



Global Compact
Network Korea

Climate and Environmental Diplomacy and Global Cooperation through the Circular Economy

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1. UNGC and ESG

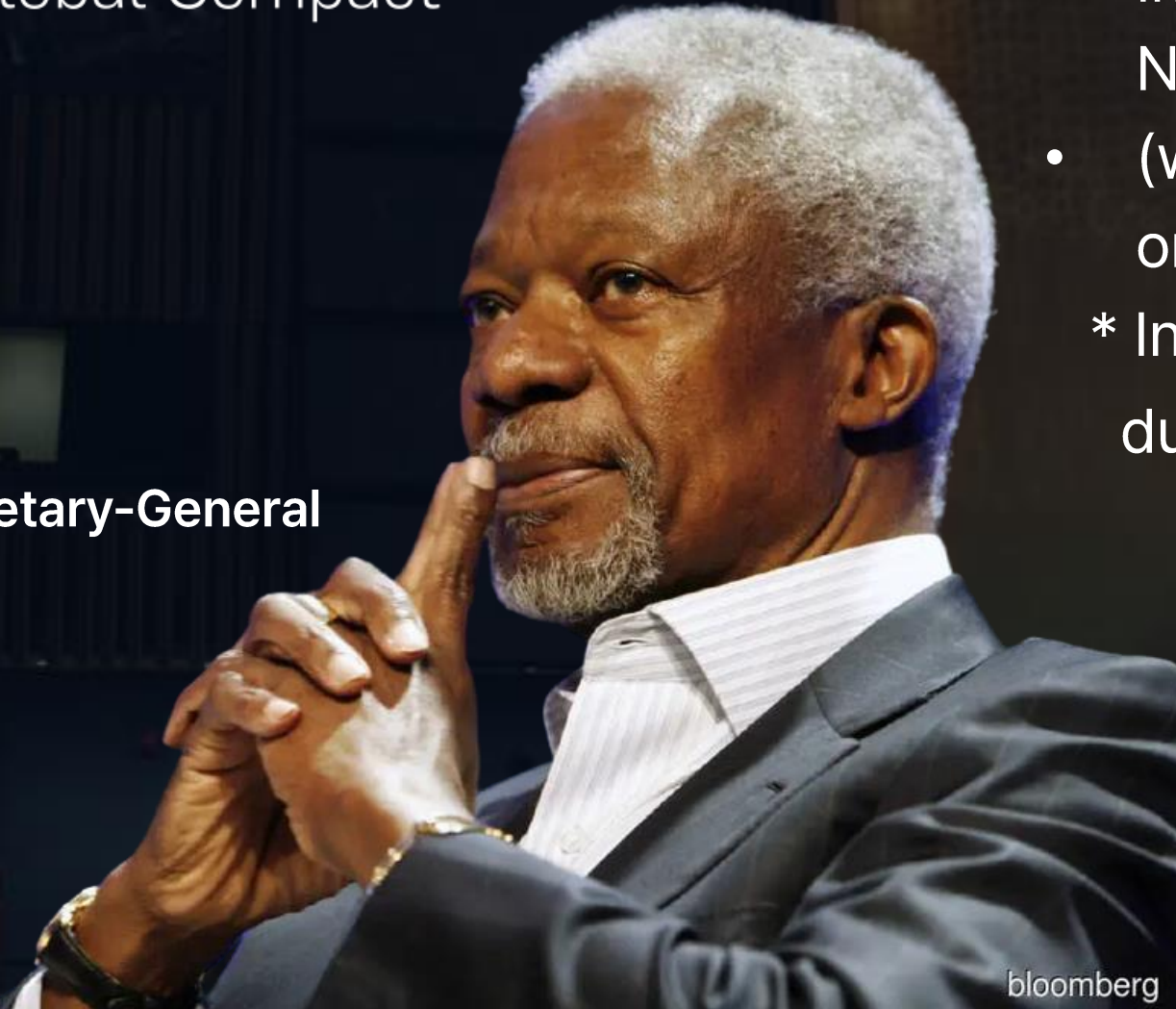


UN Global Compact (UNGC)



United Nations
Global Compact

Kofi Annan
Former UN Secretary-General



- On January 31, 1999, at the World Economic Forum (WEF) in Davos, Switzerland, former UN Secretary-General Kofi Annan proposed the Global Compact.
 - In July 2000, the Global Compact was launched at UN Headquarters in New York
 - (with business leaders, companies, UN agencies, labor and civil society organizations from around the world).
- * In 2007, UN Global Compact Network Korea was established during the tenure of former UN Secretary-General Ban Ki-moon.

