

Economics of CDM Projects

Economics of CDM Projects – Key Factors

- CDM projects produce both **conventional** project output and **carbon benefits(CERs)**.
- The value of carbon benefits and its impact on project viability are **influenced** by several factors which include:
 - **Viability/feasibility** as CDM project (**Technical/Financial**)
 - **Quantity** of CERs generated by the project
 - **Price** of CER
 - **Transaction costs** involved in securing CERs
 - **Risks** involved

Financing CDM Projects – Basics

➤ Whether a potential CDM Project is **feasible or viable?**

- **Technologically** feasible

- **Financially** sound

➤ **Different types** of financing

- **Project financing** – Grants/Loan/Equity

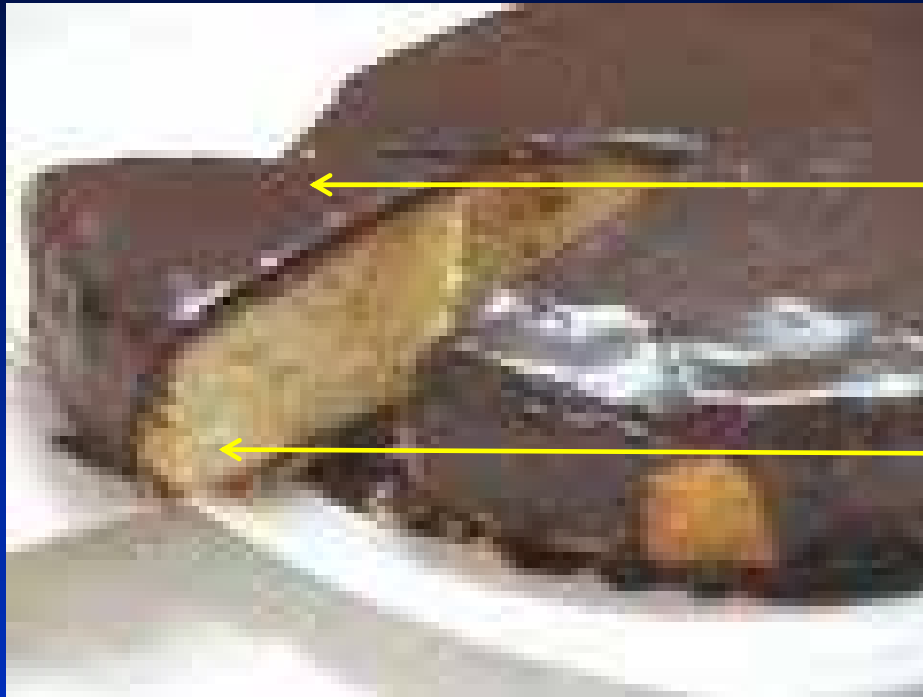
Financing of investment and construction costs, operating and maintenance

- **Carbon Financing** – CDM Costs & CER revenues

- Transaction costs,

- Revenue earned from the carbon credits- typically 5 to 15 % of total project costs

