



# Korea Carbon Fund

and

# Korea Credit Fund

- The Carbon Market and CDM -

**2007. 11**

Korea Investment Trust Management Company

**true**friend 한국투자운용

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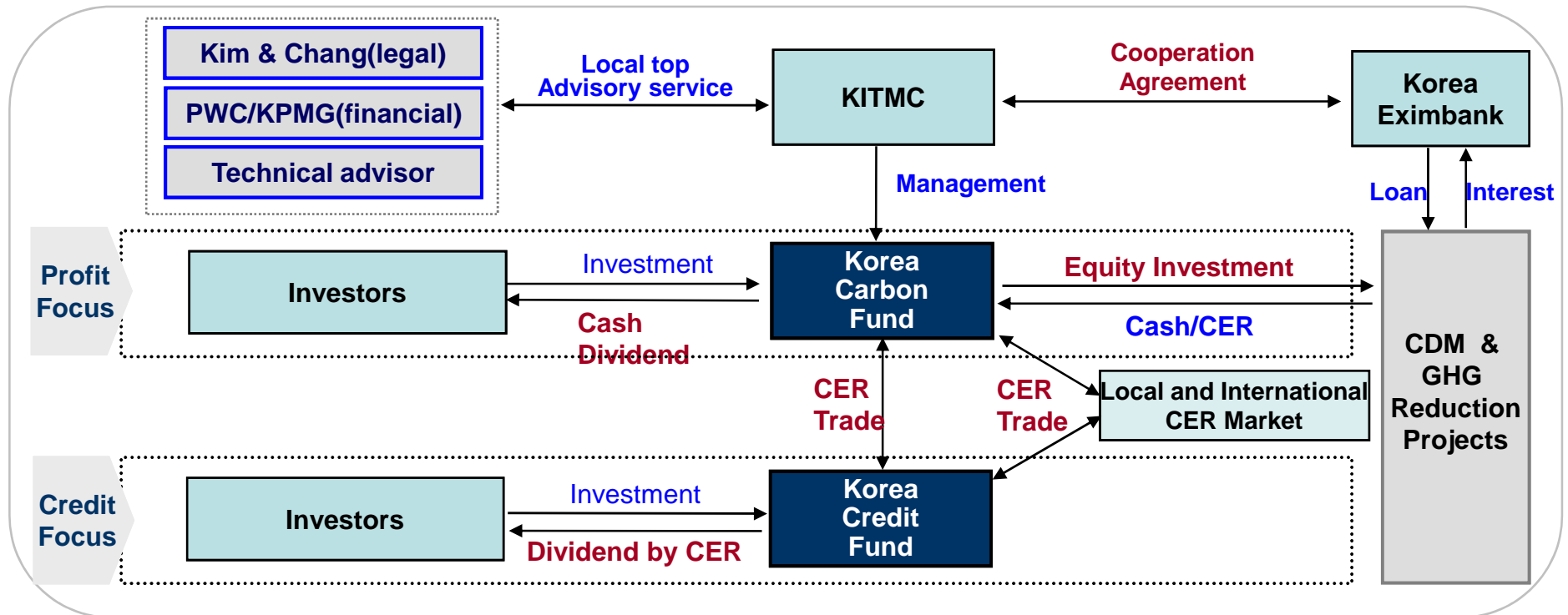
II. Korea Carbon Fund

III. Korea Credit Fund

- Korea's first funds investing in CDM projects and carbon credits in a fast-growing carbon market
  
- Competitive Advantage of Management :
  - ✓ Co-sourcing with Korea Energy Management Corporation [KEMCO]
  - ✓ In cooperation with KEMCO in terms of management
  - ✓ Minimizing the technical/financial risk by consultation from the carbon professionals
  
- Potential reduction in expected redemption period by the installments of investment capital and dividends upon the closing of each invested projects

### Investment Structure Overview

- Establishing two funds: “Korea Carbon Fund”, which focuses on profitability, and “Korea Credit Fund”, which focuses on trading Carbon Emission Rights(CERs)
- Establishing a conservative model in distribution of CERs by the CER transaction between Korea Carbon Fund and Korea Carbon Credit Fund
- Cooperation with the top-notch advisory institutions, such as Kim&Chang(legal), Samil Pricewaterhouse, and Samjung KPMG



(\*) The Structure above assumes that CER is a special asset that can be included into the Special Assets Funds, and it may vary according to the change in the market situation.

