



Market and CER pricing

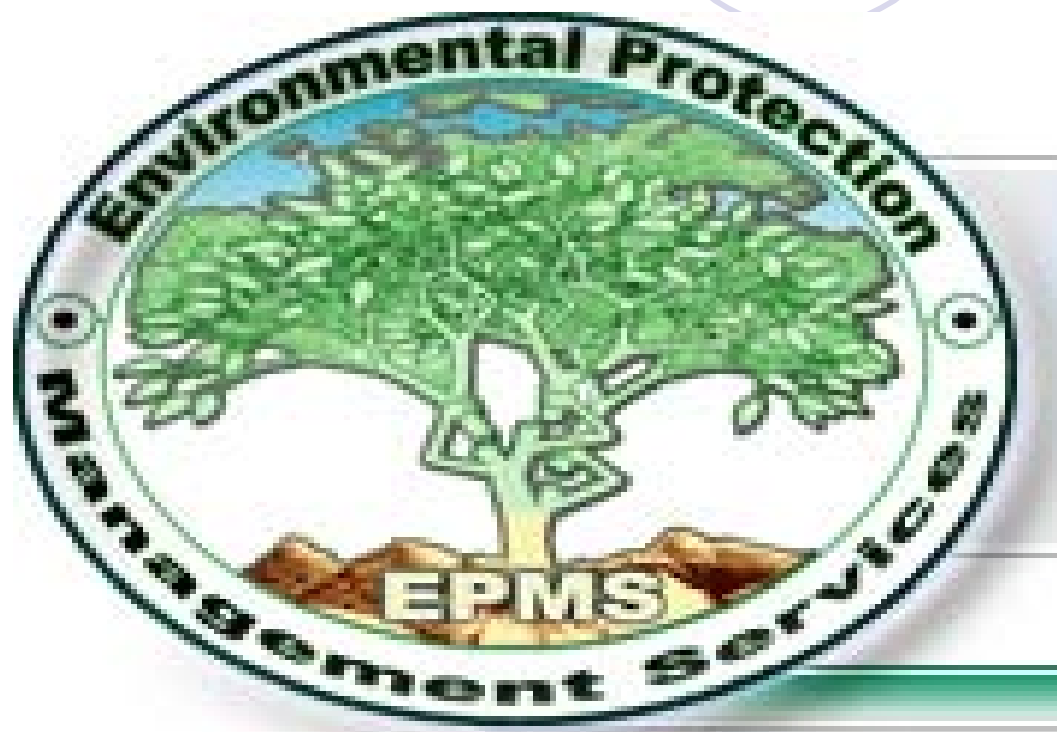
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Outline

- Carbon market & CER pricing introduction
- Emission reduction pricing
- Structure of carbon market
- CDM CERs pricing
- Price determinants
- Benefits of carbon market
- Challenges
- Conclusion



Introduction

- Carbon market raised from a need to reduce greenhouse gases emissions.
- Industrialized countries are the main emitters of GHGs causing the global effect of climate change
- The Kyoto Protocol commitments
 - Developed countries agreed to quantified legally binding targets (5%reduction from 1990levels by 2008-2012)



- The ER targets should be achieved through;
 - Domestic reductions
 - Carbon sink: direct human induced land use change and forestry activities
 - International credits (Kyoto Mechanisms);
- Three flexibility Kyoto mechanisms
 - International emission trading
 - Project based: Joint implementation
 - Project based: Clean Development Mechanism



