



EMAN- Sustainable Supply Chains- 2007 Finland

The role of risk related to carbon finance in CDM projects

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- ➔ **1. Pöyry Energy Consulting in brief**
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- 2. Global carbon markets and Kyoto Mechanism (CDM and JI)**
- 3. CDM/ JI project credit procurement options and risks**

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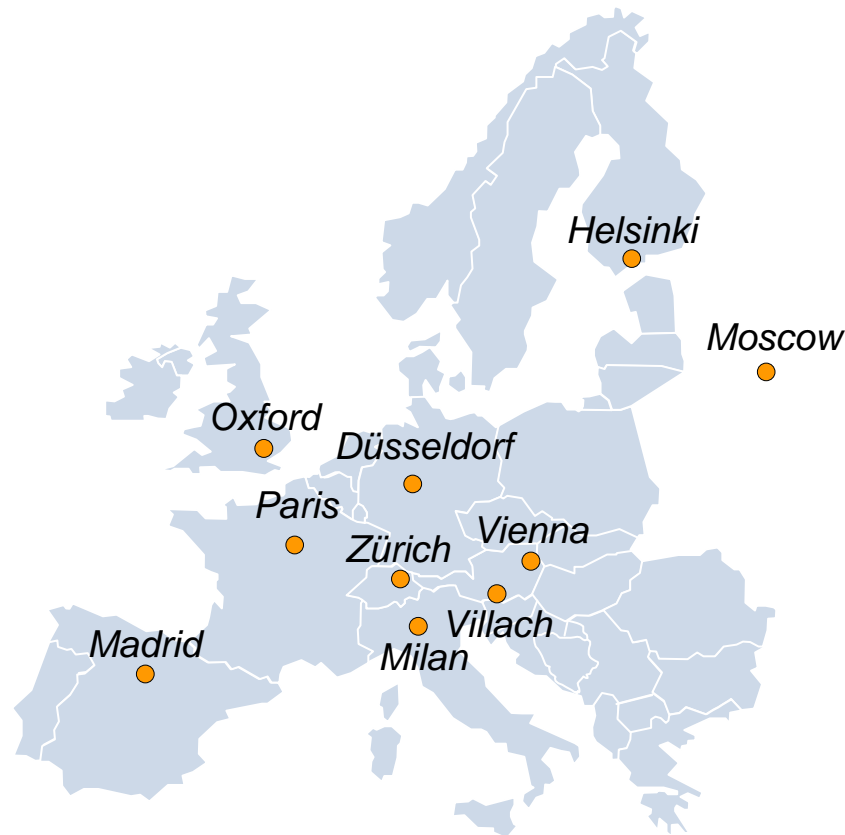


