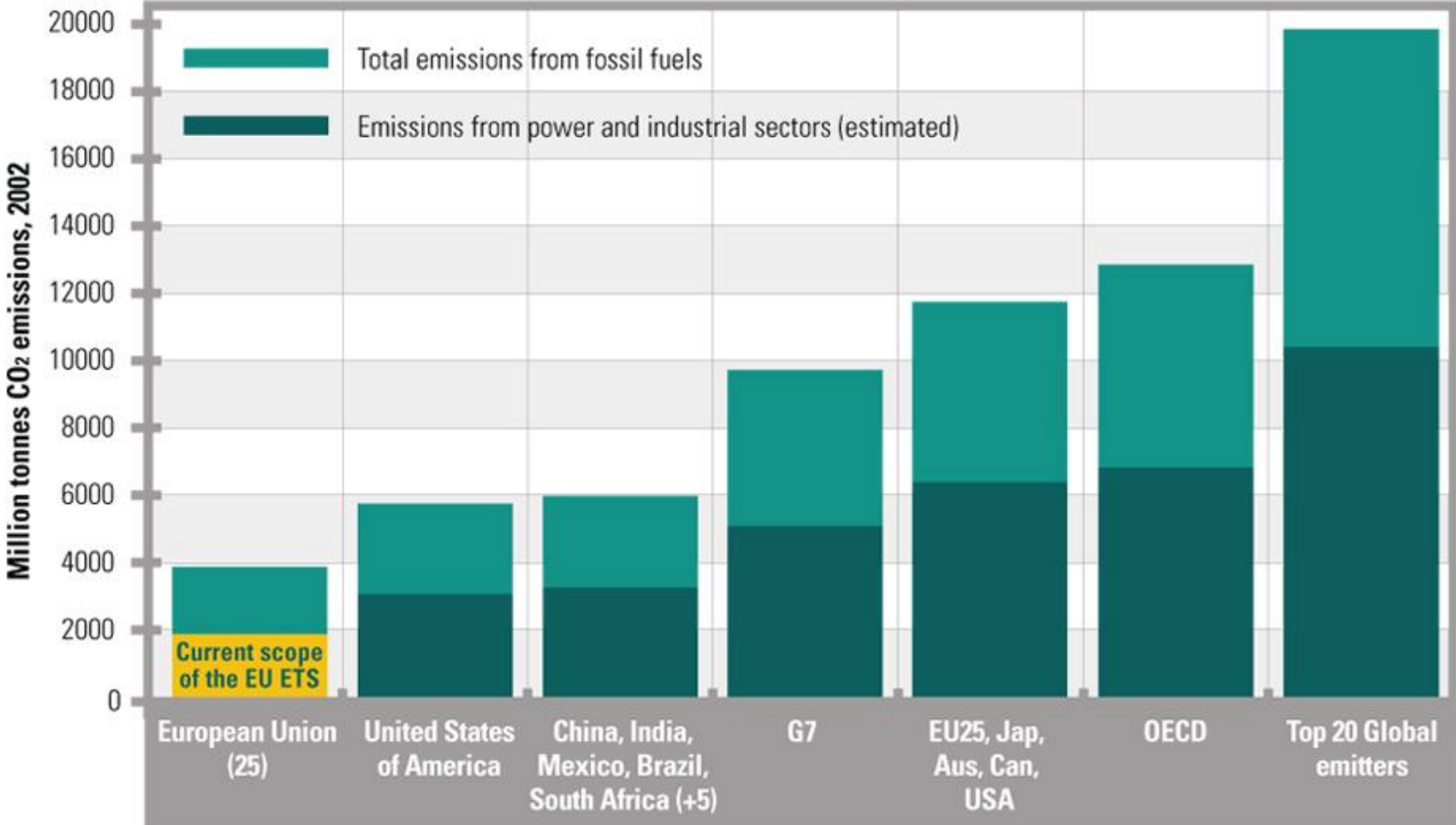


THE EQUITY IMPLICATIONS



Source: US Department of Energy's Carbon Dioxide Information Analysis Center (CDIAC) for the United Nations Statistics Division.