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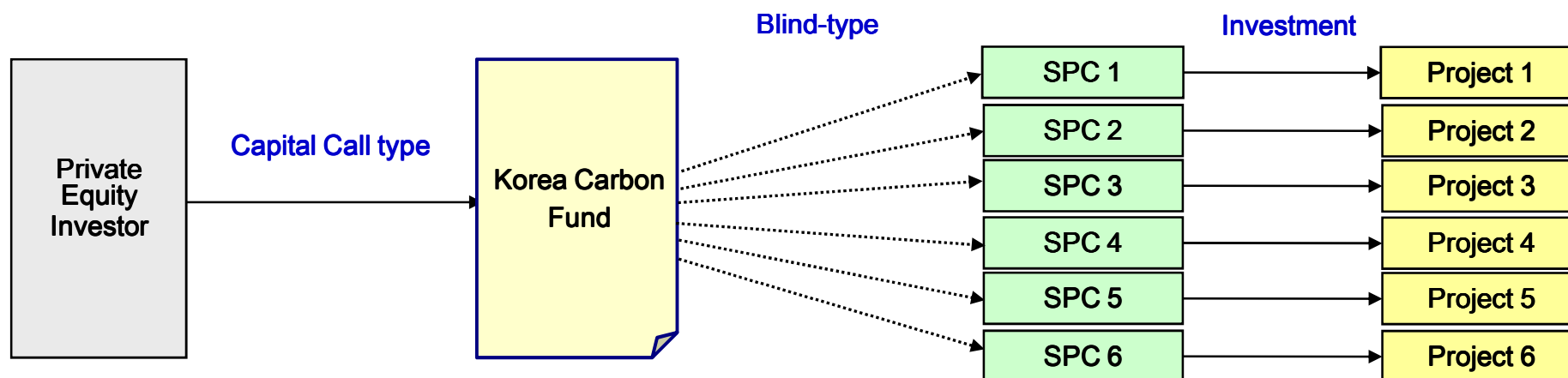
## III. Korea Credit Fund



#### Carbon Fund Summary

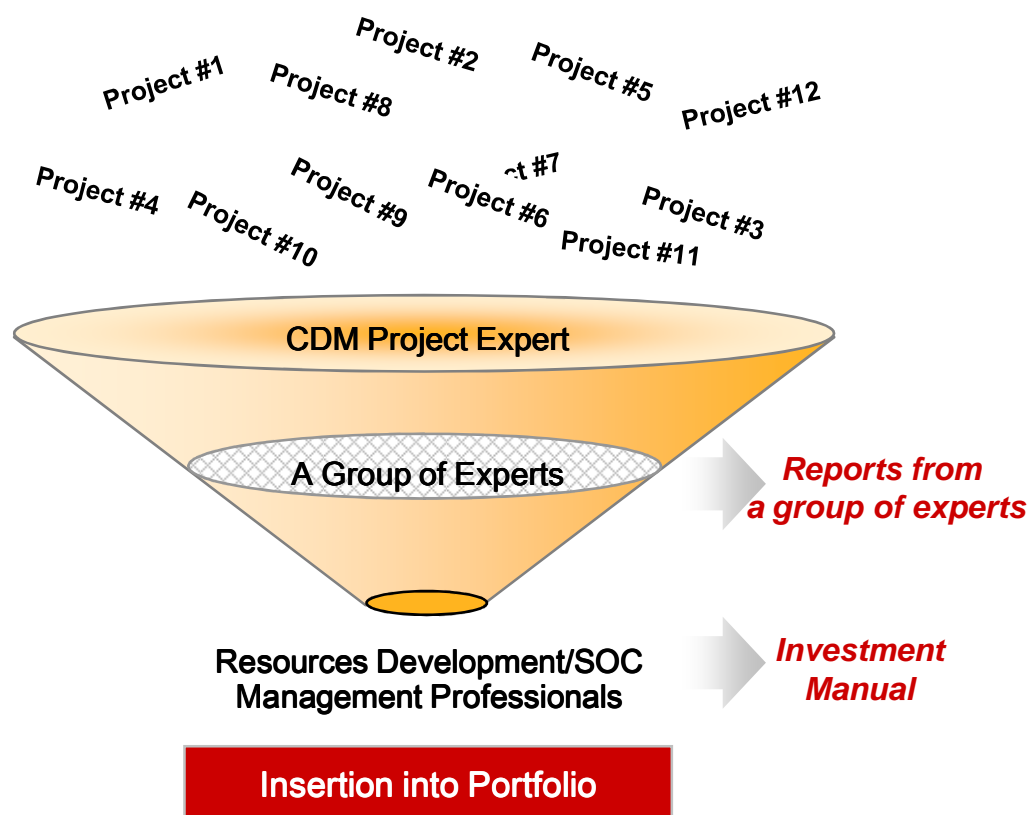
Category	Description
<b>Fund name</b>	Korea Carbon Fund
<b>Type</b>	Private Fund / Closed-end / Special Asset Fund / Mutual Fund type
<b>Size</b>	KRW 200 Bln (Approximately USD 200 million) (Capital Call)
<b>Date of Inception</b>	2007. 8. 14
<b>Maturity</b>	Fifteen years. The maturity may be shortened or extended under the certain conditions in the contract.
<b>Management</b>	<ul style="list-style-type: none"> <li>▪ Obtaining equities or rights of domestic or foreign entity (Independent, joint venture, equity of SPC &amp; loan) in process of CDM &amp; GHG reduction projects listed in Kyoto Protocol Article 12.</li> <li>▪ Traditional domestic/international bond and deposit</li> </ul>
<b>Capital Call Period</b>	3 Years
<b>Buy-Back</b>	Buy-back restricted (Closed-end type)
<b>Redemption</b>	Redemption of dividend + capital semi-annually / redemption of dividend + capital on each liquidation of the project

