



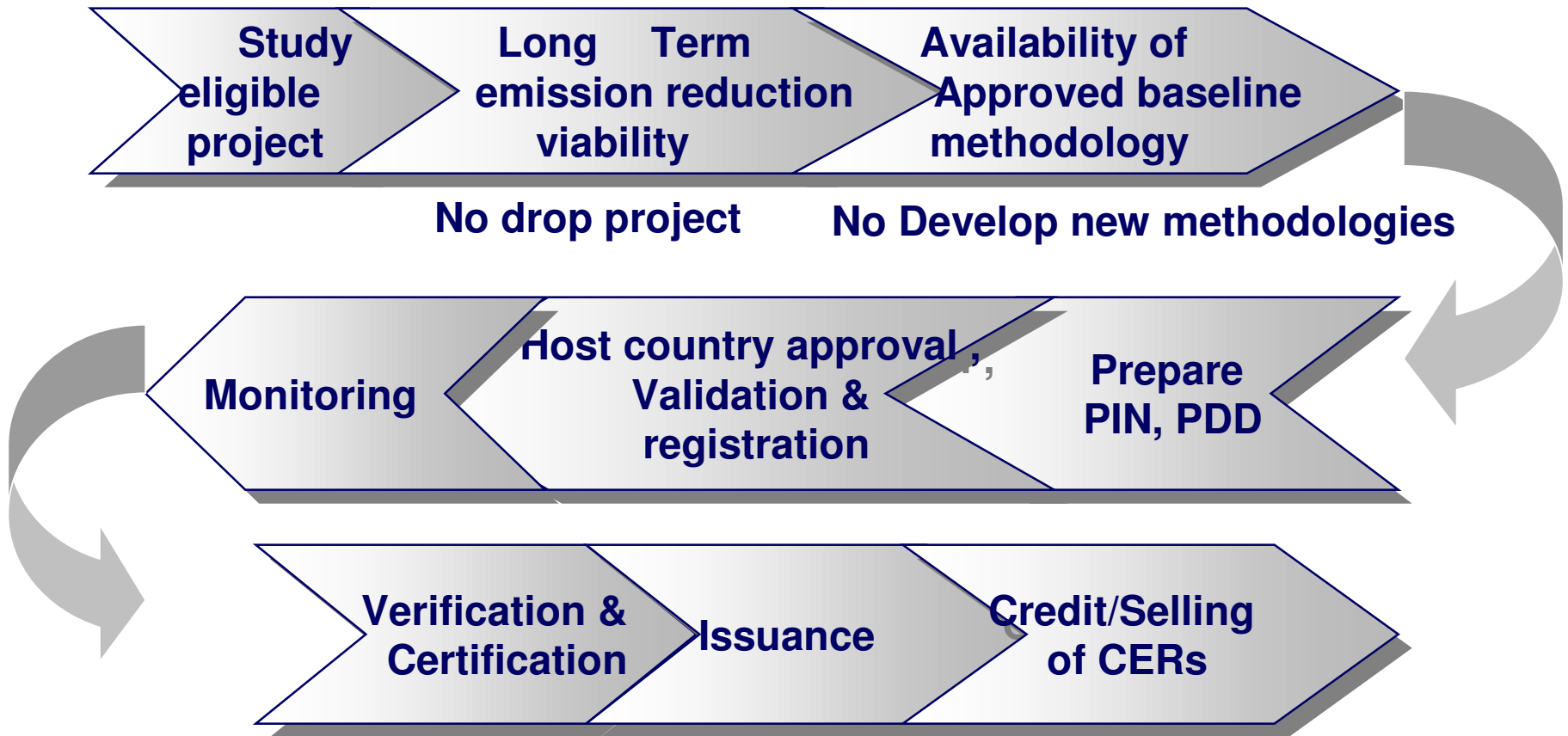
Carbon Financing

A Business Perspective

Agenda

- **Our understanding of CER / CDM Process**
- **CER as Credit Enhancement Tool**
- **CER Issuance Business Value Chain**
- **Stage wise Finance – Risk Mapping**
- **Product Financing Risk Mapping**
- **Product Pricing Profile**
- **Product – Pricing Matrix**
- **Banker –Borrower- Buyer Risk Over CDM PLC**
- **Risk Mitigation Strategy**
- **Carbon Financing : The Dilemma**
- **Potential CDM financing Projects**
- **Our UVP**

