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° Issue Brief

From Policy to Purchase:

Korea and Japan's Green Steel Public Procurement Strategies

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Korea and Japan's Green Public Procurement Strategies

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Solutions for Our Climate (SFOC) is an independent nonprofit organization that works to accelerate global greenhouse gas emissions reduction and energy transition. SFOC leverages research, litigation, community organizing, and strategic communications to deliver practical climate solutions and build movements for change.

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Key Summary

The global steel industry is currently experiencing a significant transformation towards carbon neutrality. The creation of systematic low-carbon demand by governments is therefore a critical prerequisite for this transition. While Korean steelmakers are preparing to adopt low-carbon technologies, the lack of a stable market foundation has delayed this transition. In this context, the Korean government must restructure its Green Public Procurement(GPP) system so that the public sector can serve as an initial demand base for low-carbon steel. However, steel products are currently not included among the Minimum Green Standard Products designated by the Public Procurement Service(PPS). In addition, the Low-Carbon Products under the Ministry of Environment(ME) does not effectively incentivize technological transition in the steel industry, as they rely on relative performance against the product emission average. In contrast, Japan has amended its Green Purchasing Act in 2025 to include steel products with certified emissions reductions as eligible for public procurement, thereby expanding the entry of green steel into the GPP market. In this light, this issue brief analyses the GPP frameworks for steel in both Korea and Japan, and proposes institutional reforms in Korea, including participation in international initiatives such as the Industrial Deep Decarbonization Initiative(IDDI), positioning Korea as a global leader in steel industry decarbonization.

1. What is Green Public Procurement?

1) Overview

As global discussions on industrial decarbonization progress, Green Public Procurement(GPP) policies are gaining traction as a key means of creating market demand for the development and distribution of green products through the public sector. GPP refers to a policy instrument that encourages governments and public institutions to prioritize products and services with the lowest environmental impact throughout their life cycle, when compared with alternatives that have equivalent functionality[1]. Given their substantial purchasing power, governments and public institutions can play a critical role in accelerating industrial decarbonization and supporting the implementation of national carbon neutrality targets by prioritizing sustainable procurement.

Globally, there is an increasing recognition of GPP as a key policy instrument in achieving a sustainable industrial transition. According to the Organisation for Economic Cooperation and Development (OECD, 2022), 14 out of 34 surveyed countries(41%) had made GPP mandatory, and 10 countries(29%) had established specific targets or implementation plans[2]. The European Union(EU) has led GPP policy development since its 2008 "Public Procurement for a Better Environment" guidelines and is now promoting demand for clean products through public procurement as part of its 2025 Clean Industrial Deal, particularly targeting energy-intensive sectors such as steel and cement. In the United States, the federal government has incorporated carbon emissions criteria for key construction materials—such as steel and concrete—into its procurement requirements under the Buy Clean Initiative[3]. Furthermore, the Inflation Reduction Act(IRA) of 2022 significantly expanded the budget for green product procurement. Germany has been promoting national resource efficiency based on Life Cycle Assessment (LCA) through its Resource Efficiency Programme (ProgRESS) since 2012. It has actively applied green procurement criteria to carbon-intensive materials such as steel and cement by introducing the Green Lead Market framework and the Low Emission Steel Standard(LESS).

1 European Commission (2016). *Buying Green! A Handbook on Green Public Procurement (3rd edition)*, p.4.

2 OECD (2024), Harnessing Public Procurement for the Green Transition: Good Practices in OECD Countries, OECD Public Governance Reviews, OECD Publishing, Paris.

3 Although the federal Buy Clean Initiative was officially scrapped under the Trump administration, 13 states, including California, New York, and Washington, are continuing to promote the State Buy Clean Partnership at the local level.

Aligned with these global policy shifts, the Industrial Deep Decarbonization Initiative(IDDI) was launched in 2021. IDDI operates under the Clean Energy Ministerial(CEM) and is coordinated by the United Nations Industrial Development Organization(UNIDO). This initiative focuses on the decarbonization of high-emission industries such as steel and cement through activities such as harmonizing public procurement criteria, establishing an international definition for near-zero emission steel, developing LCA-based procurement guidelines, and aligning with international standardization bodies. In fact, under the GPP Pledge, participating governments[4] have committed to setting a defined share of low-carbon products—particularly in carbon-intensive materials such as steel and cement—for public construction projects.

Subnational Expansion of GPP - The Spread of the Buy Clean California Act

In 2017, the State of California enacted the Buy Clean California Act, which mandated that contractors submit greenhouse gas(GHG) emissions data from the manufacturing of key construction materials – such as steel, concrete, and glass – when bidding for public procurement. Under this framework, only products below a certain emissions threshold are eligible for procurement, establishing a system that links public purchasing to low-carbon material demand. As the first U.S. policy to set purchasing decisions on product carbon emission data, the Act aimed not only to drive demand for low-carbon materials in public projects but also to encourage their diffusion across private markets. Following California's lead, other states such as Washington and Colorado enacted similar legislation. At the federal level, the Federal Buy Clean Initiative was launched in 2021, and the subsequent passage of the IRA further accelerated the federal government's efforts to evaluate embodied emissions in steel and concrete used in major infrastructure procurement.

The Buy Clean California Act thus began as a state-level experimental policy but has since catalyzed broader shifts in federal procurement standards, marking a significant transition in the role of GPP in decarbonizing public infrastructure.

4 IDDI participants include the UK, India (joint leading country), Canada, Germany, Japan, Saudi Arabia, Sweden, United Arab Emirates, the US, and Brazil (as of 2024).

2) Current Status of Korea's GPP System and its Limitations

Korea's key GPP frameworks include the Green Product Mandatory Procurement System operated by the Ministry of Environment(ME) and the Minimum Green Standard Products designation system managed by the Public Procurement Service(PPS).

Green Product Mandatory Procurement System by ME

The Green Product Mandatory Procurement System administered by the ME mandates the purchase of designated "green products" by central government agencies, local governments, and public institutions, as stipulated in Article 6 of the Act on the Promotion of Purchase of Green Products. Under this system, if a green product is available for a specific item intended for procurement, public institutions are obligated to purchase it. Each institution must also develop and implement an annual Green Product Procurement Plan. This obligation applies both when the institution makes direct purchases and when a contractor engaged by the institution procures products for public projects.

Under this system, green products are defined as [1] Eco-Label Products, [2] Low-Carbon Products, [3] Good Recycled(GR) Products, and [4] other products publicly designated by the ME in consultation with relevant ministries. Table 1 presents ME's classification criteria for green products and the current status of certified steel products under this framework.