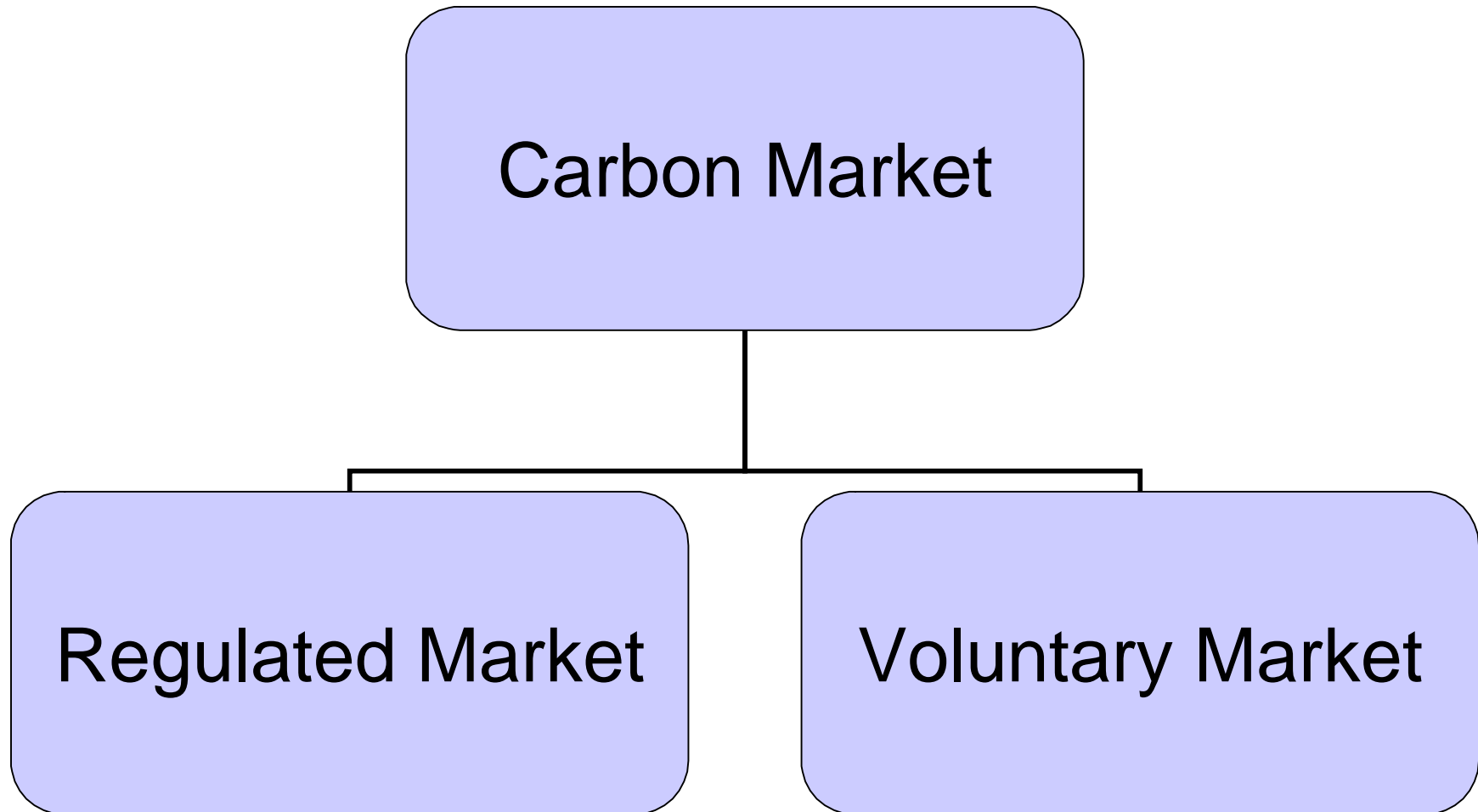
- Three Kyoto Mechanisms are market based : demand and supply
- Apart from domestic reductions, developed countries have emission allowances depending on the country's policies
- International emission trading involve selling of carbon allowances to another county with high demands of ERs
- JI and CDM are project based activities

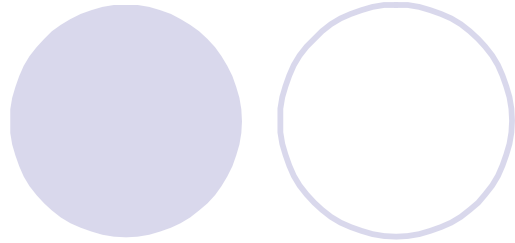


- ERs pricing depends on the type of credits hence their sources
- Types of carbon credits
 - CERs**- Certified Emission Reductions (CDM Projects)
 - VERs**-Verified Emission Reductions (Voluntary/offset)
 - EUAs**- European Union Allowance
 - AAUs**- assigned Amount Units

