

Supporting Clean Energy Finance in the Asia Pacific Region

Innovative Energy Financing
CSD 15 Learning Center

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Topics

- ADB's Clean Energy and Environment Program
- Examples of Financing Structures
 - Risk-sharing mechanisms
 - Subordinated contingent loans
 - Prepayments for Carbon Credits
 - Carbon delivery guarantees

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Asian Development Bank

- The region's multilateral development bank, established in 1966
- A partnership for development, with
 - 67 members (48 regional, 19 nonregional)
- Receives two-thirds of its capital and staff from the Asia and Pacific region
- "AAA" rated
- Enjoys Charter privileges and immunities

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Energy Policy

ADB's 2000 Energy Policy identifies four operational priorities:

- Poverty reduction
- Promoting private sector involvement
- Promoting regional cooperation
- Addressing regional and global environmental impacts

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Energy Policy

But a current review of the Energy Policy

- urges greater focus on
 - energy security
 - climate change
- supports “clean energy” (CE) projects which
 - improve energy efficiency (EE)
 - use indigenous forms of renewable energy (RE)

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Energy Policy

It also recognizes that

- ADB is good at supporting large public sector infrastructure projects
 - needing long term, hard currency finance
- But not so good at financing smaller CE type projects
 - needing carefully structured short to medium-term finance in local currency

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Energy Policy

- ... hence acknowledging that most CE projects
- are best undertaken by or through the private sector in our developing member countries

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Examples of Financing Structures

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1st Risk-sharing mechanism (RSM) -

to help local financiers support smaller Clean Energy projects

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Risk-sharing mechanism

Through the proposed RSM, ADB would

- seek out and work with a number of commercial banks and other financial institutions (FIs)
 - to develop, adopt and/or expand their CE portfolios
- share an agreed amount or type of risk associated with each guaranteed CE portfolio
 - through a risk sharing agreement

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Risk-sharing mechanism

RSMs would support

- sovereign, subsovereign, SOE, PPP and nonsovereign borrowers
- a wide variety of RE, EE and related CE projects
- a large number of small transactions, which ADB cannot directly help
 - \$100,000 to \$3 million

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Risk-sharing mechanism

Each FI

- acts as the aggregator
- leverages its balance sheet
 - by sharing risk with ADB, a “AAA” credit
- builds its CE “book”
 - and experience with CE projects
- provides loans, leases, or other forms of finance
 - in local currency

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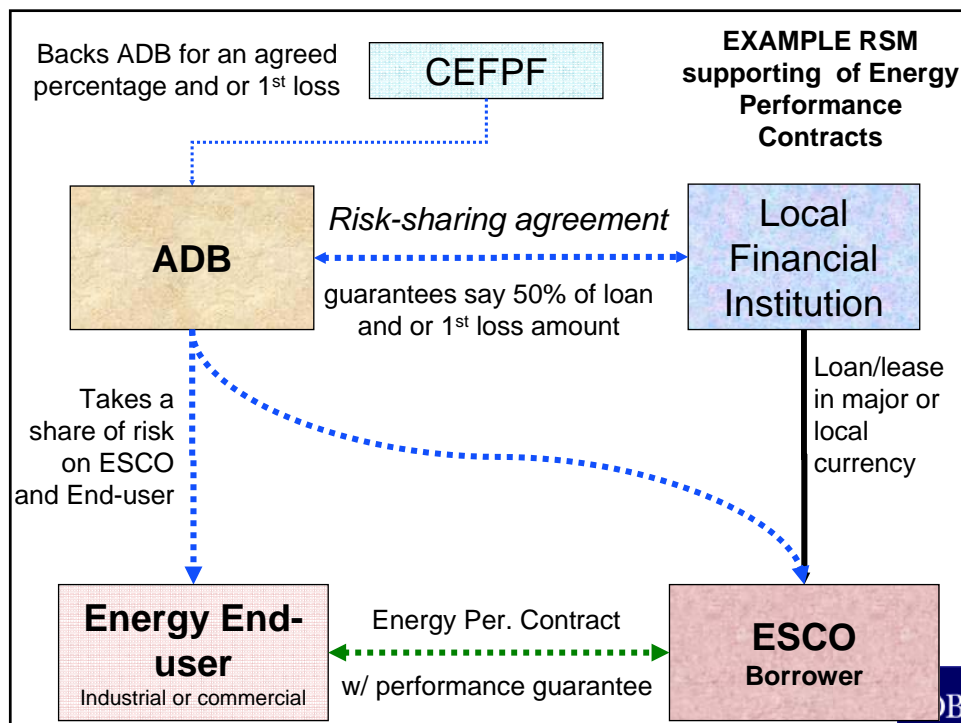