Background

- Growing Corporate Influence on Environmental & Social Issues
- Greater Corporate Role in Sustainable Development
- Need for a UN Initiative on Corporate Social Responsibility



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United Nations
Global Compact

The World's Largest Voluntary Corporate Sustainability Initiative

**Building a Virtuous ESG Ecosystem / Accelerating the SDGs and Net-Zero
Strengthening the Global ESG Platform**

*** Advancing "Making Global Goals Local Business"**

OUR COMMON FUTURE

**Sustainable
Development
1987**



THE GLOBAL
COMPACT

“Who Cares Wins”

Connecting Financial Markets
to a Changing World

Recommendations by the financial industry to better integrate environmental
and governance issues in analysis, investment decisions and securities brok

**ESG Concept
First
Introduced
2004**

ABN Amro • Aelia • AXA Group • Banco do Brasil • Bank Sarasin • BNP Paribas • Calvert Group • CNP Assurances
Credit Suisse Group • Deutsche Bank • Goldman Sachs • Henderson Global Investors • HSBC • IFC • Innovest
ISIS Asset Management • KLP Insurance • Mitsui Sumitomo Insurance • Morgan Stanley • RCM • UBS • Westpac • World Bank Group



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PRINCIPLES FOR RESPONSIBLE INVESTMENT

AN INVESTOR INITIATIVE IN PARTNERSHIP WITH UNEP FINANCE INITIATIVE
AND THE UN GLOBAL COMPACT

PRI's MISSION

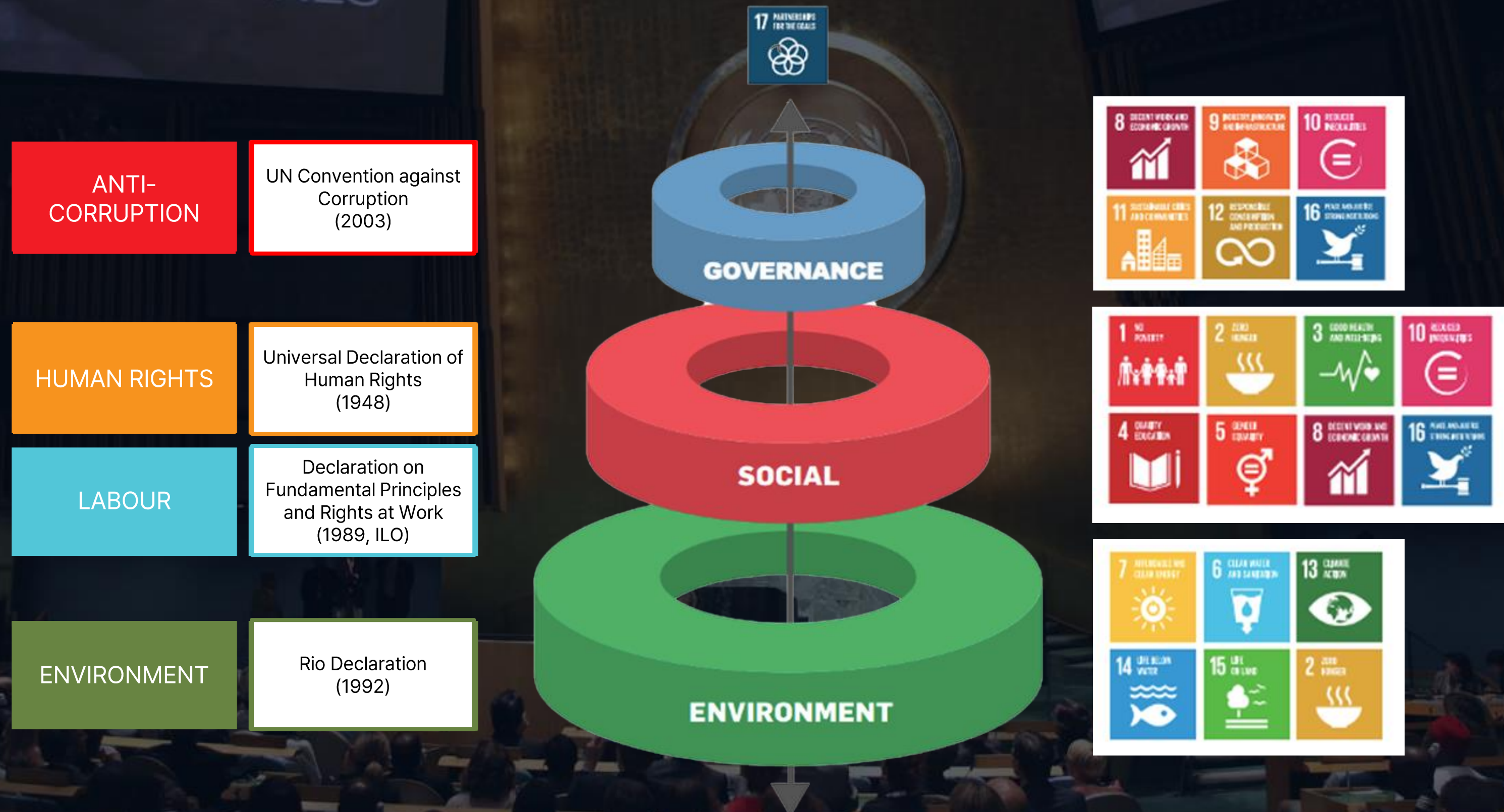
We believe that an economically efficient, sustainable global financial system is a necessity for long-term value creation. Such a system will reward long-term, responsible investment and benefit the environment and society as a whole.