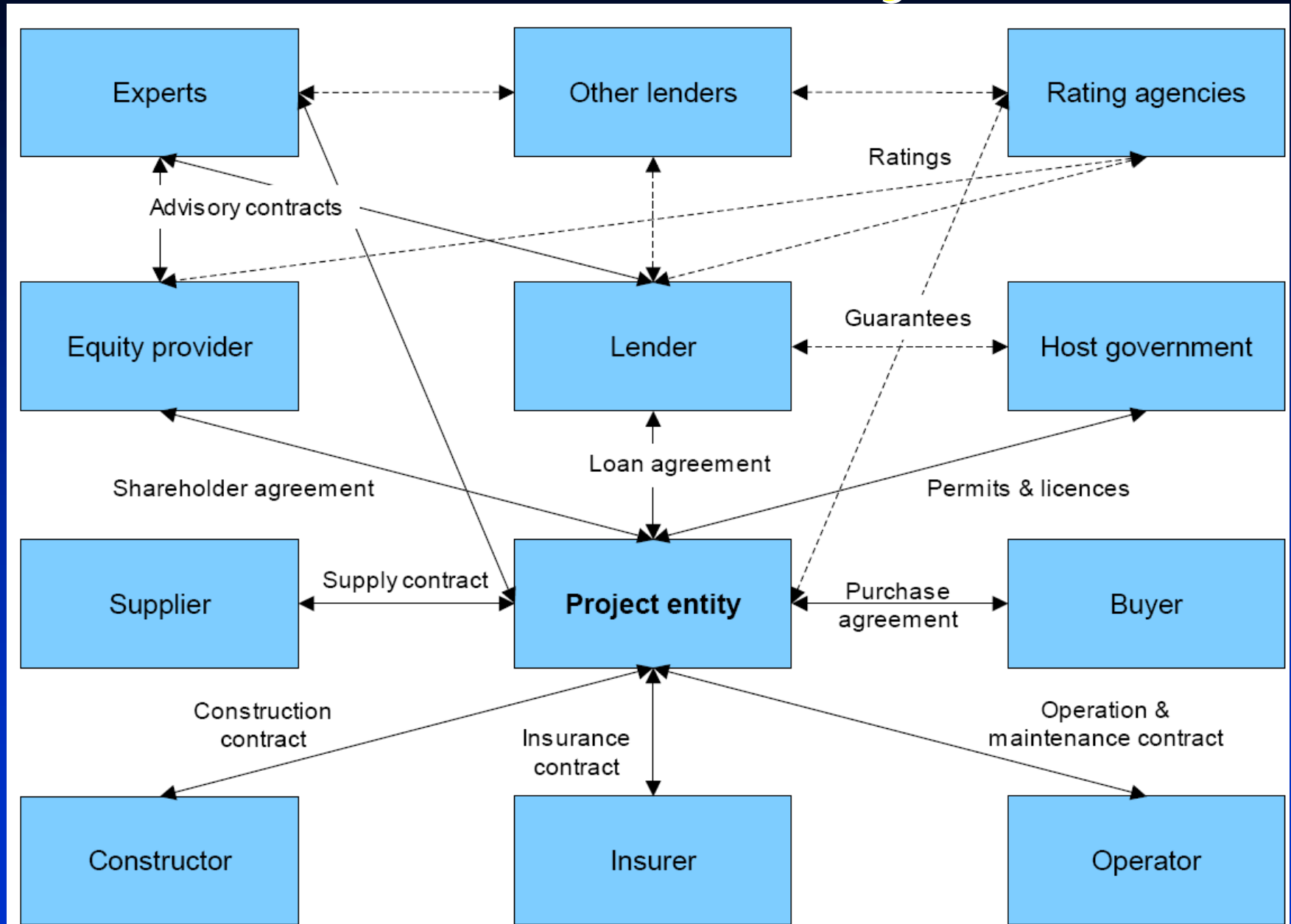
Carbon Financing is just an Icing on the Cake



Carbon Financing

Project Financing

Stakeholders involved in Project Financing



Project Costs & Sources

➤ Total Project Cost Estimates

- Investment costs, including development costs, up to commissioning of project, Operation & maintenance

