



Sustainable Korea 2030

Mid- and Long-term
Sustainable Development
Master Plan for Business

(Executive Summary)

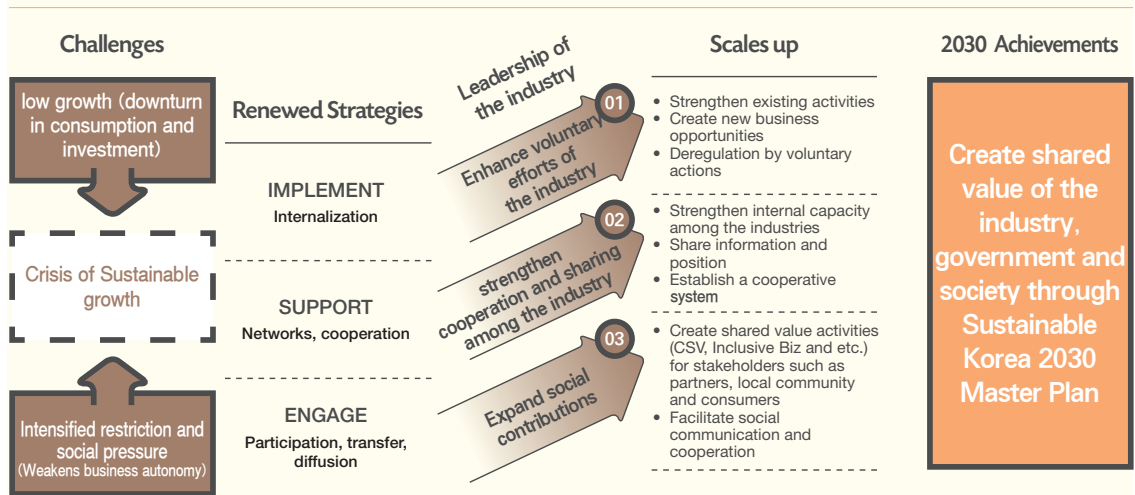
Why Sustainable Korea 2030 Master Plan? Why Now?

The First Mid- and Long-term Sustainable Development Master Plan Initiated by the Korean Business Sector

With the deepening complexity and uncertainty in the way of managing today's business, CEOs face many difficulties in making a right decision in the current business environment. In economics, growing investment risk and depression has weakened investor sentiment and consumer confidence and at the same time, expenses incurred from relevant regulations on climate change and chemical management have increased in the environmental sector. In addition, the society displays a negative view of the industry and put more pressure on its social responsibility. In short, sustainable development is in grave crisis and it is time for a breakthrough.

KBCSD (Korea Business Council for Sustainable Development), a CEO-led association of large businesses who provide business leadership for sustainable development, launched Sustainable Korea 2030 project to take a leading role in sustainable development as a key player in economic growth and hence established the first mid- and long-term master plan for sustainable development in the industrial field. For this, the three directivities of the master plan were set as follows: i) Enhance voluntary efforts of the industry, ii) Strengthen cooperation and sharing among the business sector and iii) Expand social contributions.

Rationale for the Project



Sustainable Korea 2030

Selection of the 7 Mega Trends, Representing the Environment & Social Challenges for the Next 15 Years

As the first step in our effort to establish the Sustainable Korea 2030 Master Plan of the business sector, we have drawn seven mega trends in the field of environment & social issues with which the business sector urgently needs to deal. The criteria for selection were focused on the (i) area where it can be solved by business solution mainly driven by the industry, (ii) area where it is commonly considered as a mid- and long-term risk or opportunity factors by the industry and experts and (iii) area where its outcome can be monitored by quantitative value.

Process of drawing the 7 mega trends



The 7 Mega Trends

Priority Areas	Major Issues
1. Changes in Population Structure	Aging society, low birth rate, urbanization, depopulation, graying society
2. Energy & Climate Change	Climate change response, new & renewable energy, energy efficiency, energy security
3. Safety at Workplace	Industrial safety, safety facilities, safety management, safety culture, safety leadership, in safety awareness
4. Skills & Employment	Unemployment, unstable employment, skills shortages human rights, job creation for women
5. Sustainable Value Chain	Production and consumption of sustainable products, CSV, social enterprise
6. Water Management	Water management, water risk
7. Preservation of Eco System	Decline of biodiversity, securing food resources