The PRI will work to achieve this sustainable global financial system by encouraging adoption of the Principles and collaboration on the ground, including good governance, integrity and accountability, and by addressing obstacles to a sustainable financial system that lie within market practices, structures and incentives.

**Responsible
Investment
2006**

UNGC 10 Principles / ESG / SDGs

Promoting Sustainable Management (ESG) to achieve the SDGs, Based on 10 principles in four Areas of International Consensus





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The Spirit of ESG Caring for the Other

*** Winning: Achieving Sustainable Development**

Who Cares Wins

The "Other": Planet (E) · People (S) · Organization (G)

*** Climate change: The Most Far-Reaching and Impactful Environmental Issue**

2. Climate Crisis and Responses





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<Nuclear Scientist> The Doomsday Clock is at its most critical point ever

"85 seconds to midnight." (Bulletin of the Atomic Scientists, 26.1.27)

Humanity's Two Greatest Threats: **Nuclear Weapons** and **Climate Change**

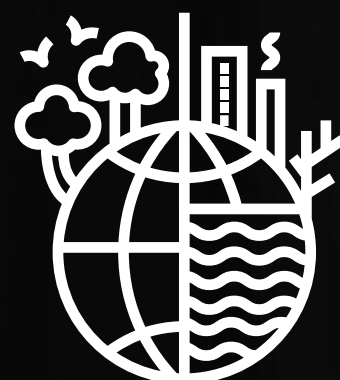
(A Matter of Survival)



Nuclear Weapons

Visible,
Immediate Threat

A Matter of
Survival



Climate Change

Invisible, Gradual,
and Persistent Threat





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WORLD METEOROLOGICAL
ORGANIZATION

WMO-No. 1391

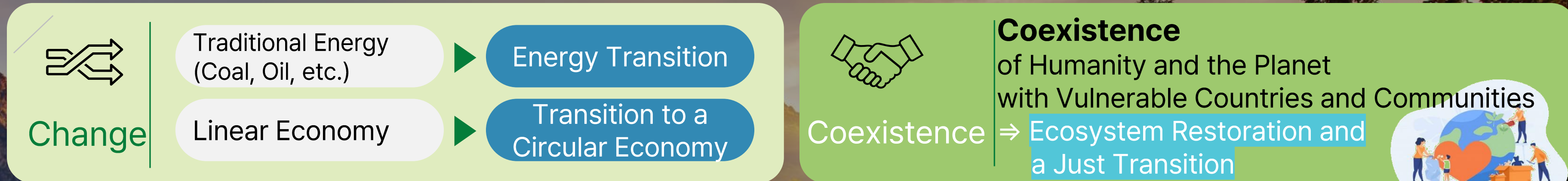
World Meteorological Organization (WMO) 2025/26 Global Climate and Environment Report: Current Status

- ✓ 2024 was **the hottest year** in 175 years of meteorological observations
- ✓ **First Year Global Temperature Exceeded 1.5°C** above
Pre-Industrial Levels (1850–1900)
(2023: +1.45°C / 2024: +1.55°C / 2025: +1.43°C)
- ✓ **Highest Greenhouse Gas Concentrations** in 800,000 Years
(1860) 280 ppm → (1990) 340 ppm → (2015) 400 ppm → (2024) 423.9 ppm

**2024/ 2026
(new records
expected)**

⇒ *U.S. Trump Administration Downplays the Ongoing Climate Crisis*

< Climate Crisis Response: Aligning with 21st-Century Trends ⇒ An Era of Change and Coexistence >



< Climate Crisis Response & Key Issues Ahead >

Climate Crisis Response

Alignment with Four 21st-Century Global Trends (4D) Essential:
Digitalization + Decarbonization + Decentralization + Demographic Change
⇒ Key Features:
1) Two-Way Communication, 2) **Electrification**, 3) Technological Development

Key Issues Ahead

Support for Means of Implementation toward Carbon Neutrality
(Finance · Technology · Capacity Building)
Carbon Market Expansion
R&D-Driven Innovation(ABC Tech: AI, Bio, Carbon & Circular Tech, etc.)



U.S. Withdrawal from the Paris Agreement (Jun. 2017 / Jan. 2025)

vs.

