

Public-Private Partnership in Exporting Waste Management Services

LEE, Changjoo
Korea Environment Corporation (K eco)



한국환경공단
Korea Environment Corporation

Contents

1-3 : Waste Management Service Exporting : opportunity and threat

4-8 : Public-Private **Environment** Partnership

9-10 : Bio Green Energy Fund

Waste Management – Policy supports for exporting WM services

- Acts and government policies for global environment power
- Promotion of export-based ecology for environment business

Act for Green Growth

- virtuous cycle of economic growth and environment preservation
- legislation for global leadership and exemplary precedence

Act for promotion of envir. Technology and industry

- legal base for promotion of exporting environment business
- preparation of integrated plan for exporting envir. business

Export-based ecology for environment business

- 15 bil\$ export of envir. business by 2017
(1.3% of global market share)
- Global Best 10 enterprise by 2020
- Integrated Plan for Global Marketing ('12)
- Integrated Plan for Envir. Technology and Industry ('12)

Integrated plan for waste-to-energy

- paradigm shift to energy recovery
- ECO STAR Project – global new technology
- Expansion of WTE facilities
- 100% energy recovery of waste by 2020
: 3.8 mil ton('12) to 12.18 mil ton by 2020
- 1.28mil Gcal/year exhausted heat recovery
- 160 m³/day landfill gas energy recovery

+

- alternative source for fossil fuel energy
- carbon reduction and carbon trading
- reduction of waste management costs

- economic growth and climate change mitigation

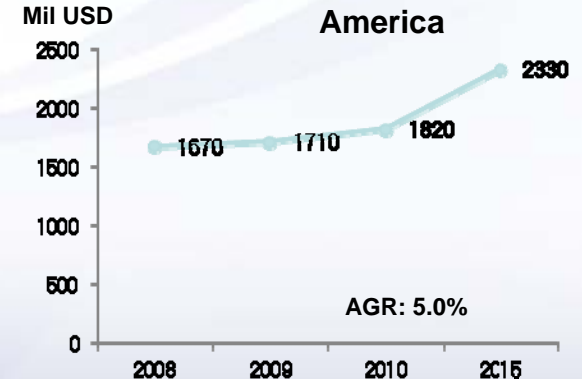
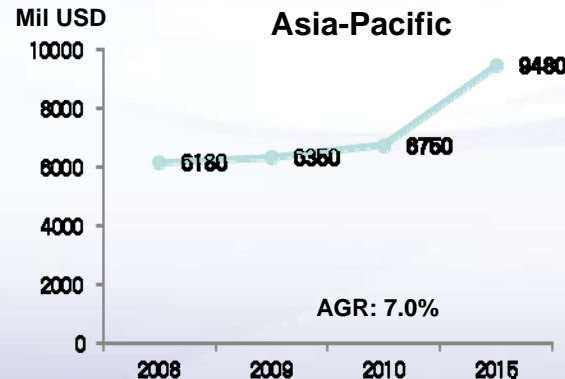
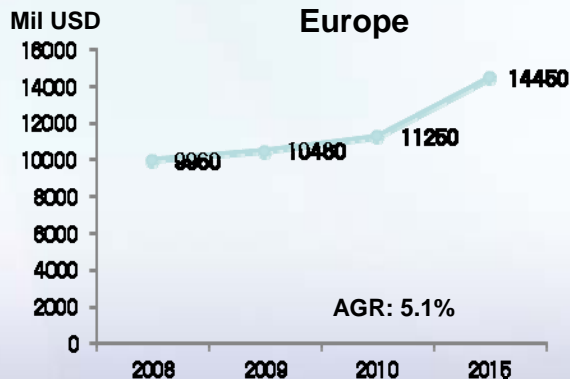
Global Waste Management (Waste-to-Energy) Market

- Large share of market in Europe and America
- Rapid market growth in Asia-Pacific region and other developing countries

[WTE market expectation by regions]