Selection of Priority Areas which the Business Sector Shall Address by 2030

Sustainable Korea 2030 Master Plan selected three priority areas that the Business Sector has the biggest influence on solving the issues. The three priority areas are the fields to which the Korean industry needs to pay most attention and were decided by the vote of CEOs from KBCSD member companies. ‘Energy & Climate Change’ ranked the first place. It is thought to be a part of interests in relevant new businesses such as greenhouse gas, energy target management system, and carbon emission trading. ‘Safety at Workplace’ followed the second place, and was chosen for the need to raise safety-awareness caused by major occupational and social accidents in Korea. ‘Sustainable Value Chain’ ranked the third place. This can be interpreted in an increasing preference on eco-friendly products, cost reduction by resource recycling and growing need for co-existence with Partners.

Three Priority Areas & Respective Vision



Leading Efforts Spearheaded by the Business Sector through Voluntary Initiative

In a bid to achieve goals and business solutions of the Sustainable Korea 2030 Master Plan on the three priority areas, voluntary and future-oriented business solution initiated by the business sector is required, rather than solutions driven by government regulations. This is why we need a project that the business sector plays a leading role in dealing with sustainable development issues. For instance, it is not desirable that the industry unilaterally sacrifices economy to lessen the environmental impacts such as greenhouse gas emissions and chemical management. Instead, the business sector shall address sustainable development challenges in a way that contributes to society through its business solution and creates new business opportunities in the process.

The objective of the Sustainable Korea 2030 master Plan works as a pivot on KBCSD members doing their business going forward. Not only KBCSD members but also the whole industries need to join in achieving the goals and KBCSD will take the lead in its successful implementation.

Objective of the Sustainable Korea 2030 Master Plan and its Expected Effects

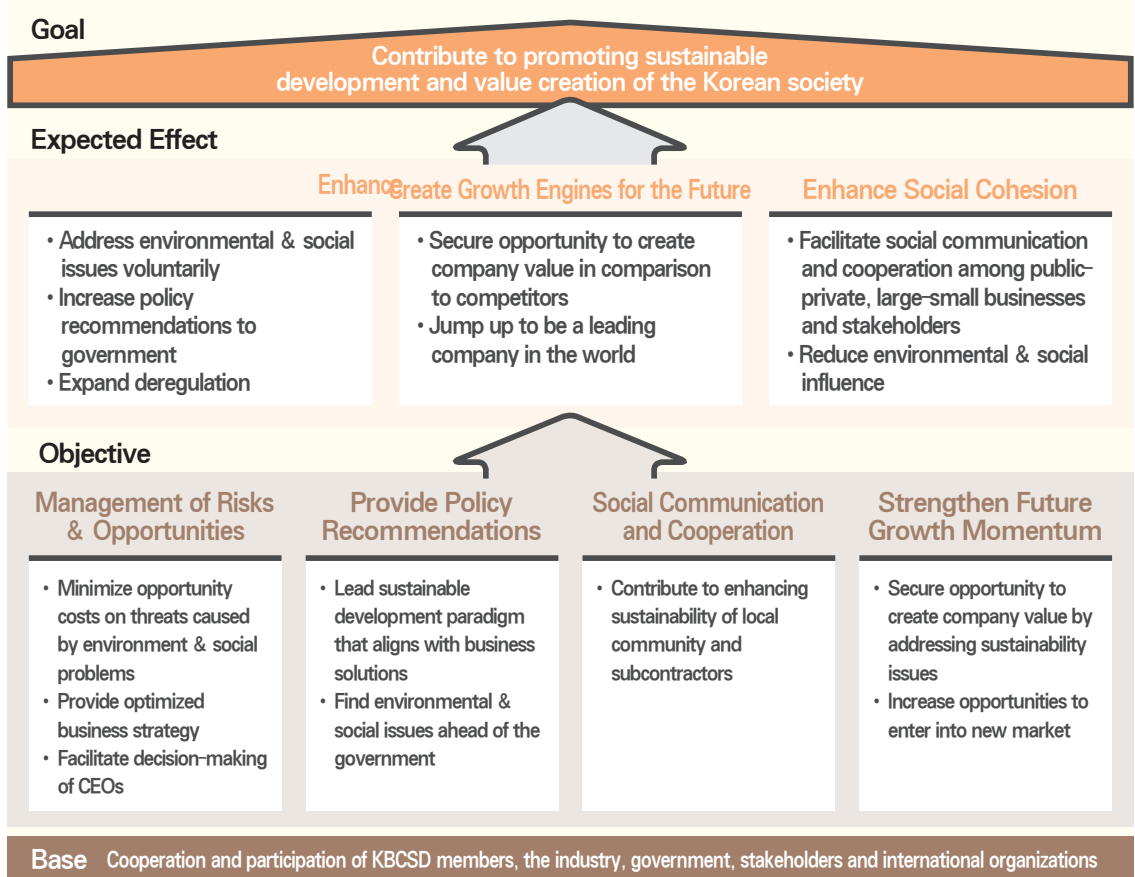
The success of the Sustainable Korea 2030 Master Plan is subject to participation of the industry, stakeholders and support from the government.