[Table 1] Classification of Green Products and Certification Status of Steel Products

Category	Eco-Label Products	Low-Carbon Products	Good Recycled Products(GR)
Description	For products that have resource-saving and pollution-reducing effects compared to other products with the same function.	For products that achieve verified GHG reductions beyond a designated threshold.	For products made with recycled materials that meet standards for quality, environmental performance, and safety.
Applicable Product Categories	Office equipment, construction materials, etc. (169 categories)	Household goods, construction materials, etc. (52 categories)	Recycled paper, wood, metals, etc. (17 categories)
Number of Certified Steel Products	0	7	38
Certifying Institution	Korea Environmental Industry and Technology Institute(KEITI)		Korea Resource Circulation Industry Promotion Association(RIPA)
Certification Mark			

Source: KEITI's Green Product Information System, reformatted by SFOC

However, the Green Product Mandatory Procurement System has limitations in effectively promoting the use of low-carbon products. Even if a product is not Low-Carbon certified, it can still be classified as a "green product" if it has obtained either the Eco-Label or the GR Product certification. As a result, products with high carbon emissions during the manufacturing process may still be considered "green."

While the Eco-Label certification process requires submission of life-cycle carbon emission data, the certification itself does not assess or evaluate products based on those emissions. In the case of GR certification, on the other hand, does not take carbon emissions into account at all. Consequently, a green product does not necessarily mean it is a low-carbon product, and the system fails to fulfill its intended function of reducing GHG emissions.

Minimum Green Standard Products Designation System by PPS

The Minimum Green Standard Products Designation system, operated by PPS under the Ministry of Economy and Finance(MOEF), is based on *Article 58 of the Enforcement Decree of the Framework Act on Carbon Neutrality and Green Growth*. This system restricts access to the public procurement market to only products that meet minimum environmental standards. Public institutions are obligated to procure products that meet these standards, except in cases where such procurement would significantly impede the purpose or implementation of the project.

Although the system shares a similar intent as the ME's Green Product Mandatory Procurement System, it differs that it limits the eligibility of products that fail to meet the designated standards from bidding in public procurement. It is important to note that PPS functions in a manner that is distinct from ME, given its affiliation with MOEF[5]. Currently, over 110 items across a variety of product categories – including consumer goods, mechanical equipment, and construction materials – are designated as Minimum Green Standard Products. However, surprisingly, steel products are not included. The PPS Commissioner sets and manages product-specific standards under the Minimum Green Standards framework, which is based on criteria such as: 1 energy efficiency, 2 high-efficiency equipment certification, 3 reduction of hazardous substances, and 4 recycling rates. Nevertheless, there is a clear limitation in that information regarding carbon emissions—arguably the most critical factor for GHG reduction—are not included among the evaluation criteria. As a result, the system lacks effectiveness in driving actual emission reductions. Furthermore, the exclusion of steel products from the list of designated items undermines the system's potential to support green transition in the steel industry, which is one of the largest industrial GHG emitter.

5 NEXT, Solutions For Our Climate (2022)

2. Structural Challenges in Korea's GPP for Steel Decarbonization

The current GPP system in Korea fails to adequately reflect the specific characteristics of the steel industry. The GR Product certification under ME focuses primarily on resource circulation and does not assess carbon emissions, including indirect emissions generated during the scrap recycling process. Similarly, the Low-Carbon Products scheme relies on a relative-average-based approach that fails to consider the use of renewable energy or the application of low-carbon technologies in steel production.

In addition, steel is not included in the list of designated Minimum Green Standard Products under PPS. The absence of carbon emissions criteria in the evaluation standards further limits the system's effectiveness as a procurement mechanism for promoting decarbonization in the steel sector.

The steel industry in Korea is one of the most carbon-intensive sectors, accounting for approximately 14–18% of the country's total GHG emissions (around 100 million tons of CO_2e per year), and roughly 40% of emissions from the entire industrial sector. As of 2024, Korea ranks as the sixth-largest crude steel producer in the world[6], with an annual output of 63.6 million tons. To achieve carbon neutrality by 2050, the government faces the critical task[7] of phasing out 11 blast furnaces and transitioning to Hydrogen Reduction Steelmaking[8].

In response, domestic steelmakers such as POSCO and Hyundai Steel are pursuing low-carbon transformation through the introduction of hydrogen-based reduction technology and expanded use of electric arc furnaces(EAF). However, producing low-carbon steel using new technologies and clean fuels inevitably leads to higher production costs, creating a stable demand market is essential for enabling this transition. Even though

6 World Steel Association, 『World Steel in Figures 2025』

7 Ministry of Trade, Industry and Energy (Feb 2023), *Steel Industry Development Strategy for Transition to Low-Carbon Steel Production*, p.10.

8 Hydrogen-based direct reduction technology was designated as a national strategic technology under *Article 9, Paragraph 6 of the Restriction of Special Taxation Act* through the Ministry of Economy and Finance's "2023 Amendment to the Enforcement Decree of the Tax Law," announced in January 2024.

large-scale public infrastructure projects—such as roads, railways, and bridges—are key demand sources for steel, the government is yet to establish sufficient demand for low-carbon steel through its GPP system.

Currently, steel products may be distributed on *Korea ON-Line E-Procurement System* if they are certified either as GR Products or Low-Carbon Products under ME's *Green Product Mandatory Procurement System*. However, these schemes either lack carbon emissions criteria or apply them inadequately, resulting in minimal incentives for adopting low-carbon technologies. Furthermore, steel products are not included among the designated Minimum Green Standard Products under PPS, which sets mandatory minimum criteria for products entering the procurement market. The following section examines the types of "green" steel products currently distributed through the public procurement market and the limitations of the related schemes.

1) Lack of Actual Emission Reduction Standards for Green-Labeled Steel Products

A Good Recycled Products

GR Products are evaluated primarily based on factors such as recycling rates and resource circularity. In the case of steel, this includes products such as rebar and steel pipes produced using steel scrap. As of June 2025, a total of 38 steel items from 11 companies[9] have received certification as GR Products.

However, since the certification framework focuses on resource circulation, it does not incorporate carbon emissions as part of its evaluation criteria. In other words, the certification does not indicate whether the product is actually low in carbon emissions. Particularly in the case of scrap-based steel products, the recycling rate may be high—over 90% of steel scrap is reused—but if fossil fuel–based electricity is used during the refining process, substantial Scope 2 GHG emissions are generated[10].

9 Korea Resource Circulation Service Agency. 2025. *Certification Status of High-Recycled Products (as of June 4, 2025).*

10 According to the Greenhouse Gas Protocol, carbon emissions are classified into Scope 1, 2, and 3 based on their source. Scope 1 includes direct emissions from sources owned or controlled by a company. Scope 2 covers indirect emissions from the generation of purchased energy. Scope 3 includes all other indirect emissions that occur across a company's value chain.

Nevertheless, these products are currently included in the green product procurement performance of public institutions, which represents a fundamental flaw in the system.

To address this issue, the blanket designation of GR Products as green products must be reconsidered. Specifically, for EAF processes that entail high levels of indirect emissions during refining, only those products that meet renewable energy–based production requirements should qualify as green products under the system.

