A Review of Global Trade Issues related to the Climate Crisis in 2023

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1 Background

Carbon barriers to trade have emerged as a global trade issue as leading countries increasingly introduce green transition policies.

■ **According to the Global Risks Report 2023 published by the World Economic Forum in January 2023, the top four risks the world may face over the next decade are all related to climate change and environmental issues.**

- Under the 2015 Paris Agreement, the signatory countries are bound by an overarching mandatory goal of reducing their greenhouse gas emissions. In response, they have all announced their respective short-term (2030) and long-term (2050) reduction goals.
- However, a recent IPCC report[1] pointed out the limitations of the existing policies and underscored the importance of climate finance, technological development, and cross-border cooperation to accelerate climate action.

[Table 1] Greenhouse Gas Emission Reduction Goals of Major Countries

Reduction Goals	U.S.	EU	UK	Japan	Korea
By 2030	Compared to 2005: -50~52%	Compared to 1990: -55%	Compared to 1990: -68%	Compared to 2013: -46%	Compared to 2018: -40%
By 2050	Carbon neutrality: Maintaining carbon emissions at zero by reducing CO_2 emissions and re-absorbing any remaining CO_2 emissions.				

■ **Amid a growing consensus on the climate crisis, the U.S. and the EU have raised carbon leakage[2] as a global trade issue under the pretext of building a sustainable and level playing field trade system.**

- Recently, the U.S. has established the Inflation Reduction Act(IRA) and taken relevant actions, such a providing USD 370.0 billion in subsidies to respond to the climate crisis.
- In a similar context, the EU has announced the Green Deal Industrial Plan in February 2023 and is currently moving to enact the Net-Zero Industry Act (NZIA) and the Critical Raw Materials Act(CRMA).

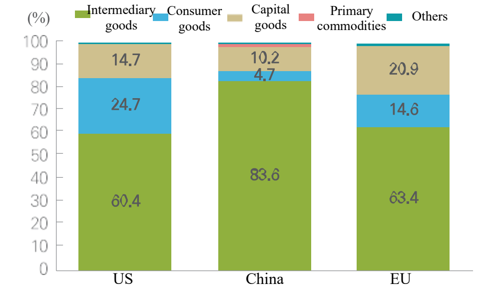
1) IPCC (Intergovernmental Panel on Climate Change), 'AR6, Sixth Assessment Report,' March 2023.

2) Carbon leakage refers to a situation in which businesses move their production to other countries with less stringent emission policies, resulting in increases in the total greenhouse gas emissions outside the countries taking domestic mitigation action.

Introduction of carbon barriers to trade in major economies increases the burden on manufacturing-oriented domestic exporters.

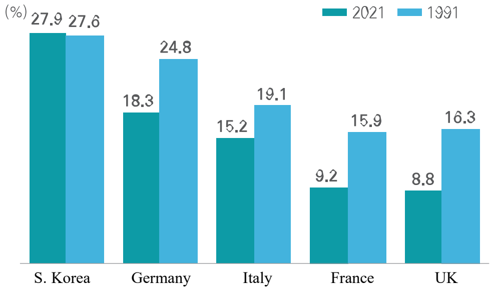
- **This trend will likely affect the supply chains of domestic corporations that export a relatively high ratio of intermediary goods to the U.S. and EU, forcing them to diversity their global supply chains in response.**
  - Since Korean corporations have benefited from the low-cost, high-efficiency global division of the labor system facilitating growth driven mainly by exports of intermediary goods, the rise of carbon barriers to trade initiated by the U.S. and EU poses a serious burden to them.
  - The steel, petrochemical and semiconductor industries are particularly subject to greater risks due to their high GHG emissions.

[Figure 1] Exports to Major Countries by Processing Stage



Note: Figures are for 2002.
Source: KITA

[Figure 2] Manufacturing as a % of GDP in Major Countries



Source: OECD

The year 2023 marks a new beginning in terms of the way the world responds to the climate crisis.

- **In 2023, numerous countries are scheduled to implement all the climate crisis response policies, laws and action plans that were put on hold during the COVID-19 pandemic. Therefore, eco-friendly capacities have emerged as a core competitive advantage for businesses.[3)]**
  - The Biden administration started implementing the actions included in the IRA in January 2023.
  - The EU will implement the Carbon Border Adjustment Mechanism (CBAM) in October 2023 on a trial basis.