KBCSD hopes that the Sustainable Korea 2030 Master Plan will help Korean Business Sector to take concerted actions by providing clear goals and guidelines that the business sector ought to pursue in environmental and social field over the next 15 years and to get a practical effect under mutual cooperation among government, NGO and other stakeholders.

The overarching objectives of the Master Plan are as follows:

- First, stimulate voluntary actions of the industry in line with market mechanism, instead of actions driven by government regulations
- Second, facilitate cooperation among members with a view to creating growth engines for the future and new business opportunities, while addressing sustainability challenges.
- Third, seek for joint solution between government and the business sector that meets the needs of the society (including local community and subcontractors) and transfer know-how on sustainability management in order to promote social cohesion.

Objectives of the Master Plan



KBCSD, as a CEO-led organization spearheading sustainable development, aims to contribute to sustainable economic growth of our nation by 2030 by successfully implementing the Sustainable Korea 2030 Master Plan.

The Four elements of Sustainable Korea 2030 Master Plan

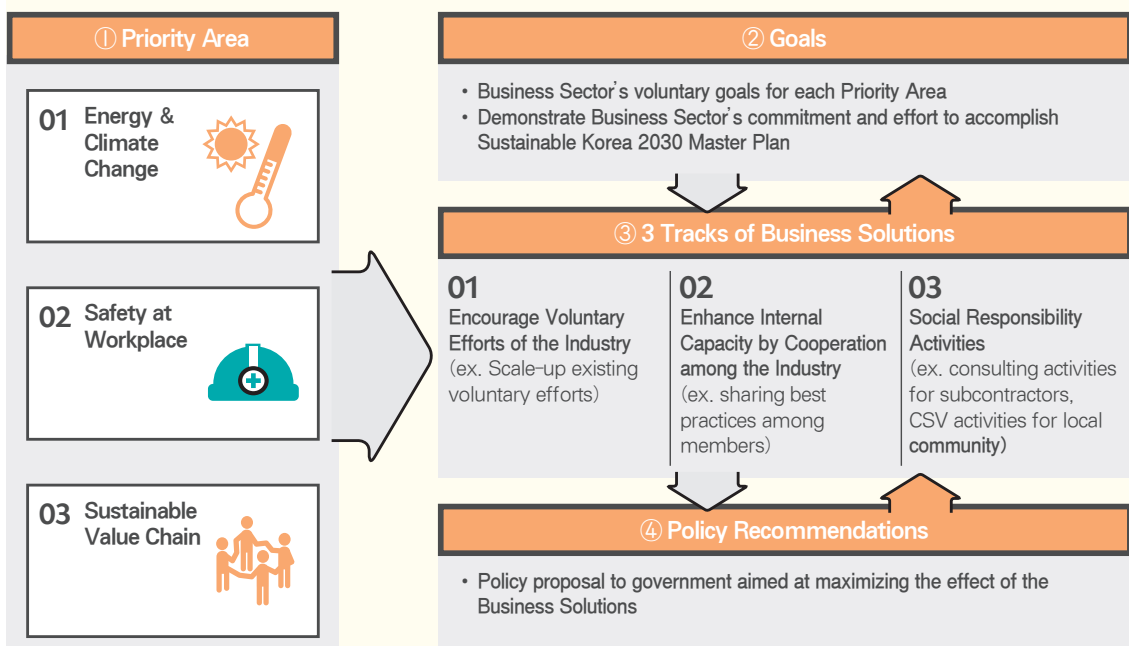
① **Priority Areas** | Among the seven Mega Trends (Energy & Climate Change, Safety at Workplace, Sustainable Value Chain, Water Management, Preservation of Ecosystem, Changes in Population Structure, Skills & Employment), the three Priority Areas were selected by member companies as the most pressing challenges to be dealt by the Business Sector. They were chosen by consideration of various facets, such as how urgent it affects Korea and at the same time, how much influence the business sector has on those areas. Whereupon, i) Energy & Climate Change, ii) Safety at Workplace, and iii) Sustainable Value Chain were selected as the three Priority Areas of the Master Plan.