Process for Approval of CDM project



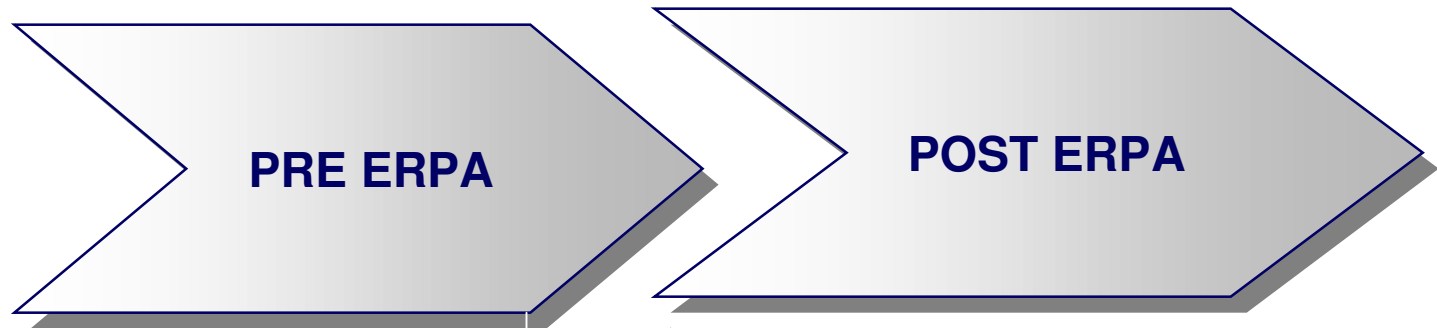
CER as a Credit Enhancement Tool

- Incremental Free Cash Flow for the project
- Incremental IRR for the project

Project	Incremental IRR %
Wind Power	0.9 – 1.3
Biomass / Biogass	1 – 2
Hydropower	1 – 3
Waste Recovery	4 – 6
Industrial GHG	>5