- **It is necessary to respond to the changing global trade environment and the climate crisis from a broader and overarching perspective.**
  - Climate crisis-related 2023 global trade issues need to be examined in light of carbon pricing and subsidies (tax credit).

3) “Is Korea Prepared for the Off-Road Trade Environment of 2023?”: KITA 「Trade Report」 Vol. 1, January 2023.

2 Global Trade Issues related to the Climate Crisis in 2023

A. Carbon pricing leads to more carbon barriers to trade.

The EU introduced carbon pricing[4] for goods produced outside of the EU in October 2023.

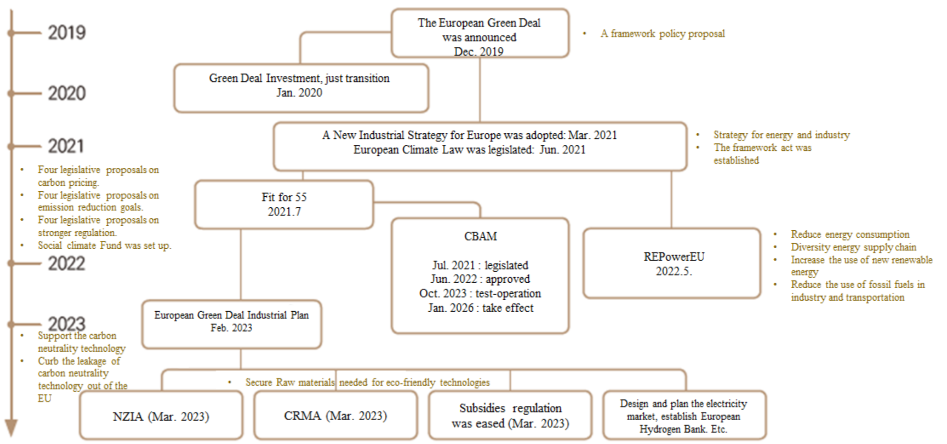
■ **The EU launched the CBAM, a type of carbon tariff under which goods produced outside the EU are also subject to the EU's emission restrictions, with the price gap reflected in the import price.**

- Since its launch in 2019, the 13th European Commission has taken specific actions to implement the European Green Deal in four categories, namely, general, investment, legislative, and industry.[5]
- The CBAM, a carbon pricing initiative, is one of twelve legislative proposals included in the "Fit for 55" package[6] released in July 2021.

■ **CBAM-related certification costs[7] are expected to hurt Korean exporters' profits and sales.[8][9]**

- The pilot operation of the CBAM will run from October 2023 to 2025, while it will become mandatory to buy CBAM certifications from January 1, 2026, in synch with the reduction of free allocations of emissions allowances.
- Companies in carbon-intensive sectors - including iron and steel, aluminum, cement, electricity, hydrogen, and fertilizers - will be required to obtain greenhouse gas emission certifications for the goods they export to the EU.[10]

[Figure 3] The European Green Deal: A Brief Summary



Source: Compiled by NABO based on information published by the European Commission.

4) Carbon pricing is an instrument used to impose a fee directly or indirectly on carbon emissions. It includes the carbon tariff and the emissions trading system.

5) Jang, Yeong-wook, et al., 'The Highlights of the European Green Deal Industrial Plan and Its Implications,' 「World Economy Focus」 Vol.6 No.2, Korea Institute for International Economic Policy (KIEP), February 17, 2023.

6) The "Fit for 55" package was designed by the EU to reduce its greenhouse gas emissions by 55% from the 1990 levels by 2030 as an interim goal for achieving carbon neutrality by 2050. The package includes twelve legislative proposals and the creation of the Social Climate Fund.

7) Prices of Korea's emissions on the emissions trading market are lower than those of the EU. In February 2023 the EU's emissions futures closed at EURO 99.80 (equivalent to KRW 139,496), while the average price of Korea's emissions was KRW 13,024. 「ETS Insight」 Vol. 57, The Ministry of Environment, March 2023.

