



Panel Discussion

Project finance and methane capture and use projects

Project Finance Workshop
Methane to Markets Meeting
Buenos Aires,
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Project finance and methane capture and use projects

- ◆ Types of projects and potential emission reductions
- ◆ Project finance and carbon finance
- ◆ Barriers to traditional project finance and proposed solutions
- ◆ Creative project finance structures and opportunities
- ◆ Impacts of carbon finance in project finance

Types of emission reduction projects

1. Landfill gas (LFG)

- Produce electricity
- Process the LFG and make it available as alternative fuel for industrial customers
- Create a pipeline quality gas or alternative vehicle fuel with LFG

2. Natural gas and oil systems

- Technology and equipment upgrades
- Improved management practices and operational procedures

3. Underground coal mines

- Natural gas pipeline injection, electric power production, district heating, mine heating, flaring, etc.

Types of financing

- ◆ **Project financing:** finance investment and construction, operation and maintenance costs
- ◆ **Carbon financing:**
 - Revenue from sale of carbon credits
 - Additional revenue – provides a “boost” to project (becomes more attractive)
 - E.g. Typical contribution CDM: 5 –15 % total project cost

Barriers to traditional project finance

- ◆ **What are the barriers?**
- ◆ **How to overcome those barriers?**

Emission reduction project - finance structures

- ◆ **What are the different finance structures?**
- ◆ **What is an Emissions Reductions Purchase Agreement (ERPA)?**
- ◆ **How do carbon credits affect investment in Equity?**
- ◆ **How do carbon credits affect investment in Debt?**

Impacts of carbon finance in project finance

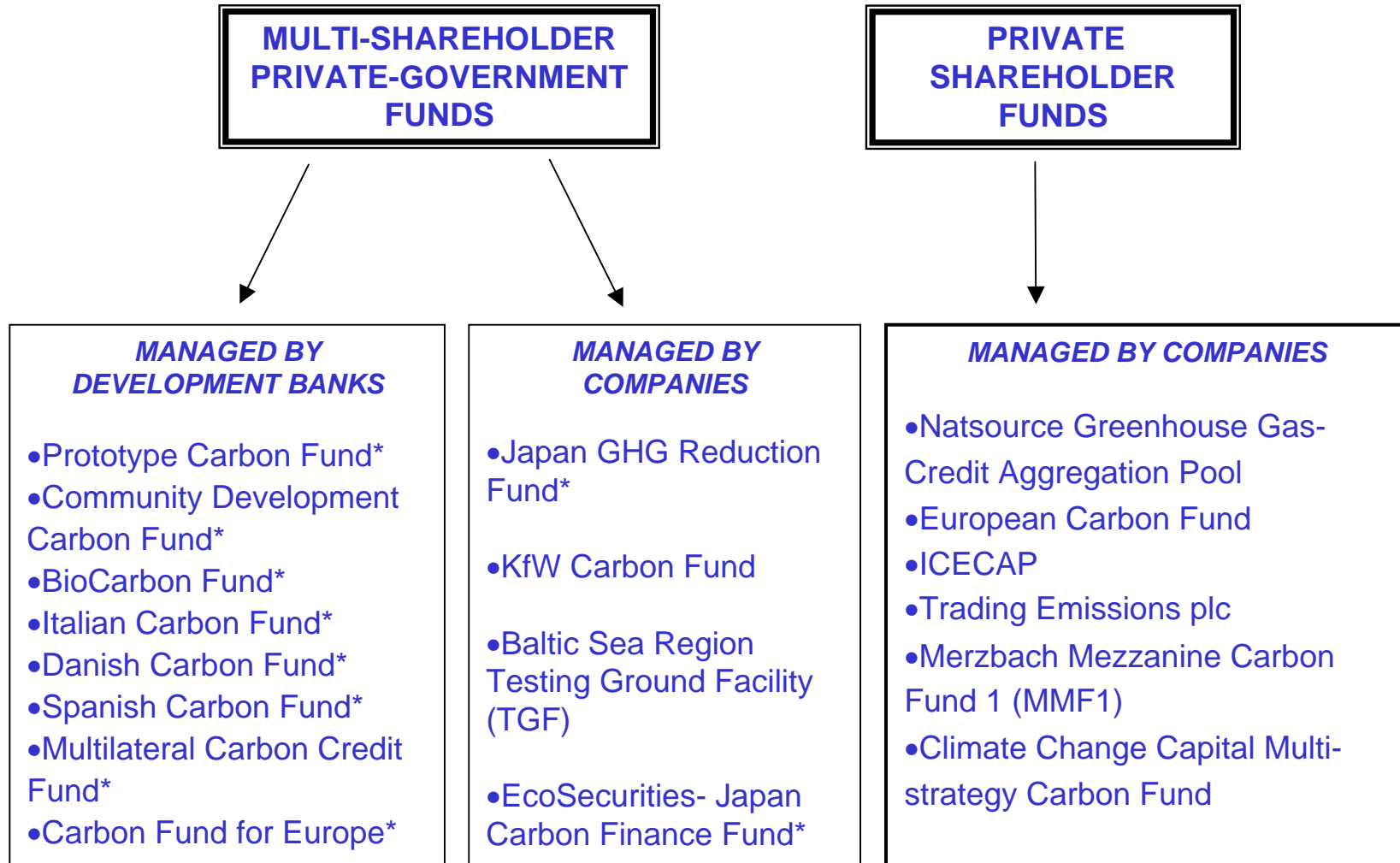
- ◆ **How do ‘carbon credits’ affect IRR of projects?**
- ◆ **What is the leverage effect on project finance?**
- ◆ **What are the *risks* of carbon finance?**
- ◆ **How do you mitigate the risk?**