Corporate “We Are Still In” Declaration (Jun. 2017)

**⇒ U.S. Industry: Opposite Response to the 2000 Kyoto Protocol Case
under the Bush Administration**

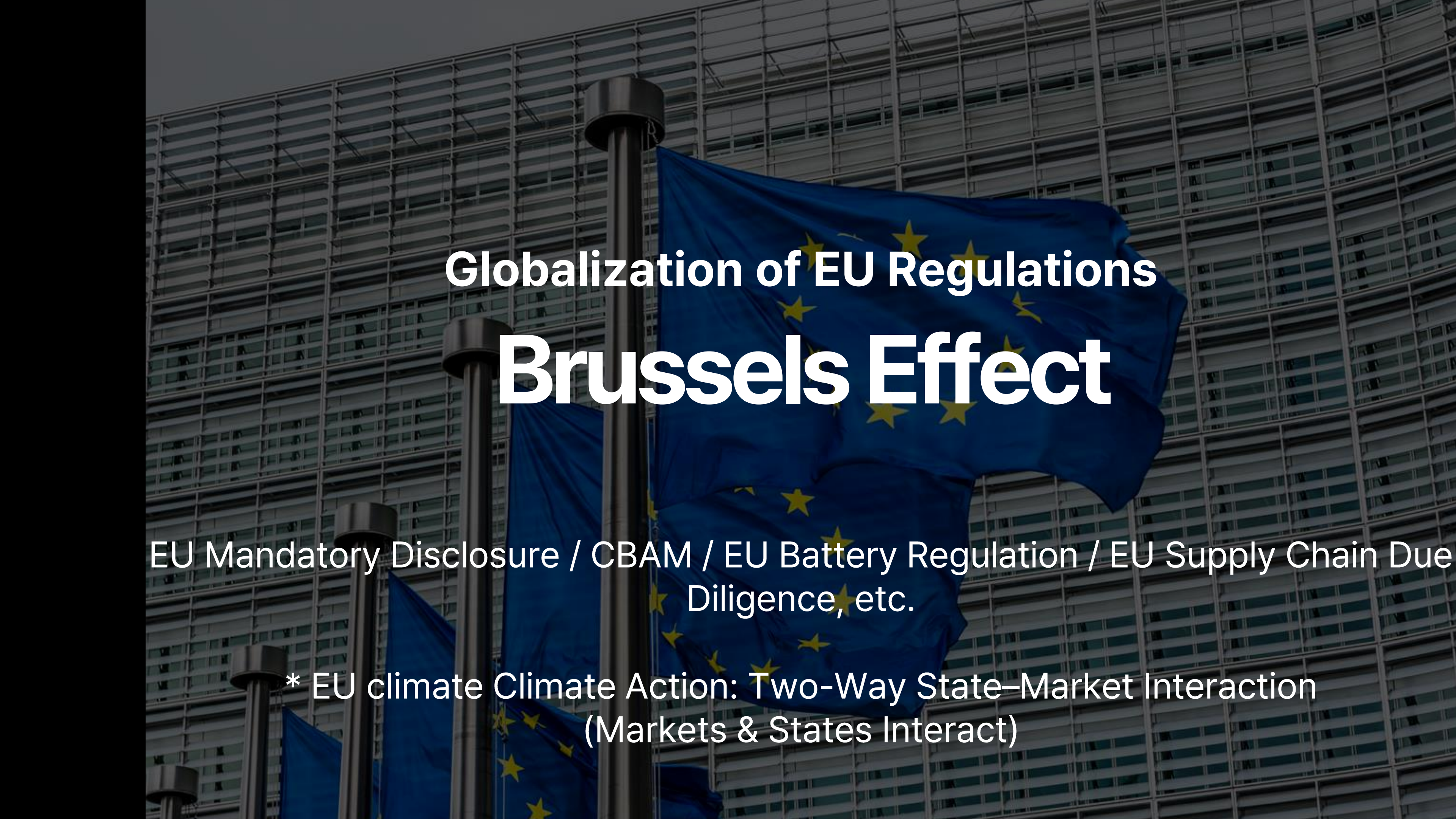
*** Current U.S. climate Action: Market-Driven (Market Functions)**



China's Carbon Neutrality

- 1 2030 Emissions Peak (*Room for Achievement*)
- 2 Recognition of Climate Damage (Political Gains)
- 3 Technological Confidence (Growth in Parallel)

* China's climate Action: State-Led Industrial Policy (State Runs)

The background of the slide is a photograph of the European Union flag, which is blue with twelve yellow stars arranged in a circle. The flag is flying on a tall, dark pole. In the background, there is a large, modern building with a grid-like facade of windows. The overall image has a dark, slightly desaturated tone.

Globalization of EU Regulations

Brussels Effect

EU Mandatory Disclosure / CBAM / EU Battery Regulation / EU Supply Chain Due Diligence, etc.