➤ The U.S. proposed the Clean Competition Act11) that would impose carbon tariff on 12 imported items starting in 2024.

- **Under the proposed Act, a carbon tariff of USD 55.0 per ton will be applied to twelve imported goods, including fossil fuels, aluminum, steel, and cement, as well as to other imported products.**
  - Unlike the EU's CBAM, the CCA is implemented in a flexible manner. For example, imports from some of the least-developed countries are exempt from any charges, and exemptions can also be applied, based on the level of the climate policy and actions that such countries have put in place.
  - About 75% of the revenues generated by the application of the CCA will be used to assist the decarbonization of industries affected by the CCA, while the remaining 25% will be used to support decarbonization in the least developed countries.

[Table 2] Summary of the Clean Competition Act

Carbon tariff	USD 55.00 per ton. It will increase by 5% above inflation each year.
Applicable industries	Fossil fuels, aluminum, steel, cement, petrochemicals, refined petroleum products, fertilizers, glass.
Criteria	Countries that manufacture carbon-intensive products (least developed countries are exempt), by weight of carbon.
Method of calculation	[(The U.S. comparable industry-specific average carbon intensity) - (The country of origin's relevant industry-specific)] X unit price per ton
Timetable	- 2024: Initial phase, applicable to limited industries. - 2026: Adjustment will be expanded to imported finished goods containing 500 pounds (226kg) of energy-intensive primary goods. - 2028: The threshold for coverage will be lowered to 100 pounds (45.4kg).
Use of revenues	75% of the revenues will be used to support the decarbonization of the covered industries, while the remaining 25% will be ued to help the least-developed countries decarbonize.

B. Countries competitively increase support to foster the growth of key industries involved in the climate crisis response

➤ The U.S.'s IRA focuses on responding to the climate crisis.

- **Under the IRA, the U.S. government plans to spend a total of USD 370.0 billion by 2030 on fighting the climate crisis, including production tax credits for strategic industries that are actively involved in responding to the climate crisis, and investment tax credits for clean technologies.**
  - The IRA, a part of the overarching "Made in America Act", appropriates large amounts of the national budget and incentives to respond to the climate crisis.
  - It is widely viewed as the most aggressive measure ever taken to address climate change in the history of the United States, and is projected to reduce the country's greenhouse gas emissions by 44% by 2030.[12)]

8) It has the same effect as imposing an additional tariff of approximately 2.7%.
9) Moon, Jin-yeong, et al., 'The Global Move to Raise GHG Emissions Goals and Korea's Response,' 「Policy Research Briefing」 Vol. 20 No. 15, KIEP, December 30, 2020.
10) Lee, Cheon-ki, et al., 'An Analysis of the EU CBAM from the Trade Law Perspective and Implications for Korean Industry,' 「Global Economy Today」 Vol. 21 No. 15, KIEP, July 21, 2021.
11) Proposed on June 7, 2022, https://www.govinfo.gov/app/details/BILLS-117s4355is
12) 'A Review of the U.S.'s IRA and Its Impact on Korea,' 「Pressing Issues, in Other Countries?」 Vol. 2022-18, National Assembly Library, September 20, 2022.

- The United States' IRA stipulates that a subsidy of up to USD 7,500 (approximately KRW 10 million) shall be provided for EVs that use batteries made in the U.S. and for which at least 40% of the critical minerals are from the U.S.[13)]

[Table 3] Legal Foundation for the Made in America Strategy

Date of Introduction	Name of Act	Content
Nov. 2021	Infrastructure Investment and Jobs Act	USD 1.2 trillion (approximately KRW 1,423 trillion) in budget and tax incentives for job creation and infrastructure improvements, including roads, bridges, and the water supply.
Aug. 2022	CHIPS and Science Act	USD 280.0 billion (approximately KRW 366 trillion) in investment and USD 52.7 billion in tax incentives for CHIPs and the science industry.
Aug. 2022	Inflation Reduction Act	USD 370.0 billion, or 50% of the total amount of available tax incentives, to support clean energy, EVs, and climate action.

The EU introduces the CRMA and NZIA and alleviates subsidy regulation.