#### Funding & Investment Method



- **Capital Call** : As the fund makes the investment decision on the target SPC, the fund notifies the investors to commit the agreed amount of investment capital.
  - Since it is a capital call type, it minimizes the management of idle money
    - Investors commit the partial amount of total agreed investment capital on each capital call.
  - When the fund collects its investment from the SPC, the fund transfers the received amount to the investors, thus, the investors will get an early return of investment capital, and the fund minimizes the management of idle money.
    - Fund will collect interest or dividends from the SPC, and the fund will return the liquidated amount to the investors semiannually
    - As Fund collects its loan from SPC or sells the equity of SPC, Fund will distribute the cash back to the investors
- **Blind type** : The target investment projects are not determined before the establishment of the fund, the target projects will be determined during the management period.

#### Management Strategy - Systemic Investment Decision Making



#### ► Project sourcing through the CDM experts

- Through the KEMCO GHG Registration
- Through the KEMCO experts' onsite assessment
- Through the CDM consulting and CER-related entities
- Through the domestic and international network

#### ► Preliminary feasibility study(f/s) by a group of experts

- Project advisory as well as technical/economic feasibility study by experts of each business area (climate change, CDM, renewable, and others)

#### ► Investment analysis & decision making by management professionals

- The projects with good f/s results, management company will make the final decision of insertion into the portfolio after its final investment analysis
- Review by Resources/SOC professionals, internal lawyer, and CPAs
- Outsourcing legal, accounting, and technical advisors



#### Management Strategy II – Diversification

##### ■ Possible Business Areas by Sectors

GHG	Area	Business Example	Business Features
CO <sub>2</sub>	New & Renewable Energy	Wind power, solar power, geothermal power, tidal power, biomass, waste gas and waste heat recovery and generation	<ul style="list-style-type: none"> <li>▪ Focus in energy sector</li> <li>▪ Substitution of fossil fuels, reducing air pollution, creating social convenience through forest recovery</li> <li>▪ Renewable energy area (Cash + CER)</li> <li>▪ Conservative profit</li> </ul>
	Energy Efficiency Improvement	Improvements of steam efficiency, pump efficiency, and area heating boilers	
	Fuel Transformation	Transforming coal and petroleum into LNG	
	Cement Manufacturing	Improvement of energy efficiency, waste energy recovery and generation process, reducing CO <sub>2</sub>	
	Transportation	Switch diesel vehicles to LNG vehicles, change of transportation systems	
	Gas Leakage	Well flare gas recovery/ fuel supply	
	Absorbing Source	Forestation & afforestation	
CH <sub>4</sub>	Waste Processing	Recovery of methane from the organic waste (Landfill waste, wastewater process, wastewater sludge)	<ul style="list-style-type: none"> <li>▪ Methane gas generation/heat supply (Cash + CER profit)</li> <li>▪ Reasonably profit</li> <li>▪ Contribution to the economic structure of resource circulation</li> </ul>
	Agriculture	Livestock excretion process	
	Leakage	Mining methane process	
N <sub>2</sub> O	Nitric Acid Process	Removing fertilizer factory N <sub>2</sub> O	<ul style="list-style-type: none"> <li>▪ High profit (Large scale of CER production in proportion to the investment levels)</li> </ul>
PFCs	Semi-conductor Production	Removing semi-conductor production process PFCs	
SF <sub>6</sub>	LCD Production Process	Recovery of leaked gas from power transmission and substation systems, recovery of SF <sub>6</sub> from LCD production process	
HFC	Refrigerant Process	HFC dissolution project	