Mil USD

regions	2008	2009	2010	2015	AGR(%) (2010~2015)
Europe	9,960	10,460	11,250	14,450	5.1
Asia-Pacific	6,180	6,350	6,750	9,480	7.0
America	1,670	1,710	1,820	2,330	5.0
Other regions	2,940	2,990	3,140	3,720	3.4
Total	20,750	21,510	22,960	29,980	5.4



Waste Management Service Exporting – opportunity and threat

- golden opportunity – decreasing domestic and increasing overseas market
- extreme competition in global market – price and technology
- advanced and IT-combined technology but low brand awareness

[global competition SWOT]

Strength

- advanced technology + IT
- BACT for developing countries
- Government's strong support
- adv. technology + competitive price

Weakness

- intensifying competition in global market
- deficiency of original technology
- investment power and availability
- low brand awareness

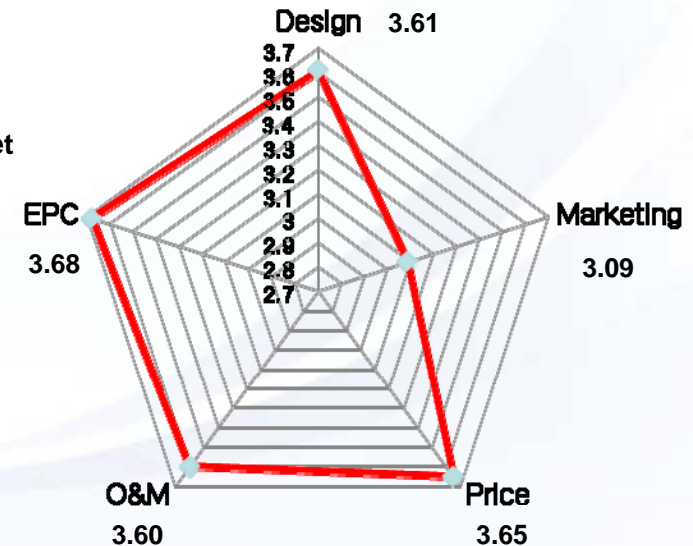
Opportunity

- increasing demand from in & out
- quality of envi. development
- combined tech. of IT and environment
- increasing need for cleaner envir.

Threat

- unstable situation in target market
- cutthroat competition
- preoccupancy and monopoly in market
- leak technologies

[global competition index]



Public Private **Environment** Partnership

Public Ready-to-provide
Public services

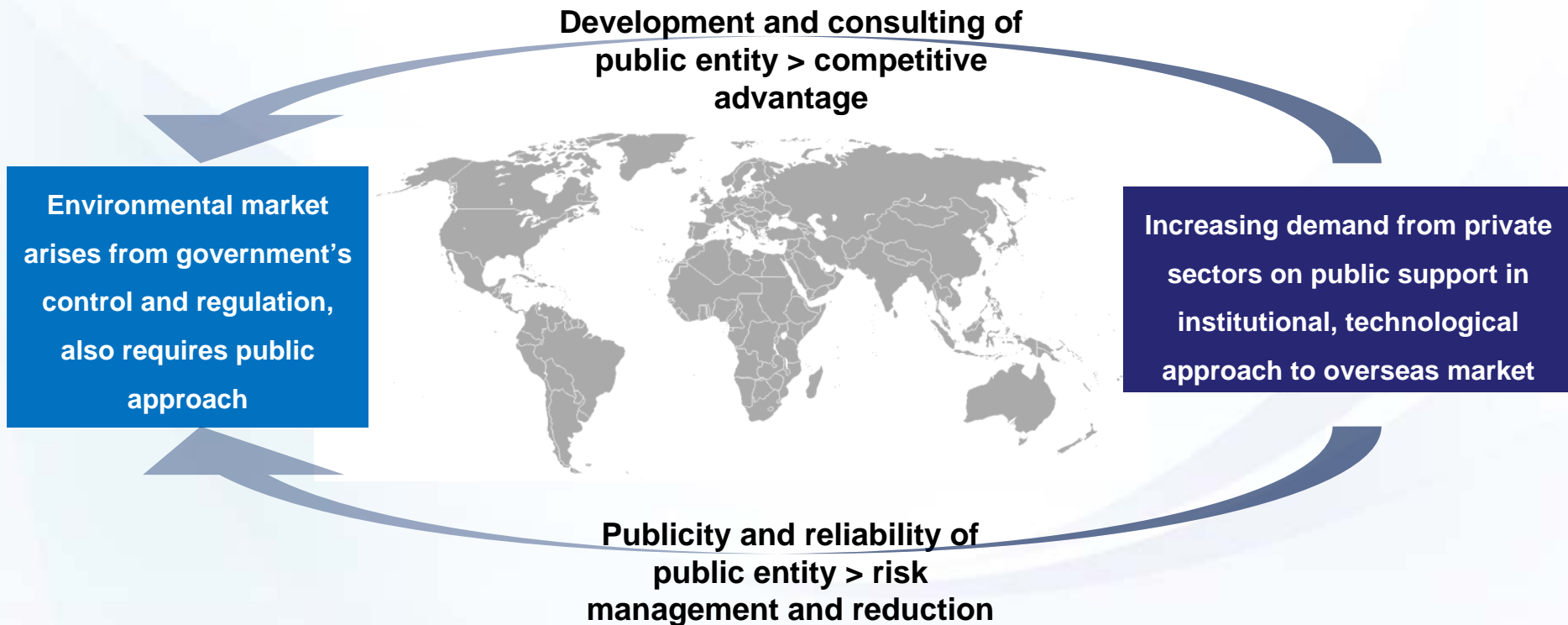
Private Demand for public sectors'
Support

