

# **Carbon markets against climate change: global point of view**

**Grzegorz Peszko**

**World Bank**

**Senior Environmental Economist, Europe and Central Asia**

**11-12 April, Prague**

# Overview

- Market forces in work for low-carbon development
- Overview of global carbon markets
- EUETS
- Linking EUETS and project-based mechanisms
- International emissions trading

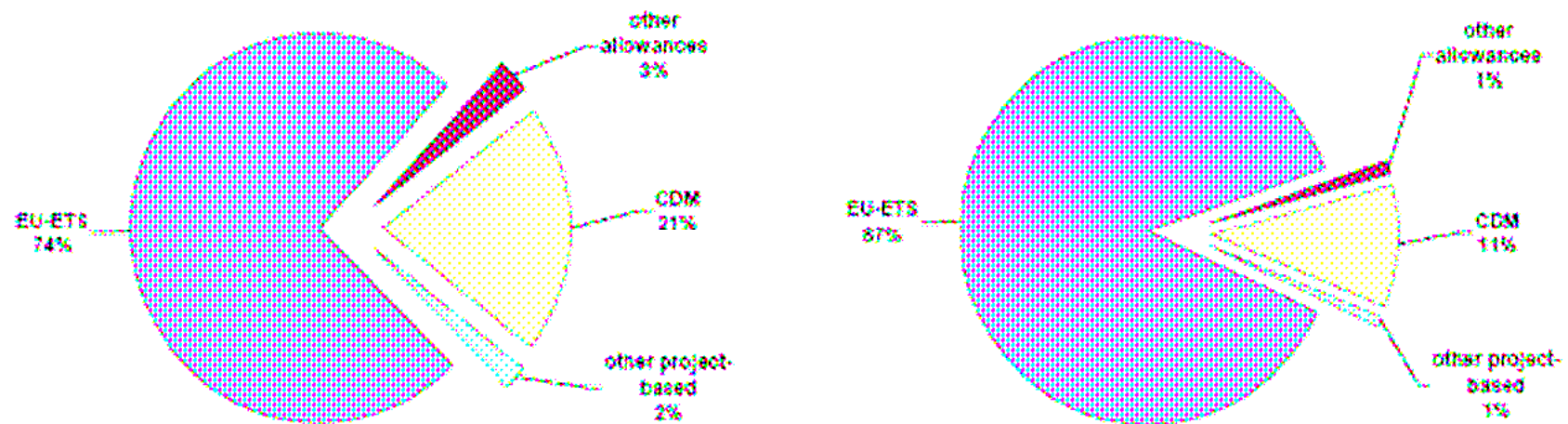
# Harnessing market forces for low-carbon development

- Science supports concern about climate change, popular support emerging in industrialized World
- But markets will not price environmental benefits unless societies are willing to pay for them
- Governments must turn social support into effective demand
- Without price signals there will be no private innovation and no investments in low carbon development
- Governments must create scarcity for emission rights if price is to emerge, or impose a tax
- Regulatory framework must be predictable in a long run (until 2050) to influence large investment decisions in power sector and industry
- Innovation and investments can fix supply side problem
- Changing consumption patterns through demand side measures especially in OECD countries will be inevitable to stabilize climate

# Global climate change game

- Countries would wish to participate in international commitments to mitigate climate change they are better-off (at least no worse-off) as compared with the alternative of not participation.
- Achievement of this may necessitate economic transfers:
  - explicit payments in cash
  - transfers in kind (technology transfers), or
  - implicit transfers, e.g. through generous allowances of tradable emission allowances under the international emission trading scheme
- Flexible mechanisms under Kyoto Protocol
  - Cash and technology transfers to bring developing countries to the game
  - JI and AAUs to make economies in transition assume emission targets
- After Kyoto economic transfers will shift to China, India, Brazil etc, and to keep Russia and Ukraine in
- Carbon trade is likely to confer the biggest flow of funds to developing countries - between US\$20 and \$120 billion per year
  - requires a long-term global regulatory framework (until 2050) with differentiated responsibilities – with intermediate targets – many possible designs
- Present annual flows through CDM and JI: about \$3 billion

# State of the Carbon Market 2006 – World Bank



**Figure 1: EU-ETS Takes All: Shares of Volume (left) and Value (right) Transacted in the Carbon Market (2006 until September 30)**

# State of the Carbon Market 2006 – World Bank

	2005		Q1-3 '06	
	Volume (MtCO <sub>2</sub> )	Value (MU\$)	Volume (MtCO <sub>2</sub> )	Value (MU\$)
<b>Allowances</b>				
EU ETS	324.31	8,204.48	763.90	18,839.79
NSW	6.11	59.13	16.19	184.07
CCX	1.45	2.83	8.25	27.15
UK-ETS	0.30	1.31	2.26	9.27
<b>Sub total</b>	<b>332.17</b>	<b>8,267.75</b>	<b>788.34</b>	<b>19,051.00</b>
<b>Project-based transactions</b>				
CDM	359.08	2,651.44	214.26	2,260.96
JI	20.85	100.89	11.86	93.88
Other compliance	4.51	36.72	7.92	60.02
<b>Sub total</b>	<b>384.44</b>	<b>2,789.05</b>	<b>234.05</b>	<b>2,414.87</b>
<b>TOTAL</b>	<b>716.61</b>	<b>11,056.79</b>	<b>1,022.39</b>	<b>21,465.87</b>