Source : CRISIL

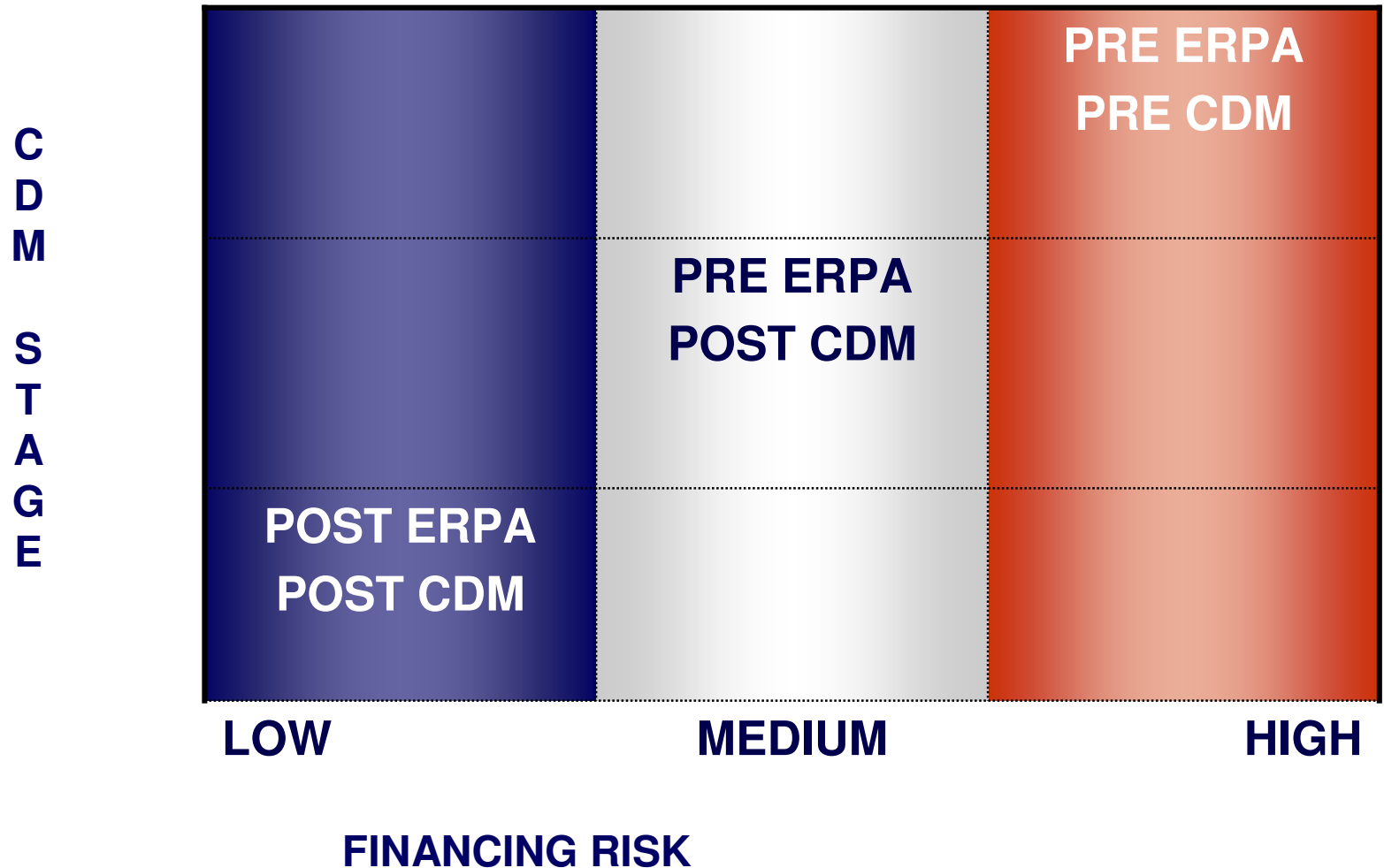
CERs ISSUANCE BIZ VALUE CHAIN



- PIN document
- Project Design Document
- Host country approval
- Validation & Registration

- Transaction agreement between buyer & Seller (ERPA)
- Monitoring Mechanism
- Verification & Certification Schedule
- CER Issuance schedule, quantum & pricing