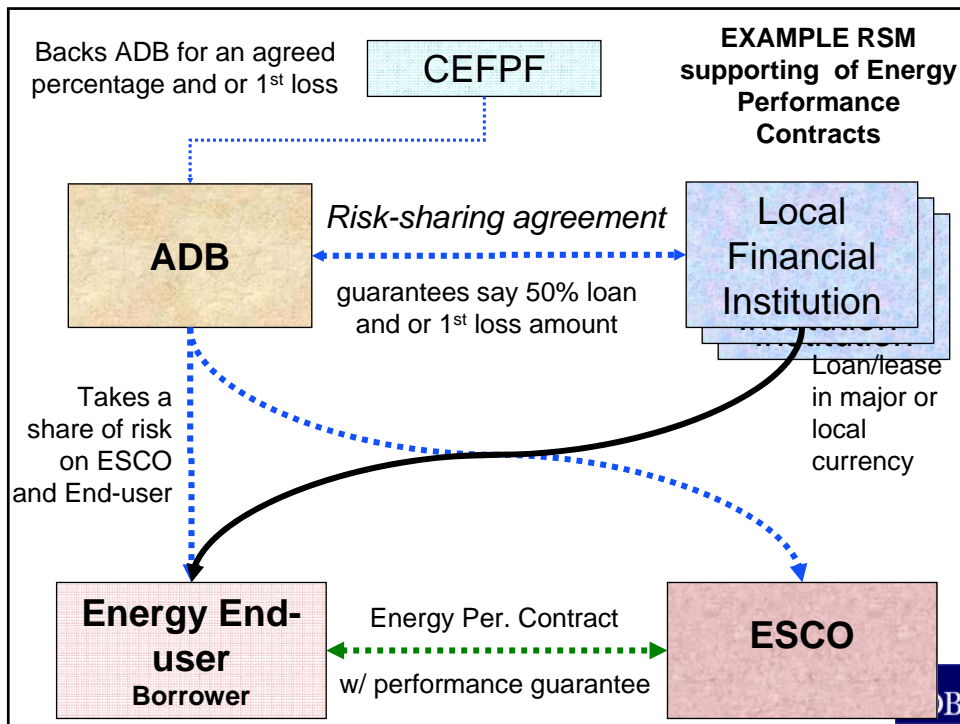
Risk-sharing mechanism

With the benefit of the Clean Energy Financing Partnership Facility (CEFPPF) donor funds

- ADB might also cover a portion of the “first loss” suffered by the FI
- If available, this would be a strong motivator for FIs to build CE portfolios
 - in new more challenging markets

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Risk-sharing mechanism

Target CE projects Supply-side

- Smaller off-grid renewable energy
 - wind
 - Bio-mass and Bio-gas
 - Small, mini and micro-hydro
 - Solar heating and photovoltaic

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Risk-sharing mechanism

Target CE projects Demand-side

- Industrial energy efficiency
 - including process efficiency
- Building end-use efficiency
 - commercial, governmental, and residential sectors
- Municipal infrastructure
 - street lighting, water, waste and sewage treatment and pumping
- Irrigation

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2nd Subordinated contingent loans -

to facilitate technology deployment

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Subordinated contingent loans

To lower capital costs and risk associated with deploying new technologies

- thus mobilizing senior debt or other public investment
- ADB might provide a combination of grants and contingent loans to CE projects
 - on a subordinated basis
 - repayable only under certain conditions

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Subordinated contingent loans

Eligible technologies

- would offer large clean energy benefits and be technically proven
- but are still in the commercialization process, where
 - perceived risks and/or higher costs prevent their use in particular markets and
 - deployment by early adopters will provide high demonstration value