**Table 1: Carbon Market at a Glance, Volumes and Values  
for 2005 and 2006 (until September 30).**

# EU ETS

- In the first phase over-allocation slammed EUA prices, and shook credibility of the market, but was it politically inevitable?
- It was a learning experience for all market participants
- The Commission's decisions on Phase 2 NAPs have so far restored trust in the EU ETS
- But the second phase will be the test if member states can learn and if EC can be effective market maker (guardian of scarcity, rules and facilitator of information)

# Ideas for EU ETS review

- Maximum EU-wide cap for the trading sectors until at least 2020
- More trading sectors: trade-offs between efficiency and transparency/transaction costs
- Greater use of performance benchmarks in NAPs, but historical differences between EU15 and EU12 will remain politically important to ensure perception of "fairness"
- NAPs or EU-wide SAPs after 2012?
- More allocation through auction (with price stabilization measures)
- Competitiveness may require complementary measures (e.g. global/sectoral agreements, border tax adjustment) focused on vulnerable sectors (e.g. not power generation and utilities)

# Project-based flexible mechanisms

- EUETS drives demand for, and price of CDM/JI credits
- Can JI and EUETS coexist in Europe (double-counting)?
  - JI projects not directly impacting EUETS installations can be found
  - But broad interpretation of “indirect impact” crowds out many JI opportunities
- Window for JI is closing unless crediting possible after 2012 (e.g. World Bank continuation fund)
- Emerging markets in California, the eastern US and Australia may keep-up demand for project-based credits beyond 2012
- Difficult to scale-up project based credit markets because of transaction costs and complex procedures (although WB Umbrella Carbon Facility an effort)
- After 2012: more programmatic approach and reliance on country systems for validation/determination and verification (programmatic CDM, examples: Green Investment Schemes or JI track 1)

# International Emission Trading

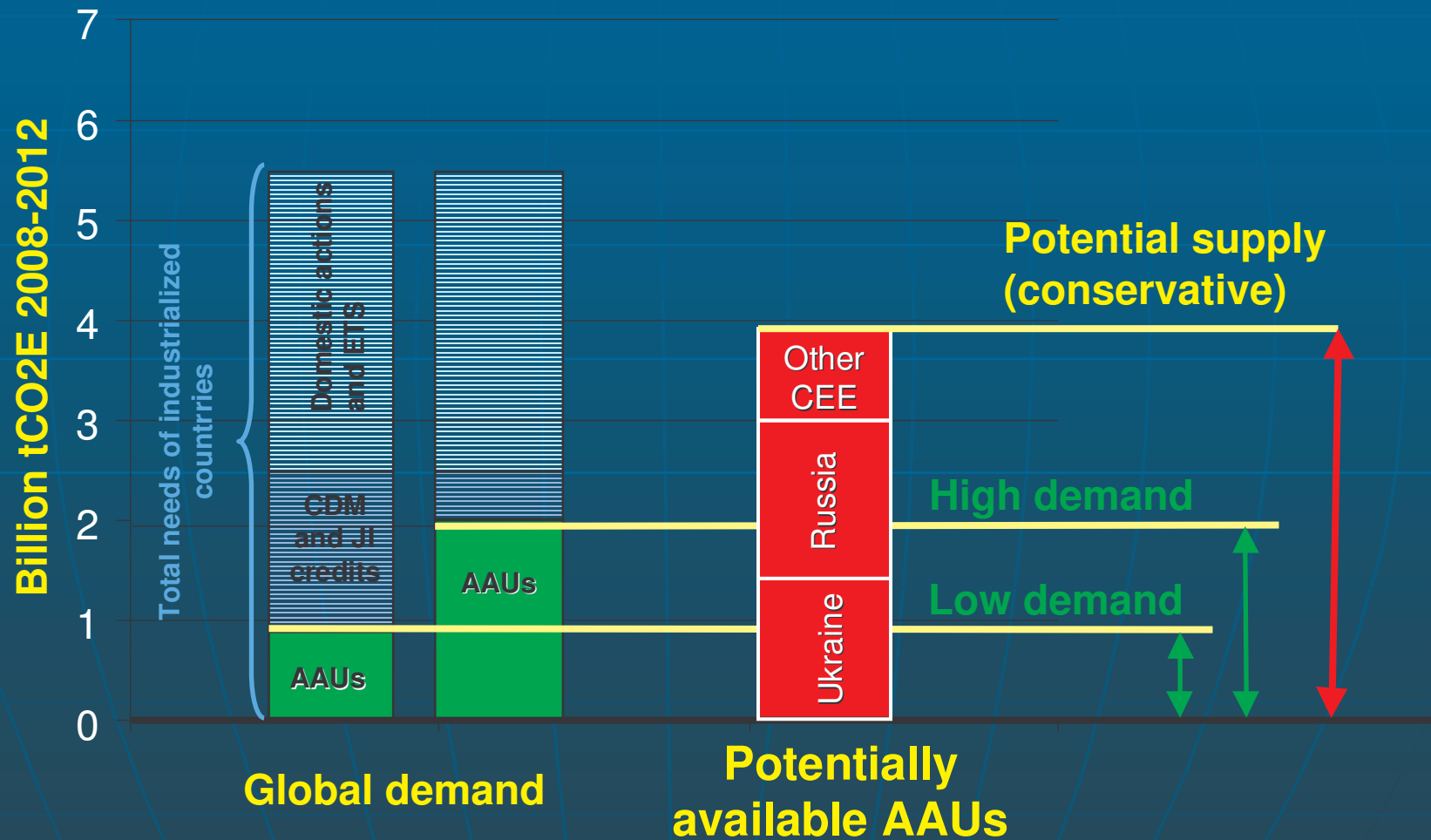
# What is a Green Investment Scheme?