B Low-Carbon Products

Low-Carbon Products are designated through a two-step certification process based on the Environmental Product Declaration(EPD) system administered by ME. First, companies must obtain an EPD certification by disclosing comprehensive environmental data, including life-cycle GHG emissions of their products. Among these, products deemed to have relatively low GHG emissions may then receive an additional certification as *Low-Carbon Products*.

The criteria for obtaining the Low-Carbon Product certificate are as follows: [1] for product categories with an established Maximum Allowable Carbon Emissions Rate, the product must emit less than the six-year average emissions of all EPD-certified products in that category[11]; [2] for categories without a Maximum Allowable Carbon Emissions Rate, the product must meet a Minimum Carbon Reduction Rate—achieving a cumulative reduction of at least 3.3% in emissions over three years. In the case of the Minimum Carbon Reduction Rate, companies must demonstrate an additional 3.3% reduction within three years of certification in order to renew the Low-Carbon Product status.

11 The term 'carbon emissions' in the relevant standard refers to the carbon footprint value ($kgCO_2e$), which is the amount of greenhouse gases generated throughout the product's entire LCA, and is based on the Ministry of Environment's EPD system. The Maximum Allowable Emissions Rate is calculated only when two or more products from different companies have obtained EPDs.

Low-Carbon Certification Criteria (1): Maximum Allowable Carbon Emissions Rate

[Table 2] presents ME's Maximum Allowable Carbon Emissions Rate standards for each steel product category. Among 21 types of raw or semi-finished steel products, only 6 (28%) are currently subject to Maximum Allowable Carbon Emissions Rate criteria, while the remaining categories are assessed based on the Minimum Carbon Reduction Rate.

As of March 31, 2025, only 7 out of 55 steel products with EPD certification have been additionally certified as Low-Carbon Products[12] under the Maximum Allowable Carbon Emissions Rate criteria.

[Table 2] Maximum Allowable Carbon Emissions Rates by Steel Product Category

Subcategory	Category	Maximum Allowable Carbon Emissions Rate ($kgCO_2e/kg$)
Raw or Semi-finished Steel	Steel Pipe	Not Applied
	Steel Wire	Not Applied
	Prestressed Steel Wire	Not Applied
	Processed Steel Sheet Product	Not Applied
	Cold-rolled Steel Sheet	Not Applied
	Galvanized Steel Wire	Not Applied
	Galvanized Prestressed Steel Wire	Not Applied
	Galvanized Steel Sheet	2.59
	PO Steel Sheet	Not Applied
	Wire Rod	2.41
	Stainless Steel Sheet	Not Applied
	Stainless Steel Bar	Not Applied
	Hot-rolled Steel Sheet	1.98
	General Structural Rectangular Steel Pipe	Not Applied
	Electrical Steel Sheet	Not Applied
	Hollow Rebar	Not Applied
	Rebar	0.50
	Tempcore Rebar	Not Applied
	Corrugated Steel Pipes	Not Applied
	Structural Steel Sections	1.76
	Heavy Plate	2.19

Source: Ministry of Environment (2024), 5th Edition of Maximum Allowable Greenhouse Gas Emissions Criteria (Effective January, 2025).

12 Korea Environmental Industry and Technology Institute, Environmental Product Declaration (EPD) Portal – Valid Certified Products (as of March 31, 2025).

[Table 3] List of Steel Materials Certified as Low-Carbon Products

Company	Certified Product Name	Total Product Carbon Footprint ($kgCO_2e/kg$)	Maximum Allowable Carbon Emissions Rate ($kgCO_2e/kg$)
Hyundai Steel	Structural Steel Section (H-Beam)	0.554	1.76
Hyundai Steel	Rebar	0.451	0.50
Dongguk Steel	H-Beam	0.563	1.76
Dongguk Steel	General Structural Steel	0.565	1.76
Dongguk Steel	Non-Heat-Treated Plate	2.119	2.19
Dongguk Steel	Straight Rebar	0.499	0.50
Dongguk Steel	Coiled Rebar	0.494	0.50

Source: Ministry of Environment, Environmental Product Declaration(EPD) Portal – Valid Certified Products (as of June 30, 2025)

As shown in **[Table 3]**, the carbon footprint of the seven steel products certified as Low-Carbon Products is compared against the corresponding Maximum Allowable Carbon Emissions Criteria. Products such as H-beams, non-heat-treated plates, straight rebars, and coiled rebars were assessed according to their respective categories (structural steel section, heavy plate, and rebar).

In the case of rebars, the maximum allowable carbon emission standard is set at 0.5 $kgCO_2e/kg$. Dongguk Steel's straight rebar product recorded 0.499 $kgCO_2e/kg$, while its coil rebar product showed 0.494 $kgCO_2e/kg$, both figures approaching the limit. Although these products technically met the threshold, their emission levels show little difference from those produced using conventional processes, which reflects that the maximum allowable carbon emission standard was set too leniently. The current lenient threshold fails to urge steel manufacturers to adopt low-carbon technologies or transition their production processes and is an insufficient policy instrument for driving substantial decarbonization. The Maximum Allowable Carbon Emissions criteria should be gradually strengthened in line with the pace of technological advancement, an improvement necessary to enable the procurement system to drive industrial competition in carbon reduction, including the adoption of low-carbon technologies and the expanded use of renewable energy.

Low-Carbon Certification Criteria (2): Minimum Carbon Reduction Rate

As shown in **[Table 2]**, for steel products that lack a Maximum Allowable Carbon Emissions Rate due to insufficient data to calculate an industry-wide average, the *Minimum Carbon Reduction Rate* applies. Under this standard, companies must demonstrate a cumulative reduction of at least 3.3% in GHG emissions over a three-year period for their own products.

However, to date, no steel product has received Low-Carbon Product status by meeting the *Minimum Carbon Reduction Rate*. This is because the standard itself is fundamentally incompatible with the structural characteristics of the steel industry. Steel production is operated based on large-scale output from fixed facilities, making it extremely difficult to achieve 3.3% cumulative reduction every three years. Emissions from steelmaking are determined primarily by energy sources and production methods, both of which require comprehensive changes in infrastructure or processes to meaningfully reduce emissions.

For instance, if an EAF–based steelmaker transitions to 100% renewable electricity through a Power Purchase Agreement(PPA), Scope 2 emissions can drop close to zero at a single point in time, reducing total emissions by up to 70%[13]. However, once this large-scale reduction is achieved, further annual reductions become infeasible, making it difficult to continue satisfying the Minimum Carbon Reduction Rate for recertification.