■ CRMA sets goals to enhance the EU's critical minerals production capacity by 2030

- The EU aims to lower its dependency on a single third country for raw materials below 65% of the total amount consumed, ensure that 10% mined is within the EU, and increase smelting and refinement in the EU to 40% by 2030.
- Unlike the U.S.'s IRA, the CRMA does not contain any provisions that explicitly discriminate against companies based outside the EU, but it does include a number of new requirements, such as internal audits of the supply chains of large corporations within the EU. [14)]

■ NZIA and the 'temporary easing of subsidy regulation' are aimed at expanding the EU's local production capacity by streamlining the regulations on eco-friendly industries and facilitating technology development.

- The NZIA has set a benchmark for the manufacturing capacity of net zero technologies[15)] to meet at least 40% of the EU's annual deployment needs by 2030, and contains measures designed to facilitate investment in net-zero technology manufacturing projects, streamline regulations, and build infrastructure.
- Private funds, the European Union Innovation Fund, and the Invest EU Program will all be used to facilitate the development and production of net-zero technologies.[16)]
- The EU has eased the regulations to expand the eligibility and ceiling of subsidies for eco-friendly industries and offers matching subsidies to attract eco-friendly companies to the EU. [17)]

13) The Ministry of Commerce, Industry and Energy (MOCIE), 'The US Treasury Department releases proposed guidance on EV tax credits under the IRA.,' press release, April 1, 2023.

14) MOCIE, 'The European Commission releases drafts of the CRMA and NZIA,' March 17, 2023.

15) ① solar energy, ② wind power, ③ batteries ④ heat pumps and geothermal energy, ⑤ electrolysers, ⑥ bio methane, ⑦ carbon capture & storage(CCS), ⑧ Grid

16) Hwang, Joon-seok, et al., 'The EU's NZIA: Highlights and Implications,' 「Trade Brief」 No. 7, March 20, 2023.

17) Jang, Young-Wook, et al., 'Follow-Up Policies to the EU's Green Industrial Plan and Its Implications' 「World Economy Focus」 Vol. 6 No. 5, March 29, 2023

3 Conclusions

A comprehensive plan is necessary to redesign climate laws and policies in a way that facilitates the transition to a sustainable green economy

- **For example, the EU's "Fit for 55", a comprehensive package of policies, guidelines and legislative proposals aimed at achieving carbon neutrality, is designed to support the economy across the board by introducing a pricing policy, imposing more ambitious goals, and using different incentives.**
  - The Social Climate Fund[18] focuses on achieving fair and just carbon neutrality by helping industries, regions and workers that are negatively affected by carbon neutrality policies.

- **The goals and direction of the package remain consistent with a wide spectrum of government policies, including economic stimulus measures and industrial policies, as well as with policies for carbon neutrality.**
  - It is necessary to collect the opinions of stakeholders and conduct impact assessment reviews in order to minimize the negative effects of green transition and establish a policy consensus among the various groups of stakeholders.

It is necessary to put in place policies to protect SMEs that are vulnerable to trade risks associated with the green transition.

- **A rapid green transition will likely impose a severe cost burden on corporations, given that the Korean economy is driven by energy-intensive industries including steel and petrochemicals.**
  - The government must formulate policies for supporting the development of technologies that are required to secure clean energy and achieve a green transition, replacing jobs that are likely to disappear as a result of the green transition, and supporting people who are vulnerable to energy poverty and small businesses.

- **The government needs to proactively identify and tackle environmental issues that could lead to trade disputes and provisions in the existing trade agreements that could trigger environmental disputes.**
  - It is necessary to review and tighten internal environmental regulations by taking into account the circumstances facing domestic corporations, while constantly monitoring international environmental agreements and domestic legislative developments regarding other issues than climate change, followed by impact analyses.
  - Prior to the implementation of the EU's CBAM, the government should take actions to help small and medium-sized companies respond to it, as they do not have sufficient knowledge or resources to measure, inspect and report their GHG emissions. In the long term, investment in green technologies will be crucial to fostering green corporations equipped with eco-friendly technology and resources.

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18) The Social Climate Fund will be financed partially from ETS revenues (25%) in transportation and buildings, with 50% of the fund contributed from the budgets of member countries. The fund will reach 72.2 billion euros (approximately KRW 97 trillion) during the period 2025 - 2032.

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