A mechanism established by the selling country to assure buyers that proceeds from AAU trades will finance bilaterally agreed environmental projects and programs through and beyond 2012.

# JI Projects vs. GIS

- Kyoto Protocol Rules
- Direct "GHG reduction/ ERU" -link
- Project by project
- ERUs issued after physical GHG reduction
- Government & private sector market
- ERU fully fungible on different markets
- Direct transaction between project owner and buyer
- no "conditionality" on revenue use
- Revenue stream to 2012
- Large number of projects already implemented
- No Kyoto Protocol rules
- No direct "GHG reduction/ AAU traded" -link
- Programmatic/sector wide
- AAUs can be traded ahead of physical GHG reduction
- Market dominated by few governments
- AAU limited fungibility (e.g. not allowed under EUETS)
- Financial intermediary or fund structure used
- Scope and terms of revenue use negotiated bilaterally
- Revenues possible post-2012
- Less experience. WB supports market creation

# Supply of AAUs greater than demand



Source: World Bank estimates

# Global AAU surplus under different demand and supply scenarios

in million AAUs over 2008-2012	Russia out	Russia in with +1.5bn	Russia in with +3bn
Canada fully in	-719	781	2,281
Canada half in	-125	1,376	2,876
Canada out	470	1,970	3,470

Source: World Bank: Ukraine Options for Designing a Green Investment Scheme Under the Kyoto Protocol, 2007

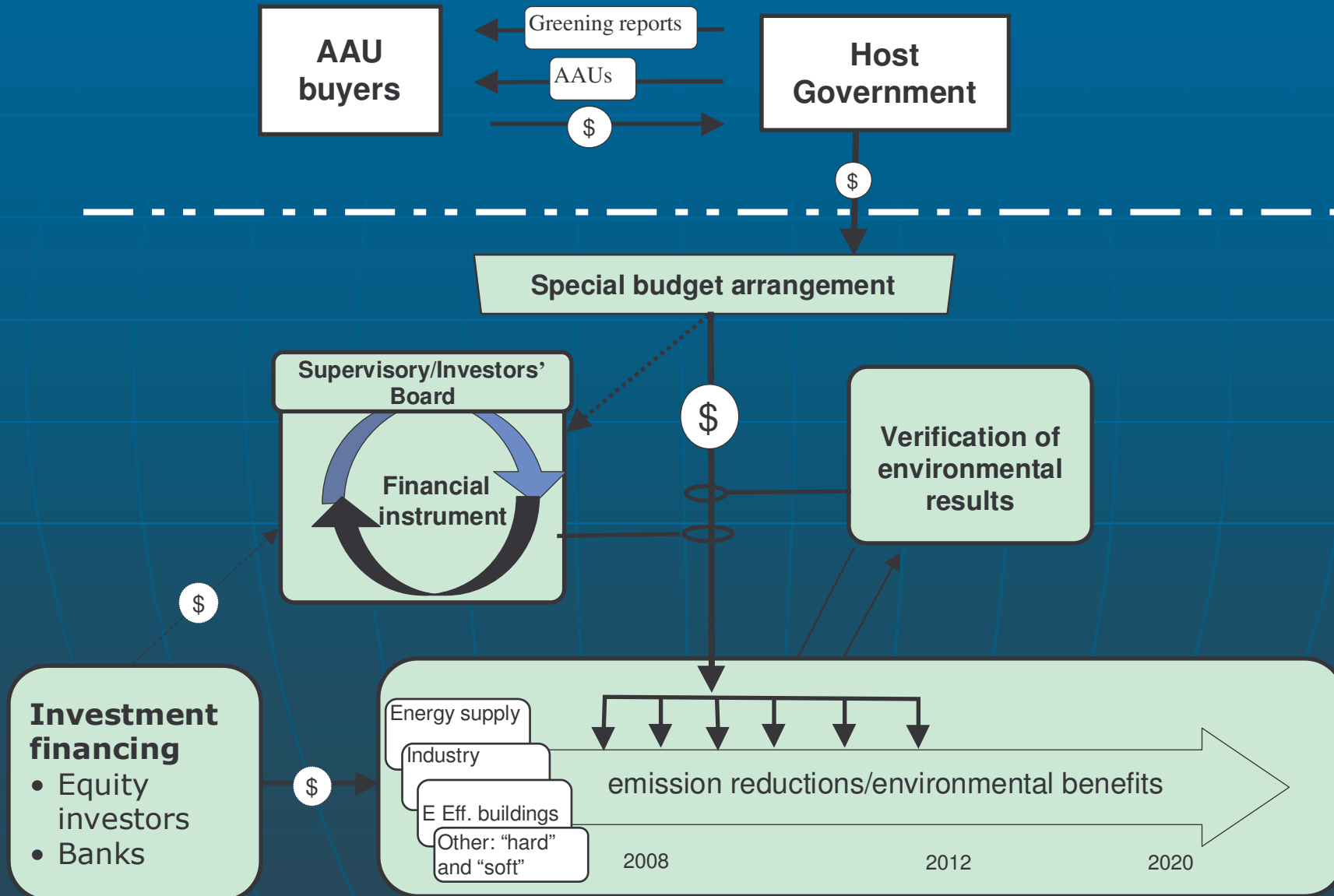
## Implications:

- Likely to be a buyers' market
- Sellers may have to be price takers
- BUT, some sellers can have more impact on trade terms than others
- Early movers could have advantage

# Buyers' and Sellers' Concerns

- Delivery of AAUs for compliance
- Transparency
- Accountability
- Efficiency, clear procedures/criteria
- Environmental integrity
- Legal authorization to trade AAUs
- Price

# Green Investment Scheme: Generic structure and financial flows



# AAU price

- Benchmark (ERU) + differentiating factors

Factor	Impact?
Kyoto Regulatory Risk	↑
Reputational Risk	↓
Project Risk	↑
Demand	↓

# State aid concerns limits on scope in EU countries

- AAU trading does not involve double counting in the meaning of the Linking Directive
- Unlike ERUs, under KP AAUs can be issued and transferred without any associated emission reductions
- There is no obligation to cancel EUA from the National Registry when the AAU is transferred
- However, state aid will be an issue, because if AAU revenues benefit EU ETS installations, they distort trade and competition within EU
- EU ETS installations effectively excluded from GIS
- More flexibility to use AAU revenues for projects with indirect impact on EUETS installations
- GIS can be designed in compliance with current and expected EU state aid rules

# World Bank support to GIS (1)

## ■ **Bulgaria:**

- GIS Options study finalized in 2004
- Next steps under negotiations

## ■ **Latvia**

- Options Study completed (de facto pre-feasibility study)
- A number of promising project ideas identified (support by Finland)
- Technical Assistance for implementation started, pilot forward transaction possible in 2007

## ■ **Ukraine:**

- Options Study completed.
- Technical assistance to support IET institutions and preparation of a pilot GIS programs and potential pilot transactions initiated

# World Bank support to GIS (2)

## ■ **Russia**

- Recent Government resolution to approve participation in AAU trade with GIS approach and request WB support (PHRD Grant for JI/EIT/GIS)

## ■ **GIS roundtables**

- Two roundtables were arranged for buyers and sellers in 2006

## ■ **World Bank could be made available to other countries**

# What other countries are doing?

## ■ **Slovakia**

- Small AAU forward sale concluded with private buyer in 2003

## ■ **Romania**

- MoA with the Netherlands signed
- GIS Options Study completed and pilot forward transaction possible in 2007

## ■ **Czech Republic, Hungary**

- Preparations to pilot transaction reported

## ■ **Poland**

- New draft law includes some ingredients needed for AAU trading

# How the World Bank can help AAU sellers

- Analytical and advisory services
- Assistance in establishing credible GIS
- Lending for underlying investments
- Partial risk guarantees
- Buyer (as a trustee of carbon funds)

