

Financial Strategy to Accelerate Innovation for Green Growth

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Overview

Green Finance: Concept and Need

Global Trends in Green Finance

Current Trends and Challenges in Korea

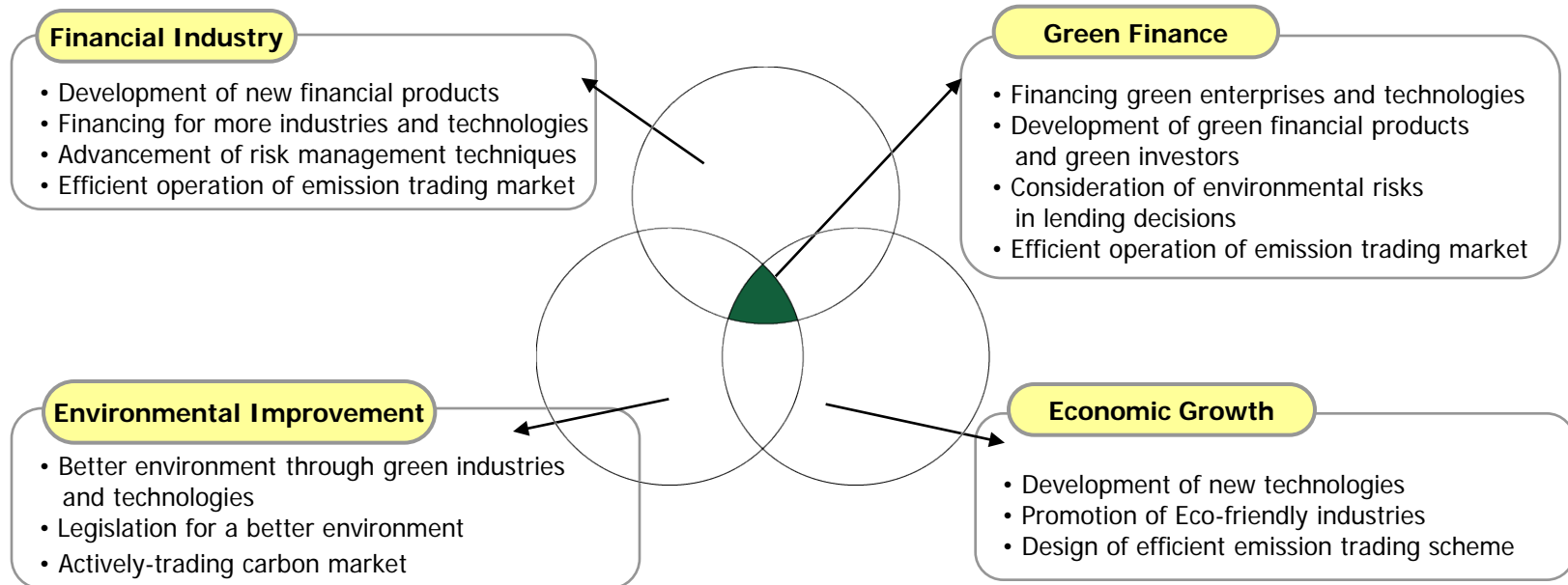
Future Strategies

Green Finance: Concept and Need

❖ Concept

■ Green Finance

- Financial activities that enhance the financial industry, improve the environment, and promote economic growth



Green Finance: Concept and Need

■ Green Growth

- An economic growth paradigm that simultaneously pursues growth and improvement of environment by;
 - Driving growth and job creation through R&D in clean energy and green technology
 - Conserving and efficiently using energy and resources
 - Mitigating climate change and environmental degradation

■ Green Technology

- Technology to support green growth by conserving energy and resources in various social and economic activities with environmental enhancement
 - i.e. GHG reduction technology that minimizes GHG pollutant emission, energy efficiency technology, clean energy production technology, resource recycling, and eco-friendly technology (including relevant convergence technology)

Green Finance: Concept and Need

❖ The Need

■ Green Industries Based on Green Technology are Promising Growth Sectors, and the Government will be Fully Implementing Green Financial Policies.

- Government supports for Green Finance through enactment of “Basic Act on Low Carbon Green Growth”.
 - Article 28 (Promotion of Green Finance): The government will establish and implement the following measures in order to promote low-carbon green growth.
 - Establish and secure funding to foster and support green growth and green industries
 - Develop new financial products to support low-carbon green growth
 - Boost private investment to build green infrastructure
 - Strengthen corporate disclosure of green management and expand financing for green management businesses
 - Set up carbon market (for trading carbon credits or GHG emission reduction/absorption) and promote active trading
- Active green financing is necessary to develop the financial industry.