AND A LONG WAY TO GO YET



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Source: Stern (2007); adapted by Hepburn and ABN AMRO (2007)

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MARKET OVERVIEWS

- EU ETS: Over €40 billion traded annually
- CDM projects: several thousand in pipeline; around 1-2 billion tonnes to be reduced over 5 years, worth €10-20 billion
- JI projects: much slower progress

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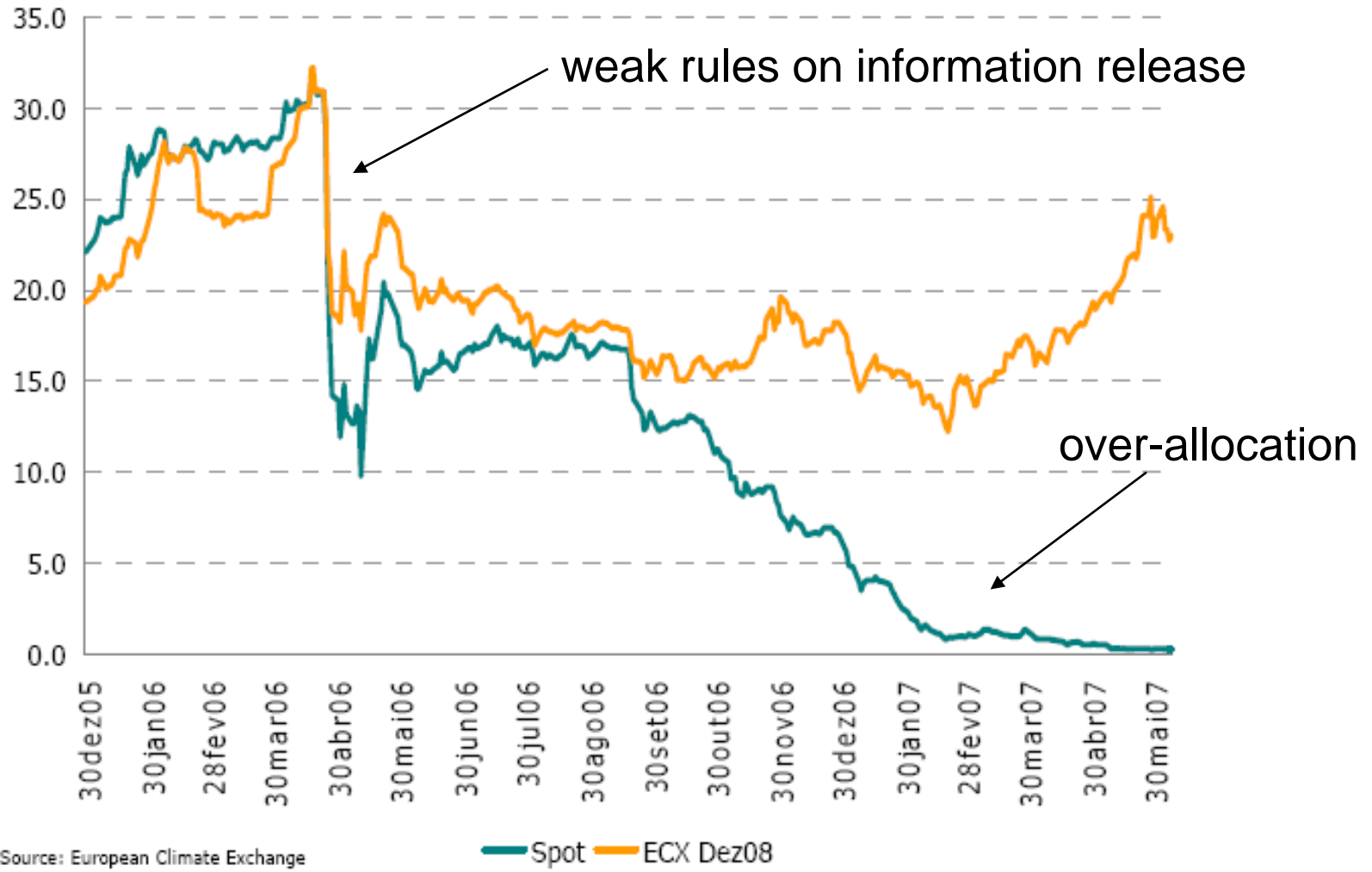
EU ETS ASSESSMENT

- It exists!
- It is reducing emissions
- It is putting a price on carbon

BUT

- Information problems
- Initial over-allocation problems
- Free-allocation and rent-seeking
- Abatement is modest
- Carbon price not long-term enough

LEARNING BY DOING (AND WATCHING)





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CDM ASSESSMENT

- China and India are actually at the negotiating table
- It is reducing emissions; closer to 1 than 2 billion
- It is reducing costs of compliance
- It is contributing to development in poorer countries
- It is putting a price on carbon in developing world