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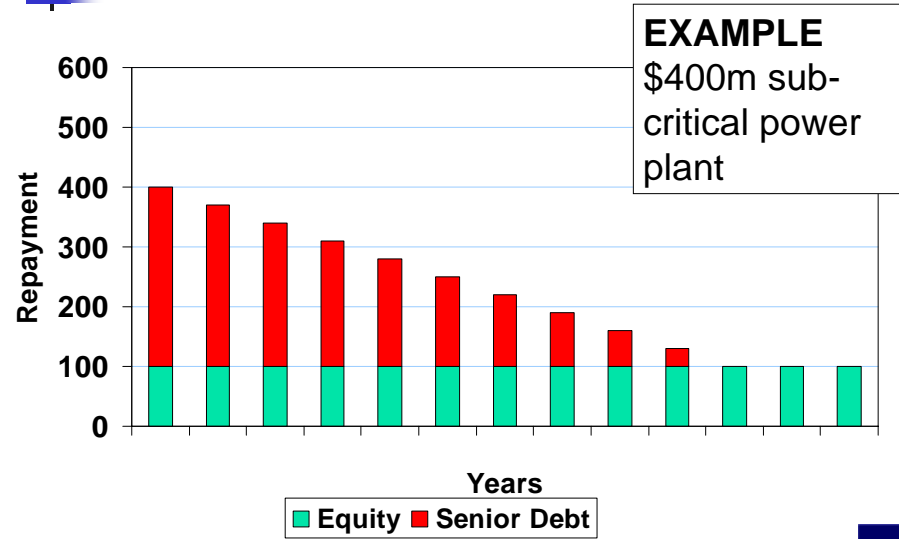
Subordinated contingent loans

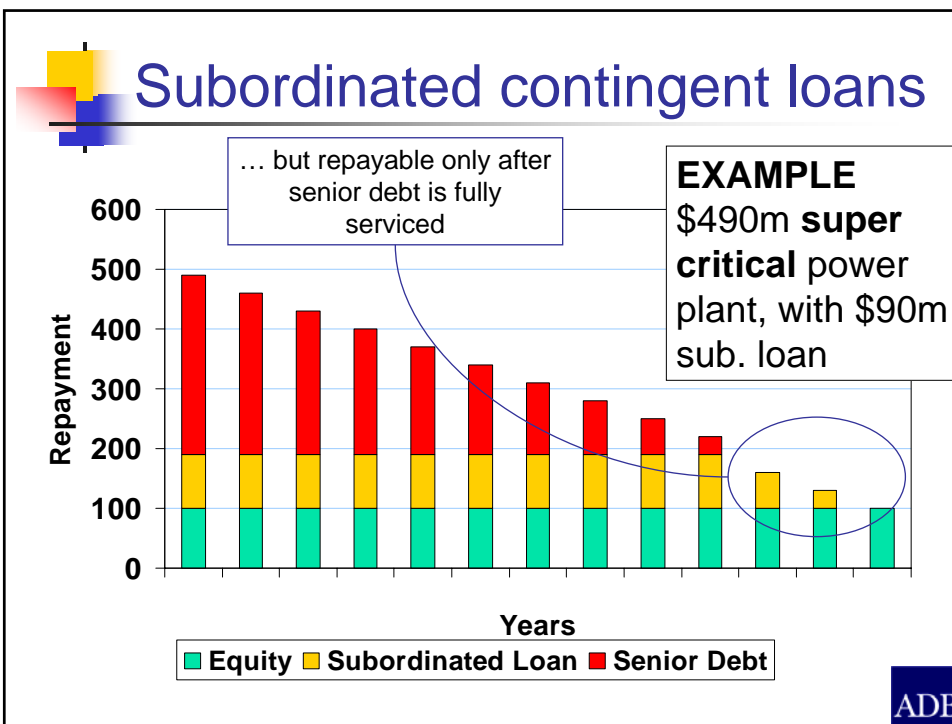
Grants and loans

- would be available when there is clear a justification and rationale for such “subsidies”
- might come from
 - ADB’s own and or other resources
 - CEFPF donor funds



Subordinated contingent loans





- ## Subordinated contingent loans
- Target CE projects Supply-side
- New clean coal power generation technologies
 - super and ultra super critical
 - integrated gasification combined cycle
 - carbon capture
 - Larger grid-connected wind farms
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Subordinated contingent loans