Green Finance: Concept and Need



- **Corporate Social Responsibility (CSR) is Essential for Long Term Viability of Corporate and a Main Element of CSR is Environmental Enhancement attained through Green Finance.**
 - CSR refers to corporate's political, social, and environmental responsibilities necessary for long term viability.
- **UN, ISO, and Other International Bodies Place Great Emphasis on Environment as Part of CSR.**
 - Going forward, corporate and financial institutions who fail to address environmental concerns will face unfavorable conditions in international trade and global financial markets.

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Global Trends in Green Finance

❖ Participation of Foreign Organizations in Green Finance-related Global Initiatives

■ GF-related Global Standards and Agreements

Global Standards on Sustainable Management

- GRI Guidelines
- ISO26000 (planned for 2009)

Voluntary Initiatives

- UNEP/FI
- UN PRI
- UN Global Compact
- UNFCCC (Framework Convention on Climate Change Convention)
- Equator Principles (EP)
- Carbon Disclosure Project (CDP)

Global Trends in Green Finance



■ Participation of Foreign Organizations in Global Initiatives

(As of 2009)

Initiative	No. of Signatory Organizations	Major Signatories
GRI Reporting	1,290 organizations	ABN AMRO, HSBC, Citigroup, Barclays, etc.
UNEP/FI	180 financial institutions	Bank of America, Credit Suisse Group, JPMorgan Chase & Co., etc.
UN PRI	697 organizations	CalPERS, ABP, Swiss Re, etc.
UN Global Compact	7,500 organizations	Deutsche Bank, ING Group, Mitsubishi UFJ, etc.
CDP	534 financial institutions	Goldman Sachs, Merrill Lynch, Morgan Stanley, CalPERS, etc.

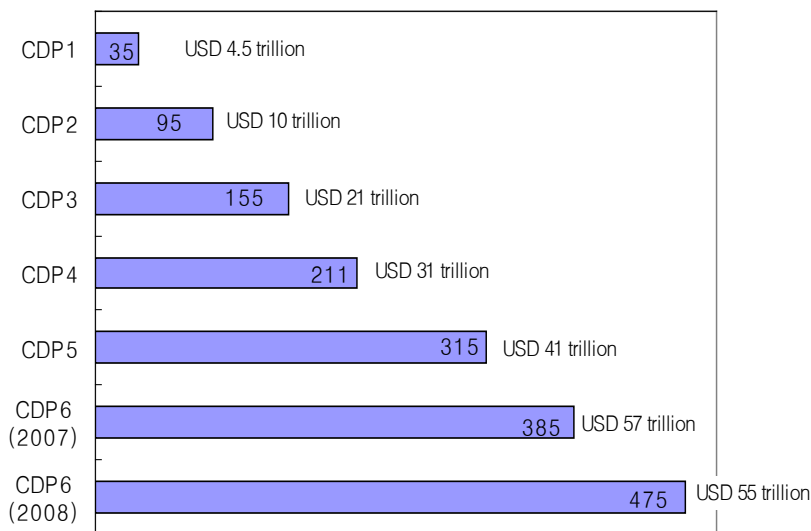
Global Trends in Green Finance



■ CDP Participation

- CDP (Carbon Disclosure Project): 475 signatory investors as of the end of 2008, with a combined AUM of USD 55 trillion