This "3.3% cumulative reduction over three years" rule paradoxically penalizes companies that achieve substantial reductions in a short period, while favoring those that make incremental, potentially superficial improvements year-over-year. As a result, companies with genuinely high emissions reductions may be excluded from the system, which ultimately discourages large-scale investment in low-carbon facilities. Therefore, in cases like the steel industry, where transformation requires structural changes across the production process, the Minimum Carbon Reduction Rate should be abolished.

13 Echterhof, T. (2024). Sustainable EAF Steelmaking. RWTH Aachen University. 2024, p.12, 24, 30

2) Absence of Steel Categories in the Minimum Green Standard Products Designation System

To address the institutional shortcomings through minimal reform, steel should be included as one of the designated Minimum Green Standard Products. These standards represent the minimum environmental requirements that must be met when a public institution procures a given product, thereby carrying a degree of enforceability within the GPP process. However, PPS's current Minimum Green Standard Products focus exclusively on selected environmental factors, including energy efficiency, recycling rates, and reduction of hazardous substances, without incorporating any carbon emissions data.

Therefore, carbon emissions information should be systematically integrated into the overall Minimum Green Standard criteria, and steel should be designated as a Minimum Green Standard Product. By including specific benchmarks such as product-specific Maximum Allowable Carbon Emissions Rates, renewable energy usage ratios, and the application of low-carbon production processes, the limitations of ME's GR Products and Low-Carbon Products schemes in verifying emissions reductions can be institutionally addressed.

Some construction materials—such as insulation and cement—are already included as designated categories under the Minimum Green Standard. However, steel products remain excluded. Given that the MOTIE is currently developing a national definition and standard for green steel in coordination with the Climate Club[14], PPS should work in collaboration with the MOTIE to gradually adopt these standards into the Minimum Green Standard framework. Doing so would establish a core mechanism that designates steel procured by public institutions as green steel in accordance with national criteria.

14 Ministry of Trade, Industry and Energy, *The 3rd General Meeting of the Climate Club for Industrial Decarbonization Held*, March 27, 2025, MOTIE Press Release.

3. Comparative Analysis of Korea and Japan's GPP for Steel

Korea and Japan both have manufacturing-centered industrial structures and maintain policy frameworks that enable the use of public procurement to promote low-carbon transitions. In Japan, the 2025 amendment to the Green Purchasing Act introduced a definition for "green steel" and implemented quantitative carbon criteria, institutionalizing a procurement structure that prioritizes low-carbon steel products. In contrast, Korea has neither established a separate procurement standard nor defined green steel in its system. As a result, the current GPP framework is not effectively linked to the decarbonization of the steel industry. Korea must look to the Japanese case as a reference and improve its system by establishing procurement criteria based on actual emissions reductions and by developing a national standard for green steel.

1) Rationale for Comparative Analysis of Korea and Japan's Policies

Both Korea and Japan share manufacturing-oriented industrial structures, in which the steel industry serves as a key foundational sector and one of the most carbon-intensive industries that accounts for more than 10% of each country's total GHG emissions. Japan records approximately 70 trillion yen (approximately USD 500 billion) in annual public procurement spending, while Korea's public procurement expenditure amounts to around USD 104 billion, with both countries sharing a common structural characteristic in that steel demand is concentrated in large-scale infrastructure projects such as roads, railways, and buildings.

This presents a meaningful structural advantage for both Japan and Korea in leveraging public sector steel demand to promote decarbonization transitions. As of 2023, government construction budgets alone amounted to approximately 25.3 trillion yen (approximately USD 187.5 billion)[15], in Japan and approximately USD 61.6 billion in Korea[16].

Given that approximately 13% of total construction budgets are estimated to be allocated to steel materials[17], the direct and indirect steel procurement associated with public construction in Japan and Korea is estimated at approximately USD 24.6 billion and USD 8 billion, respectively, which represent a significant proportion of the overall steel market in each country.

Despite these structural similarities, there are significant differences in the two countries' procurement policy approaches. Japan, through the revised Green Purchasing Act enacted in January 2025, explicitly includes low-carbon steel products as procurement items and is establishing a quantitative standards system based on technical criteria and verified emissions reductions. In contrast, Korea still relies on the ME's general certification system and has yet to develop separate procurement criteria that reflect the characteristics and technological variations of the steel industry. Accordingly, this chapter compares the green public procurement policies for steel in Korea and Japan and proposes a future direction for reforming Korea's system.

2) Japan's GPP: Changes to Secure Competitiveness in the Steel Industry

Japan's GPP is administered by the Ministry of the Environment, Japan(MOEJ) and implemented in coordination with individual procuring agencies, based on the *Act on Promoting Green Procurement of Goods and Services*(hereinafter the Green Purchasing Act). Although Japan's GPP policy has been in place since 2001, core steel products such as hot-rolled steel, structural steel, and heavy plate were excluded from designated procurement items for nearly 25 years due to their high carbon emissions[18].

In 2023, the Japanese government formally introduced its Green Transformation(GX) policy to address the climate crisis while maintaining industrial competitiveness.

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15 Ministry of Land, Infrastructure, Transport and Tourism(MLIT), Outlook for Construction Investment in FY2023, Government of Japan.

16 Public Procurement Service(PPS), 2023 Annual Report on Public Procurement Statistics, Government of the Republic of Korea.

17 According to the input-output analysis presented in SteelDaily (January 2, 2024), titled "Diagnosis of Steel Demand Industries – Where Is the Construction Industry Headed?", the share of steel materials among construction materials is calculated at 13%.

18 Previously, only construction materials utilizing by-products from the steelmaking process—such as blast furnace slag cement—were included.

The government largely adopted the "Green Steel[19]" concept promoted by the Japan Iron and Steel Federation(JISF), establishing quantifiable standards for emissions and emissions reduction performance for low-carbon steel produced through hydrogen-based or EAF processes.

In parallel with this public–private collaboration, Japan swiftly overhauled its GPP system for steel. In April 2025, the Green Purchasing Act was amended to include "iron or steel using items" as eligible procurement categories. Under the revised policy, eligibility for public procurement is determined based on product-specific emissions data. Government agencies are required to prioritize the purchase of steel products that meet the newly established low-carbon criteria. If they opt to procure other steel products, they must explicitly state the reasons or take alternative measures. This represents the first institutionalized effort in Japan to use the procurement system to drive the diffusion of low-carbon technologies in the private sector.

The amended Green Purchasing Act was approved by the Cabinet in January 2025 and entered into force in April of the same year. The revision expanded the scope of GPP beyond conventional items such as slag and blast furnace cement to include "green steel[20]". The certification framework for "green steel" was jointly developed by the Ministry of Economy, Trade and Industry(METI) and the JISF, with the JISF responsible for designing the detailed implementation procedures. "Green steel" is classified into two grades—Reference Value 1 and Reference Value 2—based on the product's Carbon Footprint of Product(CFP) and an Additional Abatement Report(AAR) verifying further emissions reductions. Products that meet Reference Value 1 are designated as preferred procurement items.