### Management Strategy II – Diversification

- Forming a diversified portfolio by business areas

Business Area		Ideal ratio	Minimum required IRR	Minimum investment size	Expected Project maturity
CO <sub>2</sub>	CO <sub>2</sub>	50 %	8 %	KRW 10 Bln	15 years
Non-CO <sub>2</sub>	CH <sub>4</sub>	20 %	12 %	KRW 3 Bln	10 years
	N <sub>2</sub> O	30 %	15 %		7 years
	PFCs				
	SF <sub>6</sub>				
	HFC				
<b>Total</b>		<b>100 %</b>	<b>11 %</b>		

1> Ideal ratio : Assuming that the fund size is approximately KRW 200 Bln, an investment ratio of each business area to the total investment size

2> Expected project maturity : it may vary depends on the timeline of equity sales

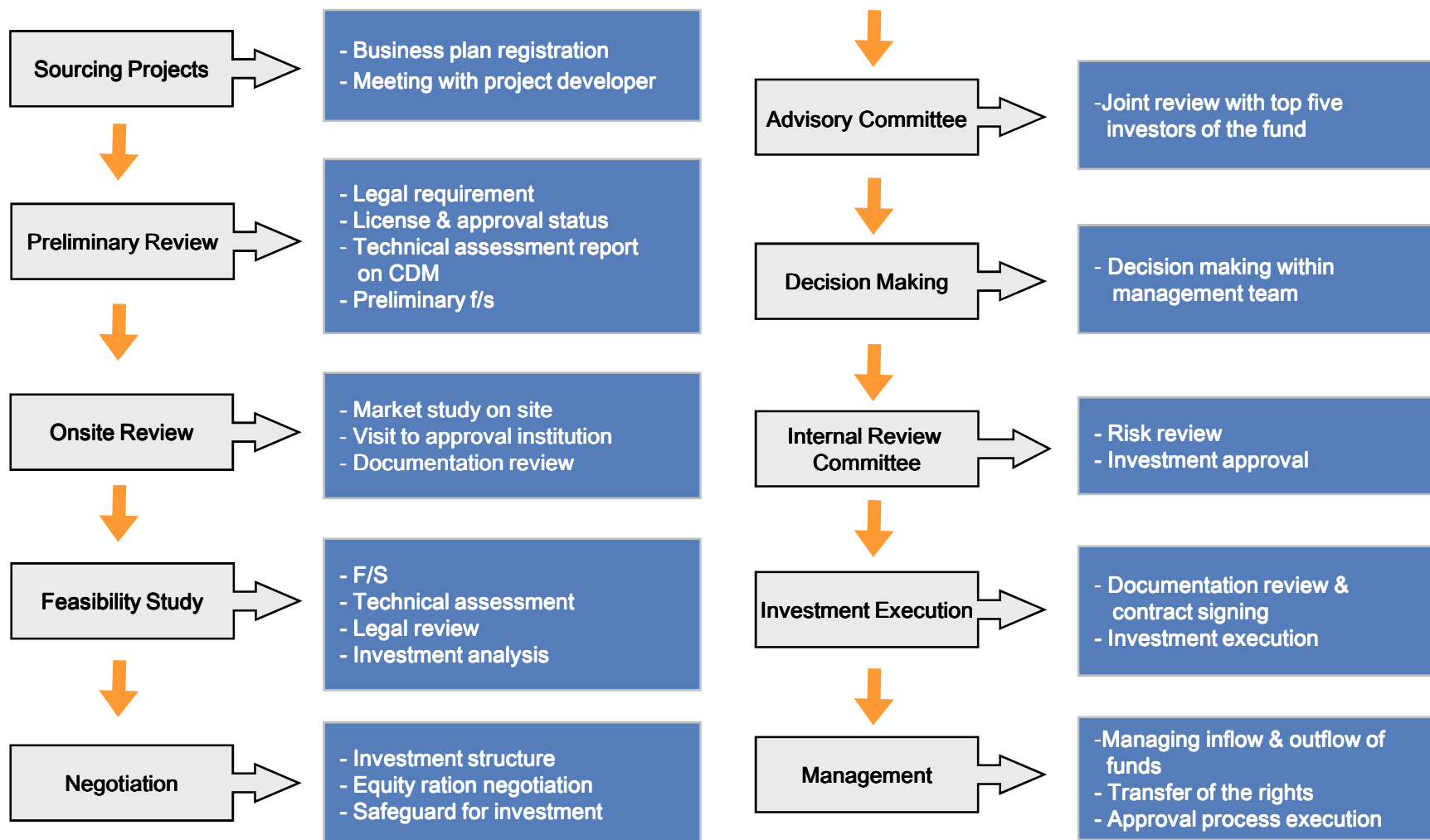
## II. Korea Carbon Fund

### 2. Management Strategy & Investment Process

#### Management Strategy III – Resources & SOC Professionals

Name	Title	Education & Qualification	Main Career
Charles Seo	Managing Director	- Hanyang Univ: M.A in Business	- Korea Development Bank PF SOC management 4 years, Corporate finance 12 years - Korea BTL Private Equity Fund, Vietnam Oil Fund, etc
Ju-su Lee	Director	- Seoul National Univ: Resources Engineering - CPA	- Samil PWC 5 years (Audit, Energy), Daewoo International 2 years (Energy Development) - Vietnam Oil Fund
Hae-young Yoon	Senior Manager	- Yonsei Univ: Masters in Architecture - Licensed Architect	- Korea Development Bank PF SOC management 4 years, SOC Professional Certificate - Korea BTL Private Equity Fund, Expressways, other BTL projects
Jong-eun Lee	Manager	- Seoul National Univ: German Literature - Attorney at law	- Hwain Law Firm 1 year (construction, finance) - Korea BTL Private Equity Fund
Suk-min Lee	Manager	- Seoul National Univ: M.A in Resources Engineering	- Woori Investment Security: Structured Finance Team
Hee-eun Choi	Assistance Manager	- BBA, Hanyang University - Registered Fund Manager	- Korea Investment Security SOC Division 6 years - Korea BTL Private Equity Fund
Jihoon Kim	Assistance Manager	- Yonsei Univ: Business - CPA	- Samil PWC 3 years (Audit, Energy) - Vietnam Oil Fund
Jinbon Kim	Assistance Manager	- Johns Hopkins Univ: Economics	- Rabobank Food & Agribusiness Research

#### Investment Process – Decision-making and Management System



### Investment Process – Decision-making and Management System

- Designation of members of the investment advisory committee and participating in the management process
- Establishing an investment advisory committee

- ▶ Committee members

- : 1 member from asset management company, 5 members from top five largest investors of the fund (designation will take place annually)

- ▶ Authority & Main negotiation issue