② **Goals** | Goals are qualitative and quantitative figures that the business sector aims to reach by 2030 for the three priority areas respectively. The goals have been selected through a sufficient analysis and verification, such as benchmarking OECD countries and seeking advices from social experts and scientists. Goals demonstrate business sector's commitment to accomplish Sustainable Korea 2030 Master Plan.

③ **Business Solutions** | Business Solutions are voluntary actions to address major social & environmental issues and to achieve the goals. Solutions are divided into Track 1, 2 and 3, and consist of business models and ideas which can spread throughout the industry and bring positive ripple effects to the Korean society.

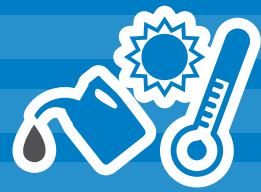
④ **Policy Recommendations** | Policy Recommendations are government support needed for the business sector to promote Business Solutions effectively and efficiently. It is mainly about effective promotion of policy through voluntary workings of the industry, moving away from the regulation-focused policies. Examples are public-private partnership, raising public awareness and offering incentives such as financial, technical and institutional supports.

The Four Components of 'Sustainable Korea 2030 Master Plan'



How does the Master Plan work?

1. Energy & Climate Change



01 Current Challenges

Climate change has long passed the limits of the Earth's capacity and scientists claim that we have already transgressed the planetary boundary of climate change. Currently, greenhouse gas emissions have exceeded by 14% than the 2020 target. Should the current pace continue, the IPCC (Intergovernmental Panel on Climate Change) predicts that the Earth's temperature will rise by an annual average of 1.8C by 2050. Unusual weather phenomenon will also persist in Korea, including heat wave and tropical night. Meanwhile, according to the future report by KPMG, the Future State 2030, the world would need 1% of GDP or USD 70 billion to USD 100 billion per annum by 2050 in order to alleviate and adapt to climate change. In other words, an effort against climate change is the most urgent risk and, at the same time, a new opportunity for the business sector. Especially, given the domestic condition that Korea ranks the 10th largest greenhouse gas emitter while 53rd in the fight against climate change is a wake-up call for the Korean business sector to take a real action.

02 Goals by 2030

(Goal1)

Improve energy intensity in the industrial sector by 15% by 2030 with a view to reaching 0.11 (koe/\$05p) and thus taking 6th place on the list of top 10 OECD countries with highest GDP.

(Goal2)

Enhance the product and market competitiveness by developing world-class green technology.

03 Business Solutions

Track 1: Encouraging Existing Voluntary Efforts

- Next-generation clean fuel
- Integrated energy management system
- Energy IoT + Big Data Platform
- ESS (Energy Storage System)
- New & Renewable Energy Hybrid System
- New generation strategic resource
- High efficient thermal power generation
- Smart FEMS (Factory Energy Management System)
- Green mobility
- Smart Home / Buildings
- Energy negawatt system
- Carbon Capture, Use and Storage

Track 2: Enhancing Internal Capacity by Cooperation among the Industry

- Joint business models among member companies aimed at reducing energy use and greenhouse gas emissions
- Regular forum or seminar related to low-carbon technology and business models
- Cooperation with government and international organizations, aimed at expanding low-carbon technology and products

Track 3: Social Responsibility Activities

- Development of joint community involvement programs for energy-savings
- Contributions to promoting low-carbon production for subcontractors

04 Policy Recommendations

- ① Rationalize environmental regulations: Phase out redundant regulations, reduce administrative cost incurred from regulations, and establish a policy that reflects recommendations from the business sector
- ② Support development of green technology: Support eco-friendly technology and equipment investment
- ③ Address national climate change through public-private cooperation: Set up a public-private business model and provide government level solutions



How does the Master Plan work?