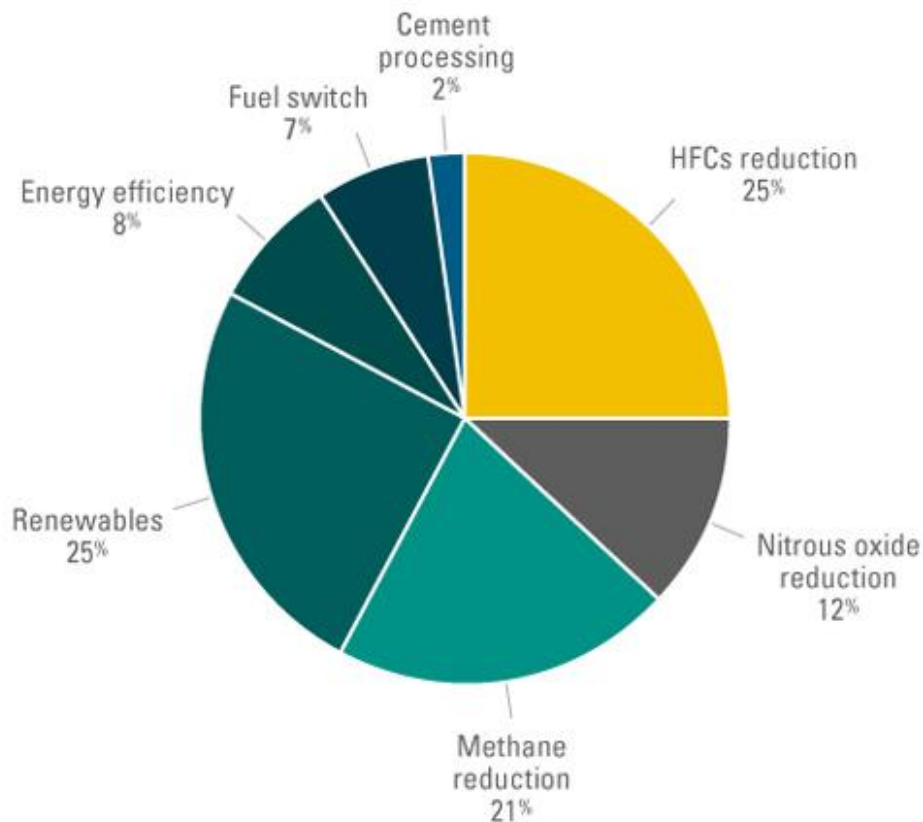
BUT

- Additionality problems
- Asymmetric information: adverse selection and moral hazard
- Effective as a market, not as a subsidy?
- Too small
- Need to transition towards global cap and trade

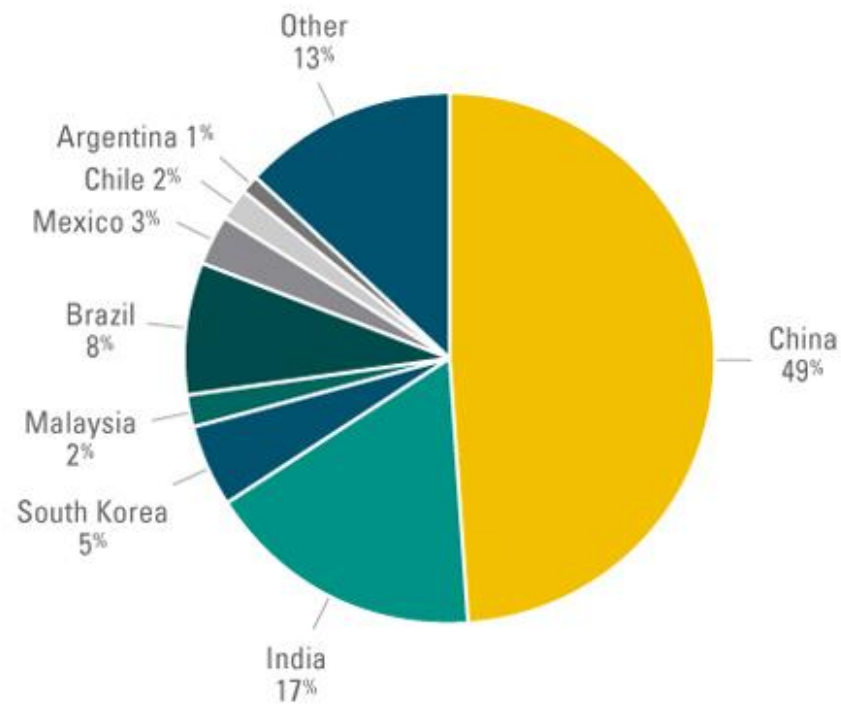
VARIETY OF COST-EFFECTIVE OFFSETS

- Projects around the world can produce credits ('offsets') for use on EU ETS, and also for voluntary use to be carbon neutral

