

Toward the Scaling of Avoided Emissions

— Transition to a Decarbonized Society and Enhancing Industrial Competitiveness through Co-creation between Companies and Financial Institutions —

November 2025



Economic & Industrial Research Department

Contents and Summary

1. Significance of Avoided Emissions as a Decarbonization Metric P3

- Recently, there has been growing interest in “avoided emissions” as a key indicator for achieving carbon neutrality. Avoided emissions quantitatively demonstrate the contribution of a company’s products and services to reducing overall societal greenhouse gas (GHG) emissions. While efforts to reduce the provider’s own emissions (Scope 1, Scope 2, and Scope 3) are fundamental, the expansion of products and services may sometimes result in increased emissions for the provider. Nevertheless, the avoided emissions metric clarifies the positive impact delivered externally to society.
- When such contributions are appropriately evaluated by customers, investors, and financial institutions, companies are incentivized to pursue further innovation through enhanced corporate value, improved reputation, and better access to financing. This is expected to create a virtuous cycle, simultaneously advancing the realization of a decarbonized society and increasing corporate value.

2. Trends in Methodological Guidance and Standardization P8

- To promote the widespread adoption of avoided emissions, key issues include the defining of reference scenarios and the allocation of contributions across the supply chain. Since the 2000s, discussions have progressed in academia and industry, followed by the development of guidelines by international organizations and governments. Currently, the World Business Council for Sustainable Development (WBCSD) is advancing cross-sectoral guidance and standardizing calculation and disclosure rules. Going forward, sector-specific guidelines and published use cases are expected to further encourage corporate disclosure.
- However, designing uniform and rigorous rules is challenging. Companies differ in the background and objectives of their disclosures, which do not necessarily aim solely at demonstrating quantitative superiority or economic value. Therefore, under a certain level of standardization, it is important for companies to clearly describe their calculation logic and underlying rationale. In addition to asserting their own contributions, dialogue with independent evaluators will be essential to validate and substantiate the legitimacy and significance of these claims.

3. Trends in Corporate Initiatives on Avoided Emissions P15

- Avoided emissions is a critical theme for companies across diverse sectors, including manufacturing, solution provision, and social infrastructure development. Japan, in particular, has numerous companies that demonstrate significant potential to claim avoided emissions—such as those that have continuously improved energy efficiency or supplied high-quality materials for a wide range of products.
- Companies' efforts to calculate and disclose avoided emissions are steadily progressing under rational rule-making that ensures reliability and objectivity. They are leveraging their technologies and business characteristics—for example, by enhancing transparency, introducing third-party verification, or collaborating with industry associations and government bodies.
- Effectively visualizing and communicating these efforts is vital for simultaneously achieving a decarbonized society and enhancing corporate value.

4. Role of Financial Institutions in Scaling Avoided Emissions P17

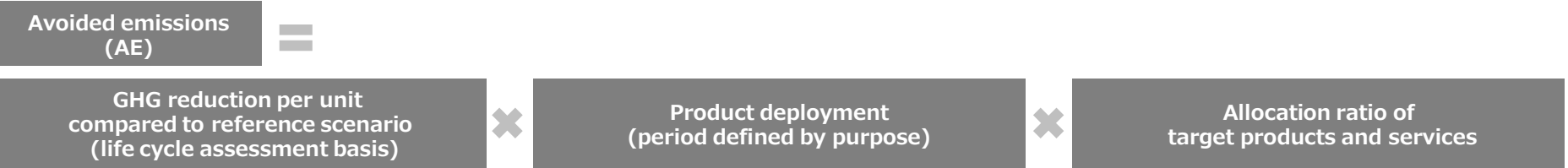
- As companies advance the calculation and disclosure of avoided emissions, financial institutions play an increasingly important role in linking these efforts to social and economic value. They complement the legitimacy of corporate claims and support initiatives through capital provision.
- Banks, as indirect financiers, are particularly significant because they build long-term, close relationships with clients through engagement, lending, and monitoring. This enables them to evaluate companies based on a deep understanding of their business models and strategies, as well as the characteristics of their key products. Beyond financing, banks can foster a positive cycle by publicizing evaluation cases—enhancing stakeholder awareness, improving corporate value, and encouraging further corporate initiatives.
- In this context, DBJ has historically provided financial support focused on environmental performance, such as energy efficiency and recycling. Furthermore, DBJ emphasizes not only financing but also engagement and consulting for clients, as well as knowledge sharing based on cross-sector expertise. DBJ is positioning avoided emissions as one of its key themes within its diverse solutions portfolio.