- A review in application of the investment guideline to the potential target project
  - Feasibility study in potential target project and investment negotiation
  - Negotiation on issues of management of assets of invested company or SPC

- ▶ Operation of the committee

- Hold the committee meetings when necessary by meeting or phone
  - Maintain the confidentiality

#### Investment Risk & Risk Management

Risk	Description	Risk Management
<b>CDM Project Development</b>	<ul style="list-style-type: none"> <li>The invested project may not be approved as the CDM project if the project does not fulfill the CDM requirement</li> </ul>	<ul style="list-style-type: none"> <li>First technical feasibility assessment by experts in KEMCO, second technical feasibility assessment by outsourcing technical advisors</li> </ul>
<b>CER Approval</b>	<ul style="list-style-type: none"> <li>The amount of the approved CERs may not be as much as it was planned in CDM business plan</li> </ul>	
<b>Volatility of CER Price</b>	<ul style="list-style-type: none"> <li>CER price may fluctuate greatly due to the uncertainty of the Kyoto Protocol system &amp; Carbon market</li> </ul>	<ul style="list-style-type: none"> <li>By measuring the CER price based on the market price, manage risk for marginal difference through applying floating price system whenever CER is issued</li> </ul>
<b>Construction</b>	<ul style="list-style-type: none"> <li>Default and nonfulfillment of construction contract by the construction company due to the appreciation of construction cost</li> </ul>	<ul style="list-style-type: none"> <li>Forwarding the risk of cost appreciation to the construction company by signing a Fixed Price EPC contract</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>Project manager's inexperienced management may result in decrease in profit</li> </ul>	<ul style="list-style-type: none"> <li>Sign a contract with experienced professional project management company</li> </ul>
<b>Feasibility &amp; capital redemption</b>	<ul style="list-style-type: none"> <li>A decrease in power generation may reduce the chance of the capital redemption</li> </ul>	<ul style="list-style-type: none"> <li>Secure the performance warranty of power generation equipment company</li> <li>When the power generation efficiency decreases, equipment replacement with no extra charge and damage compensation charge will be applied to the equipment company</li> </ul>
<b>Market Risk</b>	<ul style="list-style-type: none"> <li>A decrease in profit may happen due to the change in market interest rate</li> </ul>	<ul style="list-style-type: none"> <li>The fund is not much exposed to the interest rate risk</li> </ul>