Target CE projects Demand-side

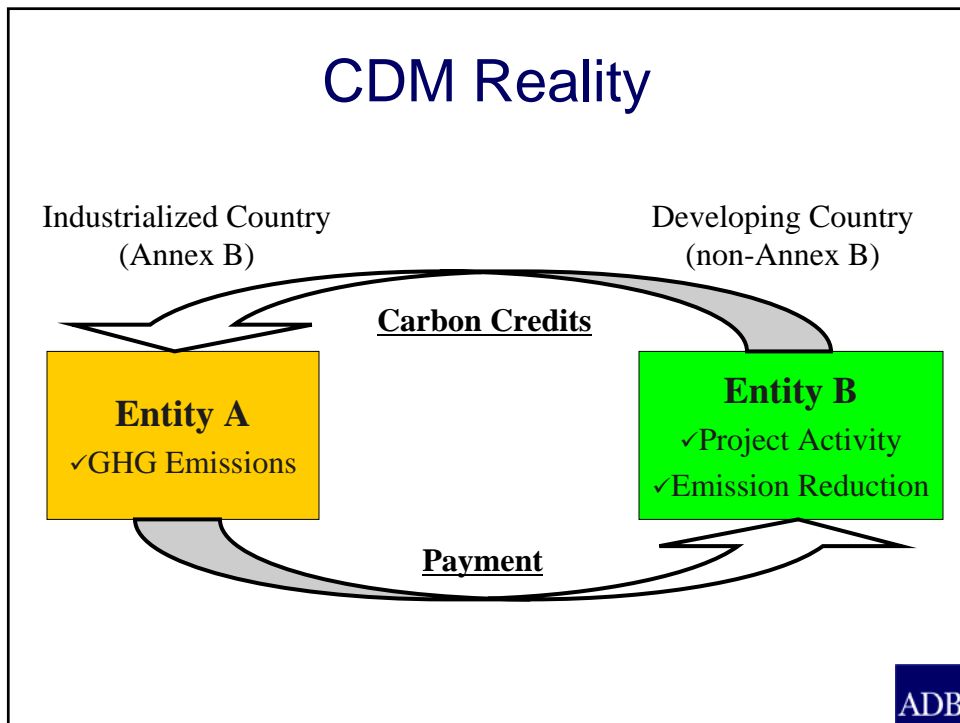
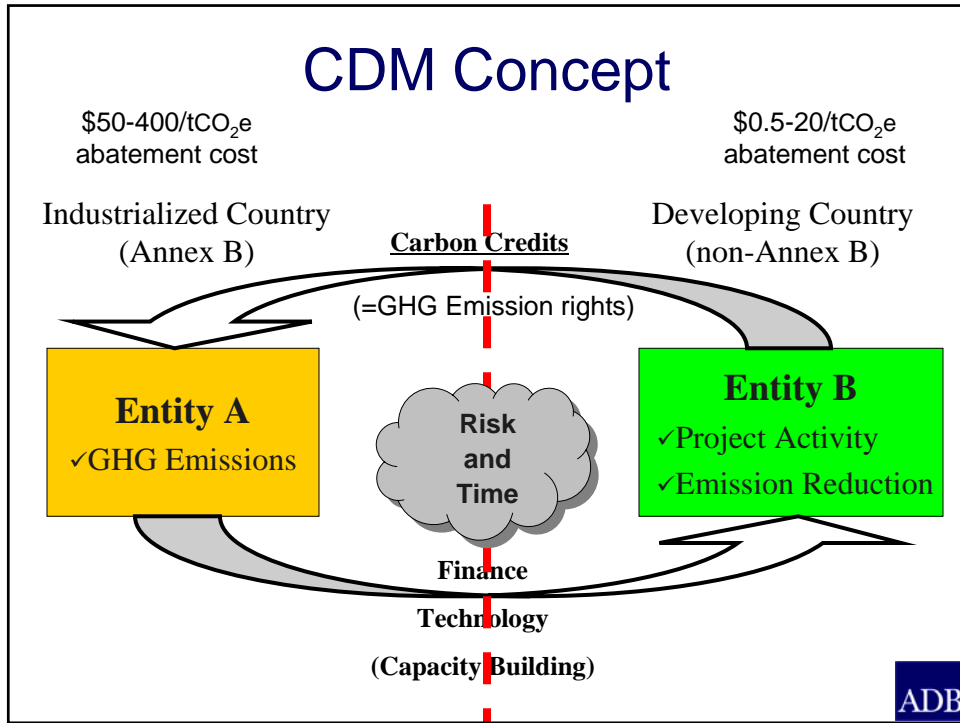
- Larger process efficiency projects in energy intensive industries
 - cement
 - fertilizer
 - iron and steel