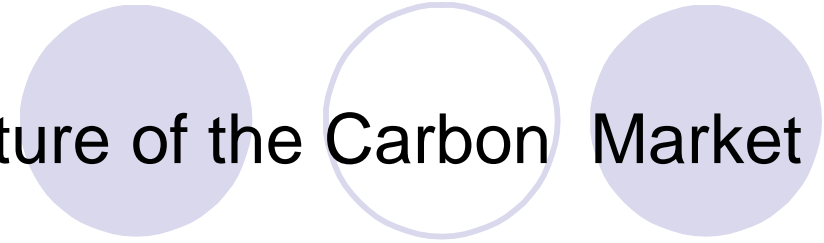


General structure of Carbon Market

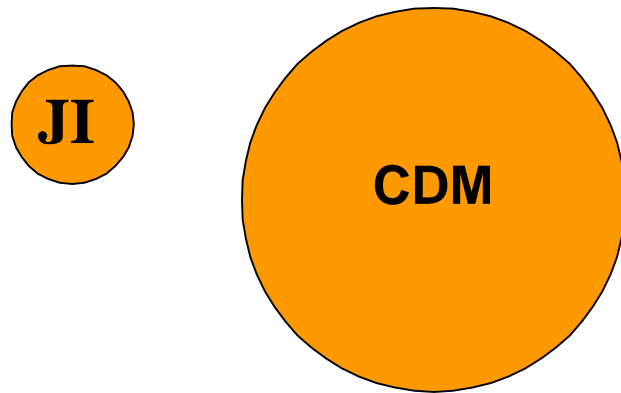




Structure of the Carbon Market

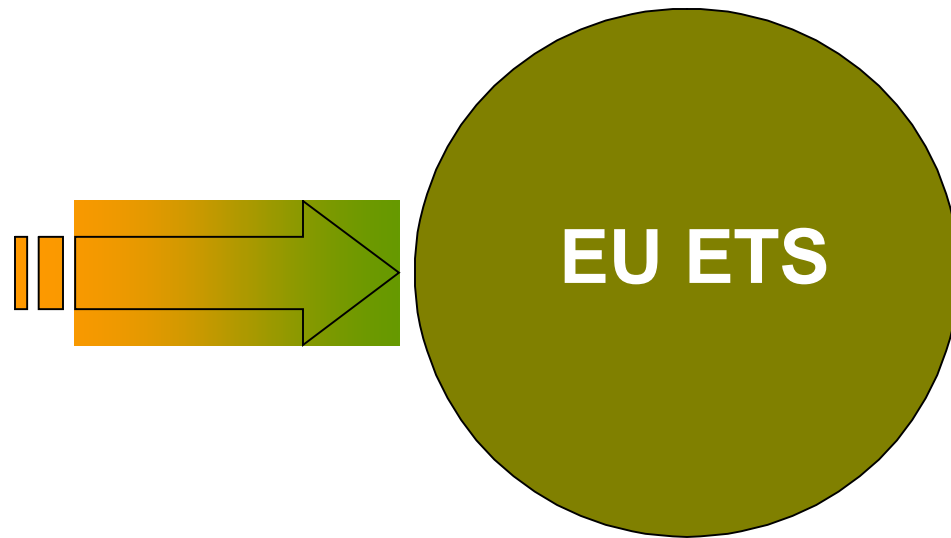


Project-Based Offsets ("Credits")