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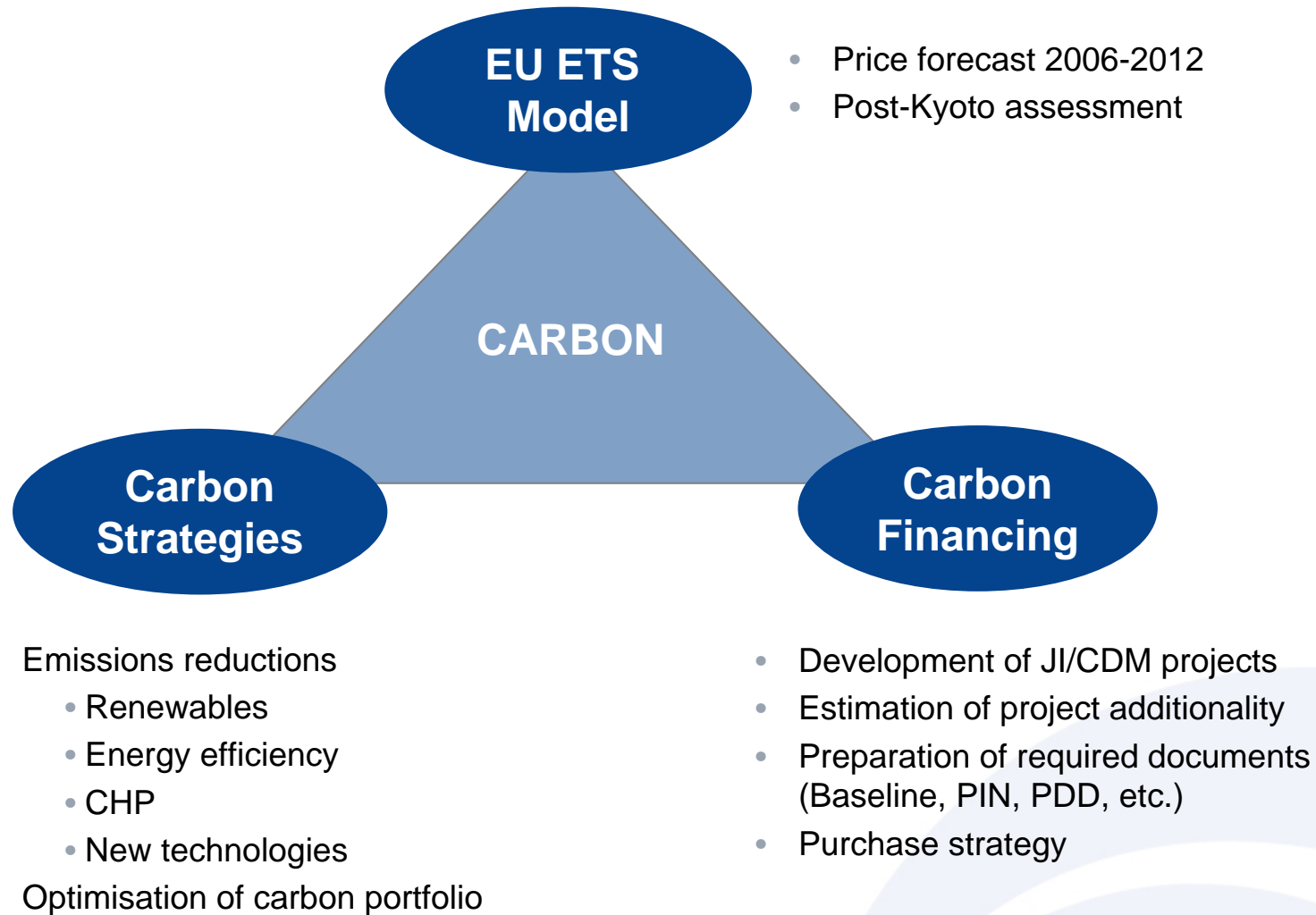
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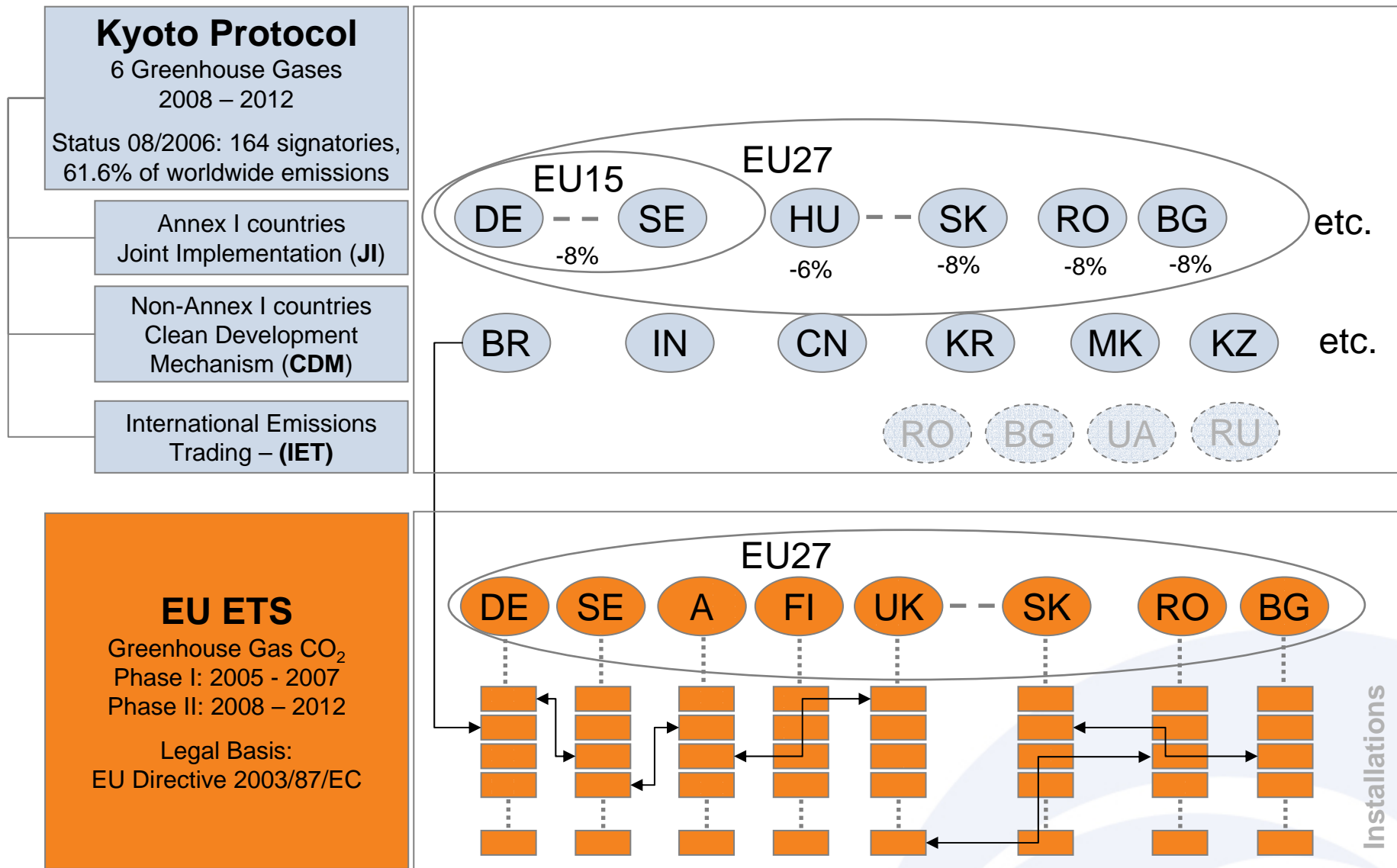