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3rd Prepayments for Carbon Credits –

generated by CDM projects, through the ADB Carbon Market Initiative (CMI) and the Asia Pacific Carbon Fund

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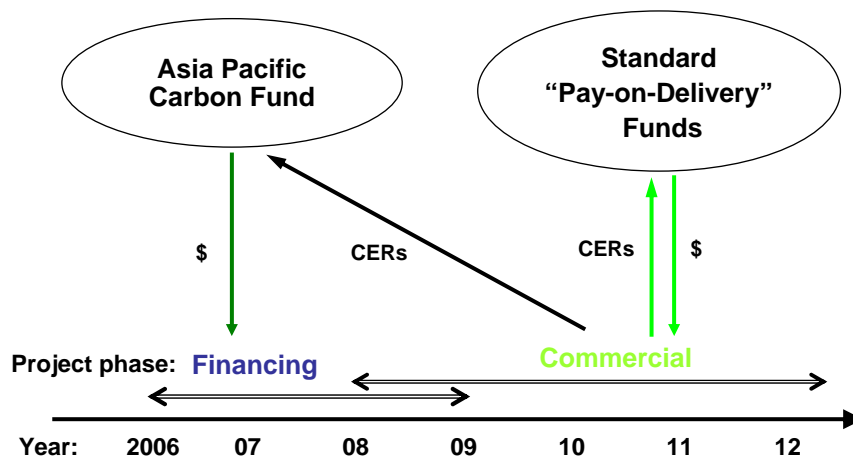
Asia Pacific Carbon Fund

- Cofinances projects alongside ADB
- Can secure 25%-50% of future carbon credits
- Fills a critical project financing gap
 - With upfront payment
 - using a fair discount rate
- Fund size
 - \$80 million - \$200 million

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Timing of Fund Investments



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Target CDM Projects

- Methane Capture and Utilization
 - Coalmine methane
 - Municipal waste management (landfill methane)
- Energy Efficiency
 - Industrial technology
 - Supply-side efficiency (e.g. upgrade of generation equipment)
- Renewable Energy
 - Biomass energy
 - Small to mid-scale run-of-river hydropower
 - Wind power
 - Geothermal power

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**4th Carbon delivery
guarantees –**
to help CDM and other GHG
mitigation projects directly access
commercial finance

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Carbon delivery guarantees

- For CE projects eligible for support under the CDM,
- and possibly other mechanisms that evolve in the future
 - additional finance can come from the pre-sale of some or all of the carbon credits generated

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Carbon delivery guarantees

- This could be in the form of **Prepayments**
- from the Asia Pacific Carbon Fund or other carbon credit funds or buyers
 - who can pay for carbon credits under emission reduction purchase agreements (ERPAs)
 - in advance
 - applying a fair discount rate to the ‘pay-on-delivery’ price

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Carbon delivery guarantees

- ... or in the form of **carbon finance**
- from commercial or specialists project financiers
- secured by “bankable” ERPAs and the cash flows they generate
 - when carbon credits are delivered in the future

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Carbon delivery guarantees

- To mobilize such finance and to achieve the best possible terms
 - minimize the margin or discount rate used to compensate for risk
- certain risks might be mitigated by carbon delivery guarantees & insurance
- which are provided by
 - Private sector insurers
 - Export credit agencies
 - MDBs, like ADB and MIGA

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Carbon delivery guarantees

Project Risk, including

- Commercial risks
 - project completion
 - new technology
 - operator performance
 - supply and off take
 - availability of other finance to complete the project
 - insolvency
- Natural force majeure risks
 - storms, wind, floods or droughts

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Carbon delivery guarantees

Country Risk, including

- Export/import license cancellation or embargo
 - such as “export” of CERS
- Confiscation, breach of contract
- Political violence
 - War, terrorism and sabotage
- Community or NGO opposition
 - causing delays to project implementation