●
Voluntary/retail

Allowance Markets

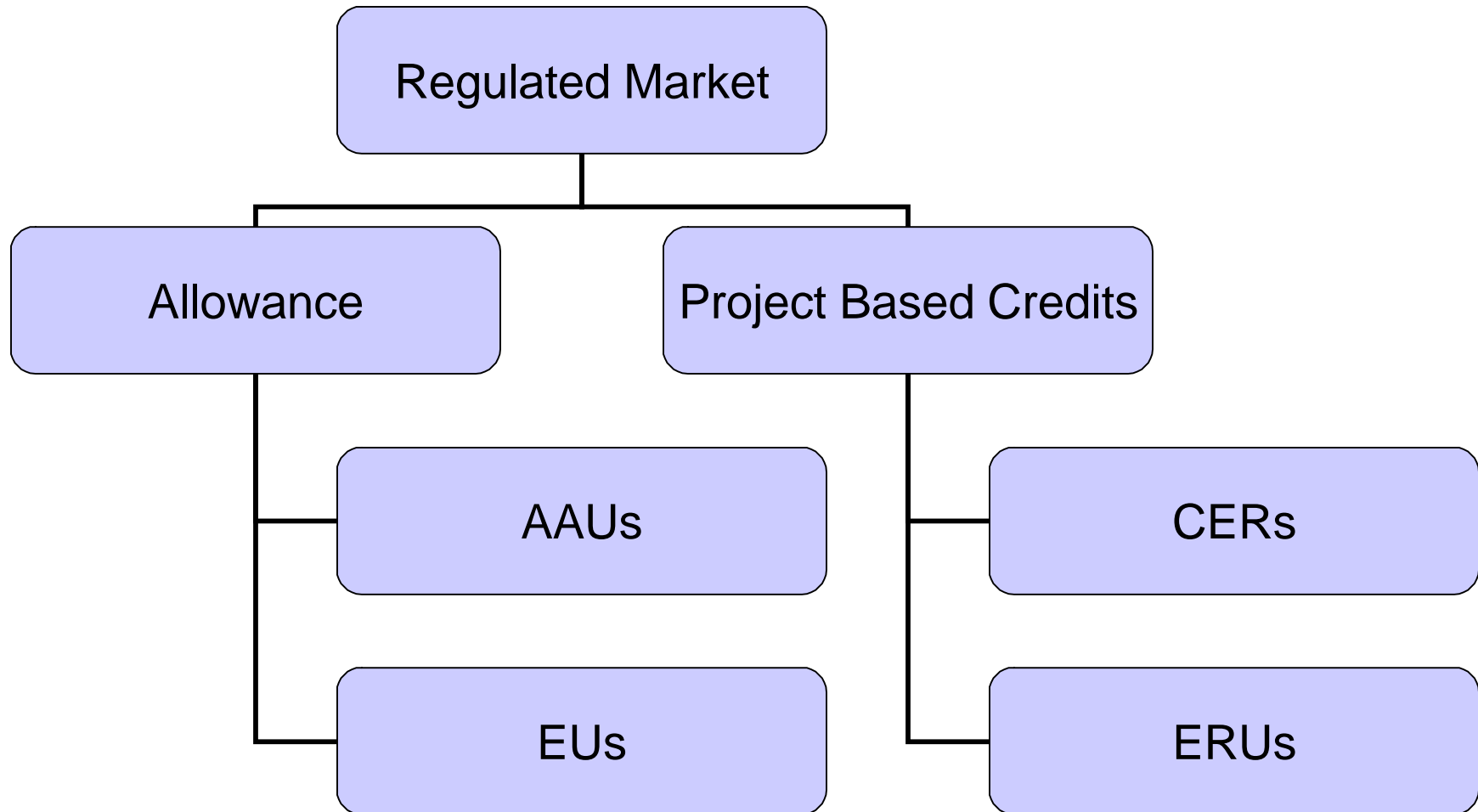


● New South Wales
Certificates

● Chicago Climate
Exchange



Structure of Regulated Market



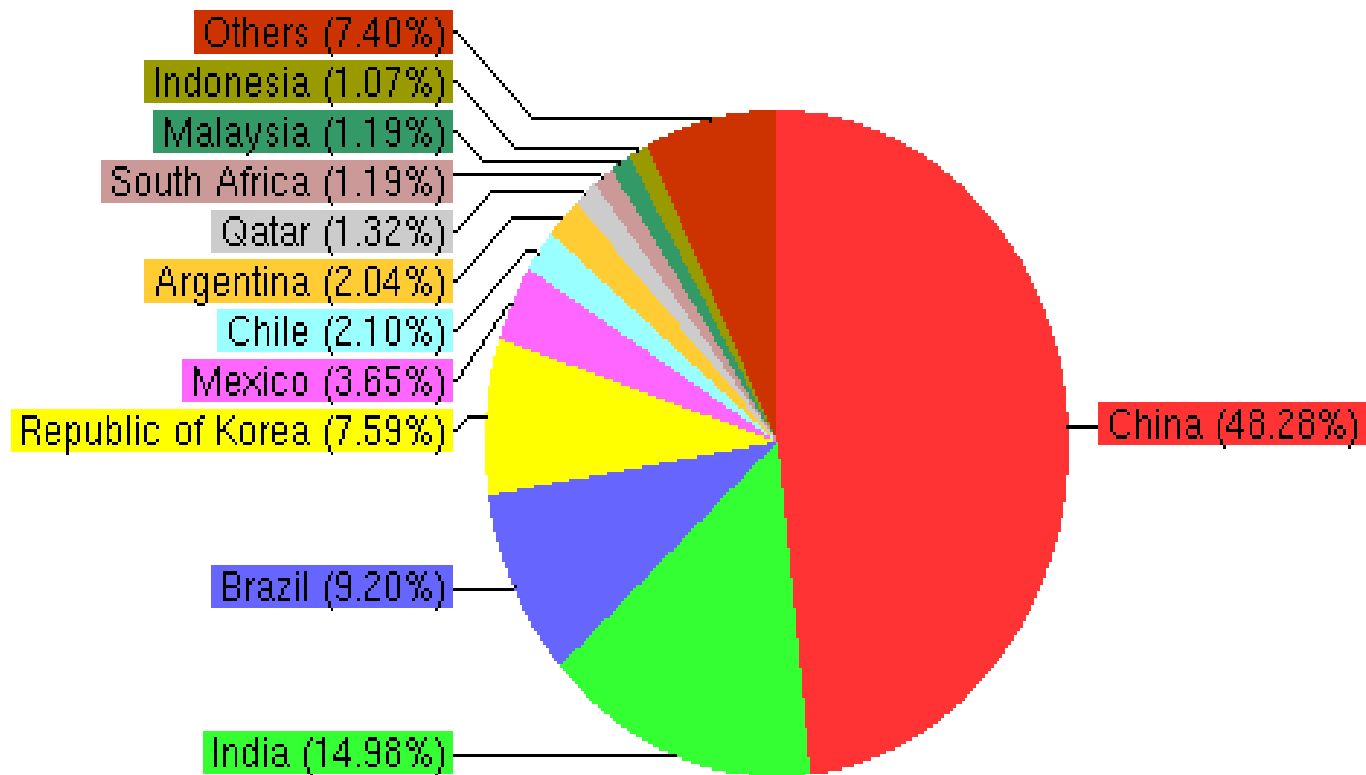


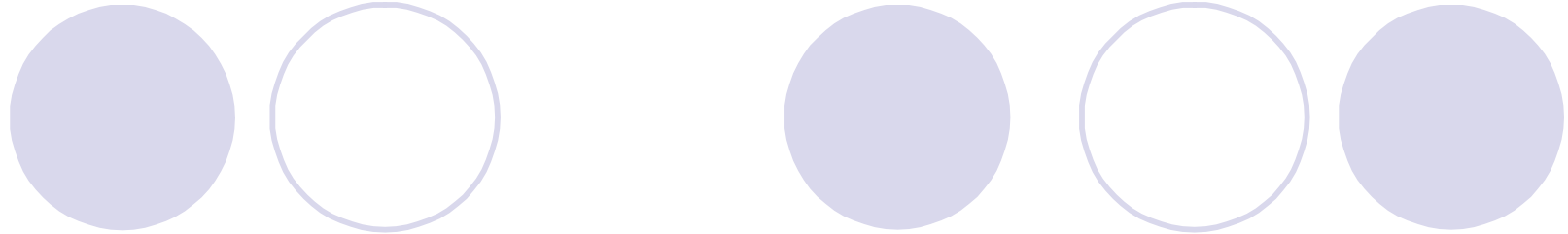
Market Trend

- The Carbon market is rapidly growing
- The prices of carbon credits are volatile depending on their supply and demand
- Different carbon assets (EUAs, CERs AAUs etc) have different prices
- EUA prices are higher than others



Expected average annual CERs from registered projects by host party. Total: 189,201,382