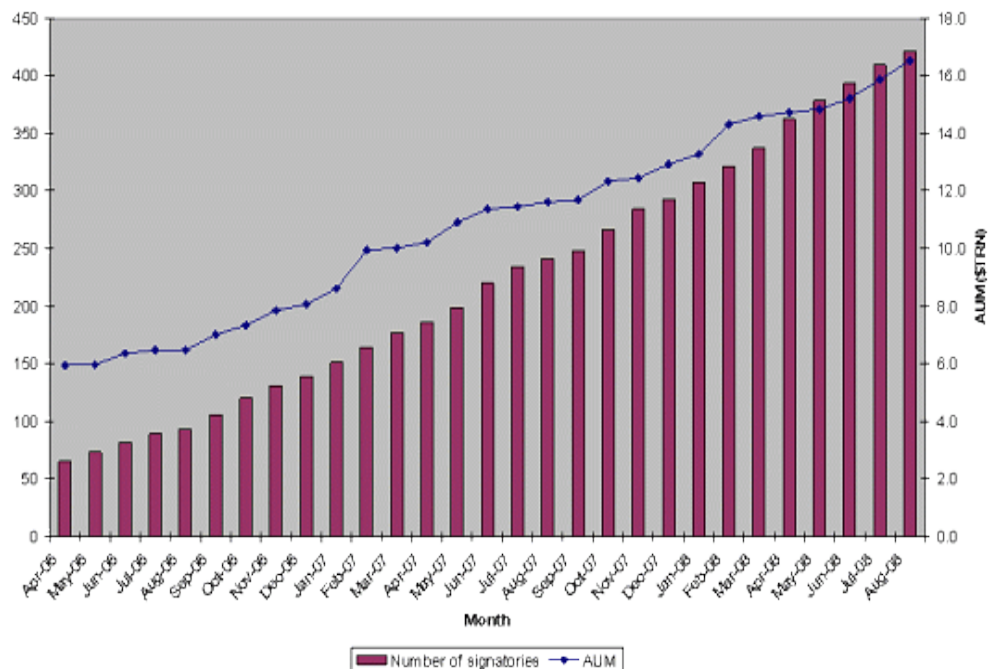
CDP signatories and combined AUM



■ UN PRI Participation

- UN PRI (Principles for Responsible Investment): Over 524 signatories as of April 2009