# Is there a future for post Kyoto AAU trade

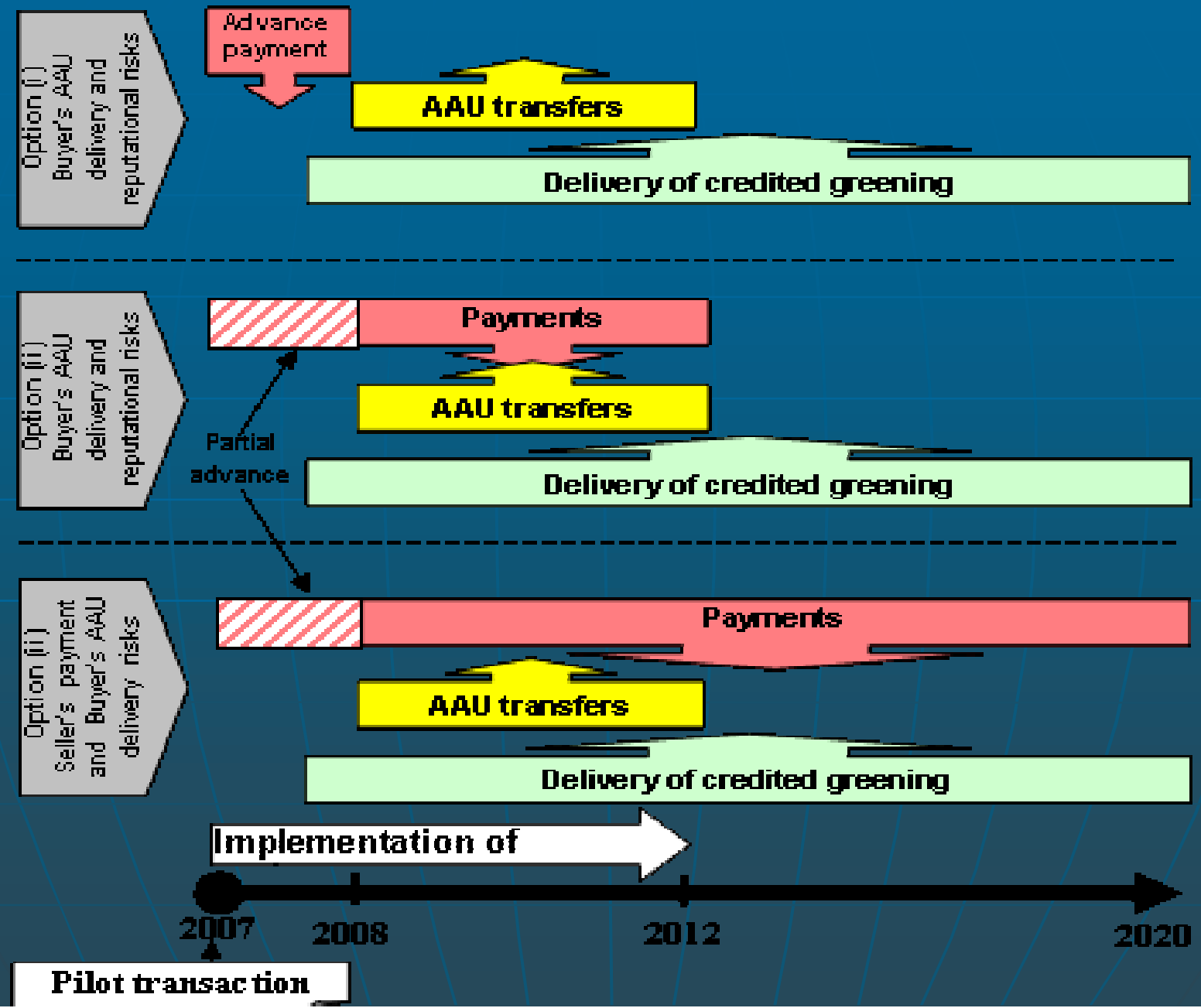
- Get rid of legacy of negative label of “hot air”: EU member states can establish golden standards for GIS credibility
- Demonstrate that AAU trade generate real cash for low-carbon investments
- Where would be a demand?
- Linking with EUETS?
- Will EU27 bubble transfer surplus AAUs free of charge from EU12 to EU15?
- Differentiated responsibilities needed: EU members on the buyers side; generous caps for new market participants