Environment Decreasing domestic market
Increasing overseas chance

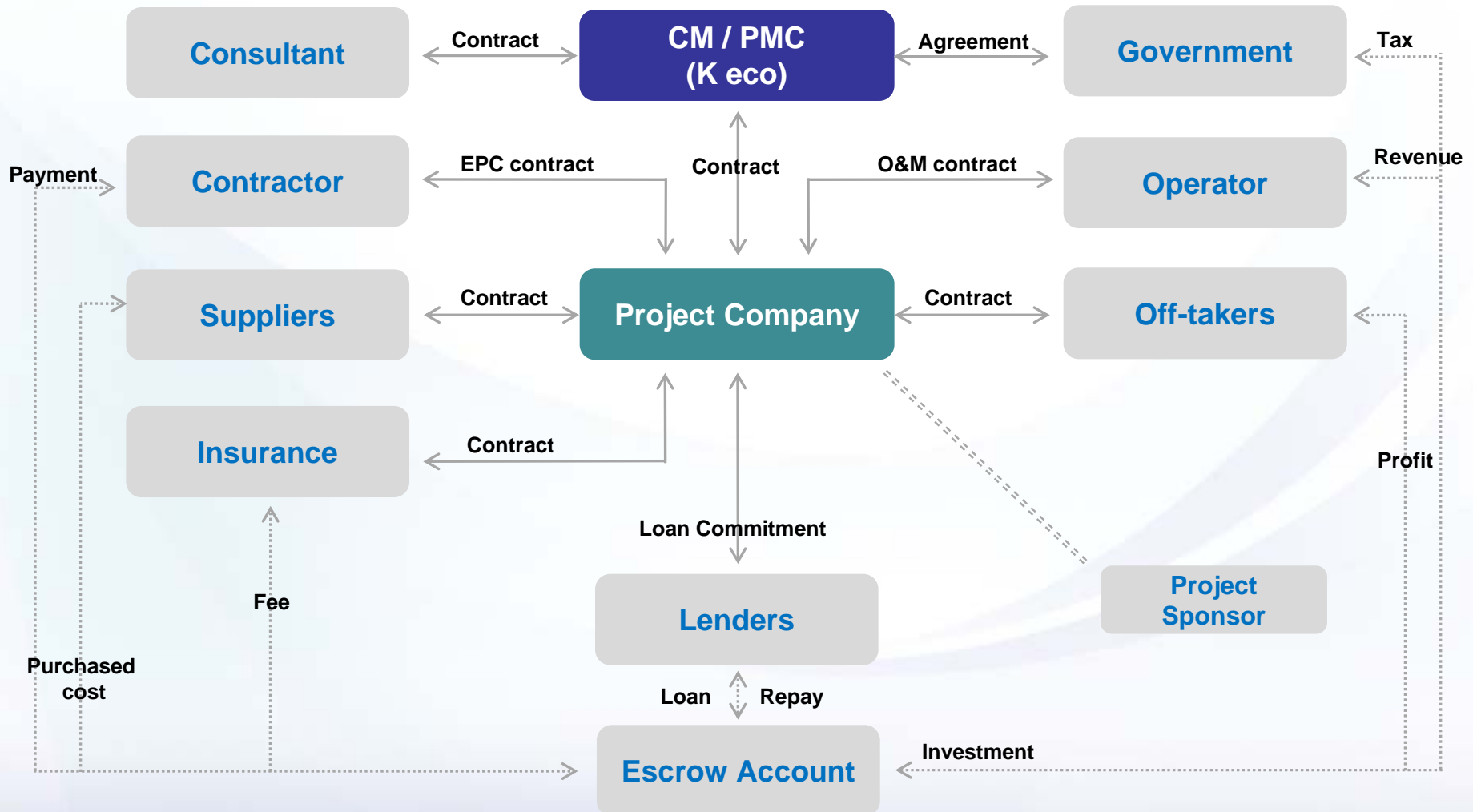
Partnership Strategic, technological
'equal' partnership