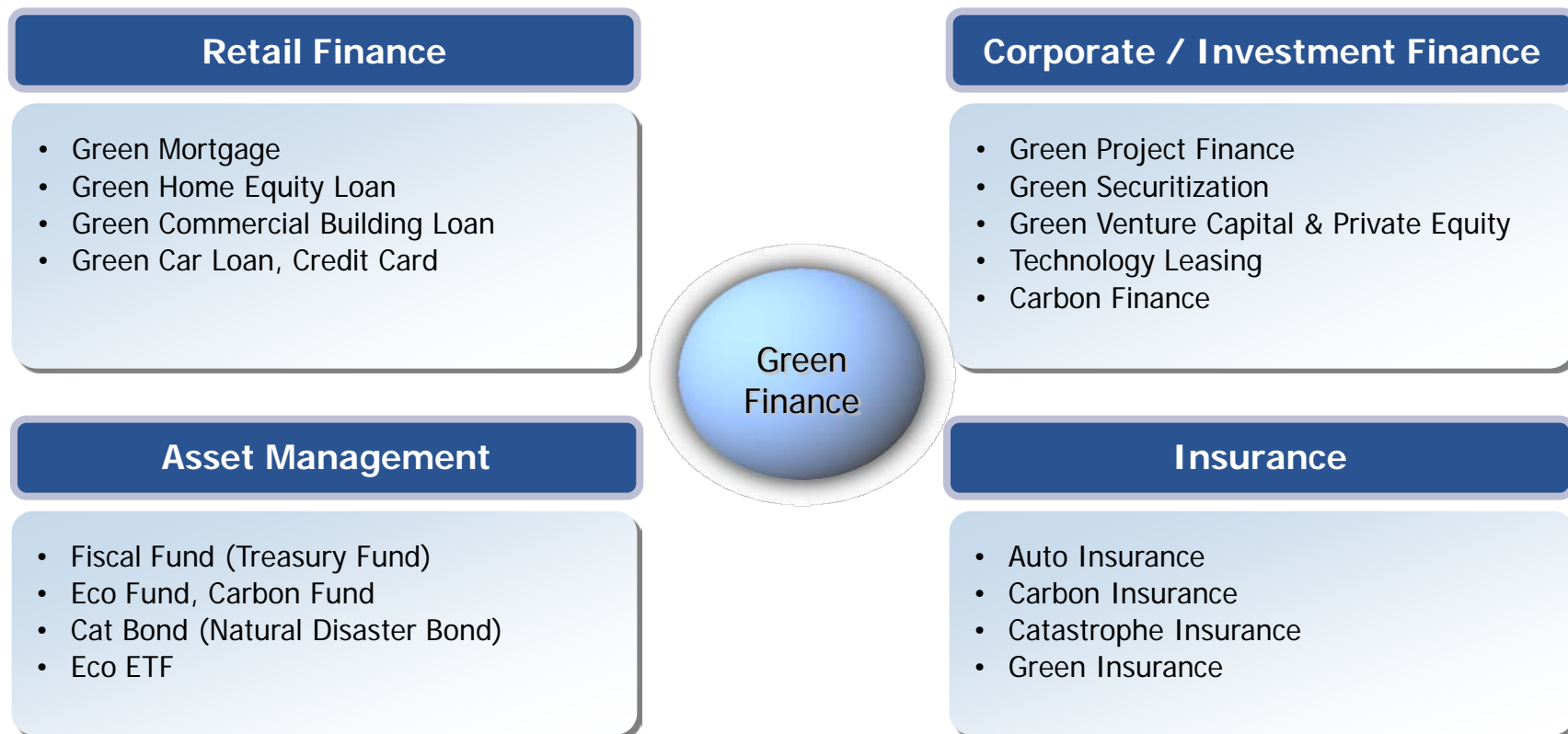
PRI signatories and combined AUM



Global Trends in Green Finance

❖ Green Financial Products in Developed Countries

■ Wide Spectrum of Green Financial Products

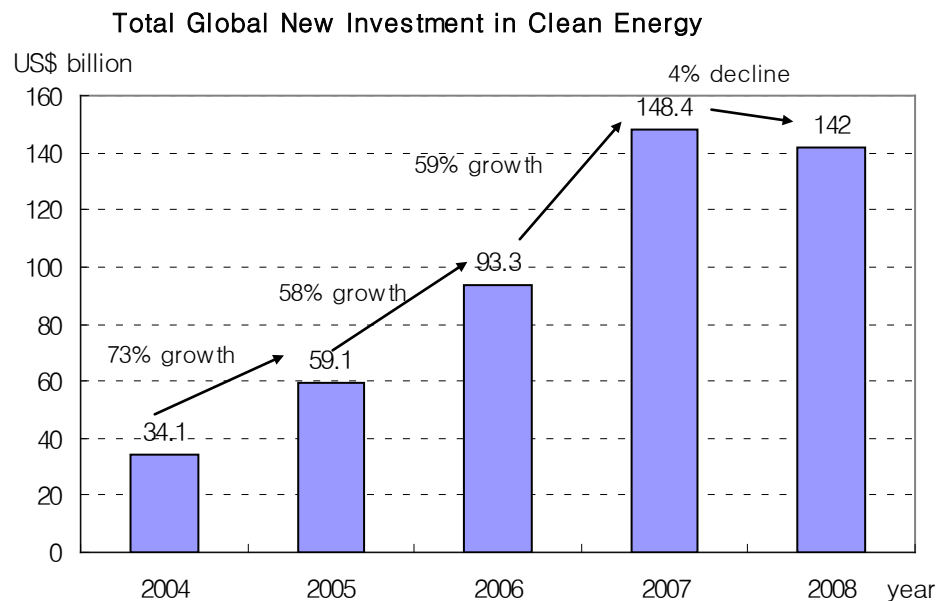


Global Trends in Green Finance

❖ Green Financing and Environmental Risk Management of Global Financial Institutions

■ Dramatic Growth of Investment in Clean Energy and Carbon Market

- Global new investment has been increased in Clean Energy.



Source: World Economic Forum (2009), Green Investing

Global Trends in Green Finance

- After the Kyoto Protocol, rapid growth of carbon market has been driven by developed countries through emission trading, carbon funds and other mechanisms.
 - Global emission trading markets is expected to grow to USD 150 billion in 2010 from approximately USD 64 billion in 2007.¹⁾
 - Diverse financial services were developed for the emission trading market - carbon funds, carbon asset management, emission trading insurance, and carbon bank, etc.
 - Over 30 carbon funds around the world with a total AUM of USD 2.5 billion²⁾
 - Climate Change Capital, a UK asset management company (USD 1.5 billion AUM as of January 2009) specializing in carbon assets operates Carbon Finance Funds which invests approximately USD 830 million in carbon reduction projects.
- Numerous financial institutions have stated interest in entering the carbon market.

Note 1) World Bank, State and Trend of the Carbon Market 2008

Note 2) KCMI Researcher Kim Pil-gyu, *Seeking Solutions through Green Growth and the Capital Market: Emission Trading and Green Fund*, 2009, Seminar of KCMI

■ Strengthened Environmental Risk Assessment in Financing

- US CERCLA (Comprehensive Environmental Response, Compensation and Liability Act)
 - The Act imposes lender's liability on financial institutions that finance firms causing environmental accidents.
- Environmental Risk Assessment by European Banks
 - Avoiding Default
 - Maintaining Collateral Value
 - Maintaining Good Reputation
 - Complying with Legal Issues on Environment
 - Creating Value

Global Trends in Green Finance

- CO₂ considered as a risk item by many financial institutions
 - ABN AMRO conducts analysis and in-depth interview on climate risk that customers will face.
 - National Australia Bank researches and analyzes climate change-related risk of key customers in industries such as auto, aluminum, and mining.
 - Westpac analyzes customers' GHG emission levels and risk, and structures portfolio accordingly.