1. Significance of Avoided Emissions as a Decarbonization Metric

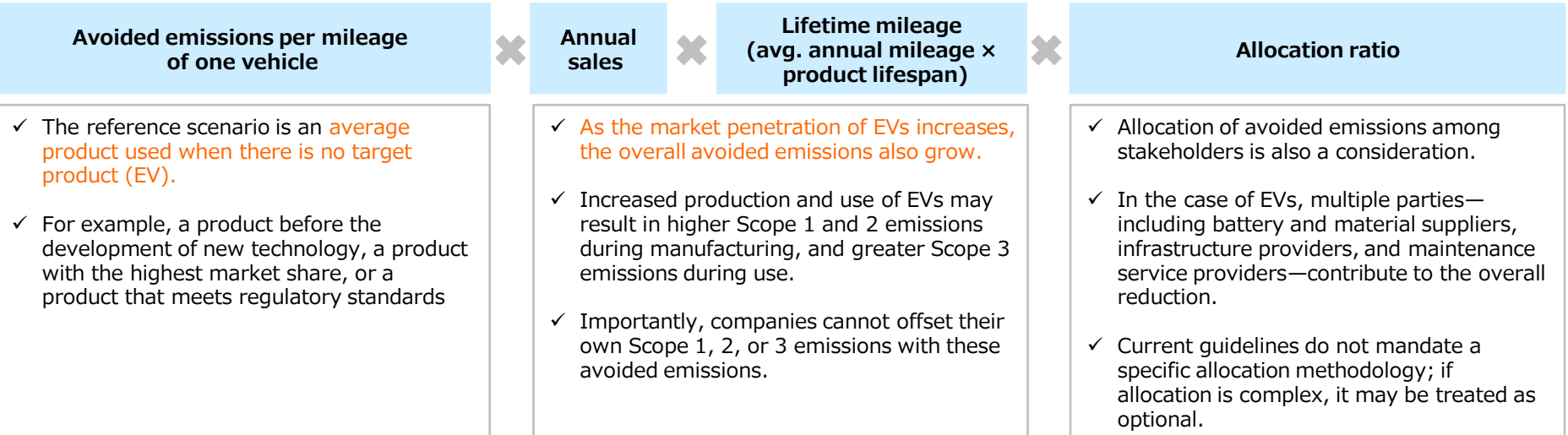
What is “avoided emissions”?

- Interest in avoided emissions is growing as an important indicator for achieving carbon neutrality.
- Avoided emissions quantify the reduction in GHG emissions achieved by a company’s products and services compared to a reference scenario across their lifecycle. Even if a company’s own emissions increase due to expanded deployment, the net societal benefit can be demonstrated through lifecycle analysis.
- Lifecycle avoided emissions are the result of collaborative efforts across the value chain, involving multiple stakeholders.

What is “avoided emissions”?