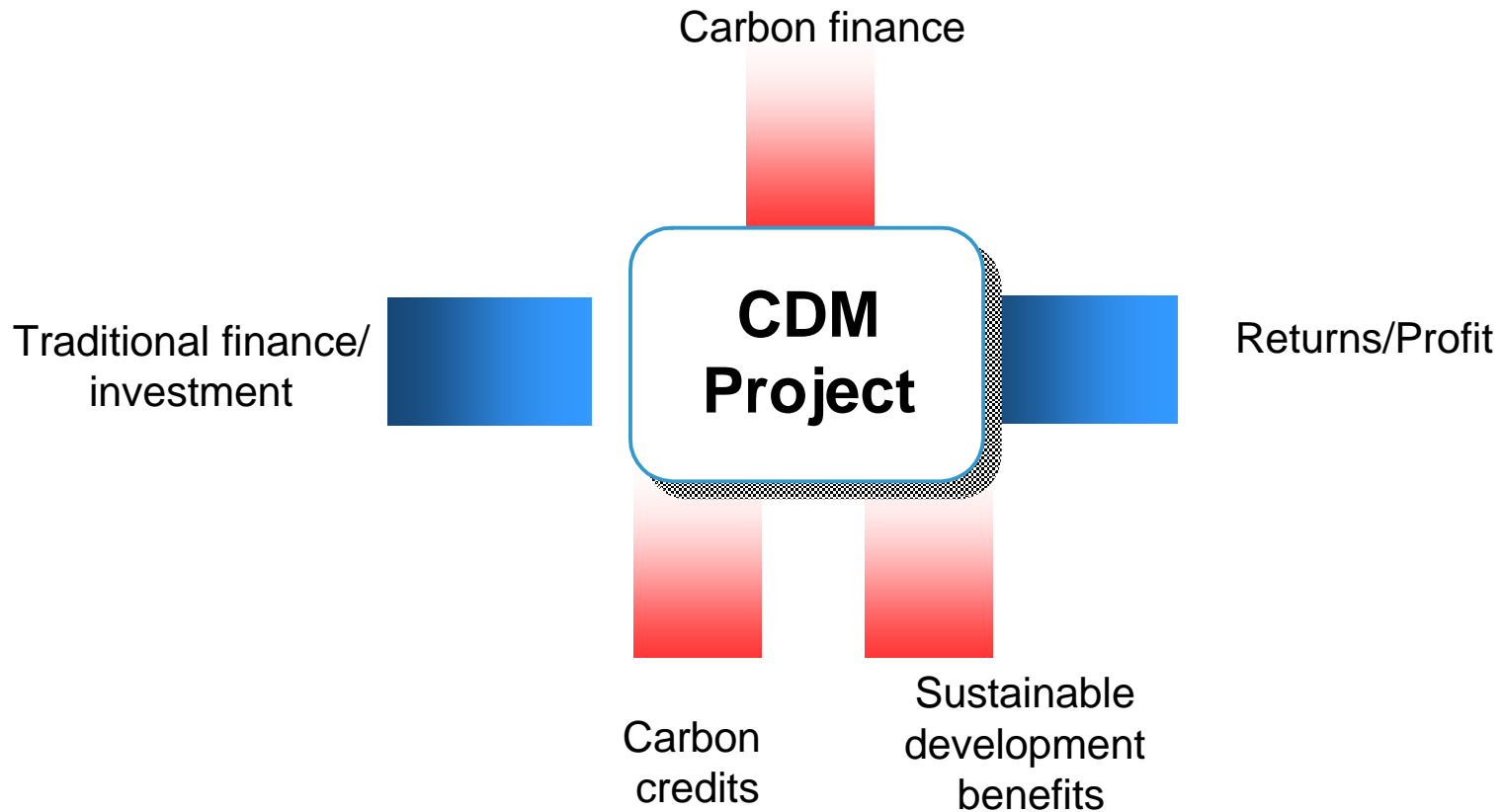




- The main buyers of carbon credits are UK (about 50%) followed by Canada and Japan
- More than US\$ 30 billion from carbon market (2006)
- CDM account for 88% of the whole value of project based market
- There is still a high demand of carbon credits particularly the CDM CERs due to their values