19 The Japanese government and the Japan Iron and Steel Federation define "Green Steel" as including steel products produced using the mass balance method, which can be certified regardless of whether actual reductions have been achieved. In this brief, we use the term "Green Steel" to refer to low-carbon steel defined within the Japanese system, distinguishing it from general Green Steel.

20 The Japan Iron and Steel Federation(JISF) defines "green steel" as "Steel products certified based on the allocation of verified greenhouse gas emission reductions to the product, achieved through GHG reduction projects that demonstrate 'additionality.'" This definition was formally adopted as the official standard and incorporated into the 2025 amendment of the Green Purchasing Act by the Japanese government. Japan quantifies GHG emissions of steel products on a per-unit basis in accordance with the Carbon Footprint of Product standard and certifies emission reductions based on the quantified data.

[Table 4] Classification of "Green Steel" under Japan's Green Purchasing Act

Category	Key Features
Reference Value 1	•JISF issues certificates based on internal evaluation and review processes. •Final procurement assessments and application decisions are made jointly by MOEJ and METI with procurement entities determining the product's eligibility based on information coordinated with these ministries → The advanced evaluation is conducted using a quantitative carbon emission threshold (measured in $kgCO_2e/t$). → Mandatory requirements for this category include ① Certificate of AAR, and ② CFP data reporting.
Reference Value 2	•A product that quantifies and discloses its GHG emissions throughout the entire production process (CFP) (is considered to have met the minimum environmental information disclosure requirements for designated procurement items).

* The definitions and conditions for Reference Values 1 and 2 are based on the joint guidelines issued by Japan's METI and MOEJ procedures outlined in the "Green Steel" Guidelines of the JISF.

In July 2024, Tokyo Steel launched a low-carbon steel product named Hobo Zero (ほぼゼロ)', which has garnered significant attention in Japan. Hobo Zero utilizes EAF technology to recycle steel scrap, achieving a dramatic reduction in carbon emissions compared to blast furnace methods. Moreover, it has officially been recognized as generating zero emissions from electricity use through certification under Japan's FIT Non-Fossil Certificates program. The company further reduced physical emissions by improving energy efficiency during the reheating of semi-finished steel. Since its release, Hobo Zero has secured contracts with approximately 100 companies, totaling 10,000 tons in cumulative volume. Of this, around 3,000 tons are scheduled for use in a redevelopment project in Ōta City, Gunma Prefecture.

To support such low-carbon process transitions in the steel sector, the Japanese government is leveraging public procurement to generate additional demand. One notable initiative is the plan to replace or reinforce 5,000 km of aging sewage pipes—identified as a social concern due to recurring sinkholes—by 2030[21]. As this project will be implemented through public procurement, it is expected to significantly contribute to the demand for low-carbon steel. In addition, Japan is developing a regulatory framework to calculate the carbon footprint of buildings across their full life cycle—from construction to demolition—by 2028. This initiative will not only strengthen the demand

21 Nihon Keizai Shimbun (May 28, 2025). *Aging Sewer Pipes to Be Replaced by 2030 – Government Sets 5,000 km Trunk Line Target.*

for low-carbon steel in public construction projects but also encourage its adoption in the private construction sector[22].

3) Limitations of Japan's GPP for Steel Industry

However, Japan's GPP system for steel also has its limitations. The Japanese procurement framework allows certain products to participate in the market based on the *Mass Balance* approach. The Mass Balance methodology allocates the carbon emission reduction performance of the company to individual products regardless of whether there is an actual reduction in product units. This creates a contradiction in the procurement market, where products that have not genuinely reduced carbon emissions—but are cheaper and produced in larger quantities—may be favored over those with verifiable emission reductions.

Such a structure creates the risk that products with higher actual emissions, but lower prices will be more readily selected in procurement processes over products that have achieved verifiable emissions reductions. It is argued that this undermines the original intent of the GPP – namely to incentivize low-carbon technologies – and that it may inadvertently reinforce prevailing production structures. In order for Japan's GPP system to evolve into a truly performance-based procurement regime, it is essential to establish a clear distinction between mass balance-certified products and those with actual emissions reductions. This should be accompanied by differentiated treatment such as procurement incentives or prioritization in purchasing.

In fact, in May 2025, MOEJ, Ministry of Land, Infrastructure, Transport and Tourism(MLIT), and METI designated three steel products—including certain types of heavy plate and piles—as "items under continuous review" under the Green Purchasing Act[23]. The government raised concerns that the application of the mass balance approach to these products involves technical and economic challenges. According to the official statement, the mass balance methodology outlined in the proposal lacked a clear definition and failed to provide a verifiable method for determining environmental impact reductions. This move suggests that the Japanese government recognizes the need

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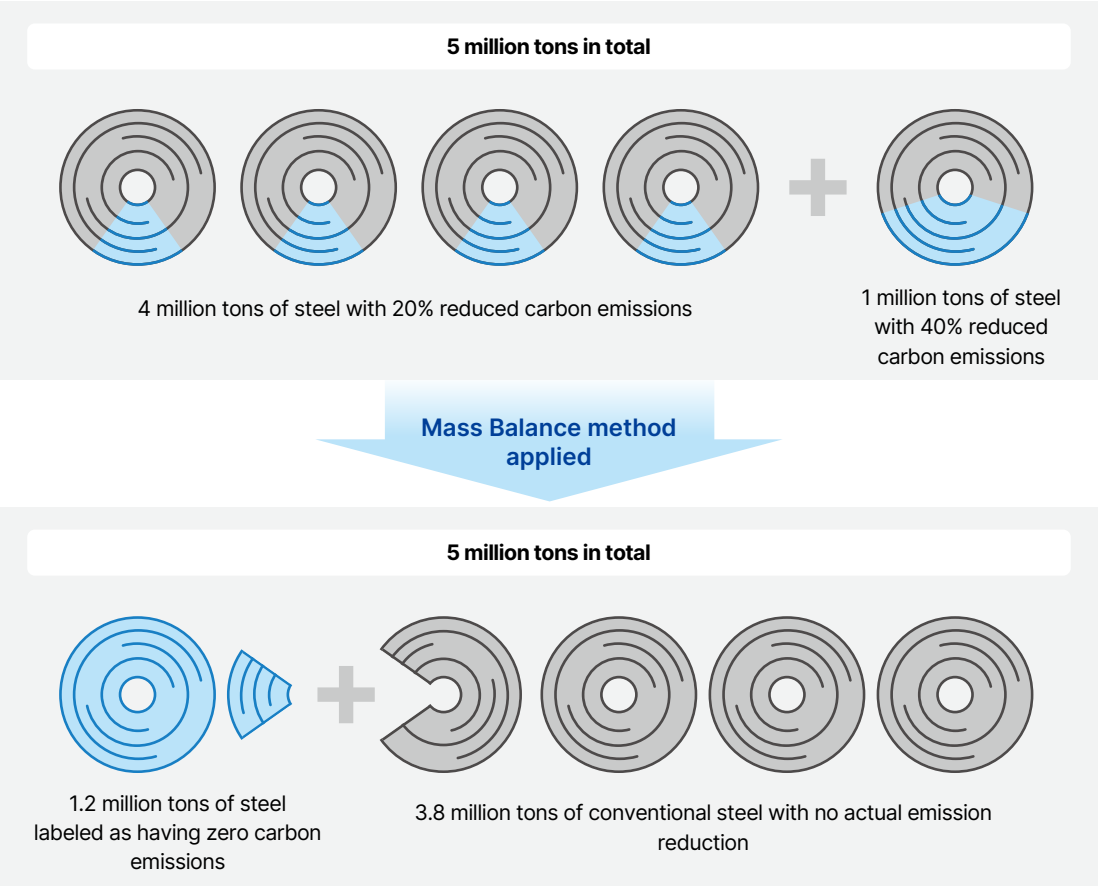
22 Nihon Keizai Shimbun (June 1, 2025). *CO_2 Emissions from Buildings to Be Calculated from Construction to Demolition – Ministry of Land, Infrastructure, Transport and Tourism Targets 2028 for Implementation.*