# Thank You!

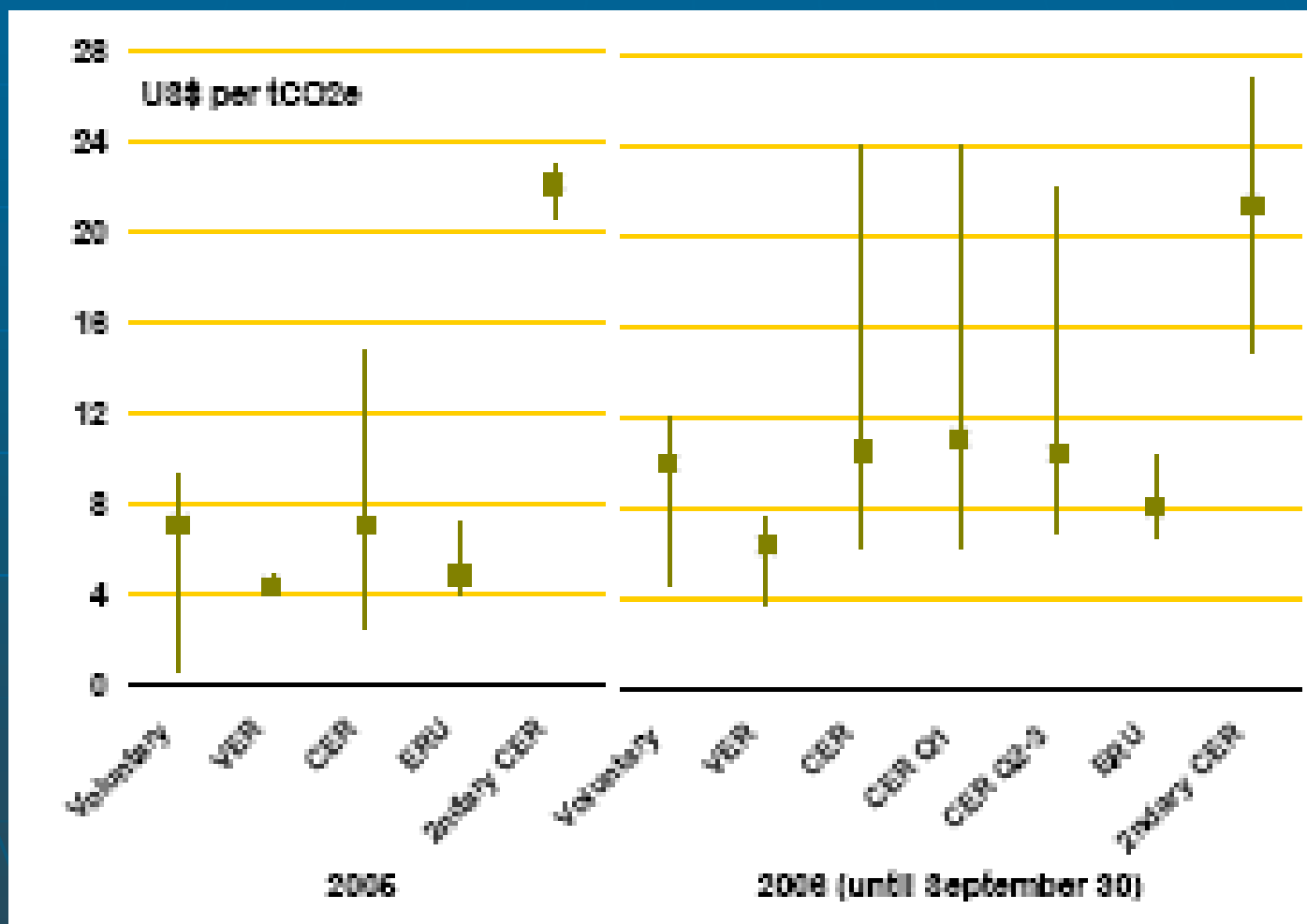
Grzegorz Peszko  
gpszko@worldbank.org

Back-up slides

# Flexible financing and delivery structures



# Observed Prices for Project-based Transactions in 2005 & 2006 (until Sep. 30)



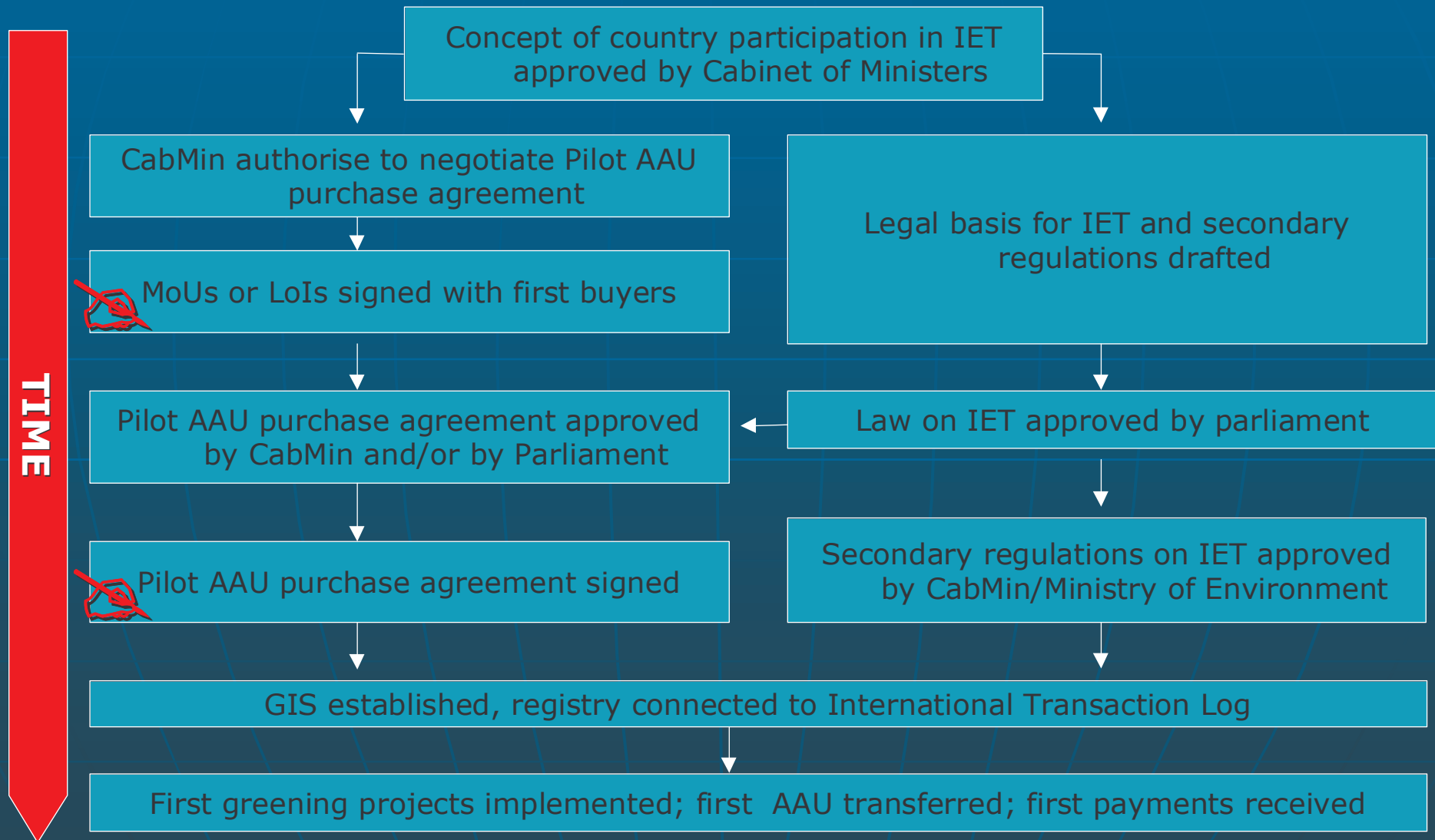
# Financing GIS projects

- Should make projects happen, include incentives to implement projects quickly, encourage efficient, result-oriented behaviors, and avoid distortions, particularly to financial markets and interest rates
- **Equity:** not always what project developers need most
- **Soft loans:** to those projects that do not have access to credit or equity