2. Safety at Workplace

01 Current Challenges

Korea is known for its frequent occupational accidents with long working hours. According to the 2008 ILO (International Labour Organization) report on industrial accidents, the rate of occupational accidents in Korea has been dropping steadily. Nonetheless, the occupational death toll per 100,000 workers is at one of the highest levels in the world. Such disparity derives from insufficient safety measures at workplace combined with unsystematic report of accidents. As a responsible entity of the society, the business sector is required to ensure health and safety of the employees in the workplace, increase company productivity by reducing economic loss from accidental costs and in the long run, contribute to the nation's safe, economic development.

02 Goals by 2030

(Goal1)
Improve occupational fatality rate to 0.2 (fatalities per 10,000 workers) by 2030, which is the average rate among top 5 OECD countries with highest GDP.

(Goal2)
Accordingly, contribute to reducing economic loss from industrial accident by 60%, which is equivalent to saving roughly 11 trillion Korean won per annum.

03 Business Solutions

Track 1: Encouraging Existing Voluntary Efforts

Facility

Build up safety facilities

Management

Set up safety-related Data Base

Strengthen safety management information system

Strengthen voluntary safety inspection

Strengthen safety management in office/non-manufacturing workplace

Strengthen emergency response training

Culture

Strengthen decision-making capacity on safety management

Internalize safety culture in establishing management strategies

Develop effective safety education programs

Track 2: Enhancing Internal Capacity by Cooperation among the Industry

Work on joint research for industrial safety culture

Conduct a cross-check between member companies

Develop and share a response manual on safety accidents

Make a safety education program for front-runners of each sector

Track 3: Social Responsibility Activities

Provide consulting on safety management for subcontractors

Operate the KBCSD Safety Cooperation Centre

04 Policy Recommendations

- ① Rationalize and increase efficiency of safety regulations: Mitigate redundant regulations, manage demand side regulations, build effective safety audit system, support establishment of autonomous safety system and efficiently implement occupational accidents prevention projects run by the government
- ② Enhance safety management support: Strengthen tax support on safety facilities

How does the Master Plan work?

3. Sustainable Value Chain



01 Current Challenges

One of the most efficient ways to respond to resource shortage issues is to improve efficiency of resource use. The business sector which consumes the resources most must play a leading role in improving resource efficiency based on the Life-cycle Thinking on products and services, ranging from supply and demand of raw materials, to production, use and disuse. Such efforts from the business sector could strengthen resource circulation system in Korea by establishing sustainable value chain and ultimately bring higher level of resource productivity compared to its economic growth.

02 Goals by 2030

(Goal1)

Improve recycling rate in the industrial waste by 10% by 2030 with a view to reaching the rate above 60% and thus taking 2nd place on the list of top 5 OECD countries with highest GDP.

(Goal2)

Accordingly, contribute to creating social added value of roughly 35 trillion Korean won per annum.

03 Business Solutions

Track 1: Encouraging Existing Voluntary Efforts

Enhance resource efficiency of manufacturing process

Produce resource-efficient products

Improve life span & durability of products

Foster trust-based relations with subcontractors

Expand joint R&D projects with subcontractors

Foster sustainable consumption trend

Provide financial & human resource support to subcontractors

Track 2: Enhancing Internal Capacity by Cooperation among the Industry

Share management know-how on sustainable supply chain

Joint R&D on environment-friendly materials and set up an initiative for sharing eco-design

Track 3: Social Responsibility Activities

Operate 'KBCSD Sustainable Production Centre'