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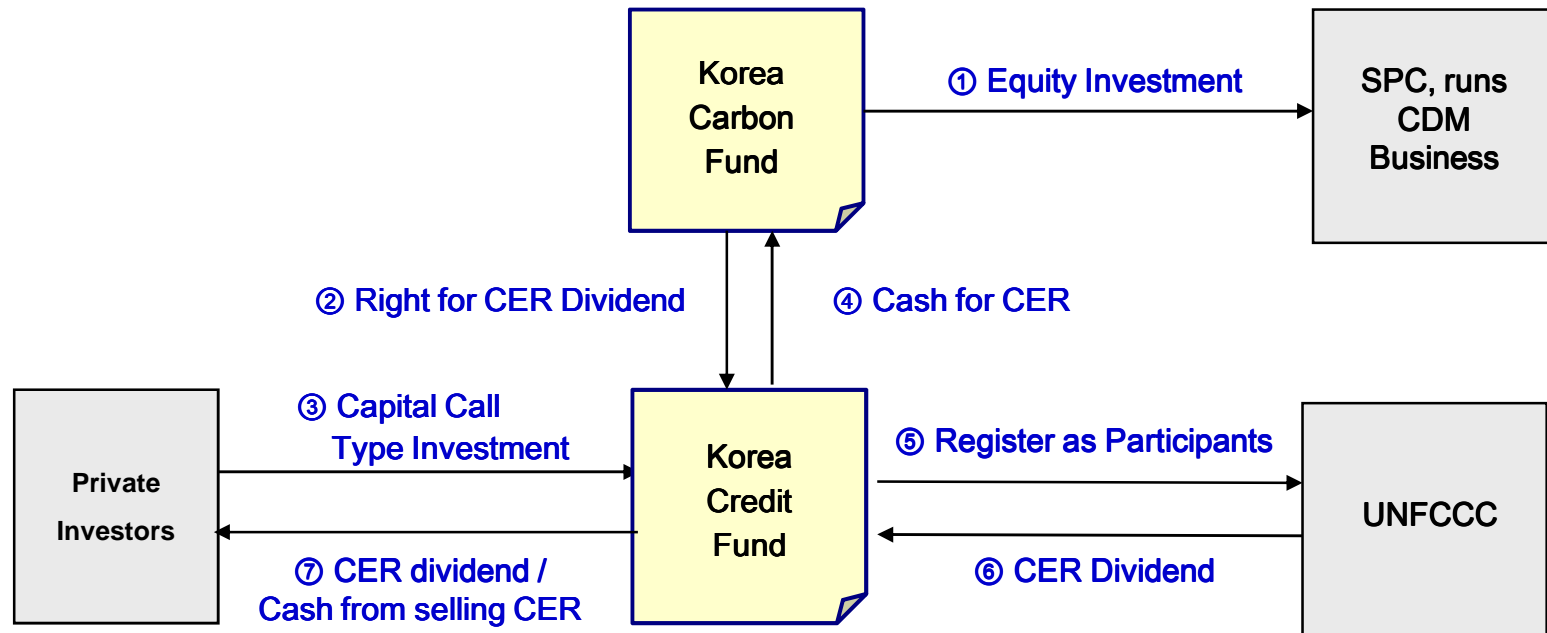
3. Investment Risk & Risk Management Plan

### Carbon Credit Fund Summary

Category	Description
<b>Fund Name</b>	Korea Carbon Credit Private Fund No.1 [KCCPF-1]
<b>Type</b>	Private Equity/ Closed-end/ Special Asset/ Mutual Fund Type
<b>Size</b>	KRW 100 Bln (Capital Call)
<b>Date of Inception</b>	2007. 9. 28
<b>Maturity</b>	7 years, early liquidation is possible if the required amount of CERs are collected before the maturity date
<b>Management</b>	<ul style="list-style-type: none"> <li>▪ Domestic/International carbon credit</li> <li>▪ Traditional domestic/international bond and deposit</li> </ul>
<b>Capital Call period</b>	5 years
<b>Buy-back</b>	Buy-back restricted until the maturity
<b>Redemption</b>	<ul style="list-style-type: none"> <li>▪ Profit from trading, CERs and principal semiannually</li> <li>▪ Remaining CERs will be distributed at the liquidation of Fund</li> </ul>