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Current Trends and Challenges in Korea

❖ Current State of Green Finance

■ Korean Financial Institutions' Participation in International Initiatives on Green Finance (As of 2009)

Agreements	No. of Signatory Organizations	Major Signatories
GRI Reporting	53	Asiana, Hyundai Motors, KDB, Korea Land Corporation, etc.
UNEP/FI	8	Woori Bank, KB, Korea EXIM Bank, etc.
UN PRI	14	Mirae Asset Global Investment, NH-CA Asset Management, Eco-Frontier, etc.
UN Global Compact	169	IBK, Daewoo Securities, KDB, Woori Bank, etc.
CDP	16	Mirae Asset Global Investment, KB, KDB Asset, etc.

Note) End of October 2009 data for CDP

Current Trends and Challenges in Korea



■ Fund Allocation for Green Finance

SRI / Green Funds	SRI Fund	<ul style="list-style-type: none"> As of April 20, 2009, 28 publicly-offered ESG and Environmental funds with a total AUM of KRW 619 billion¹⁾ As of March 2009, National Pension Fund allocated KRW 660 billion for SRI investment
	Green Fund	<ul style="list-style-type: none"> As of April 20, 2009, 6 Green Funds launched, total AUM KRW 6.7 billion²⁾
Policy Loans	KDB	<ul style="list-style-type: none"> Plans to invest approximately KRW 1 trillion in environment and related equipment businesses in 2009
	Korea EXIM Bank	<ul style="list-style-type: none"> Plans to invest KRW 840 billion in the green growth industry in 2009
General Loans	KB	<ul style="list-style-type: none"> Established a KRW 330 billion 'Renewable Energy Private Equity Fund' with government Allocated KRW 750 billion to invest in low-carbon green growth industry Launched green financial products with prime interest rates
	Shinhan Bank	<ul style="list-style-type: none"> Started to charge prime interest rates to environmentally-friendly companies from April 2009
Carbon Market		<ul style="list-style-type: none"> In 2007, KITMC became the first to launch the Korea Carbon Fund and Korea Carbon Credit Fund Korea Carbon Fund: investment in domestic and overseas CDM projects, GHG reduction projects - related sectors, aggregate commitments KRW 76 billion. Korea Carbon Credit Fund: investment in domestic and overseas carbon credit (CER) - related sectors, aggregate commitments KRW 29 billion

Note 1) KoSIF, April 2009

2) www.funddoctor.com

Current Trends and Challenges in Korea

■ Korea's Green Competitive Index

- The Samsung Economic Research Institute (SERI) developed a national competitiveness index measuring the ability to reduce carbon emission and to develop green industries.
- Korea's Index is below the OECD average due to the insufficient renewable energy, low energy efficiency, inconsistency and ineffectiveness of environmental policies, and lack of innovative technologies.

Current Trends and Challenges in Korea



❖ Challenges Faced by Korea's Green Finance

■ Core Issues

- Non-profitable environment enhancing business models
- Financial company's inability to choose and evaluate green technologies and companies
- Concern for consistency and continuation of green growth policy

■ Inadequate Financial Support to Meet Needs of Green Companies at Different Development Stages

■ Inadequate Technical Infrastructure

- Lack of comprehensive environmental database and well established system to analyze/assess green businesses

■ Insufficient Human Resources

- Lack of experts with the ability to integrate environmental issues with finance

■ Insignificant GF Products and Carbon Market

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❖ **Resolve Core Issues in Green Finance**

- **Provide Strong Government Assistance such as Sufficient Tax Incentives to Investors for Green Growth**
- **Verify Green Technologies and Green Companies through Government Committee**
- **Build Public Consensus to Develop Green Finance**
 - The need for green growth will create green consumers and will drive the development of green finance.
 - Communicate positive economic and environmental effects derived from implementing specific plan for Green Growth
 - Advertise Green Finance as a sustainable long term policy, not a one-off measure
 - Recognize Green Finance as a necessity not a choice

Future Strategies

- ❖ **Construct Taylor-Made Financial Support System to Meet Needs of Green Companies at Different Development Stages**
 - **Provide Strong Government Support at an Initial Stage**
 - **Attract Financial Institutions to Take on Active Roles as the Green Company Enters a Mature Stage**

❖ Establish Infrastructure for Green Finance

■ Set up Statutory Infrastructure growth

Environmental requirements reflected in statutes for investment, lending, credit rating, accounting, etc.