Environment as public property
Public & political support
Public confidence by public entity
G2G negotiation
Institutional setup

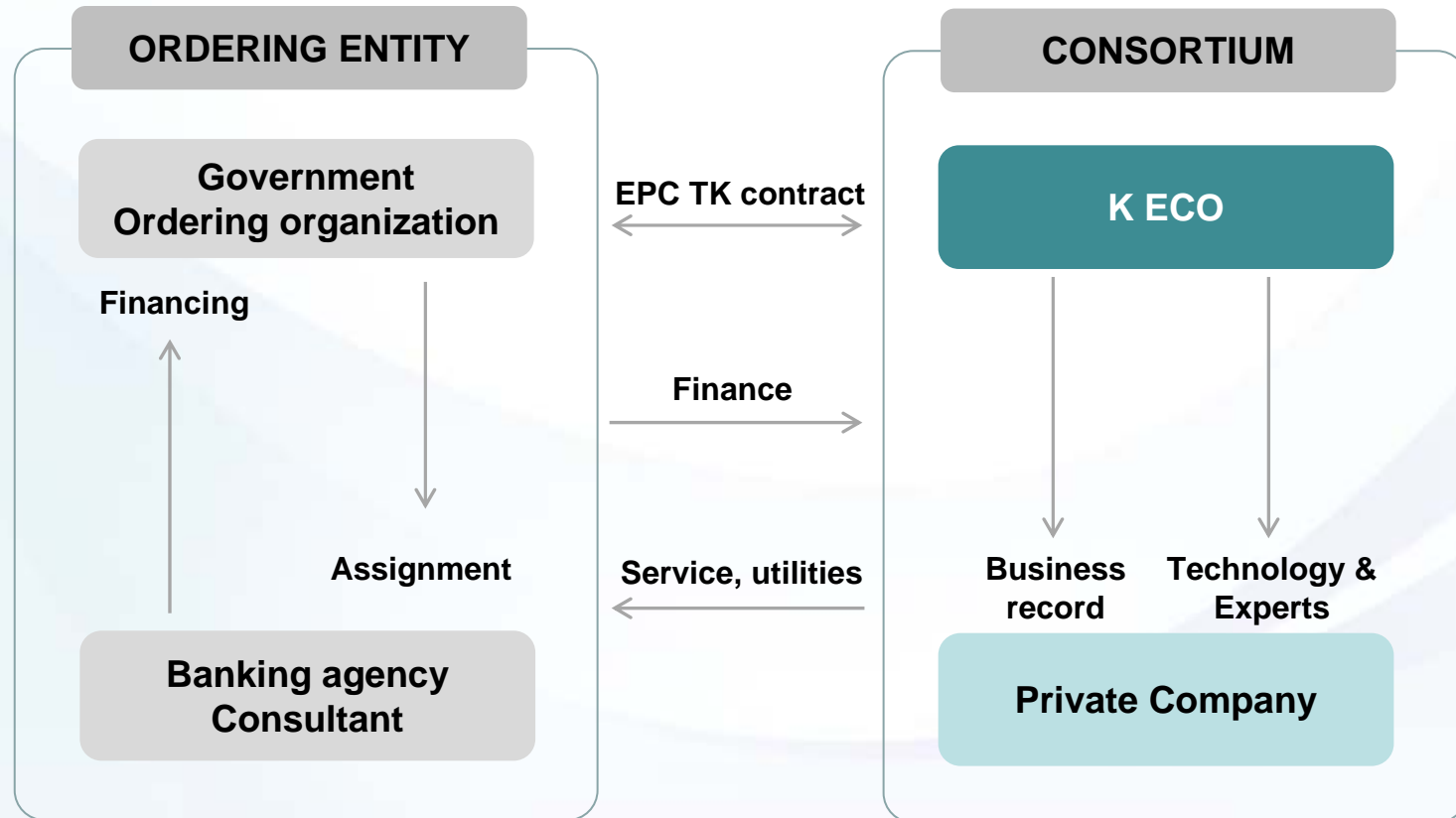
Public Private **Environment** Partnership