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 **2. Global carbon markets and Kyoto Mechanism (CDM and JI)**

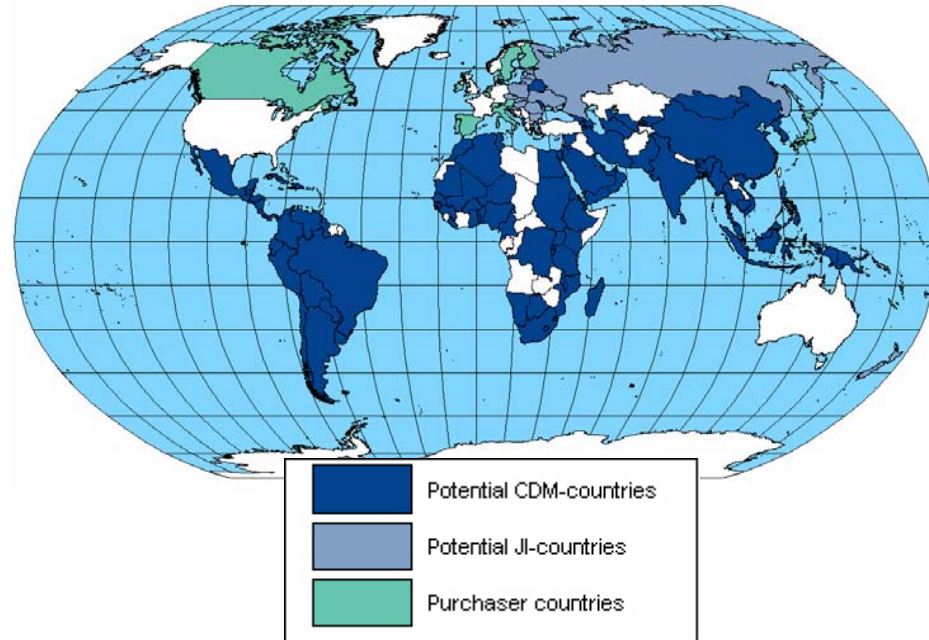
3. CDM/ JI project credit procurement options and risks

The Kyoto Protocol is the basis for regulating international GHG emissions and for the EU Emission Trading Scheme (EU ETS)