* EU climate Climate Action: Two-Way State–Market Interaction
(Markets & States Interact)

< Macro View of EU Regulatory Trends: EU Regulations Designed as an Integrated System >

Regulation	Question	Scope and Content
CBAM (Carbon Border Adjustment Mechanism)	How much was emitted?	Manage carbon
CSRD (Corporate Sustainability Reporting Directive)	What is disclosed?	Disclose corporate information (ESG disclosure framework)
CSDDD (Corporate Sustainability Due Diligence Directive)	Is the supply chain managed?	Verify suppliers
ESPR (Ecodesign for Sustainable Products Regulation)	Is the product sustainable?	Full product life cycle (LCA) (Emphasis on circular economy)

Regulatory Linkages: Carbon → Company → Supply Chain → Product

LCA & CBAM Response Cases

- Carbon Footprint Analysis across the Product Life Cycle (LCA) Required *LCA(Life Cycle Assessment)
 - CBAM and many EU circular economy regulations require carbon footprint and sustainability information across the product life cycle.

< Life Cycle Assessment (LCA) Diagram >



3. Circular Economy: Reshaping the Global Industrial Order

I. Why the Circular Economy?

Limitations of the Linear Economy

- 
- **Linear Growth Model:**
Mass Production → Mass Consumption → Mass Disposal
 - **Challenges:**
Rising Carbon Emissions · Resource Depletion · Growing Waste · Supply Chain Instability
- Calling for a paradigm shift toward a circular economy for sustainable growth

Need for Global Structural Transformation

- ① **Resource extraction and processing account for over 50% of global GHG emissions**
 - * Resources: steel, cement, plastics, biomass, fossil fuels, etc.
- ② **Significantly low global circularity rate: 6.9%**
(Circular Gap Report 2025)
- ③ **Race for critical minerals: Supply chain risks**
 - Resource security and supply chain stability emerge as key national priorities
- ④ **AI-driven digital transformation**
 - New Resource Demand → Integration with the Circular Economy
- ⑤ **Emerging Trade Barriers: Circular Economy Requirements from the Product Design Stage (e.g., EU Ecodesign Regulation)**
 - New Trade Order Reshaping Manufacturing Competitiveness
 - ⇒ Structural Transformation Across Society & Economy → Circular Economy at the Core

II. Shifting Global Industrial Order: The Core → Circular Economy

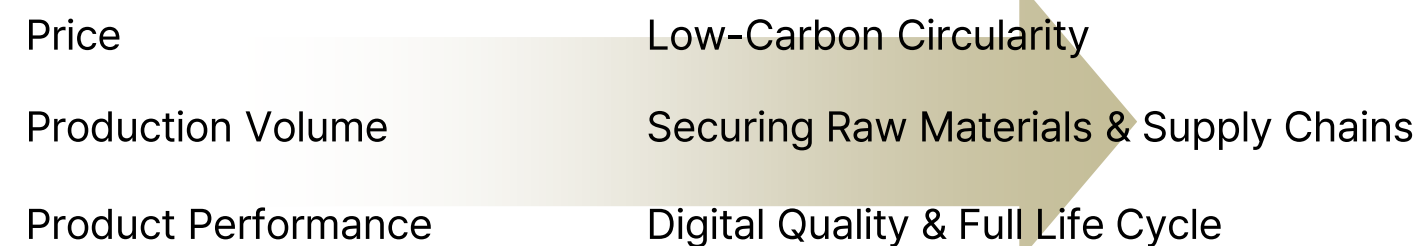
① Emerging as a Core Climate Policy

- Previous focus on “energy transition” policies
- Expanding toward “energy policy + resource circulation + product design innovation”
- Growing Consensus:
Carbon Neutrality Requires a Circular Economy

② Shifting Competitiveness Criteria

- From “price and production volume”
→ to “product sustainability (product · supply chain · data)”

< New Competitiveness Paradigm >



Price	Low-Carbon Circularity
Production Volume	Securing Raw Materials & Supply Chains
Product Performance	Digital Quality & Full Life Cycle

③ The Core of Sustainability: Circular Economy

- **Circular Economy: Emerging as a Market Entry Requirement, Not an Ex-Post Regulation**
- New Industrial Standard Governing Product Design, Production & Distribution
- Beyond Environmental Policy: A New Economic System Reshaping Global Industry

④ Circular Economy 2.0

- **Resource Circulation 1.0:**
Recycling/Waste-Centered → Circular Economy 2.0
- **Circular Economy 2.0:**
From Recycling-Centered → Value Creation & Retention
- An economic system aimed at creating and retaining value

III. Global Trends in the Circular Economy

1. International Discussion Trends

United Nations

Emphasizes **the circular economy as a key means of achieving the SDGs**



SDG 12

Responsible Consumption
and Production



SDG 13

Climate Action



SDG 14

Marine Ecosystem
Conservation



SDG 15

Terrestrial Ecosystem
Conservation

G20 / G7 / OECD

G20: Promoting Resource Efficiency & Circular Economy
Cooperation through **CERA (Circular Economy Resource Alliance)**