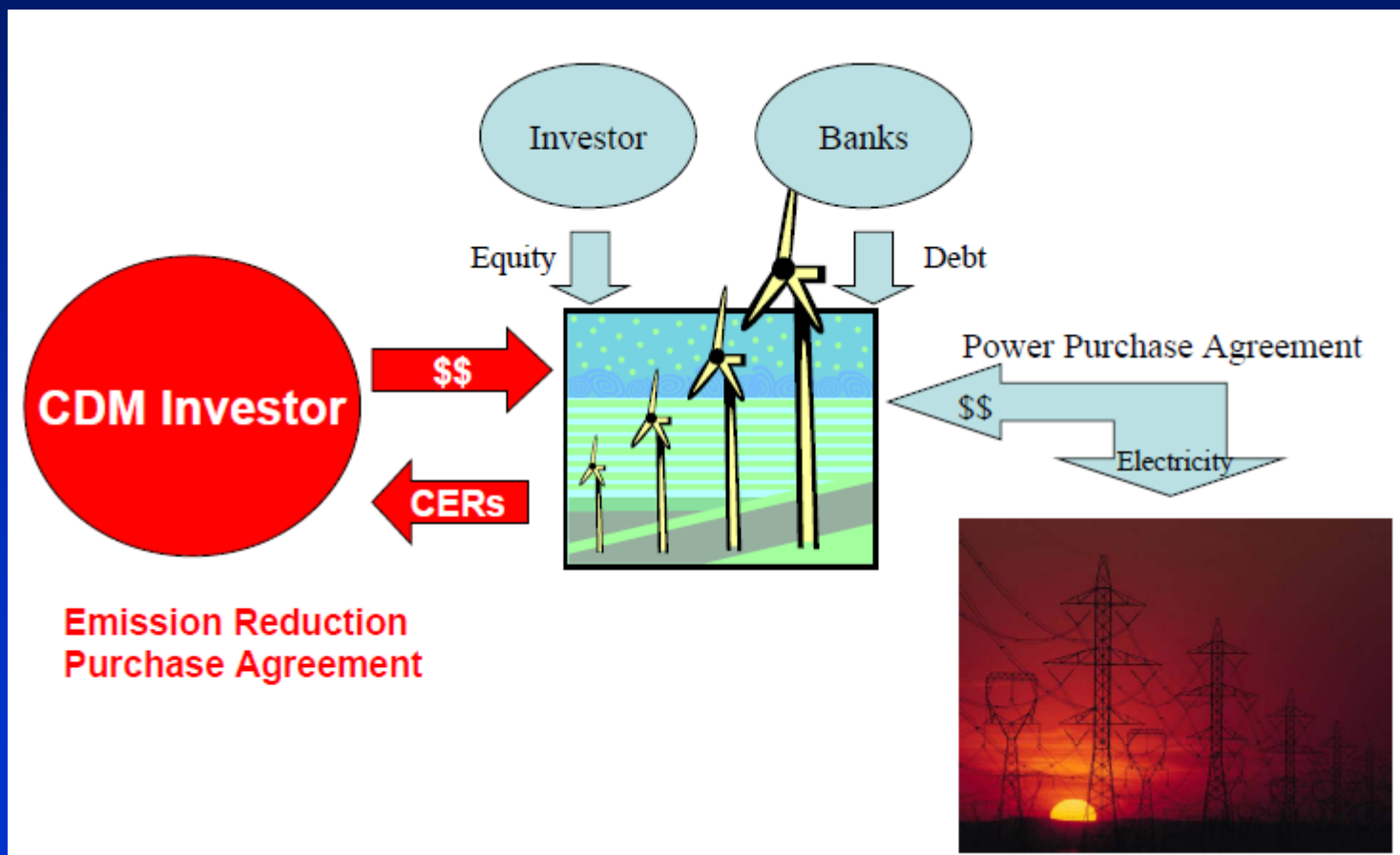
➤ Sources of Finance to be Sought or Already Identified

- Critical to identify other debt and/or equity finance
- Typical sources of funding: Multi-lateral/Bi-lateral, Financial Institutions

➤ CDM contribution = typically 5-15% of total project costs

Options for CDM Financing - ERPA

- ERPA - Emission Reductions Purchase Agreement
- Annex I investor agrees to buy CERs as they are generated by the project