Expected CERs issued to 2012 by sector



Expected CERs issued to 2012 by country

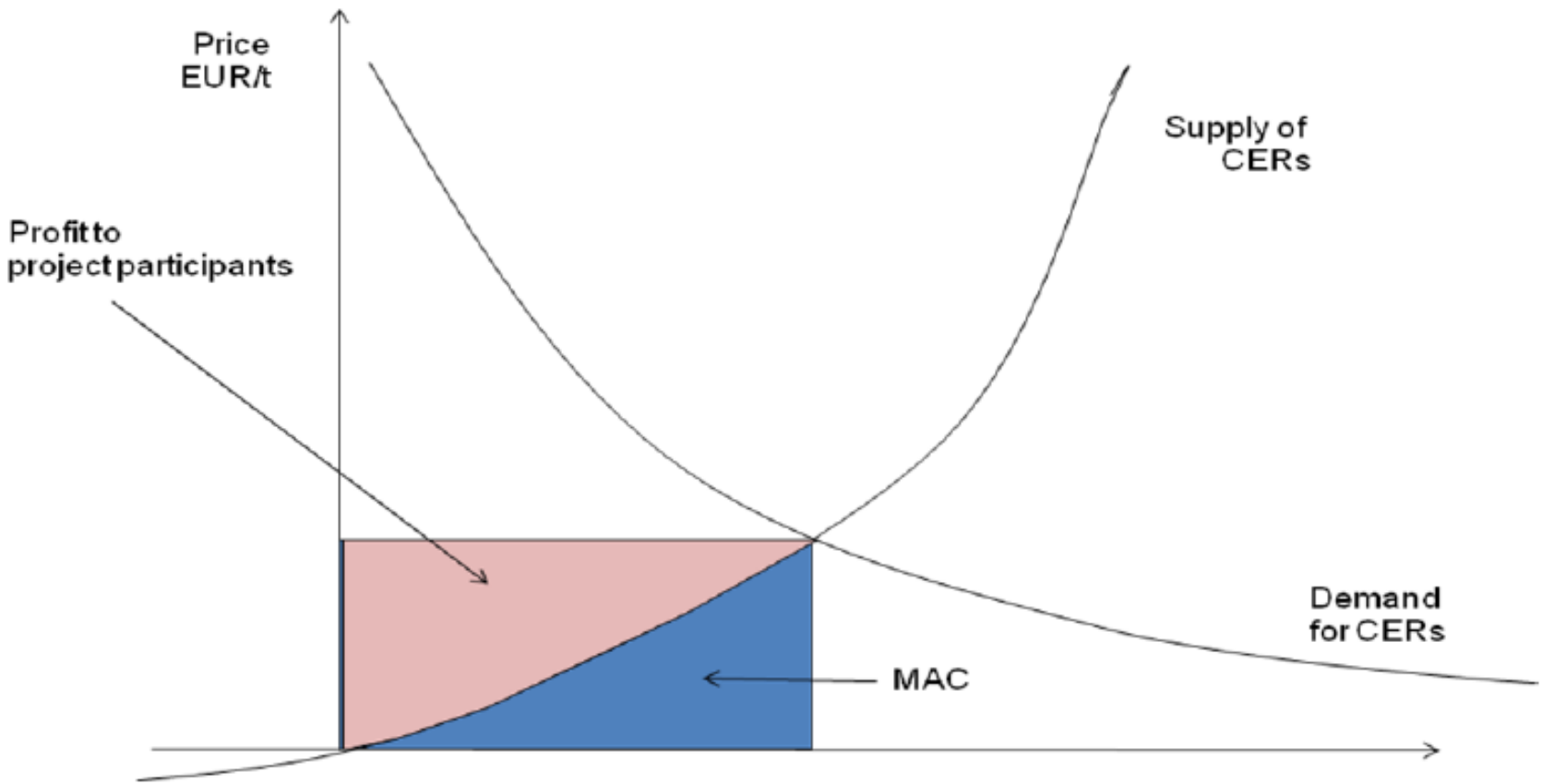


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Source: UNEP Risoe

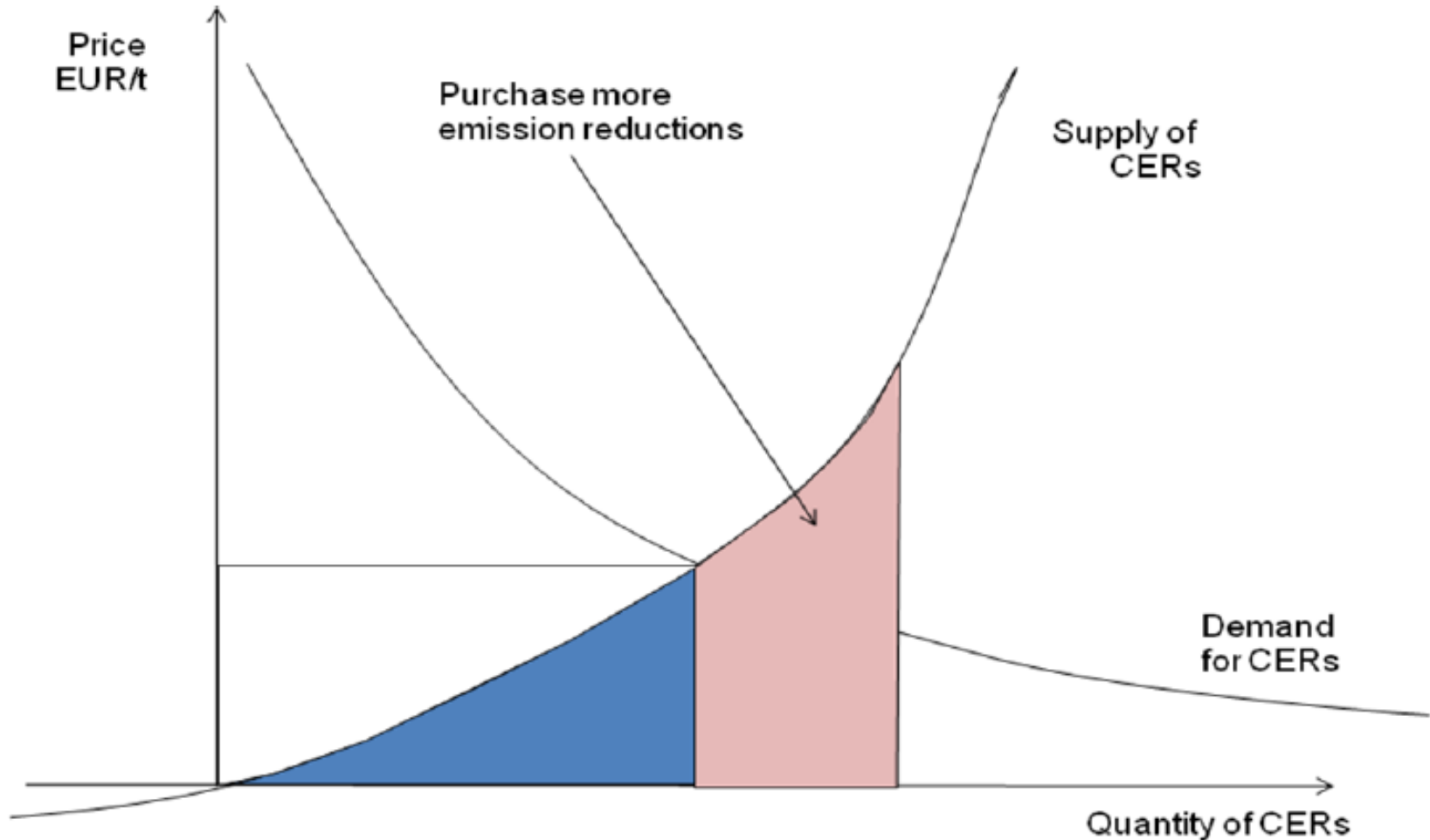
COULD THE MONEY BE BETTER SPENT?

Figure 1 Substantial rents currently flow to project developers



COULD THE MONEY BE BETTER SPENT?

Figure 2 Rents could be deployed to purchase more reductions



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Source: Vivid Economics

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WHERE TO POST-2012

GO WHOLESALE

- Programmatic CDM
- Policy CDM
- Sectoral CDM
- No-lose sectoral targets

ADDRESS ADDITIONALITY PROBLEMS

- CER Discounting
- Careful setting of benchmarks
- Dispense with concept?
- Commodity or currency?

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Thanks for listening

Questions very welcome!