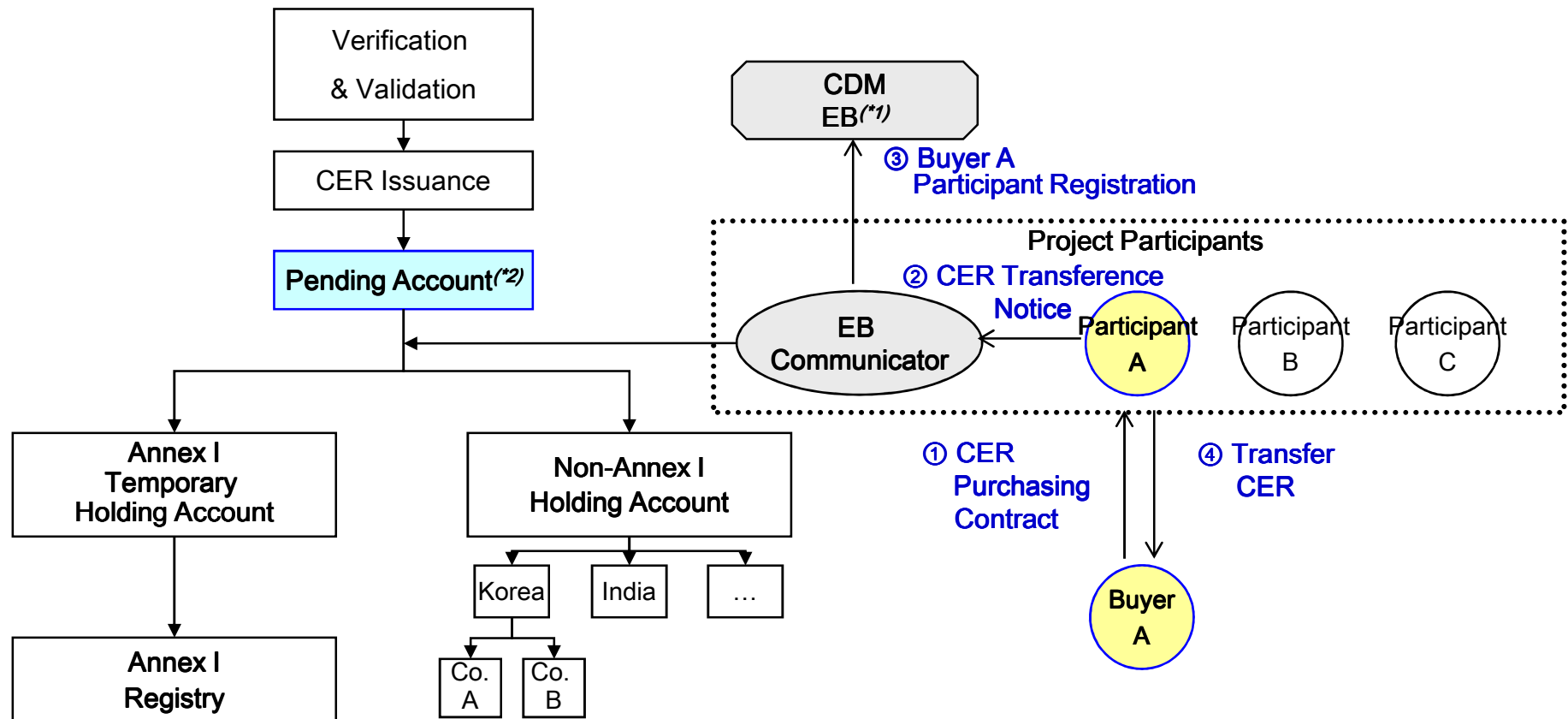
### Fund Raising & Investment Method



- **Capital Call Type:** Private investors commit total amount of investment with the Fund and pay the amount to the Fund when the Fund decides to buy the CER from the CDM business
  - Capital Call Maturity : 5 years
  - By applying a kind of capital call type setting for the PEF in proportion to the sizes of the CDM business and CER as the targets of the carbon fund to minimize idle money and uplift fund profits.
- **Blind Type :** A target investment will be determined after the inception of Fund based on business-by-business