Emission Reductions Purchase Agreement

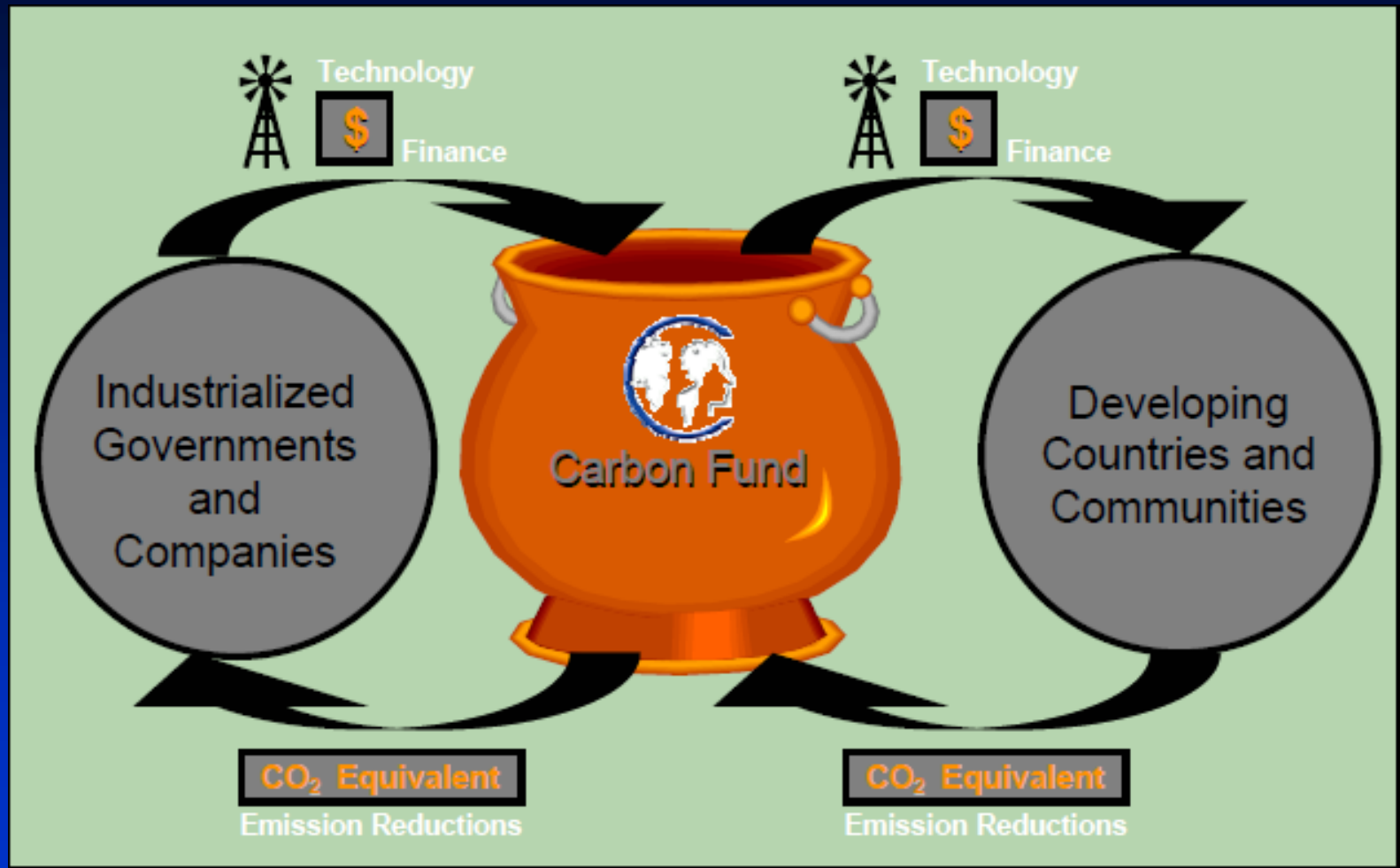
- Can improve the **project IRR**
- Typically **forward contracts**
 - Payment upon **delivery** of verified ERs
 - **Upfront payments** are possible
- Helps secure **financing and reduce project risk**
 - Future ER payments as collateral for project loans
 - Can be paid into an escrow account, protecting lenders from currency convertibility and transfer risks