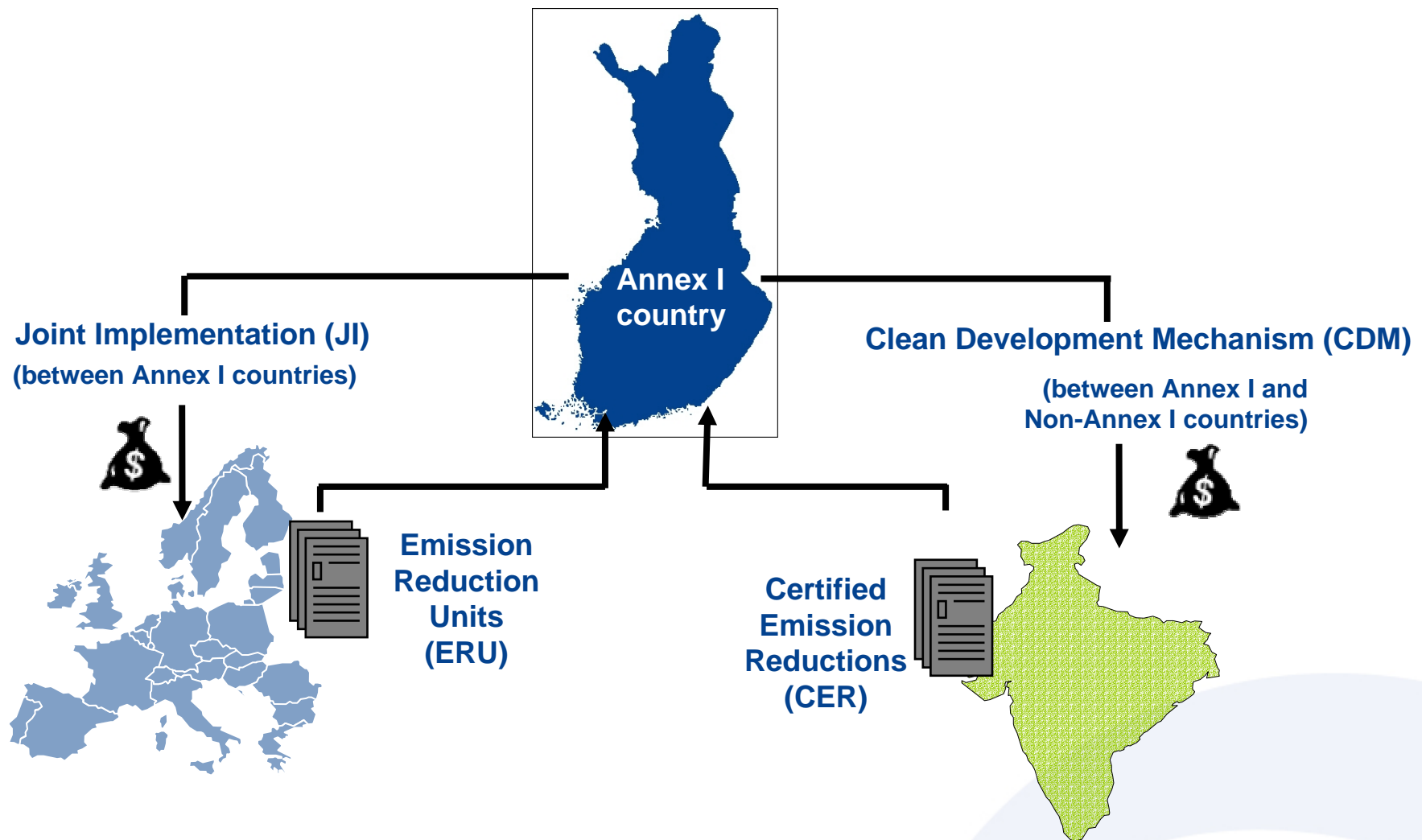


CDM and JI markets are global

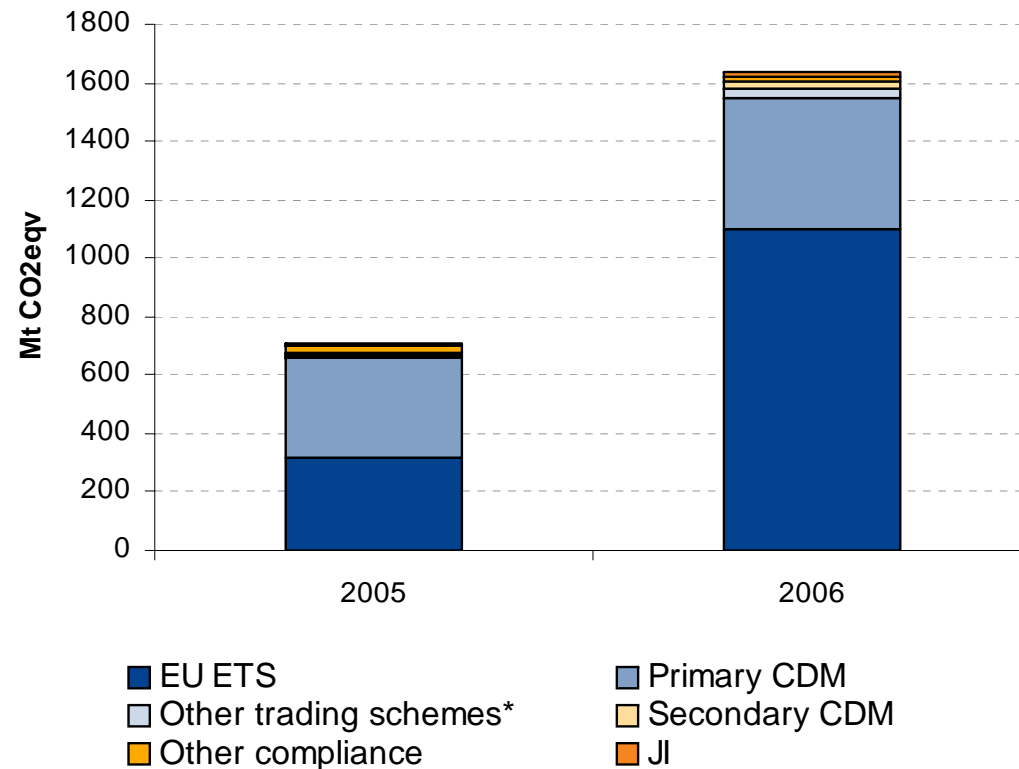
- JI/ CDM projects are investments that reduce GHG gases. E.g investments in:
 - energy efficiency
 - renewable energy
 - fuel switch
 - HFC& N2O reduction
- Key project host-countries countries:
 - CDM: China and India