Encourage low-carbon production of subcontractors

Facilitate circular, closed loop economy

Launch sustainable consumption programs

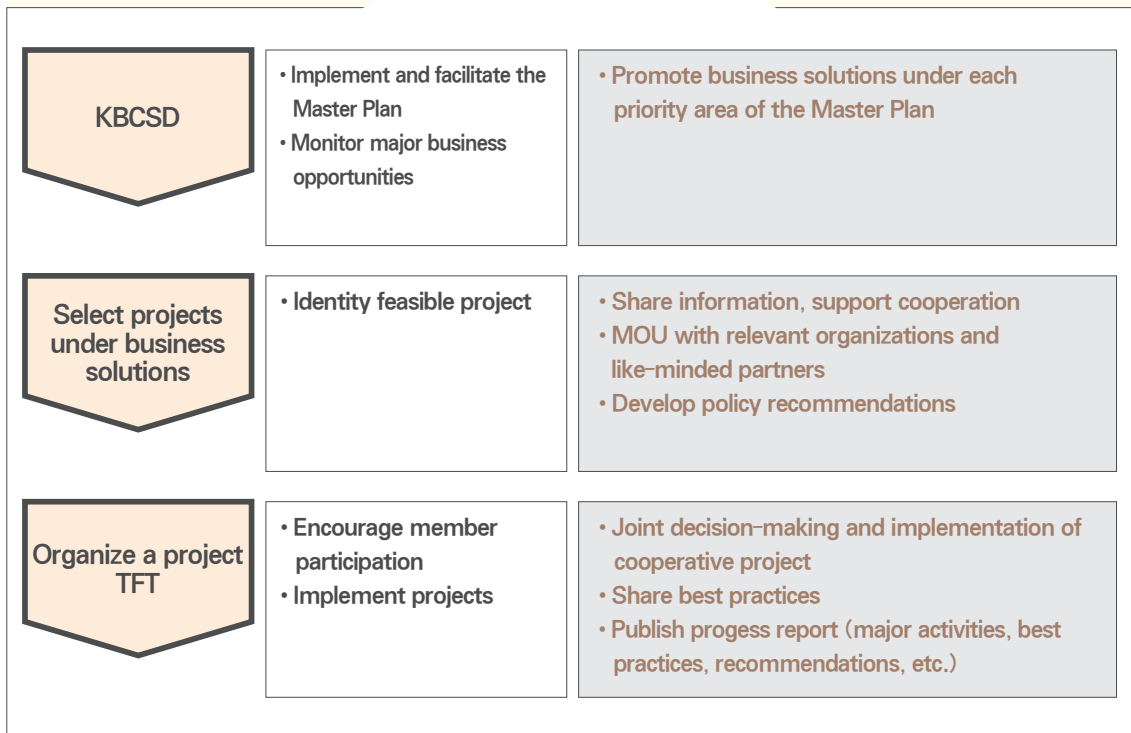
04 Policy Recommendations

- ① Promote sustainable consumption paradigm: Provide support for awareness-raising of consumers with regards to environment-friendly products
- ② Promote sustainable products and services: Provide support for establishing virtuous resource circular economy system and co-prosperity with subcontractors

The Next Step Forward

KBCSD firmly believes that the establishment of the Sustainable Korea 2030 Master Plan is the beginning, not the end, of the long journey the Business Sector shall embark on, together with other stakeholders to achieve sustainable development path in Korea, and therefore is committed to further refining and implementing business solutions elaborated in the Master Plan.

Future Implementation Plan



Overview of the KBCSD

Who we are

Introduction

- KBCSD : Korea Business Council for Sustainable Development
- A CEO-led organization of forward-thinking companies that endeavors to put Korean industry on track to economic development in harmony with environment and social development
- A global network partner of the WBCSD (World Business Council for Sustainable Development)

History

- 2001: MOU concluded between FKI (Federation of Korean Industries) and WBCSD on the establishment of KBCSD
- 2002: Inaugural General Meeting held on March 21 * Dr. Dong-Soo Hur, Chairman of GS Caltex Corporation, appointed the first Chairman of KBCSD
- 2009: Designated as a focal point for 'Green Growth Business Dialogue' under the Presidential Committee on Green Growth
(Recognized as a premier business voice in shaping national sustainability policies)
- 2012: WBCSD Annual Council Meeting held in Seoul, in commemoration of the 10th Anniversary of the establishment of KBCSD

Membership

- KBCSD membership spans 47 enterprises that are spearheading sustainable business practices
- Member companies comprise 16 industrial sectors as follows: oil refinery and gas (8), steel (2), electrical and electronics (4), petrochemical (5), construction (3), aviation (2), automobile (2), paper and pulp (3), accounting and consulting (3), telecommunications (1), power utility (4), agriculture (1), etc.