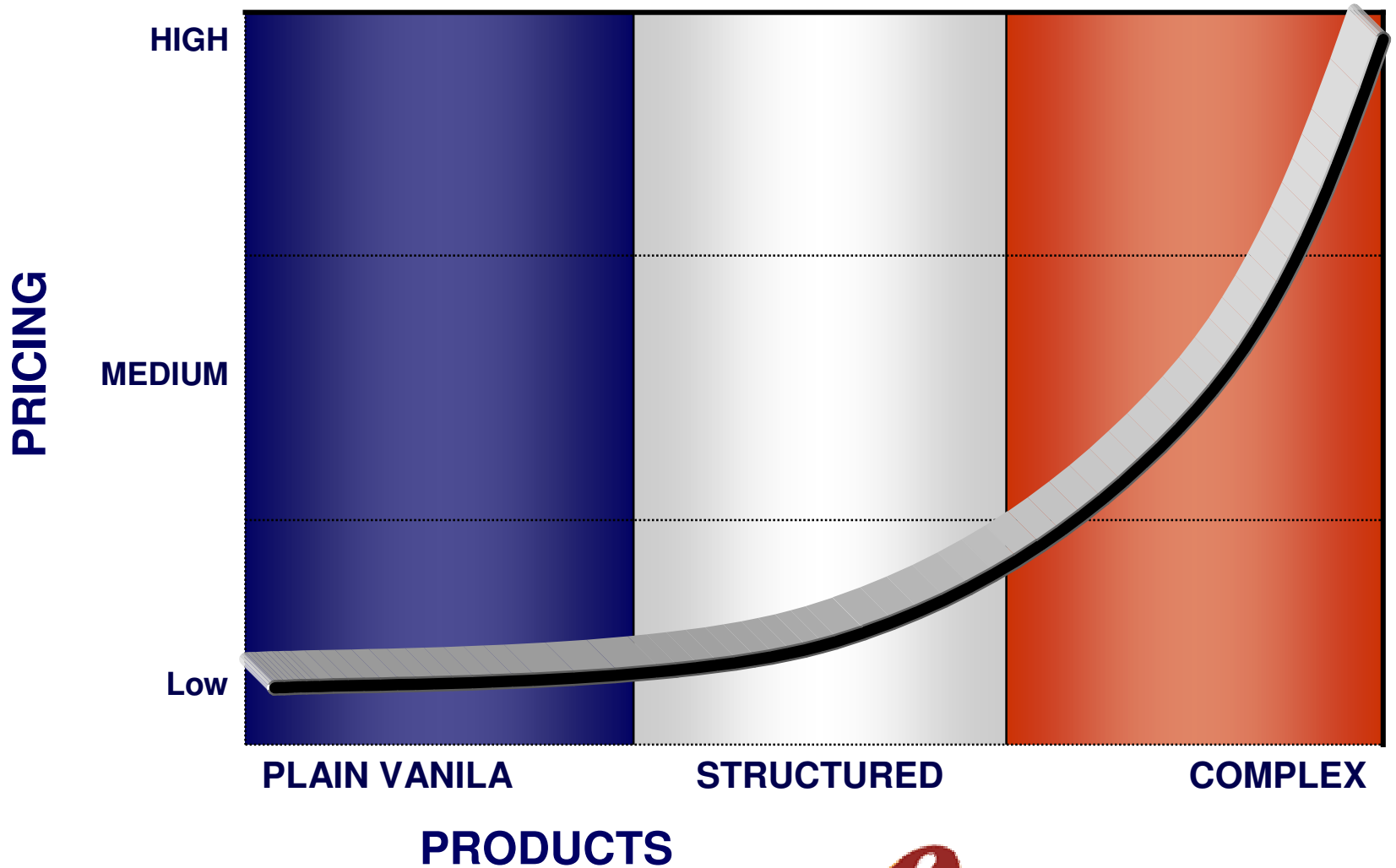
CDM Stage Financing Risk Mapping



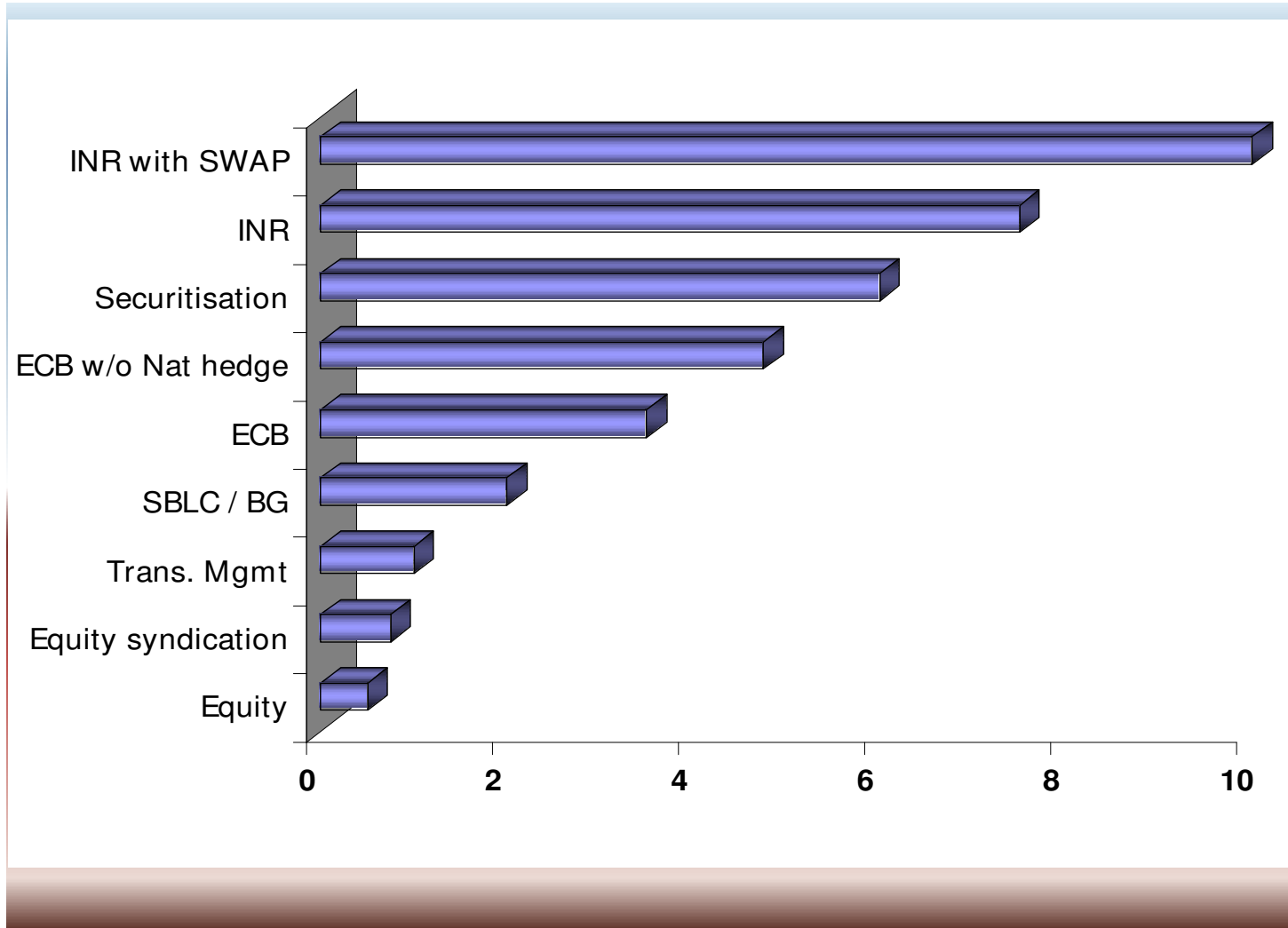
Product Financing Risk Mapping

ADVANCED		SBLC	EQUITY / QUASI-EQUITY FUNDING
STRUCTURED FINANCE	ECB (Natural hedge) INR LOAN with SWAP	Reducing BG ECB (without hedge) SECURITISATION	EQUITY SYNDICATION (Fee)
		INR w/o SWAP	TRANSACTION MANAGEMENT
PLAIN VANILLA			ESCROW
	LOW	FINANCING RISK MEDIUM	HIGH