### Carbon Credit Enrolment Process

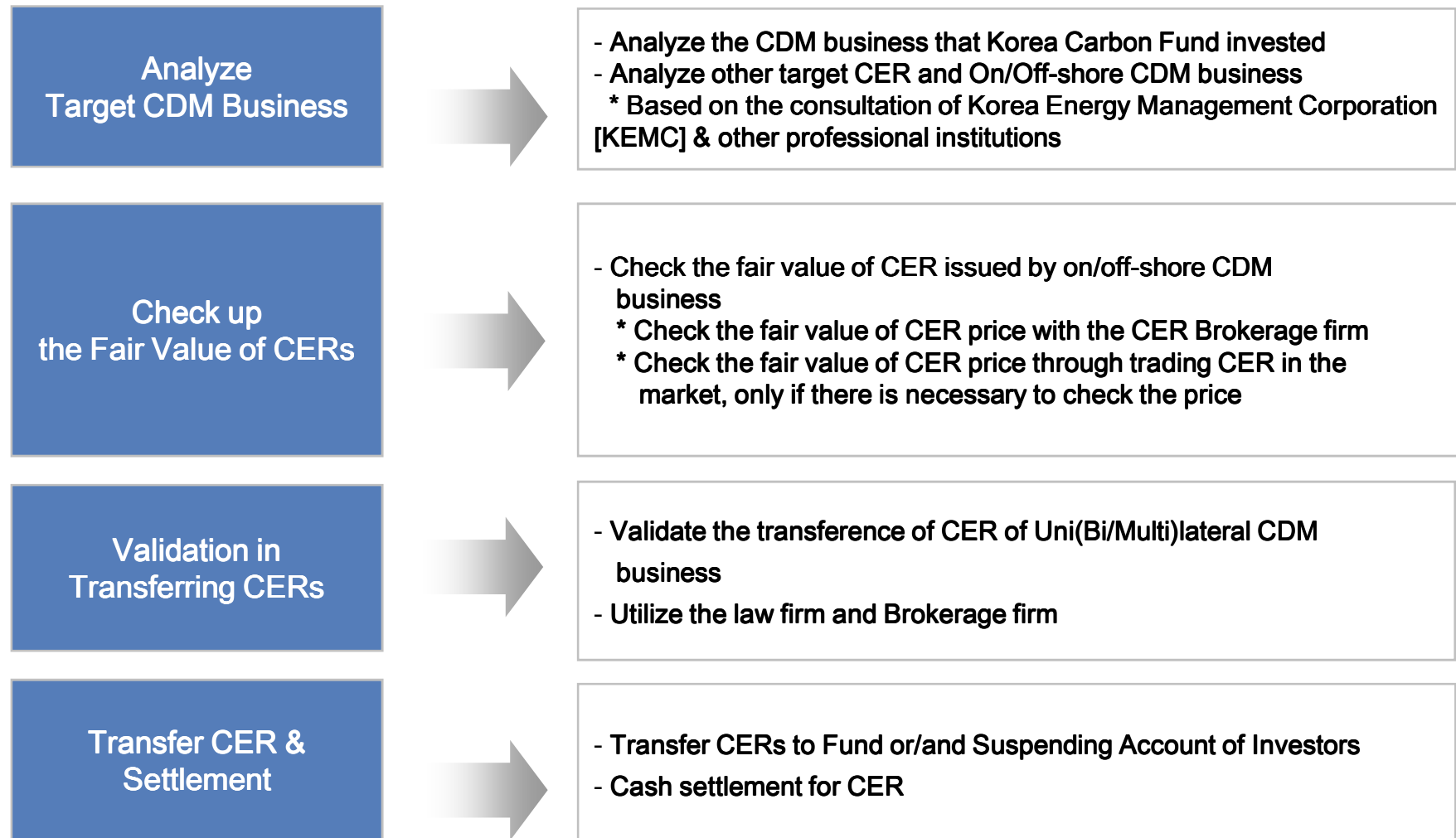
- After issuance, purchase the CER registered in pending account by participating as a project participant



(\*1) CDM EB(Clean Development Mechanism Executive Board)

(\*2) Pending Account : Where CER is registered before any related administrative cost based on project

### Management Strategy - Investment decision making based on system



### Investment Risk & Risk Management Plan

Factor	Risk	Risk Management Plan
Volatility of CER Price	<ul style="list-style-type: none"> <li>A risk that CER price might greatly fluctuate due to the uncertainty of the Kyoto System and the carbon market</li> </ul>	<ul style="list-style-type: none"> <li>By securing CER directly, the Fund can appeal mostly to strategic investors who would eventually need to secure CERs for its future business management</li> <li>Mainly purchase the CERs issued from the CDM project in which Korea Carbon Fund has invested in order to minimize the volatility of the CER price</li> </ul>
CER Approval	<ul style="list-style-type: none"> <li>The amount of the approved CERs may not be as much as it was planned in CDM business plan</li> </ul>	<ul style="list-style-type: none"> <li>Mainly purchase the issued CERs</li> </ul>
FX Risk	<ul style="list-style-type: none"> <li>A risk that the investment return might be declined due to the fluctuation of FX rate (KRW to USD)</li> </ul>	<ul style="list-style-type: none"> <li>Hedging the risk of exchange rate fluctuation through Won/US dollar hedge trading</li> <li>Applying fixed exchange rate with having an agreement with Korea Carbon Fund</li> </ul>