 - JI: Russia
- Major CER/ ERU byers
 - European governments
 - Companies under EU Emissions Trading Scheme
 - Japan and Canada



For example Finland and Finnish companies can benefit cutting emissions more economically abroad than home though CDM/ JI



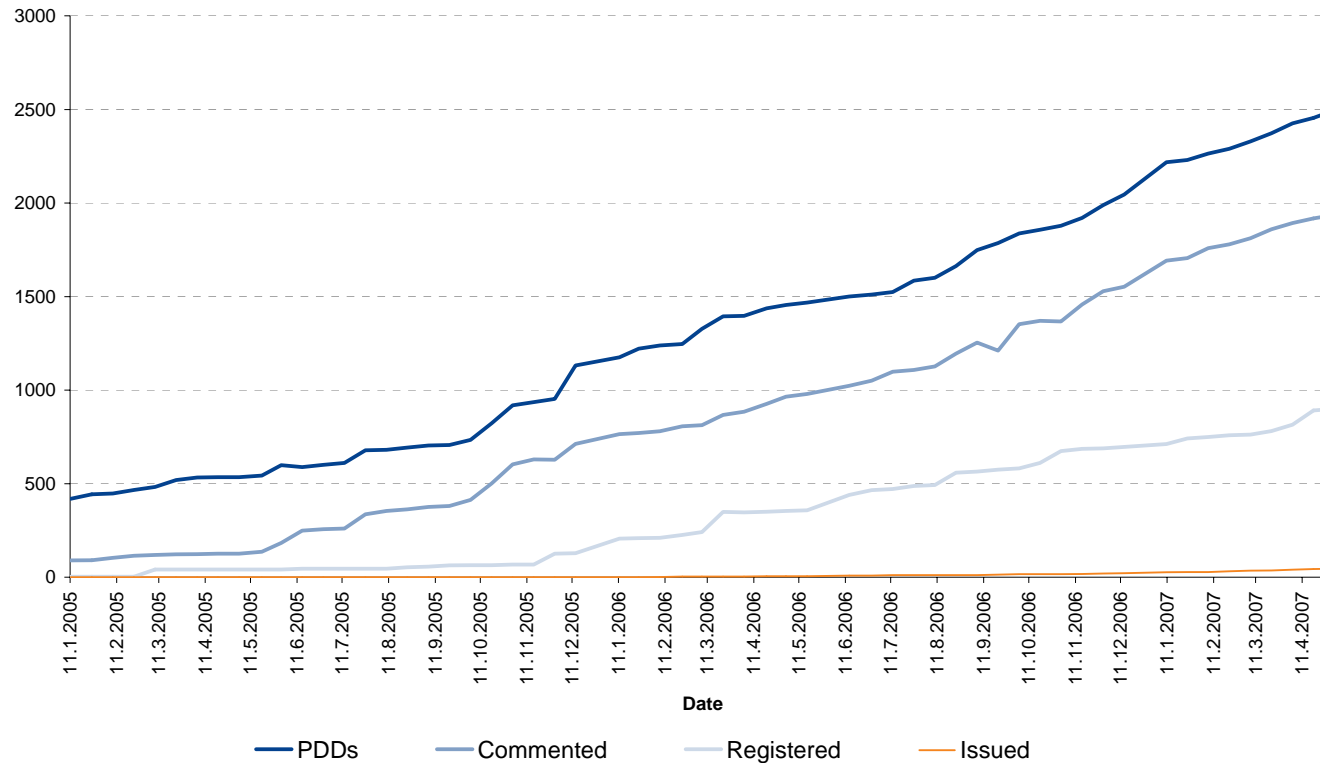
Carbon market grew significantly in 2006