G7: Linking Circular Economy, Resource Security & Critical Minerals
(June 2026, Évian, France)

2026 G7 Leaders' Declaration on Critical Minerals Supply Chain Security

- Circular Economy as a Strategic Tool **for Critical Mineral Supply Chains & Economic Security**
- Critical Minerals as a **"Secondary Supply"**

OECD: Circular Economy as a **New Driver of Growth**

III. Global Trends in the Circular Economy

1. International Discussion Trends

2026 Davos Forum

- Presents Four Strategic Frameworks for the Circular Economy

① Environment + Industrial Strategy

Circular Economy = Integrated Strategy for Industrial Competitiveness + Supply Chain Security + Environmental Risk

③ Integration with Critical-Mineral Supply Chains

Securing Critical Mineral Supply Chains Is Essential for the Clean Energy Transition

(Example: securing critical minerals for solar panels)

② AI-Based Circular Economy

Resource Flow Tracking · Advanced Sorting · Forecasting · DPP (Digital Product Passport) Integration

④ Regulatory Integration

Regulation-Only Approach
→ Regulation + Market Incentives

ISO (International Organization for Standardization)

- Defines the circular economy not as “**Resource Circulation**,” but as an economic system of “**Value Creation**” and “**Value Retention**”

ISO's Six Circular Economy Principles

- ① **System Thinking**: Integrated approach to supply chains and the full life cycle
- ② **Value Creation**: Importance of creating new economic value
- ③ **Value Sharing**: Sharing value
- ④ **Resource Stewardship**: Responsible resource management
- ⑤ **Resource Traceability**: Resource traceability
- ⑥ **Ecosystem Resilience**: Ecosystem resilience

III. Global Trends in the Circular Economy

2. Rise of Global Circularity Norms: Global Circularity Protocol (GCP) – Background

- **Officially launched at the 30th UN Climate Change Conference (UNFCCC COP30)**
(Nov. 2025, Belém, Brazil)
 - Co-led by WBCSD (World Business Council for Sustainable Development) and UNEP's One Planet Network
 - Participation by 80 organizations and 150 experts
- **Companies calculate circular resource use and waste reduction differently → making inter-company comparison nearly impossible**
 - GCP launched to address these challenges: a circular economy version of the ghg protocol / the first science-based standard for circularity
- **GCP systematizes a decade of international circular-economy efforts into coherent and effective standards**



III. Global Trends in the Circular Economy

2. Rise of Global Circularity Norms: Global Circularity Protocol (GCP) – Key Features

- **Purpose:** A global voluntary standard enabling companies to **Measure, Manage** and **Communicate Circularity Performance**
- **Five Key Indicators**
 - ① Circularity Measurement
 - ② Target Setting & Performance Management
 - ③ Disclosure
 - ④ Support for Science-Based Target Setting
 - ⑤ Global Comparability
- **Expected Impact:** Global GCP adoption could generate **\$1.1–1.2 trillion in annual economic value by 2050**



III. Global Trends in the Circular Economy

3. Trends by Major Economy – EU

EU: The world's most proactive promoter of the circular economy

ESPR

(Ecodesign for Sustainable Products Regulation)

"Design products to be circular from the outset"

- Design circularity from the product stage



CRMA

(Critical Raw Materials Act)

"Secure needed resources reliably"

- Legal framework to secure a stable supply of critical raw materials needed by EU industry
 - By 2030, secure within the EU 10% of strategic raw-material demand through extraction, 40% through processing, and 25% through recycling
 - Target to reduce dependence on any single third country to below 65%

Waste Policy

(Waste Shipment Regulation)

"Circulate waste back into resources"

- Waste movement → Export → Recycling → Secondary Raw Materials
 - Aim to strengthen the market for valuable secondary raw materials contained in waste (Waste is no longer merely waste but an "urban mine"; recycled materials are a second strategic resource)
 - Cross-Border Traceability of Waste: Strengthening cross-border tracking of waste movements

III. Global Trends in the Circular Economy

3. Trends by Major Economy – EU

EU: The world's most proactive promoter of the circular economy

Data Policy DPP + DIWASS

“Digitize flows of resources and waste”

- Digital Product Passport (DPP):
Digitizes product sustainability and circularity information
- Digital Waste Shipment System (DIWASS):
Tracks and manages information on cross-border waste movements

Implementation & Security Policy (RESourceEU Action Plan)

“Implement targets and diversify supply chains”

- Connects the EU's circular-economy policies: implementation plan and resource-security policy
 - Action plan to accelerate implementation of CRMA targets
 - Expanding production and diversifying supply chains for both primary raw materials and secondary critical raw materials (Secondary CRMs)

III. Global Trends in the Circular Economy

3. Trends by Major Economy – EU

EU: The world's most proactive promoter of the circular economy



Circular Economy Act (CEA, planned for 2026)