23 Ministry of the Environment, Ministry of Land, Infrastructure, Transport and Tourism, and Ministry of Economy, Trade and Industry(Japan). 2025. Publication of the Long List of Public Construction Materials Subject to Ongoing Review under the Green Purchasing Framework. May 2, 2025, Press Release.

for institutional reexamination of certain categories and signals the possibility of future revisions to procurement criteria and the role of mass balance accounting methodology.

[Figure 1] Example of the Distribution Structure of Emissions Reductions under the Mass Balance Approach[24]



24 Solutions for Our Climate (2024), *Hyundai Steel's Insufficient Decarbonization Roadmap: A Setback to Hyundai Motor Company's Net Zero Ambitions?*, p.12

4) Comparative Assessment of Korea and Japan's GPP Policies

[Table 5] highlights the differences between Korea and Japan's GPP policies for the steel sector.

[Table 5] Comparison of Korea and Japan's GPP Policies for Steel

Category	Subcategory	Korea	Japan
Procurement Criteria	Explicit inclusion of "steel" in the procurement item list	N/A	Included
	Inclusion of low-carbon technologies in procurement standards	N/A	Included
	Inclusion of carbon emissions data in procurement criteria	Partially included[25]	Included
	Preferential procurement based on carbon reduction performance	Partially applied	Applied[26]
Green Steel Standards		Not defined	Defined
Presence of a Central Coordinating Body for Green Public Procurement		Absent	Present

Establishing Steel-Specific Criteria in GPP

The Korean GPP system lacks criteria tailored to the characteristics and emission profiles of the steel industry. As a result, when public institutions procure steel, key factors such as the product's actual carbon reduction performance, application of low-carbon technologies, and use of renewable energy are not considered. Moreover, under the Green Product Mandatory Procurement System, purchases of GR Products or Eco-Label Products are also counted as green procurement performance, even if they are not Low-Carbon Products. This structural flaw limits the system's ability to directly incentivize the procurement of low-carbon steel.

In contrast, Japan revised its Green Purchasing Act in 2025 to introduce a new category titled "Iron or steel using items," mandating public institutions to give purchasing priority to products with lower carbon emissions. By embedding carbon emissions as a core element of GPP, Japan has institutionalized the linkage between national GHG reduction and industrial decarbonization—marking a clear distinction from Korea.

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25 The designation criteria for the Public Procurement Service's Minimum Green Product Standards do not specify a carbon emissions measurement standard; however, the Ministry of Environment's Low-Carbon Product Certification System mandates the use of Environmental Product Declaration certification which is based on full-life-cycle greenhouse gas emissions.

26 The Japanese government specifies that, for steel products meeting the "Standard Value 1" threshold, those with lower disclosed carbon emissions should be given purchasing priority. However, this category also includes steel produced via the mass balance approach.

Korea must also reform its procurement system by including steel in the Minimum Green Standard Products and establishing carbon-centered criteria across the Green Product Mandatory Procurement System. This would enable GPP to function as an effective policy instrument for implementing national carbon neutrality goals.

Definition of Green Steel

Korea has yet to establish an institutional definition or technical standard for green steel. Since February 2025, MOTIE has been engaging in discussions with the Climate Club to develop internationally recognized standards for green steel. However, no official timeline for the release of such standards has been announced to date. Once the standards are established, the PPS should gradually incorporate them into the Minimum Green Standard framework to align the definition of green steel and its procurement criteria.

In contrast, Japan formally recognized the need for decarbonizing the steel sector through its GX policy since 2023. By adopting the "green steel" criteria established by the JISF, the country has defined both the concept and technical standards for "Green Steel." Furthermore, Japan has embedded these criteria into its Green Purchasing Act, thereby establishing a system that not only defines "Green Steel" but also generates public sector demand based on those definitions.

Existence of a Centralized GPP Governance Structure

In Korea, the GPP system is fragmented across multiple ministries and independent schemes: the ME's Low-Carbon Products and GR Products schemes, the PPS's Minimum Green Standard Products, and the MOLIT's green building certification. These systems operate separately, resulting in a disconnect between certification, procurement, and actual material use. Against this backdrop, Korean GPP framework lacks structural integration with national carbon neutrality policies.

In contrast, Japan has established an integrated governance structure[27] for implementing the Green Purchasing Act. METI, MOEJ, and the MLIT coordinate through an inter-ministerial expert committee. This body oversees the selection of procurement items,

27 Japan's Ministry of the Environment operates the Expert Committee on Product Procurement under the Central Environment Council. The committee includes representatives from key ministries such as the Ministry of Economy, Trade and Industry(METI), the Ministry of Land, Infrastructure, Transport and Tourism(MLIT), and the Ministry of Internal Affairs and Communications(MIC).

standard-setting, and cross-ministerial coordination under a formalized process. This centralized mechanism plays a critical role in ensuring policy coherence and enabling GPP to serve as a core instrument for driving industrial transformation.

Policy Implications: Korea–Japan GPP Comparison

What Korea should particularly note from Japan's GPP policy is the government's rapid institutional transition enabled through close collaboration with the private industrial sector. The Japanese government has institutionalized a system that prioritizes the procurement of products with verified additional emission reductions among those with transparent environmental data and emission records. This has established a virtuous cycle of "public investment in low-carbon technologies → production of low-carbon products → government certification → demand creation through public procurement."