Annexes

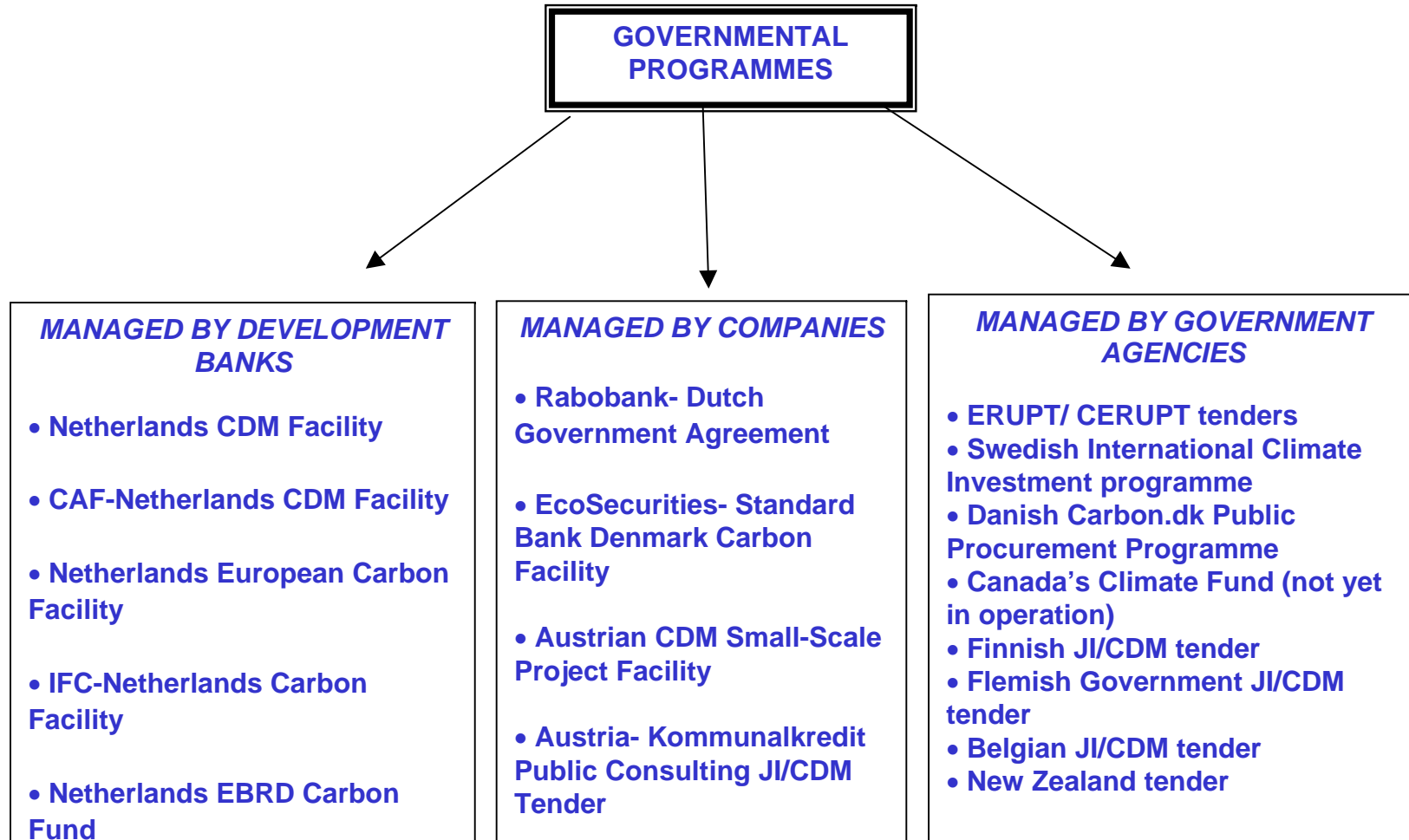
Types of Financiers

- ◆ Carbon funds and facilities
- ◆ Government programmes
- ◆ Development banks and multinational institutions
- ◆ International commercial banks

Carbon funds and facilities



Government programmes



Development banks and multinational institutions

- ◆ Asian Development Bank (ADB)
- ◆ European Bank for Reconstruction and Development (EBRD private sector / public sector)
- ◆ European Investment Bank (EIB)
- ◆ Inter-American Development Bank (IADB)
- ◆ World Bank (International Bank for Reconstruction and Development –IBRD and the International Development Association-IDA)
- ◆ International Finance Corporation (IFC)
- ◆ Multilateral Investment Guarantee Agency (MIGA)
- ◆ Corporation Andina de Fomento (CAF)
- ◆ Nordic Environment Finance Corporation (NEFCO)
- ◆ Nordic Investment Bank

International commercial banks

Project loans

- ◆ Citigroup
- ◆ BNP Paribas
- ◆ Credit Suisse First Boston
- ◆ Royal Bank of Scotland
- ◆ Societe Generale
- ◆ Sumitomo Mitsui
- ◆ Bank of Tokyo Mitsubishi
- ◆ HSBC
- ◆ Korea Development Bank
- ◆ ABN AMRO

Project equity

- ◆ Lehman Brothers
- ◆ Citigroup
- ◆ Goldman Sachs
- ◆ Societe Generale
- ◆ HSBC
- ◆ Credit Suisse First Boston
- ◆ Calyon
- ◆ Deutsche Bank
- ◆ JP Morgan
- ◆ Royal Bank of Canada

Emission reduction project - finance structures

1. Emissions Reductions Purchase Agreement (ERPA)

- E.g. in the case of CDM/JI under the Kyoto Protocol – buying of emission reductions of project – Investor developed country (Annex 1)
- Direct buyer or ‘Carbon Fund’

2. Investment in Equity

- Investor (Annex 1)/local: total or partial financing of project in exchange for total/portion of financial revenues and carbon credits

3. Debt - Loans

- Investor Annex 1 provides loans at concessional rates in exchange for carbon credits / carbon credits as a loan guarantee