**Data Policy
DPP + DIWASS**

"Digitize flows of resources and waste"

Digital Product Passport (DPP):

Digitizes product lifecycle information

Digital Waste Shipment System (DIWASS):

Tracks and manages information on cross-border waste movements

• Circular Economy = ESPR + CRMA + Waste Shipment + DPP/DIWASS + REsourceEU

• An overarching law integrating the five policy pillars and covering decarbonization, industrial competitiveness and economic security

**Implementation & Security
Policy**

"Implement targets and diversify supply chains"
(REsourceEU Action Plan)

Connects the EU's circular-economy policies:

Implementation plan and resource security policy

- Action plan to accelerate implementation of CRMA targets

- Expanding production and diversifying supply chains for both primary raw materials and secondary critical raw materials (Secondary CRMs)

III. Global Trends in the Circular Economy

3. Trends by Major Economy – Japan, China and the United States

Japan

// Links the circular economy with Green Transformation (GX) and Carbon-Neutrality Policies //

- **Key Policies:** Circular Economy Growth · Innovation & R&D · Diversified Overseas Sourcing
 - Resource-Secure Circular Economy through Rare-Earth Recycling & Circular Lifecycles
- **Key Actions:** ¥1 Trillion Public-Private Investment by 2030 in Recycled Metals, Plastics & Automotive Infrastructure
 - Diversified Recycled Resource Sourcing from Partner Countries (e.g., Used Batteries)
 - Stable Strategic Material Supply & Stronger Manufacturing-Recycling Links

China

// Strengthening manufacturing supply-chain competitiveness and control over raw materials //

- **Key Policies:** 14th Five-Year Circular Economy Development Plan · Stronger Resource Recycling System
- **Key Actions:** Resource Recycling System & Battery Recycling Innovation
 - Integrated Financial Support & Collection Systems → Expanded Reuse & Remanufacturing Demand



United States

// Expanding industrial-security-oriented recycling investment focused on critical minerals and batteries //

- **Key Policies:** Domestic Battery & Critical Mineral Supply Chains · Recycling Infrastructure Investment
- **Key Actions:** Large-Scale Investment in Battery Supply Chains & Critical Mineral Recycling
 - Recovery, Recycling & Reprocessing of Used Batteries, Electronics & Critical Minerals
 - IRA Tax Credits for Clean Manufacturing & Recycling Investment

III. Global Trends in the Circular Economy

4. Global Corporate Cases



BMW Group, Germany:

A leading global company placing the circular-economy model at the core of corporate strategy

Secondary First Strategy:

Building a production system centered on recycled materials

- Expanded Use of Secondary Raw Materials, Including Recycled Aluminum & Plastics
 - Expanded Recycling of Key Battery Materials (Cobalt, Nickel): Stronger Raw Material Circularity
- Stricter Supply Chain Standards: **Traceable Recycled Materials Only**

Design for Circularity:

Circular design based on the product life cycle →
Product circularity

- Full Product Lifecycle (LCA) Management: Design → Production → Use → Collection → Recycling → Remanufacturing
- Design for Easy Disassembly & Recycling : Systematic Lifecycle Carbon Management

III. Global Trends in the Circular Economy

4. Global Corporate Cases



Umicore, Belgium

Umicore, Belgium: Global Materials Technology Company

- **Critical Minerals Recovery:** Building a circular system for critical minerals → converting them back into raw materials
- **Closed-Loop Supply Chain:** Establishing a Closed-Loop Supply Chain
 - Operating a closed-loop supply chain: Used Batteries → Recycling Process → Material Production → Resupply
 - Strengthening both critical-mineral security and supply-chain stability

Using the Circular Economy as a Strategy for Industrial Competitiveness & Production Beyond Environmental Action

Company K Korea

(Automotive Tire-Related Company)

- **RE100 Implementation & Carbon Reduction in Steel-Wire Rope Production:** Reducing New Iron Ore Extraction and Use
- **Recycling Steel Wire from Waste Tires:** Accelerating the Transition to a Circular Economy
 - **Challenge:** Low Purity of Recycled Steel Wire from Waste Tires → Technology Development for High-Purity Products





4. International Cooperation on the Circular Economy

: A New Direction for Climate and Environmental Diplomacy

< Need for International Cooperation on the Circular Economy >

① Cross-Border Movement of Resources and Waste

Need to connect international circular-resource value chains

② Differences in Circular-Economy Standards Across Countries

Different national standards create barriers to cross-border movement

③ Emergence of New International Trade Regulations

The circular economy requires new corporate responses across global supply chains

④ Closely Linked to Global Carbon Neutrality and Climate Action

Circular Economy → Less Resource Use → Less Energy Use → Lower GHG Emissions

⑤ Need for Cooperation with Developing Countries

Support essential for a global circular economy transition

(Waste Management Infrastructure · Recycling Technology Transfer)