- EU ETS is the dominating market
- In 2006 value of the carbon market 23 billion € (2005, 9 billion €)
 - EU ETS share 19 billion € in 2006

CDM projects dominate the project mechanism markets

Development of JI and CDM projects, MtCO2

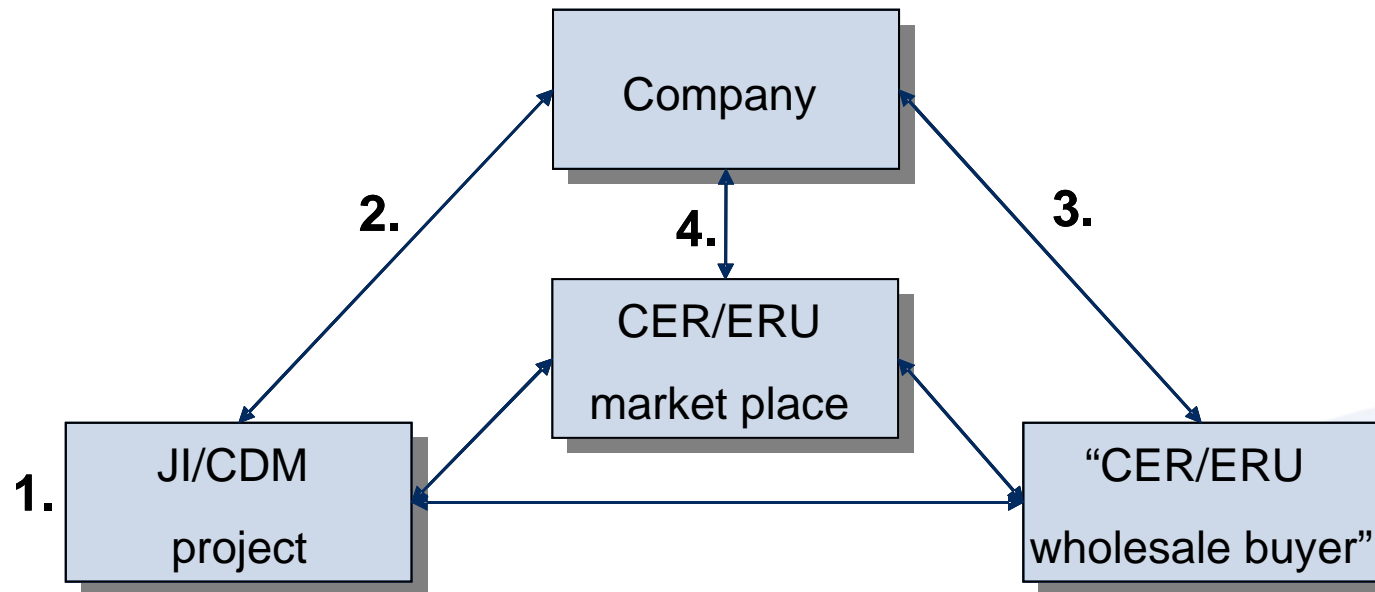


- The current estimates forecast supply up to 2012 is between 1100-3000 MtCO2 in low and high scenarios
- Around 90% of the project volume are CDM projects

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Emission reduction project credits can be purchased through various trading channels...