PPEP model for Waste Management Services Exporting – Project Financing



PPEP model for Waste Management Services Exporting – Government Financing



PPEP business model for Waste Management Services Exporting



- Capacity: 400ton/day * 5 plants
- Type: PF PPP
- Budget: 600 mil USD
- Timeline
 - '11.09 exchange of LOI
 - '11.10 exchange of ToR
 - '12.03 Project Agreement
 - '12.08 Feasibility study
 - '13~'23 Engineering

SPC

- Feasibility study
- EPC contract
- O&M contract



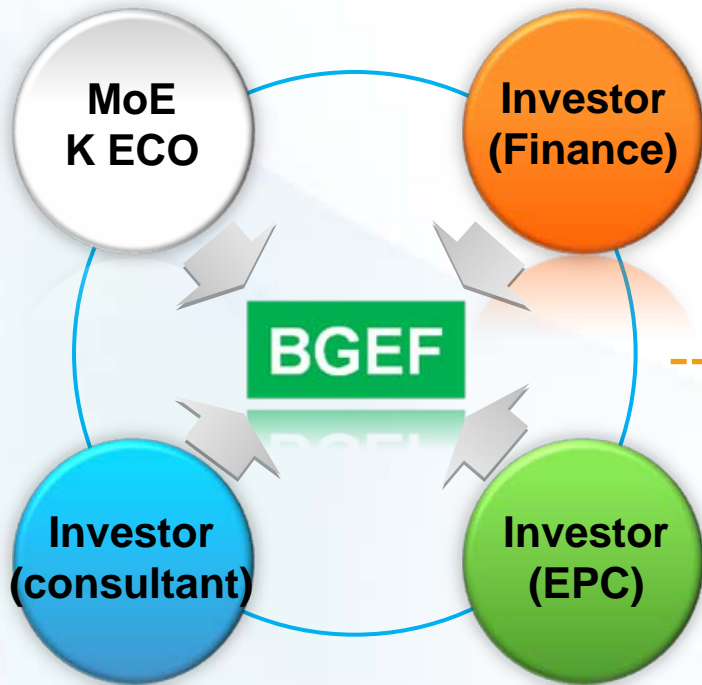
K ECO

- Feasibility study