Options for CDM Financing – Carbon Funds

Carbon Funds

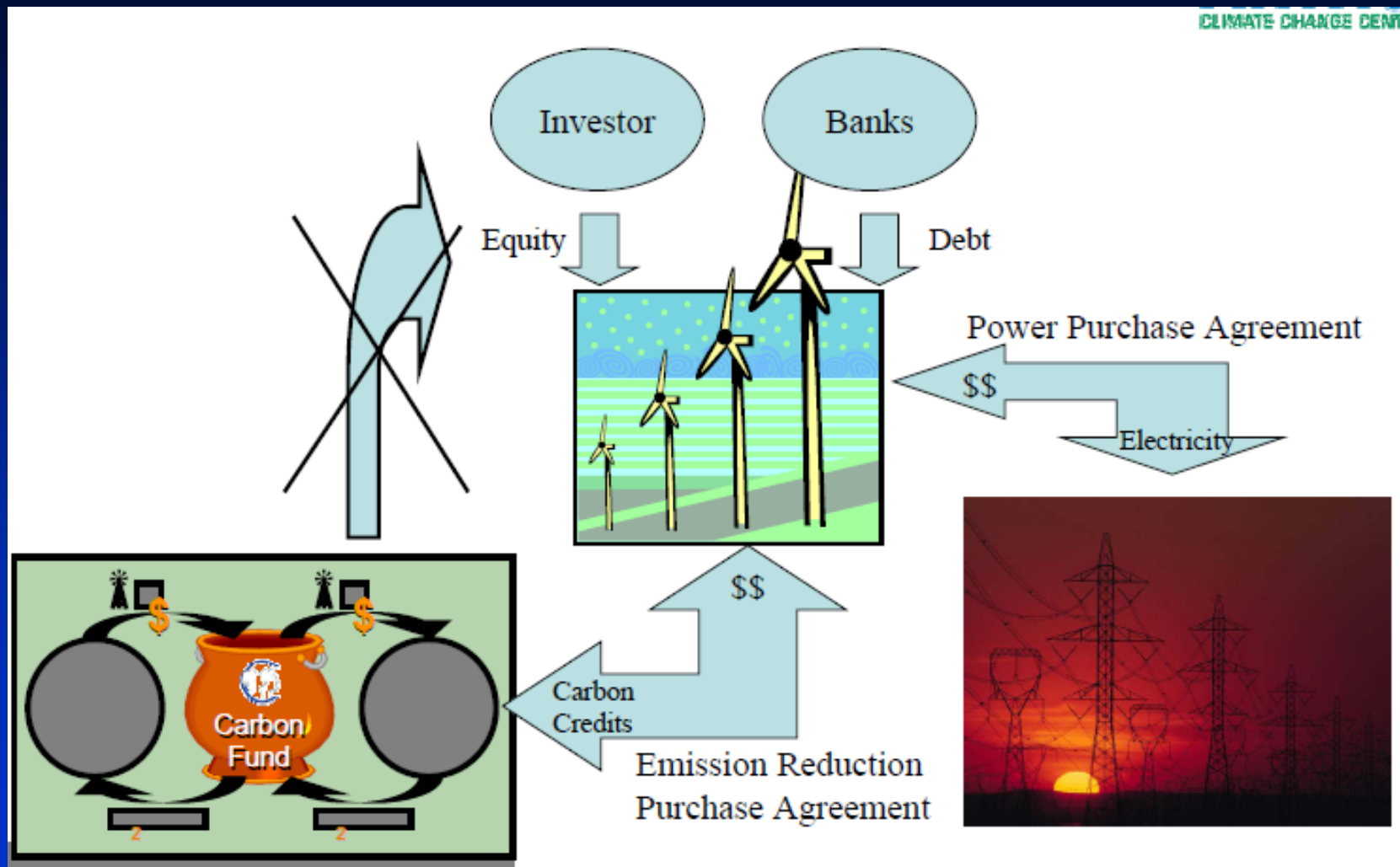
- Annex I investors contribute to a **mutual fund**
- Mutual fund **agrees to buy CERs** as they are generated by the project
- Carbon Fund Examples:
 - ADB – Asia Pacific Carbon Fund/Future Carbon Fund
 - World Bank – Prototype Carbon Fund/Bio carbon Fund/Community development Carbon Fund
 - European Carbon Fund

How Does a Carbon Fund Work?



Carbon Funds – Nature of Contract

CLIMATE CHANGE CENTER



Options for CDM Financing – Equity or Debt

- Full or Partial Equity Financing
- Annex I Investor finances all or co-finances part of a CDM project in return for full or shared financial returns and CERs
- Local investors co-financing CDM projects in a host country may wish to have share in CERs so that they have the opportunity to sell the credits at a later time
- Debt Financing - Annex I Investor provides loan or lease financing at concessional rates in return for CERs

THANK YOU