1. Executing the project yourself; "Project sponsor / investor"
2. A bilateral contract between the project executor and the buyer; "a wholesale trade"
3. Indirect acquiring and buying through e.g. funds; "a retail sale"
4. CER and ERU market places with more sophisticated products (secondary markets; spot, derivatives, financial contracts, etc...)

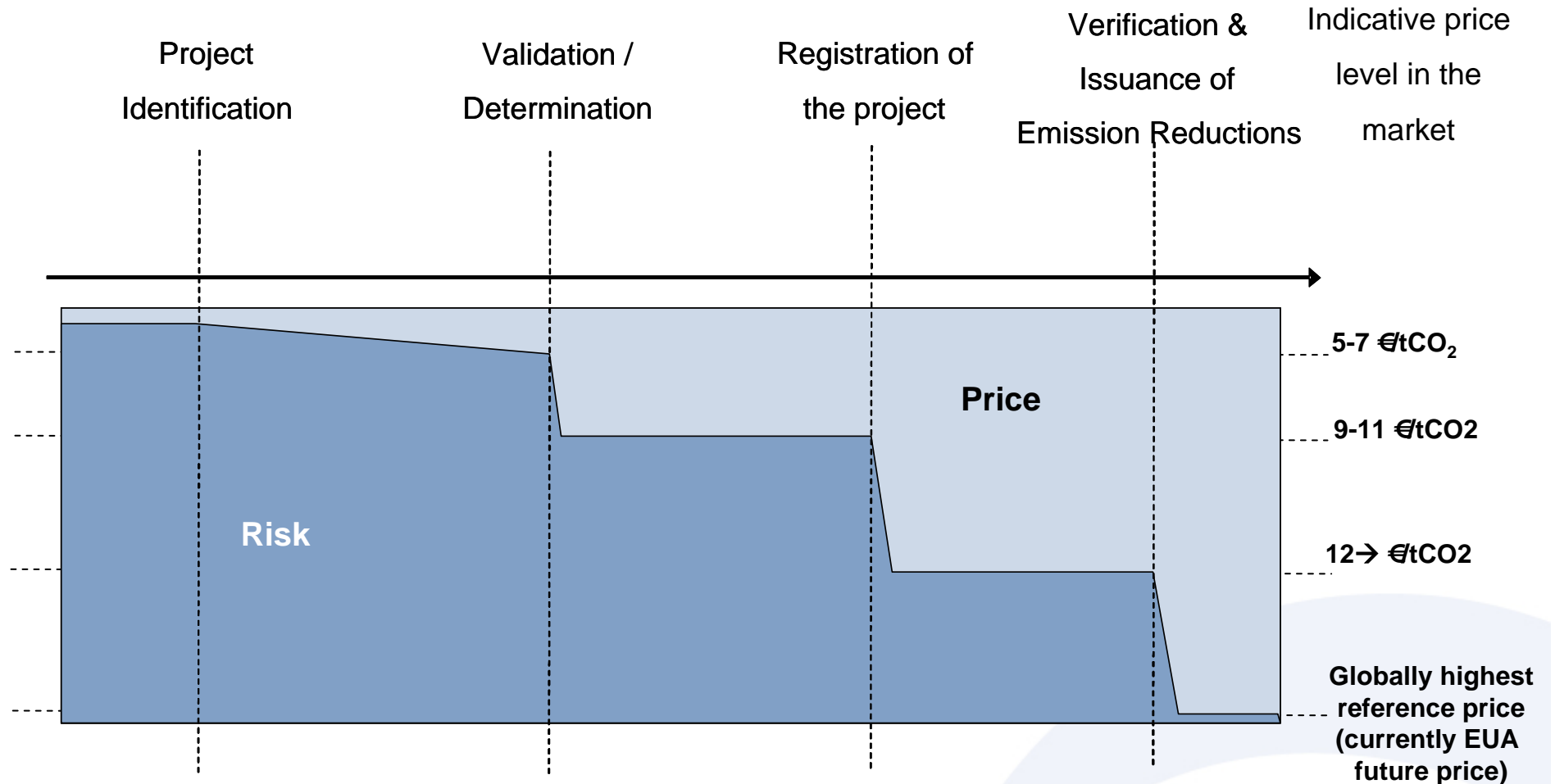


Major risk factors in CDM projects

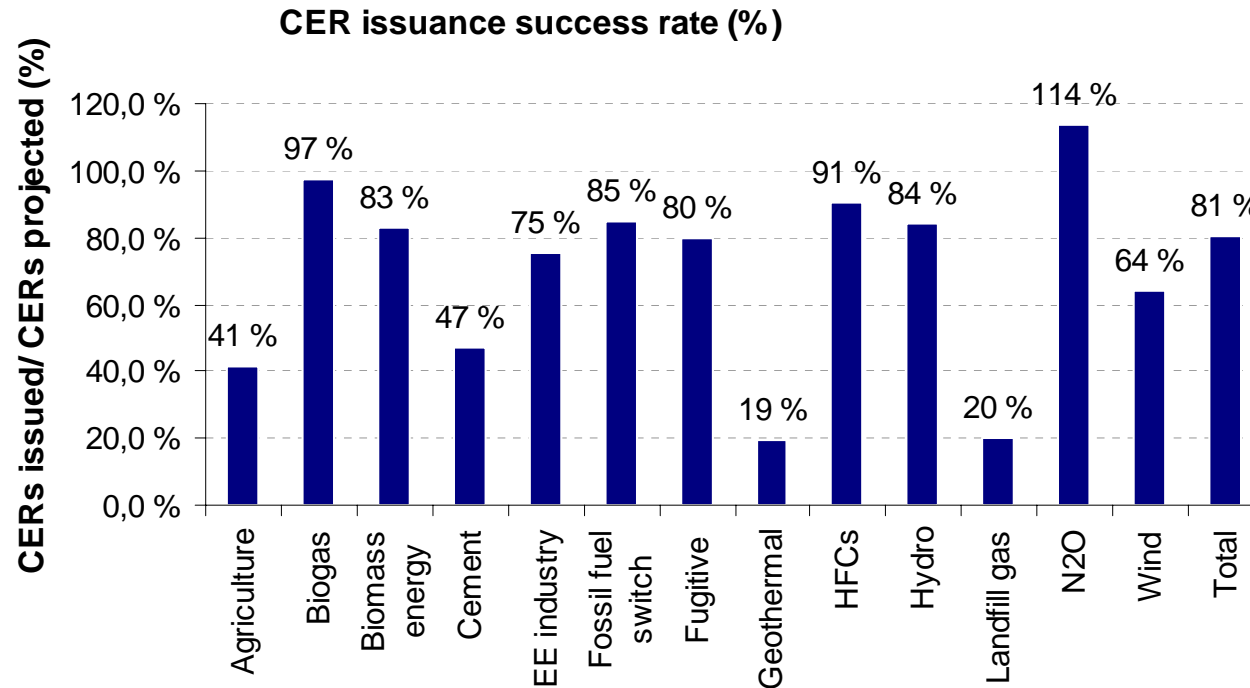
- **CDM project cycle related risks**
 - Project non- approval
- **CER issuance risk**
 - Real emission reductions differ from those projected
- **IT systems not in place**
 - ITL (International Transaction Log) need to be functional to transfer CERs from CDM projects
- **EUA price fluctuations**
 - Value of emission reduction units fluctuate
- **Uncertainty of the post-2012 emissions regulation**
 - Value of emission reduction units after 2012 is uncertain



The CDM project cycle related risks decrease as the project proceeds



CER issuance success rate has varied by different project types from 19 % to 114 %



Reasons for variation in the CER issuance success rates:

- Changes in project baseline
- Changes in project activity production
- Changes in fuels used
- Delays in the project start dates
- Insufficient implementation of the monitoring plans

Source: UNEP/RISOE CDM pipeline

Highly fluctuated EUA prices often give indicative prices for CERs

EUA emission allowance price development



Ways to manage CDM project risks

- **Better ERPA (Emission reduction purchase agreement) negotiations**
 - CER buyers contract only to a fraction of expected deliveries from PDD and at lower price
- **Portfolio management to manage delivery risks**
 - project type and geographical location diversification
- **Use of insurance products**
 - Not yet very popular
- **Use of secondary CERs- CER after markets**
 - CDM project cycle related risks avoided but prices higher



Key conclusions

- CDM/ JI projects include besides normal project risks additional CDM specific risks
- Companies investing in CDM projects/ purchasing emission reduction units should be aware of the risks and their magnitude
 - CDM project risk management is crucial



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