- **Investment grants:** for project preparation or construction milestones considered for some projects
- **Performance-based grants:** Best by most criteria; paid to projects upon delivery of verified milestones and results
- Projects eligible for GIS payments irrespective of how the underlying capital costs are financed
- GIS payment structure should leverage commercial credit for underlying capital investments against future cash flow from the GIS management agency, and should require some equity contribution from project sponsors

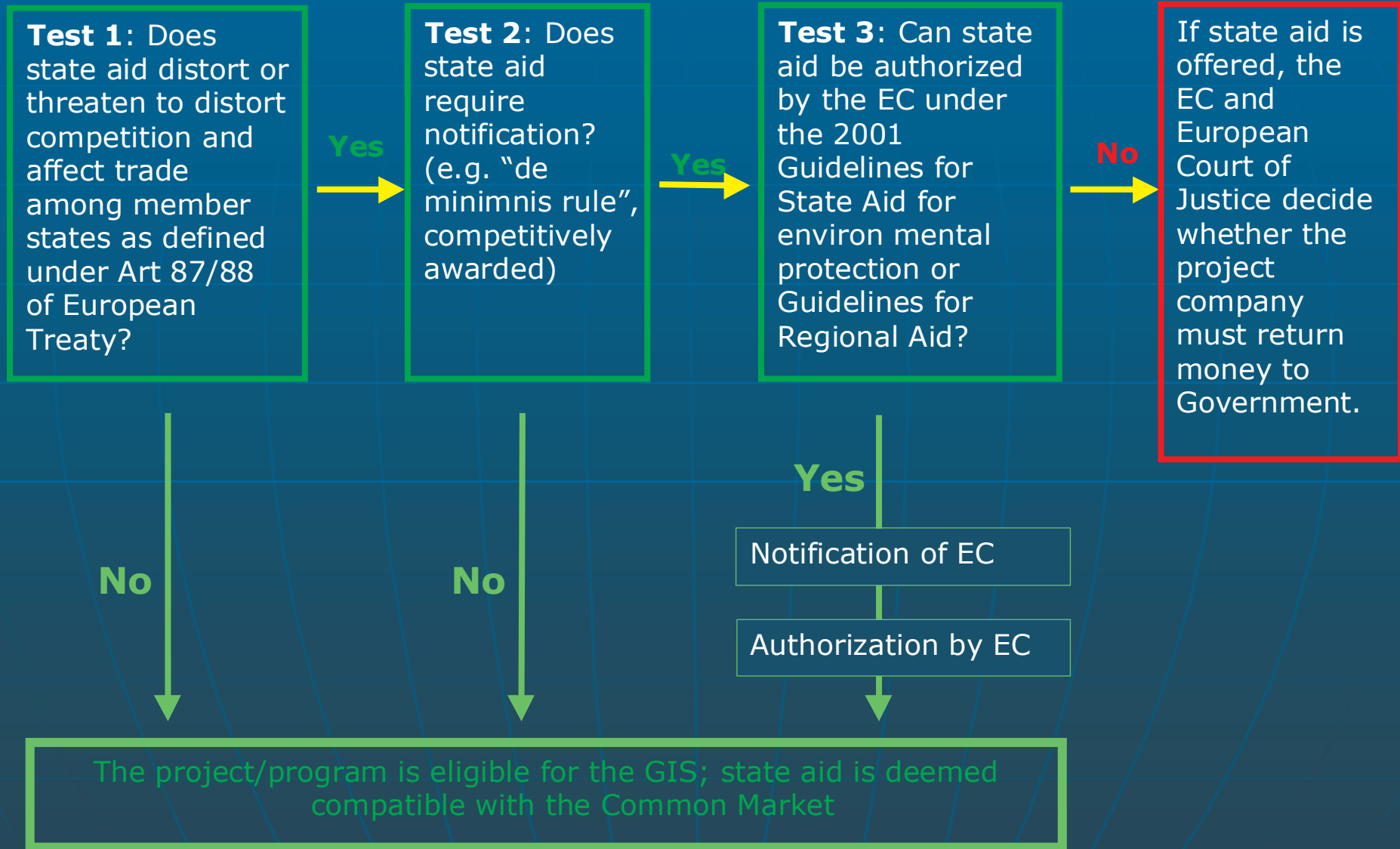
# Typical scope of national legal basis for participation in IET