What we do

Public-Private Policy Consultation	<ul style="list-style-type: none"> • Convene CEO gathering with high-level officials from politics, government and the National Assembly with a view to providing business inputs regarding pending policy issues on sustainable development (Invitees include Prime Minister, Minister of Environment, Minister of Trade, Industry and Energy, etc.)
Policy Research	<ul style="list-style-type: none"> • Provide a platform for member interaction in developing sustainability policies, publishing policy recommendation report, etc.
Visions and Roadmaps	<ul style="list-style-type: none"> • Establish mid-, and long-term visions and action plans for the business sector in its response to major sustainability megatrends
Capacity-Building	<ul style="list-style-type: none"> • Enhance capacity-building and information-sharing for member companies associated with sustainability management through specialized education programs
Media Relations	<ul style="list-style-type: none"> • Hold KBCSD Media Awards on Sustainability on an annual basis to promote public and media awareness of sustainable development
International Relations	<ul style="list-style-type: none"> • Interact closely with WBCSD, CBCSD, Nippon Keidanren, ADB, GCF and other like-minded organizations to promote regional and global collaboration in such fields as climate change, energy, and CSV • Help member companies advance sustainable business practices by introducing best practice models and implementation tools proven by leading global expertise • Spearhead green initiatives in Asia by holding 'China-Korea CEO Roundtable on Sustainable Development' aimed at expanding low-carbon, green business opportunities

KBCSD Members

Chairman

Dong-Soo HUR, Chairman of GS Caltex

Vice Chairmen

Sang Jin PARK, President of Samsung Electronics
 Chul-Khil CHUNG, President & CEO of SK Energy
 Nasser Al-Mahasher, CEO of S-OIL
 Jin-Soo PARK, Vice Chairman & CEO of LG Chem
 Myung Soo HUH, Vice Chairman of GS Engineering & Construction
 Young-Hoon LEE, Senior Executive Vice President of POSCO

Board of Directors

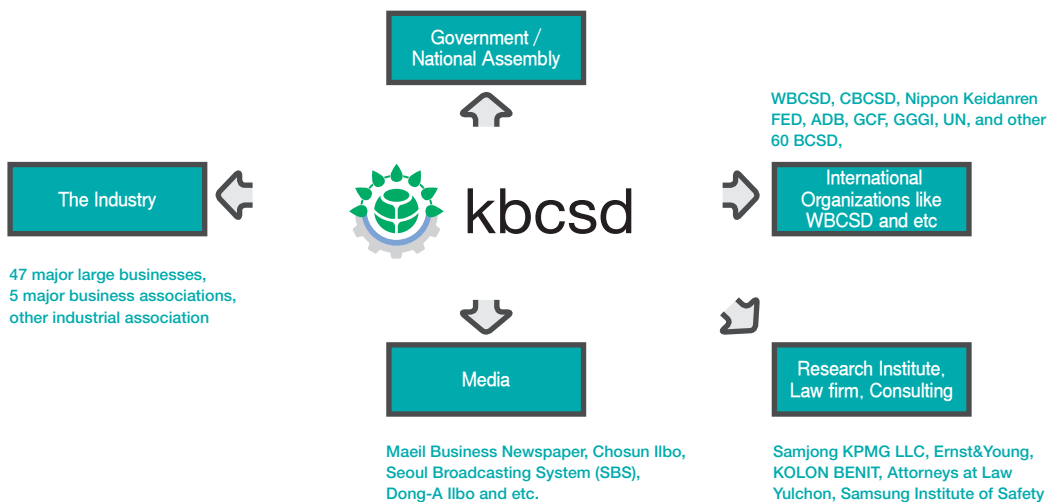
Chang-Hoon CHI, President of KoreanAir
 Soo-Young HUH, President & CEO of LOTTE Chemical
 Hee-Cheul KIM, CEO of Hanwha Total.
 Soo Cheon KIM, President & CEO of Asiana Airlines
 Jong-Rip BYUN, President & CEO of Korea Energy Management Corporation (KEMCO)
 Ja Yong KOO, Chairman & CEO of E1
 Seok CHO, President & CEO of Korea Hydro & Nuclear Power (KHNP)
 Sang Hun LEE, President & CEO of Hansol Paper
 Chang Bum KIM, President & CEO of Hanwha Chemical

47 Member Companies



KBCSD Networks

- **Government:** Ministry of Environment, Ministry of Trade, Industry & Energy, Ministry of Land , Infrastructure & Transport, Office for Government Policy Coordination, etc.
- **National Assembly:** Climate Change Forum, Environment & Labor Committee, Industry & Trade Committee, Sustainable Development Committee, etc.





kbcSD

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