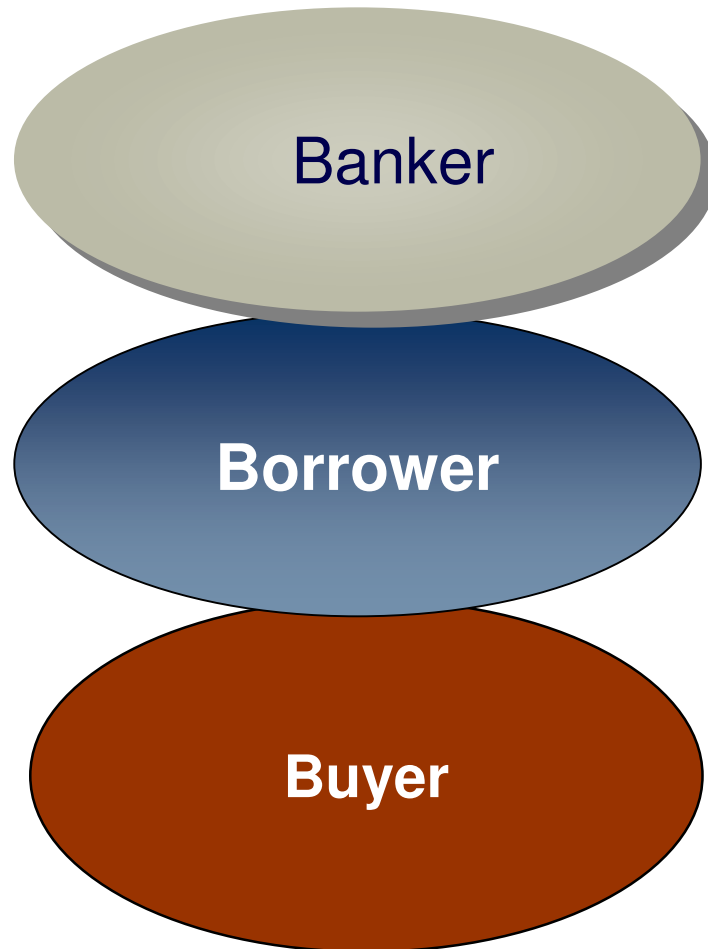
Product Pricing Profile



Product – Pricing Matrix



Banker –Borrower- Buyer Risk Over CDM PLC

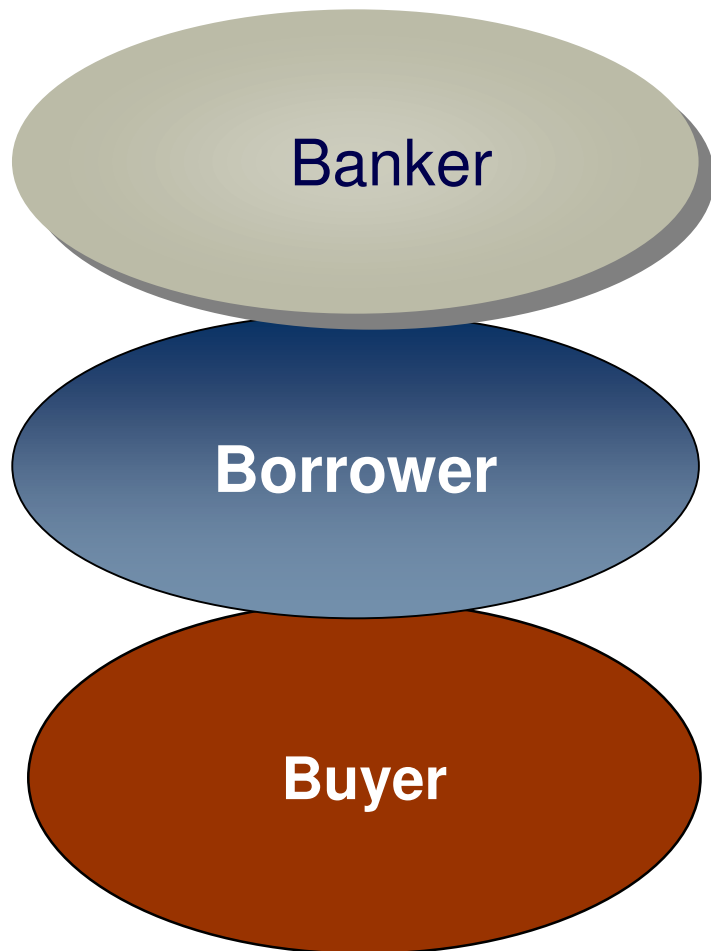


- Project Performance
- Regulatory uncertainty
- Country/ political Risk
- Exchange Rate Risk
- Counter party credit risk
- Stage at which project is finance

- Pricing
- CERs Demand Supply imbalance
- Exchange Rate risk
- Buyer's creditworthiness risk

- Project Approval Risk
- Project Execution Risk
- CER Certification Risk
- Exchange Rate Risk