- Definition of ownership of AAUs;
- Authorisation for the relevant ministries decide about trading, including negotiations and drafting AAU Purchase Agreements;
- Authorisation for the signing and approval of AAU Purchase Agreements;
- Principles for using the revenues from the sale of AAUs, including earmarking for environmental purposes;
- Special budgetary arrangements (fiscal and fiduciary rules);
- Responsibility for implementing the Green Investment Scheme, including the responsibilities of agency managing GIS, agency responsible for supervision, principles for environmental and financial monitoring, reporting and verification;
- Delegation of authority to the Cabinet of Ministers and relevant Ministries to pass executive regulations on the implementation of international emissions trading and a GIS

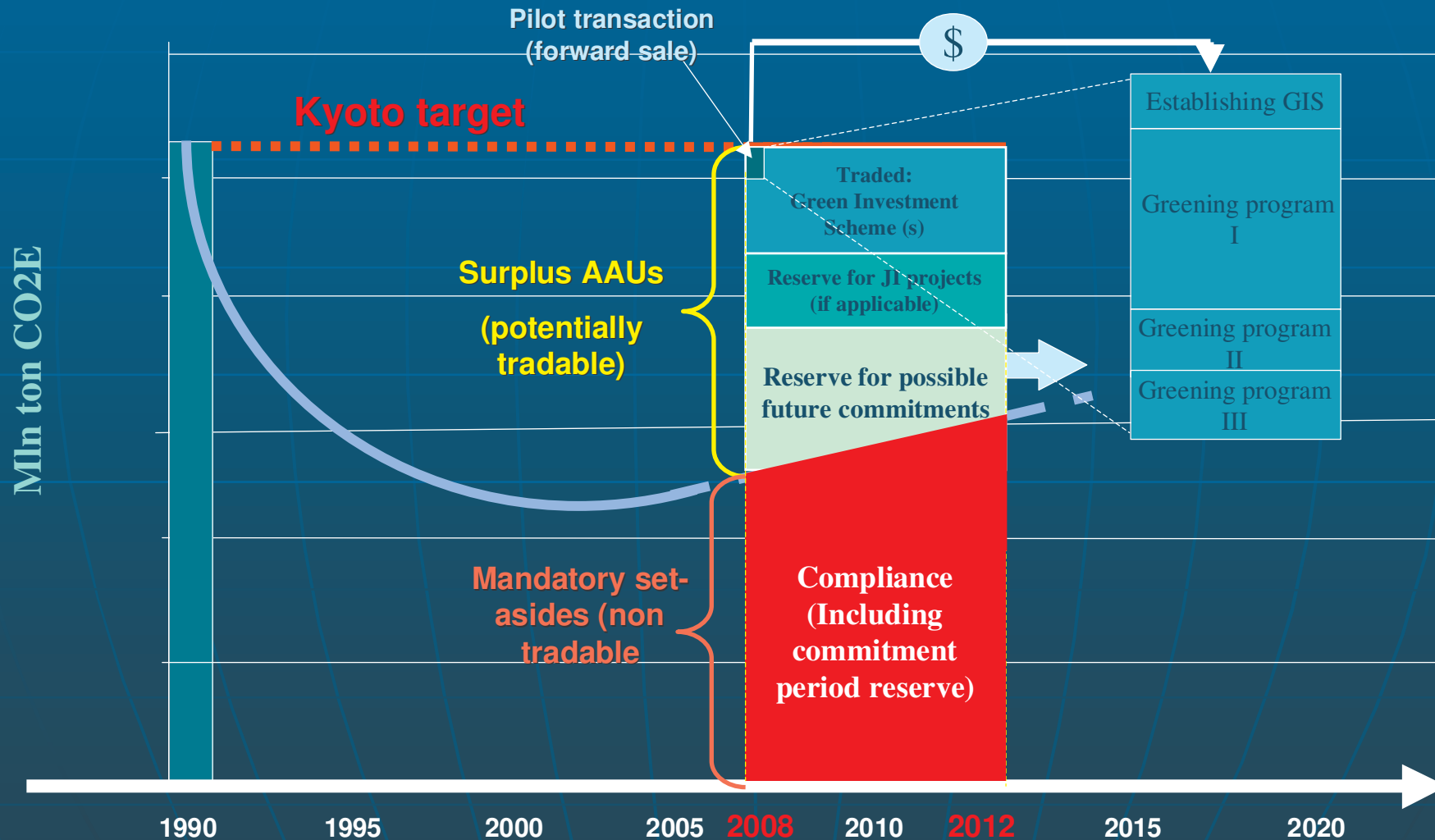
# Legal steps towards AAU trading



# EU Countries: State aid or not?



# Decision about strategic allocation of AAU assets



# JI and GIS replenish AAU assets