- Require financial institutions to address environmental concerns: fiduciary and lender's liability on environment
- Reflect environmental factor into credit rating and accounting procedures

Corporate disclosure of environmental information

- Put environmental information as a requirement for listing and disclosure
- Shift from voluntary to mandatory disclosure gradually
 - FI's in developed countries already required to disclose comprehensive environmental information pursuant to voluntary guidelines, e.g. GRI

Certification of green technology, enterprise, industry to guide investment and lending

- Introduce Green Business Certification programs, which are specific to industry, technology, business type and size
 - Leading FI's, such as Goldman Sachs rates environmental performance, e.g. categorization into Green and Non-green businesses

■ Develop Technical Infrastructure

Green Indices

- Develop 'Green Enterprise Index' to promote green investment
- Develop 'Green (Carbon) Risk Index' to promote investment in green bonds
 - JPMorgan & Innovest co-developed the JENI Carbon Beta Index, the world's first bond index that reflects climate change risk of businesses

System for Green Information Provision

- Build mechanism to access essential green information
 - Information for FI's credit and investment decisions: license/approvals by MOE & other authorities, regulatory compliance, green enterprise designation, participation in voluntary agreements, etc.

Green Enterprise Rating Agency

- Promote green company rating agencies
 - 3 major rating agencies that specialize in corporate environmental performance: Innovest (US), EIRIS (UK), SAM (Swiss)

■ Educate Human Resources

Green Financial Professionals

- Train professionals for research, review, and investment to provide green financial services
 - Introduce professional training programs and promote expertise

Green Financial Consumer Education

- Initiate public and consumer education to promote awareness of;
 - The need for green growth
 - Green bubble, environmental risk, and other key issues

Conference on Green Finance in Asia

- Open annual conference on green finance in Asia
 - "SRI in the Rockies" in North America

❖ **Develop GF Products and Provide Government Support**

■ **Develop New Products that Integrate Environmental Factors into Existing Products**

- Bank: Consider environmental technology and risks in lending decisions
- Investment Bank: Create funds that invest in Green Enterprises
- Insurance Company: Underwrite Green Risk

■ **Develop Combined Green Financial Products**

- Develop new financial instruments that combine banking, insurance, and investment banking features

■ Provide Government Support for the Development of Green Financial Products

- Provide means to manage the risks inherent in green industry and technology
 - Underwrite 'green risk' through a Green Finance Guarantee program
 - Utilize KODIT or KIBO, or allow a private-sector Green Finance Guarantee company
- Support newly launching green funds
- Provide tax breaks to green investors
- Limit government support to the early stages
 - End goal should be a green finance system operating on market principles

❖ Launch and Develop Carbon Market

■ Introduce an Emission Trading System

- Set up emission trading scheme
 - Legislate statutes that govern membership, trading, clearance, settlement, and market surveillance for emission trading
- Try Pilot project / scheme for voluntary emission trading
 - Introduce pilot project for voluntary trading
 - Energize the market in early stages by bringing in industries and financial institutions
- Move to mandatory emission trading
 - Address issues identified during the pilot phase
 - Establish legal base to shift to 'cap and trade'
 - Develop diversified products, e.g. carbon derivatives, carbon index, etc.

■ Support and Promote Emission Trading

- Build system to promote active trading
 - Define characteristics of financial products for emission trading
 - Revise rules on corporate disclosure, credit rating, and accounting
- Foster specialized financial institutions and products
 - Support establishment and growth of specialized companies such as carbon asset management companies, emission brokerage companies
 - Facilitate the development of carbon derivatives: carbon index, futures, and options

❖ **Grow to Become Asia's Green Financial Hub**

■ **Review Establishment of an Asian Carbon Exchange and Green Bank**

- Link carbon exchanges in key Asian countries and manage a regional-level carbon exchange and green growth
 - In addition to emission trading, provide full range of related services
- Establish a Korean Green Bank, a full-scope one-stop service provider for the carbon market and green growth
 - Service scope: financing business development for carbon credit business, loans, project financing, export financing, guarantee insurance
 - In the US, the Green Bank Act of 2009 was submitted to Congress on March 25, 2009.
 - Service target: carbon credit, carbon credit projects and project developers, GHG abatement technology, green enterprises, etc.
 - Service range: project development financing, equity investment, project financing, lending, guarantee insurance, facility export financing, etc.