In contrast, Korea has not yet expressed a clear commitment to creating demand for low-carbon steel. While the government has approved an approximately USD 615 million preliminary feasibility study for a 300,000-ton hydrogen-based steel demonstration project and continues to support emissions reduction technologies for blast furnace–basic oxygen furnace (BF–BOF) routes, it still lacks a multidimensional strategy that links technological development with market demand[28]. Without such integration, public investment in technology risks will eventually fail to deliver meaningful decarbonization outcomes. Given that low-carbon steel entails higher production costs depending on the source of energy and reductant input prices, it is critical that the government act as an initial buyer to facilitate market entry and broader uptake by the private sector.

Japan's GPP system also serves as a cautionary example, as it currently allows steel products certified under the mass balance approach to enter the procurement market on equal footing with products that demonstrate actual emissions reductions. This should be avoided in the Korean context. Korea's low-carbon steel market is still nascent and including mass balance–based certified products could incentivize formal compliance over substantive emission reductions. Therefore, procurement standards for green steel must prioritize products with verifiable abatement outcomes. Moreover, the system should be designed with clear and quantifiable criteria to reflect and reward technological innovation.

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28 Japan's Ministry of the Environment operates the Expert Committee on Product Procurement under the Central Environment Council. The committee includes representatives from key ministries such as the Ministry of Economy, Trade and Industry(METI), the Ministry of Land, Infrastructure, Transport and Tourism(MLIT), and the Ministry of Internal Affairs and Communications(MIC).

4. Policy Recommendations

To achieve decarbonization in Korea's steel industry, a phased structural reform of the entire GPP framework is required. Steel must be designated as a Minimum Green Standard Product, and the ME's criteria for Low-Carbon Products should be revised to reflect absolute carbon emissions thresholds. Moreover, stronger integration is needed between procurement, certification, and design standards. MOTIE must also promptly establish a definition of green steel aligned with international standards and incorporate it into procurement criteria to facilitate private investment and technological transition. Furthermore, Korea is strongly recommended to join IDDI to take a leading role in shaping global low-carbon procurement standards.

To drive decarbonization in Korea's steel industry, comprehensive reforms to the GPP system are essential. Korea currently lacks an effective structure to generate demand for low-carbon steel, making it difficult to incentivize technological transition. However, if the GPP framework is strategically restructured, it can play a critical role in establishing an initial demand base for low-carbon steel and serve as a catalyst to accelerate the transformation of high-emitting industries such as steel.

1) Reforming GPP Standards to Expand Demand for Low Carbon Steel

A Incorporating Carbon Emission Criteria and Steel Categories in the Minimum Green Standards

Currently, under the *Guidelines for Promoting Green Product Procurement*[29], public procurement criteria are overly focused on indicators such as energy efficiency, recyclability, and the reduction of hazardous substances, without incorporating GHG emissions data. Therefore, the guidelines should be revised to require carbon emissions disclosure for all Minimum Green Standard Products, and to reflect quantitative carbon criteria in procurement specifications. This revision would restrict the entry of so-called

29 The Public Procurement Service (2023).

"green products" that generate GHG emissions—such as GR Steel Products made from steel scrap but produced using fossil-fuel-based electricity—into the public procurement market.

In addition, steel should be newly designated as a Minimum Green Standard Product, and product-specific quantitative carbon criteria—such as product-level emissions based on LCA—must be introduced. Despite steel's high carbon intensity and heavy usage in infrastructure and buildings, it is not currently designated as a Minimum Green Standard Product, meaning there are no mandatory green procurement requirements for steel. As carbon emissions vary significantly depending on production processes, the establishment of Minimum Green Standards for steel, based on carbon intensity and low-carbon process criteria can serve as an effective policy lever to drive technological transition

These standards should prioritize products that can demonstrate actual emission reductions through process innovation. For example, steel produced using hydrogen-based direct reduced iron(DRI) or EAF routes powered by renewable energy achieves substantial emissions cuts compared to conventional processes. For example, in Japan, the government requires the submission of an AAR, which quantifies the additional reduction in GHG emissions compared to conventional products. This quantified data is used to identify priority products for procurement.

However, one critical revision is necessary to improve the system's effectiveness. Currently, the Minimum Green Standard Products system only applies to items purchased directly by public institutions through the PPS platform. It does not extend to cases where public construction is carried out by third-party contractors. To address this gap, Korea should amend the Framework Act on the Promotion of Green Buildings, which falls under the jurisdiction of the MOLIT. The revised Act should require that green building materials comply with the Minimum Green Standards. Alternatively, PPS or relevant authorities should revise public procurement guidelines to include a provision requiring all construction tenders to specify materials that meet the Minimum Green Standards, including outsourced contracts. Expanding the system's scope beyond direct purchases to include third-party construction contracts would allow the public sector to function as a more effective demand driver for low-carbon steel.

B Improvement of the Low-Carbon Products Certificate System

The ME's Low-Carbon Certified Products system also requires significant reform. Currently, the Maximum Allowable Carbon Emissions Rate for steel products is calculated based on the average emissions of companies with EPD over the past six years. However, this method fails to reflect technological achievements in emissions reduction. Consequently, products incorporating innovative carbon-saving technologies receive limited policy recognition, while those with emissions merely near the average threshold can still qualify for certification, resulting in a structural inconsistency within the system. To address this issue, the government should work with the steel industry to recalibrate the Maximum Allowable Carbon Emissions Rate for each product category—such as heavy plate and structural steel—based on the Best Available Technology(BAT). These criteria should also be regularly updated to reflect ongoing technological advancements.

A prior study (Ko Eun & Kim Geun-ha, 2022) found that setting an electricity emission intensity threshold for EAF-based steel products could reduce electricity-induced GHG emissions by approximately 51%, and total product emissions by around 33%, compared to current levels. For example, the study showed that applying a Maximum Allowable Carbon Emissions Rate of 0.25kgCO_2e/kg for rebar and structural steel could serve as a strong incentive to expand the procurement of low-carbon electricity.

Additionally, the minimum carbon reduction rate, currently defined as a 3.3% overall reduction over three years, must be revised. The steel industry often operates under fixed production systems for extended periods, which makes it difficult to achieve a regular reduction at a fixed percentage. Furthermore, under this criterion, emissions can fluctuate with changes in production volume or operating rates. This makes it challenging to identify whether reductions originate from technological advancements or operational adjustments. Given these factors, the minimum carbon reduction rate is not suitable for industries like steel that rely on fixed-process manufacturing. This criterion should be abolished and replaced with an objective certification program based on verified absolute emission reductions.

Although such reforms may temporarily reduce the number of steel products eligible for public procurement, the government should implement a gradual transition through close consultation with industry stakeholders. In the long term, however, establishing a credible and consistent demand signal based on rigorous standards will accelerate the steel sector's technological transformation and foster the expansion of low-carbon steel supply.