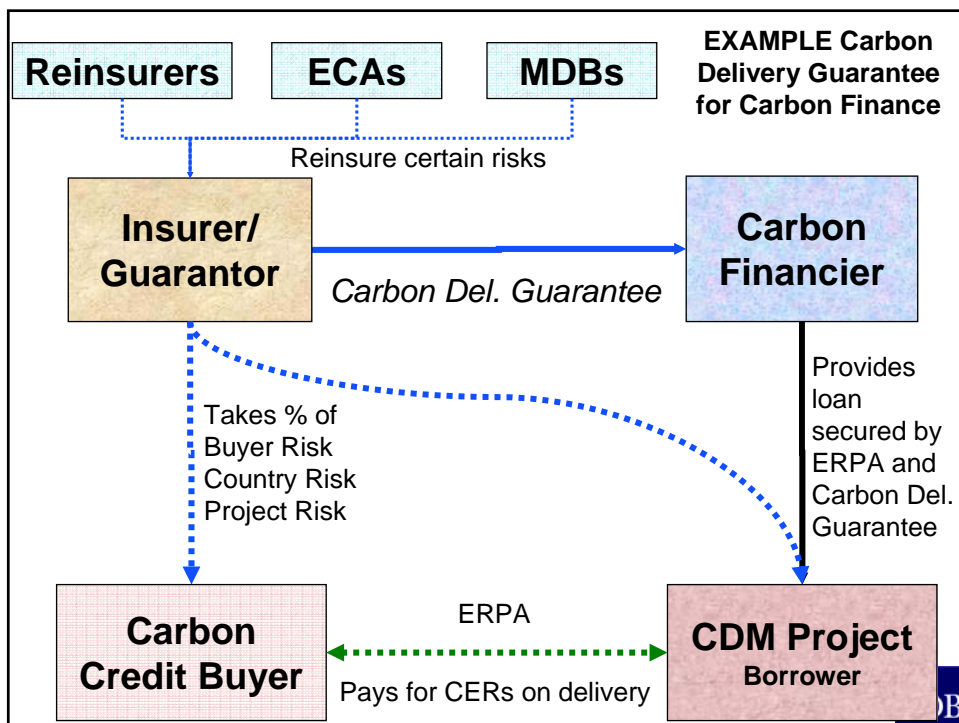
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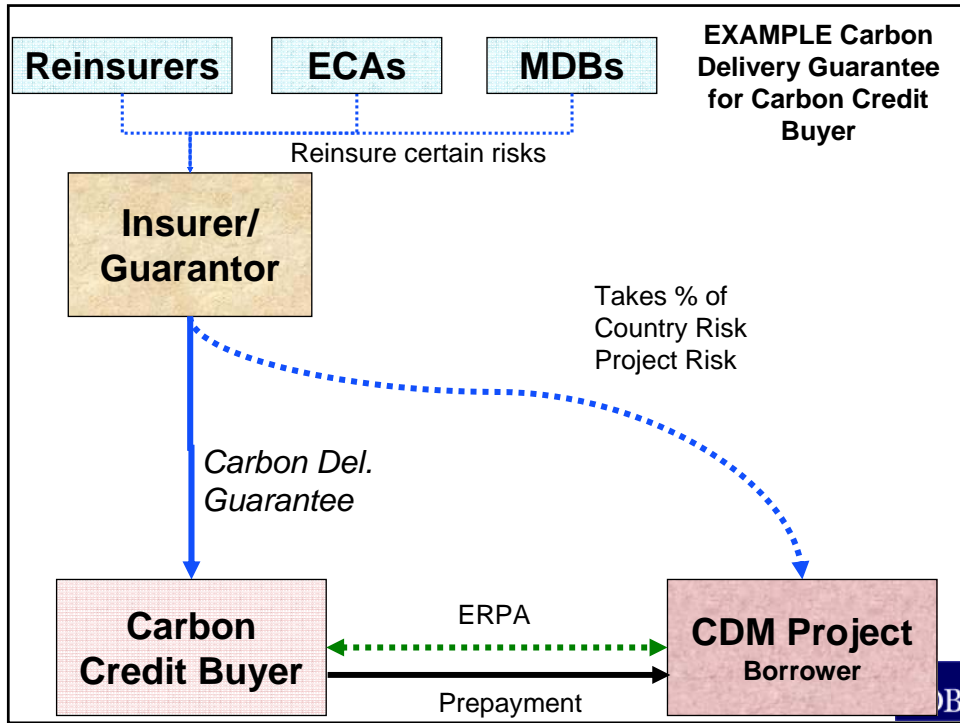
Carbon delivery guarantees

Carbon Market Risk, including

- ERPA documentation
- Legal title to CERs
- Mark to market risk
- Kyoto Protocol Risks
 - Project rejected by CDM Executive Board
 - basis for Project assessment and approval changes
 - GHGs not properly monitored and accounted

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www.adb.org/clean-energy

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