Tasks for International Circular Economy Cooperation: Building a Global Circular Economy System

< Areas of Cooperation >

Resource

Waste

Circular Value Chain

Data

Standard

Trade

Technology & Finance

< Key Content >

Stable supply of critical minerals and circular resources

Safe Cross-Border Movement of Waste & Circular Resources
waste and circular resources

Traceability & Transparency in Global Value Chain
transparency in global value chains

AI, Data & Digital Tracking Systems + Global Interoperability of ESG Data

International Circular Economy Standards & Mutual Recognition

Global Trade Rules for Circular Products

Support for Developing Countries: Technology Transfer & Investment

< Five Pillars of New Climate and Environmental Diplomacy >

1. From Carbon Diplomacy to Circular Diplomacy

- Climate and environmental diplomacy has so far centered on GHG reduction
 - Future Diplomacy Must Address Carbon + Resources + Products + Supply Chains for the Circular Economy Transition
- Strengthening international cooperation on the circular economy: the shift from a linear to a circular economy is essential for a sustainable future
 - New Cooperation Agenda
 - i) Development and utilization of the Global Circularity Protocol (GCP)
 - ii) International standards for the circular economy
 - iii) Active discussion on mutual recognition of Digital Product Passports, etc.

2 Circular Supply Chain Diplomacy

- Securing Supply Chains: Emerging as a Key Diplomatic Agenda
 - Batteries → Rare Earths → Rare Metals → Recycled Materials → Remanufacturing
- Essential Agenda for Building an International Circular Economy System
 - Common standards and certification
 - Joint investment

< Five Pillars of New Climate and Environmental Diplomacy >

3 From Climate Finance to Circular Finance

- **Future Financial Cooperation**
 - Expected expansion from Climate Finance → Nature Finance → Circular Finance
- **Toward Active Support for Circular-Economy Projects**
 - International development banks, MDBs and the Green Climate Fund (GCF) are expected to actively support circular-economy projects

4 AI-Based Climate & Environmental Diplomacy

- **Areas Where AI Can Contribute**
 - Carbon-emission analysis
 - Resource-flow tracking and waste forecasting
 - Recycling optimization and supply-chain risk management
- **International Cooperation: Countries can share data to pursue more effective cooperation**

5 Local Government Cooperation

- **Advancing Multi-Level Diplomacy**
 - Growing importance of multi-level diplomacy involving not only national governments but also cities, local governments, universities and civil society
- **City-to-City Cooperation**
 - Cooperation among Circular Cities, Carbon-Neutral Cities and Smart Cities
 - An important pillar complementing national diplomacy

5. Implications and Future Tasks for Korea

< Implications for Korea >

Korea's Characteristics and the Circular Economy

- **Korea's Characteristics:**
Resource-Poor + Manufacturing & AI Technology
Powerhouse + Export-Dependent Economy
- **Transition to a Circular Economy:**
Not an Option, but an Economic and Industrial
Imperative
 - (Domestic) Develop and advance a K-Circular
Economy strategy suited to Korea
 - (External) Advance circular-economy diplomacy

Circular Economy Diplomacy

- **Active promotion of circular-economy
diplomacy is essential**
 - **Resource Perspective:**
Waste is the new resource, and Circularity is the new
resource security
 - **Export Perspective:**
Circular management aligned with international
standards is critical (especially for automobiles,
batteries, semiconductors and electronics)
 - **Technology & Industry Perspective:**
Strong potential for AI-based resource and
environmental solutions, including resource
efficiency and data/digital traceability

< Korea's Future International Cooperation Tasks >

①

Building Global Partnerships

- Cooperate with the EU on circular-economy rules: ensure regulatory alignment
 - Mutual Recognition Agreements (MRAs) are essential (to reduce double-regulation burdens and enhance export competitiveness)
- Resource Circularity Cooperation with Critical Mineral-Rich Countries (Australia, Canada, Indonesia, Chile, etc.)
- Stable Supply of Critical Waste through Bilateral Agreements under the Basel Convention

②

Leading International Standardization of the Circular Economy

- Actively participate in international discussions on ISO, GCP, Digital Product Passports (DPP) and circularity indicators
 - Ensuring **Interoperability** is essential

③

Building a Circular-Economy Cooperation Platform

- First build a resource-circulation and recycling cooperation framework linking Korea, China, Japan and ASEAN, then explore expansion to Europe and the Americas

< Korea's Future International Cooperation Tasks >

④

AI-Based Circular-Economy Cooperation

AI Cooperation for Product Lifecycle Management, Supply Chain Traceability & Resource Efficiency

⑤

Green & Circular Finance Hub

Linking Green Finance with Circular Economy Investment

⑥

Financial Ecosystem for Developing-Country Capacity Building

Expanding Circular Economy ODA Technology Cooperation to Share Policies and Technologies

Thank You