C Ensuring Consistency in Standards across Certification, Procurement, and Material-Use within the GPP System

According to the Framework Act on the Promotion of Green Buildings, public buildings that meet certain criteria must be designed according to Green Building Certification standards from the early design phase. However, these standards award extra points for certifications such as the Eco-Label, GR Products, and Low-Carbon Products, which are issued by the ME. As a result, products designated as Minimum Green Standard Products by the PPS are not eligible for additional points. This reflects a structural disconnection between the certification, procurement, and utilization systems operated by different ministries, which leads to inconsistent standards being applied to the same materials at each stage.

To ensure coherence across the full lifecycle—from certification to procurement to use—the ME, PPS, and the MOLIT must establish a centralized coordinating body. Specifically, carbon emissions data used in the ME's Low-Carbon Products and Eco-Label certifications should be reflected in the criteria for Minimum Green Standard Products designated by PPS. Alternatively, PPS could incorporate the certification categories under the ME—including GR Products and Low-Carbon Products—into its own Minimum Green Standards. Such institutional integration would enable the adoption of unified environmental criteria based on carbon emissions data across all relevant stages.

2) Establishment of Green Steel Standards under MOTIE

In February 2025, MOTIE began discussing green steel standards with the Climate Club. These standards are expected to serve as internationally recognized, quantitative criteria for green steel based on guidelines proposed by the International Energy Agency (IEA). The Climate Club's principles for defining green steel and cement are based on the IEA's 2022 report. The report recommends setting thresholds for low-carbon products significantly below the carbon intensity of BAT and setting the maximum allowable value at no more than six times the near-zero emissions benchmark. Taking these recommendations into account, MOTIE is expected to establish a low-carbon steel standard that minimizes both direct and indirect emissions by fully leveraging current technologies.

PPS must build a standards linkage system that reflects MOTIE's framework and establishes stronger incentives for the transition by expanding public demand. In addition to setting these standards, MOTIE must implement a comprehensive policy package that includes tax incentives and subsidies for technology development and facility investment. The package should also include a mandate for the use of certified low-carbon steel in public buildings and large-scale infrastructure projects. Furthermore, MOTIE's standards must be interoperable with those used in the Low-Carbon Products system administered by the ME. A clear strategy is also needed to scale these standards to the private construction and infrastructure sectors and align them with international standards, supporting export competitiveness.

Once the definition of green steel and its carbon benchmarks are clearly established, steelmakers will be able to expand the range of products eligible for procurement markets. At the same time, the government should support market entry by subsidizing EPD certification costs and streamlining certification procedures. A multi-stakeholder governance platform involving government, industry, academia, and civil society should also be created to ensure a participatory standard-setting process. Through in-depth deliberations within this platform, the government can gather diverse perspectives ranging from climate mitigation effectiveness to economic feasibility and social impact and establish long-term demand-creation mechanisms based on consensus.

3) Engagement in International Initiatives for Sustainable Steel Procurement

The Korean government must take a more proactive role in shaping international policy discussions on GPP. A crucial starting point would be joining the IDDI. Globally, the use of public procurement to accelerate technological transitions in the steel sector is gaining momentum. IDDI focuses on four key objectives: (1) defining near-zero emission steel, (2) developing procurement guidelines based on LCA, (3) setting national GPP Pledges to create demand through public procurement, and (4) harmonizing industrial standards through collaboration with international standardization bodies such as the International Organization for Standardization(ISO). Through these actions, IDDI aims to harmonize disparate procurement standards across countries and lead the establishment of internationally accepted benchmarks for green steel markets. By joining IDDI and incorporating its framework into national policy, Korea can actively contribute to the

development of low-carbon procurement standards that will likely shape future global steel trade. This will also provide a strategic foundation for enhancing the international competitiveness of Korea's steel industry.

The 16th Clean Energy Ministerial(CEM16) will be held in Busan, Korea, in August 2025. If Korea formally announces its accession to IDDI during this event, it will position itself as a leading actor in global discussions on steel decarbonization and GPP. This move would not only strengthen the alignment between Korea's domestic policy framework and emerging international norms but also serve as a pivotal moment to enhance the global competitiveness of Korea's green steel industry.

5. Conclusion

The Korean steel industry stands at a critical juncture in its low-carbon transition. While major economies are accelerating steel decarbonization through new technologies such as hydrogen-based DRI, EAF powered by renewable energy, and green hydrogen, while simultaneously expanding demand through GPP, Korea continues to rely on an emissions-intensive blast furnace–based production structure. Current financial and policy support for the green transition remains insufficient. Early government intervention can lower overall social costs by protecting domestic industry, responding to international trade regulations, and establishing the foundation for private-sector adoption, taking into account the long-term benefits.

A successful transition in the steel sector requires comprehensive policy support across the entire lifecycle—from R&D, demonstration to capital investment, and the expansion of the demand side market. If the government focuses solely on developing low-carbon technologies while remaining passive on the demand side, existing public investments will fail to deliver meaningful decarbonization outcomes. Given the inevitably higher production costs of low-carbon steel in early stages, the private sector alone cannot generate self-sustaining demand. GPP must therefore take an active role in purchasing low-carbon steel and opening pathways to market entry. The future of GPP must go beyond serving as a green purchasing tool; it must be redefined as a strategic institutional lever for driving industrial transformation.

As a first step, the government should designate steel as a Minimum Green Standard Product and establish quantitative carbon benchmarks. The ME should revise the Maximum Allowable Carbon Emissions Rates for each product category to reflect the latest BAT, and abolish the Minimum Carbon Reduction Rate, which is structurally incompatible with the fixed-process nature of steel production. The certification system must shift toward one based on verified absolute emission reductions.

In addition, the existing fragmentation among product certification, procurement criteria, and design standards—each managed independently by the ME, PPS, MOTIE, and MOLIT—must be resolved. MOTIE's forthcoming green steel standards should be incorporated into the PPS's Minimum Green Standard Products and harmonized with the ME's Low-Carbon Products scheme, thereby establishing an integrated carbon benchmark across the entire system.

Lastly, the government must take a proactive stance to evolving international procurement standards. This can be achieved by aligning the domestic definition of low-carbon steel with global benchmarks and introducing a comprehensive support package. The package should include tax incentives, subsidies for technology and facilities, and a mandate for the use of low-carbon steel in public construction projects. These measures will ensure that the public sector effectively drives industrial transformation. Korea should also seize the opportunity to join the IDDI at the CEM16, which will take place in Busan in August 2025. Doing so will be a significant opportunity to concurrently reform domestic procurement standards, enhance export competitiveness, and develop a strategic pathway to access global markets.

Amid intensifying global supply chain transitions and the implementation of the Carbon Border Adjustment Mechanism(CBAM), reforming the procurement system is not a matter of choice but a necessity. The government must establish a procurement market in which low-carbon steel is prioritized and scaled. Whether Korea's steel industry can survive this transition depends on the government's commitment to actively creating demand. As the international community, the private sector, and regulatory systems move toward decarbonization, it is the government's responsibility to ensure that this transformation is realized through institutional changes.

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