- CM or PMC
- Post management

Jalisco

- General management
- Utilities provision

Bio Green Energy Fund



Total amount: **ca. 700 mil USD**
Type: **Capital Call**
Period: **2011~2020**

Field: **WTE & CDM**
Market: **non-Annex countries**

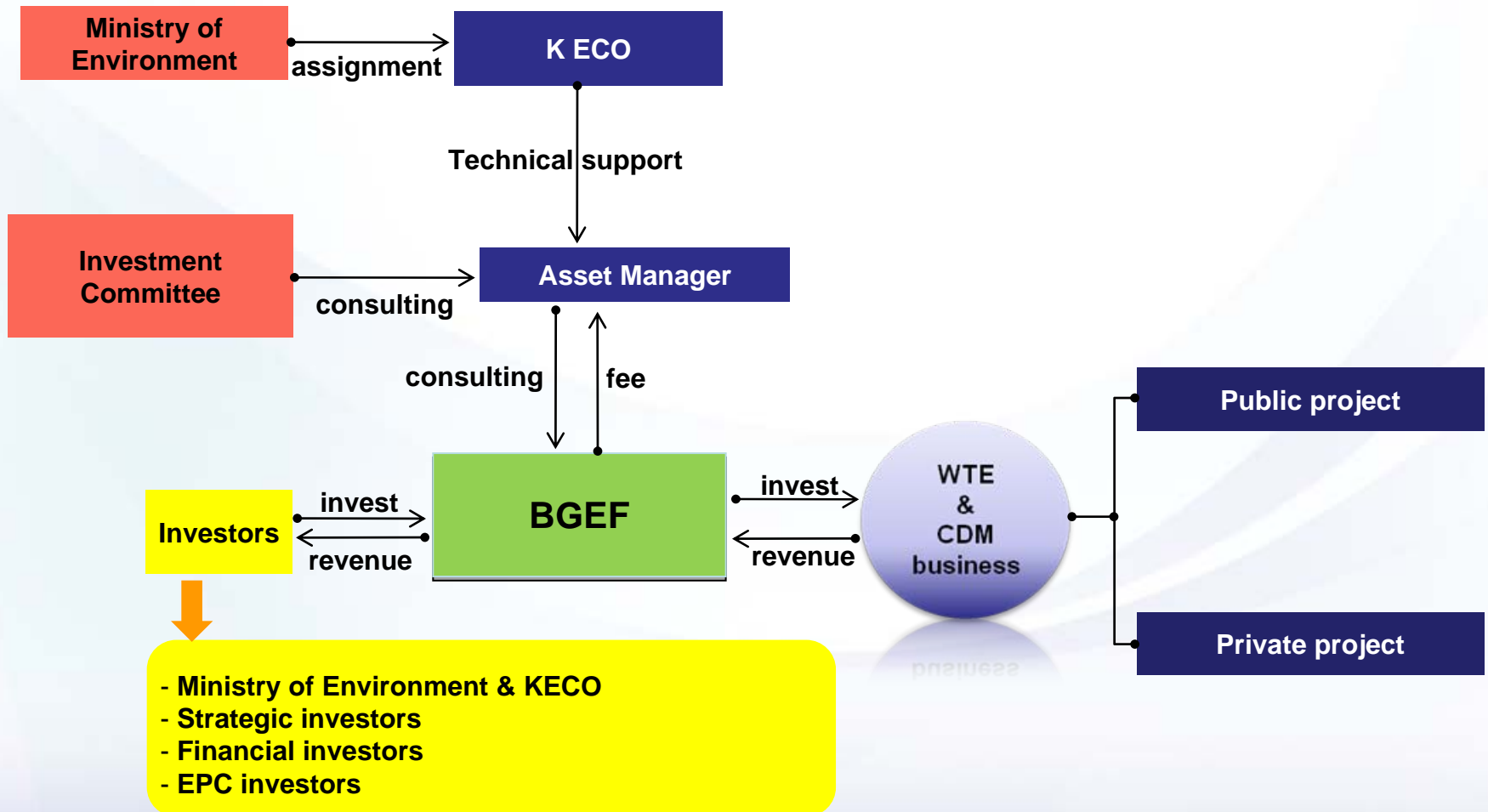
Business I

Projects developed
by
public sectors

Business II

Projects developed
by
private sectors

Bio Green Energy Fund





Thank You

LEE, Changjoo
Korea Environment Corporation
+82-32-590-3165 changjoo@keco.or.kr



한국환경공단
Korea Environment Corporation

www.keco.or.kr