Risk Mitigation Strategy

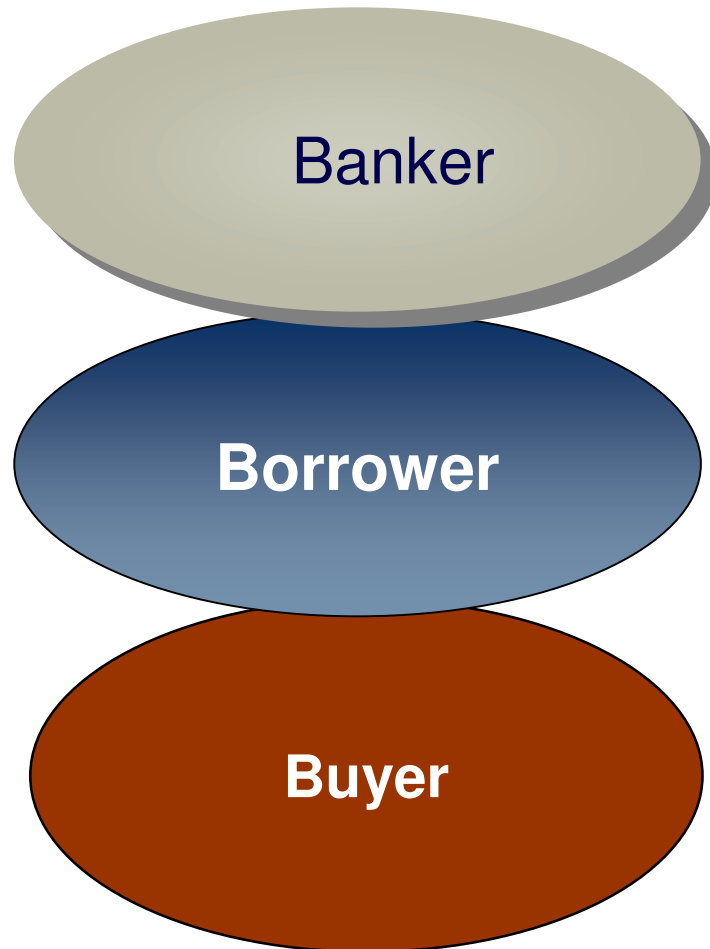


- Monitoring & Verification Mechanism
- Credit Derivative
- FX Hedging
- Revenue trapping through Escrow
- Power of attorney

- Pricing options
- Right timing to enter ERPA
- Hedging
- Move from Buyer arranger to Direct Buyer or End User

- Non-delivery penalty
- Availing credit / Bank Guarantee
- Portfolio / pooling Approach

Carbon Financing : The Dilemma



- CERs Equity or Commodity ?
- B / S or Off B / S item ?
- What beyond 2012: post KP validity
- Regulator/Central Bank perspective
- In absence of ITL in place
- CERs as Collateral

- Lack of awareness about CDM
- Complexity of the CDM process
- Uncertain about Return & investment of time & effort
- Absence of structured market place

- Lot many intermediaries
- Absence of structured market place
- Lack of comprehensive risk mitigation mechanism
- Lack of knowledge of CER trading

Potential CDM financing Projects

Industry Sector	Projects
Power	Wind, Hydro, Solar, Biomass
Steel, Oil & Gas, Cement	Energy Efficiency, Fuel Switching, Heat Recovery
Sugar	Co-generation, Bagasse based ,
Agriculture / Forest	Carbon forest sequestration, Greenhouse projects
Industrial process / Chemical / Fertilizers	HFC, HCFC, Fuel switching, Distillery biogas, Methane capture process, energy efficiency
Infrastructure / Urban Development	Biodegradable solid waste to energy, Sewage biogas recovery, Street lighting efficiency, Transport system improvement

Our UVP



- PCN
- PDD
- Registration
- Validation
- Performance
- Monitoring

- CER Buying
- Buyer arrangement
- Price modeling
- Options

- Debt financing against future CERs receivables
- Securitization
- Issuance of SBLC
- Structured finance
 - >ECB
 - >INR top-up with SWAP
 - >Equity
 - >Investment Banking





Thank You