CDM CER Pricing



...layered incremental costs and returns

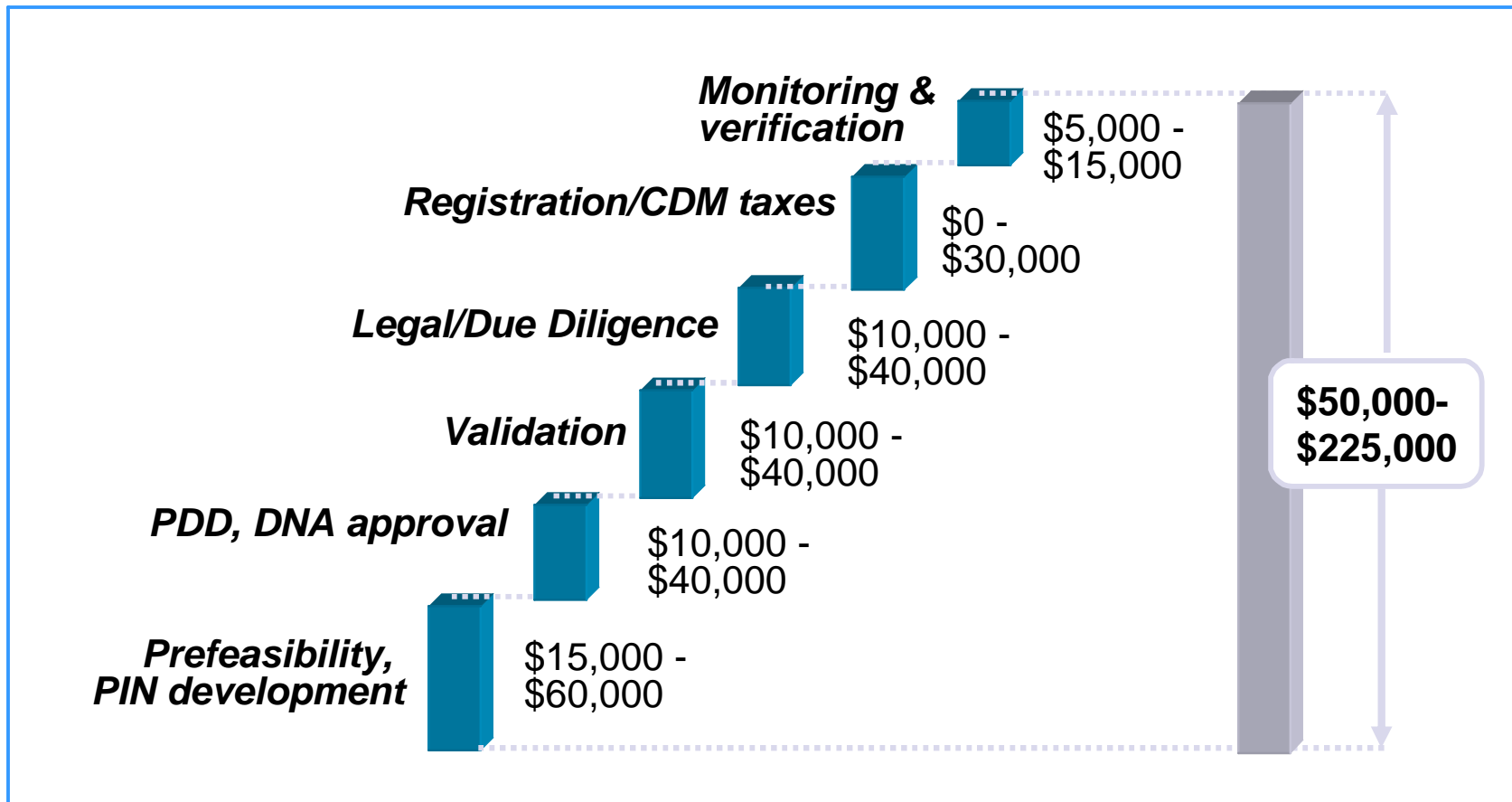


CDM CER pricing

- Average prices for CERs from developing countries range US\$ 8-14 in 2006
- Secondary market prices range from US\$ 14-19
- China have a dominant market share of 61% followed India and Brazil
- Africa is still behind in the carbon market as it contribute to only 3.9% of total CERs



Transaction costs for small and medium-sized projects





Price determinants and trend

- The CERs price depends on;
 - Guarantee of delivery of registered ERs
 - Timing and size of CERs produced
 - Value of the project
 - Feasibility of the project
 - Validation and certification costs involved
 - Host country support
 - Investment climate in the country
 - Environmental and social benefits
 - Other risks involved in the project



Benefits of Carbon market

- Enhance GHG emission reductions
- Maximize the global market
- Economic growth to developing countries
- Sustainable development and other socio benefits to developing countries



Challenges

- Not very practical in developing countries because it requires long term, stable and predictable framework and strong regulatory system.
- Long term viability of carbon market is not assured
- Carbon finance needs regulatory visibility Post 2012



Challenges

- In CDM particularly, the challenges are;
 - Understanding rules and procedures
 - No standard contract like a real business
 - High transaction costs
 - Timelines (post 2012)
 - Political and economic risks
 - Uncertainty in a long term delivery plans
 - Upfront payment vs payment on delivery



Conclusion

- Market mechanisms allow meeting GHG targets most cost effectively
- Sale of emission reduction creates revenue stream for climate friendly activities (carbon finance)
- Carbon finance is an important source of new and additional finance development
- Carbon market is real
- Post 2012 is a biggest challenge for continuation of carbon market.