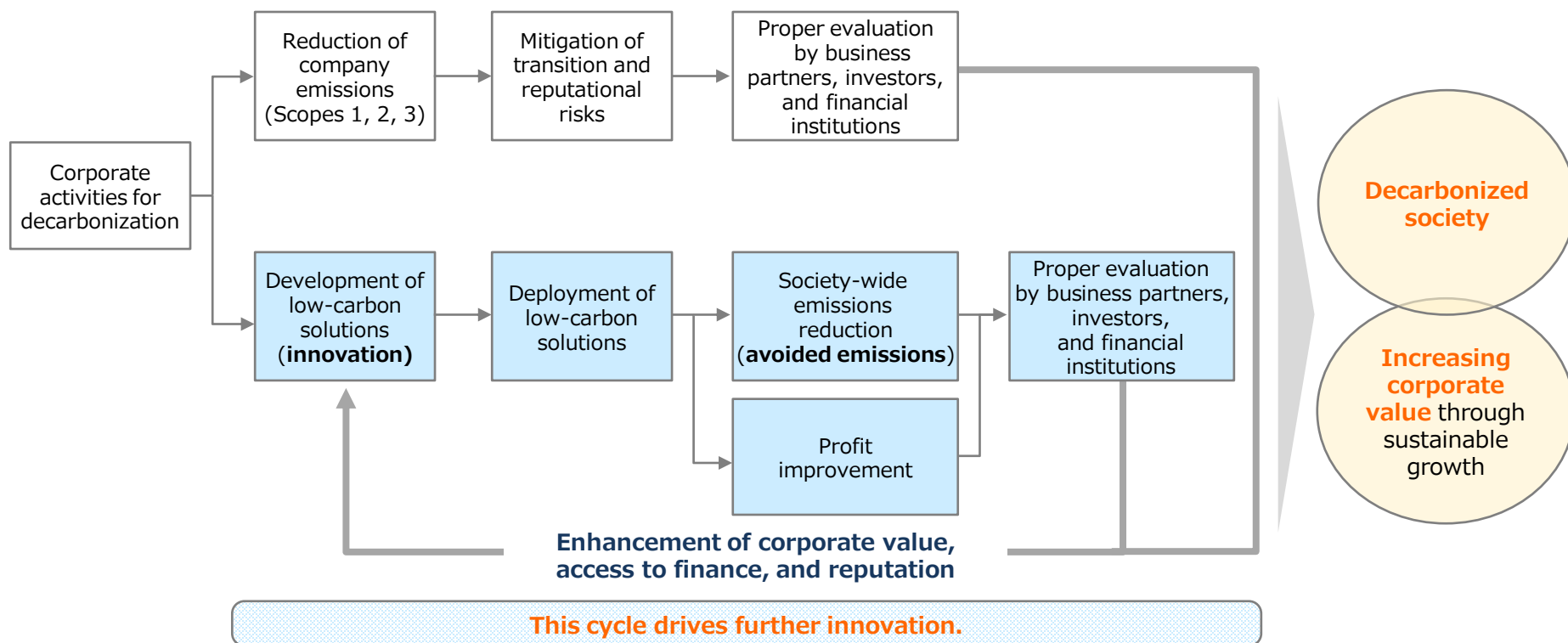
Example: Transition from gasoline vehicle to EV



Virtuous Cycle Driven by Avoided Emissions

- Broad deployment of decarbonization-oriented products and solutions leads to reduced societal emissions and increased earnings for the providers. When these contributions are appropriately recognized by customers, investors, and financial institutions, companies are incentivized to further innovate, enhancing corporate value and accelerating the transition to a decarbonized economy.
- Conversely, lack of recognition for the social value of low-carbon solutions may hinder development and market adoption, slowing progress toward societal decarbonization.

Evaluation of corporate activities and financial institutions toward decarbonization



Growing domestic and international interest

- The concept of avoided emissions was formally acknowledged in the communiqué of the 2023 G7 Ministers' Meeting on Climate, Energy, and Environment, drawing increased international attention.
- In Japan, GX Vision 2040 outlines the dual goals of economic growth and societal decarbonization. It emphasizes the need to visualize GX value—including avoided emissions—and to establish a market framework for appropriate evaluation.

G7 Ministers' Meeting on Climate, Energy, and Environment (2023 in Sapporo)

<G7 Climate, Energy and Environment Ministers' Communiqué>

- ✓ There is also value in **acknowledging the contribution of a certain entity to emission reductions of other entities by providing decarbonization solutions in a given system, in other words "avoided emissions"**.

<Conclusions regarding the Industrial Decarbonisation Agenda>

- ✓ ...is expected to be used as **an additional perspective to promote/facilitate/provide recognition of the diffusion of clean goods and services** needed globally to reach net-zero. e.g.) **Promoting investment from financial** sectors by evaluating and unlocking the value from companies/solutions with high contribution to global emission reductions.
- ✓ Financial sectors can make use of this information to **assess the company's climate-related opportunities** and to formulate **financial instruments for promoting investment**.

GX Vision 2040

GX Value Visualization

Established evaluation indicators to assess GX product and service value

- ✓ GX indicators—including CFP, actual reductions, and avoided emissions—support international rulemaking efforts

GX Product and Service Procurement

Promoted adoption of GX products through incentives, recognition programs, and awareness campaigns

- ✓ Revised the GX Initiative Declaration and GX League to promote emission reduction across the supply chain
- ✓ Active procurement of GX products in public procurement (under the Green Purchasing Law and public works)

Stimulating Demand for GX Products



Stimulated demand for decarbonized products by introducing support measures for supply and demand sides.

- ✓ Consider measures to reduce the environmental impact of automobiles and promote the use of low-carbon steel to advance GX.

Actions and Key Issues to Scale Avoided Emissions

- To scale avoided emissions, companies and stakeholders must (i) establish robust assessment methodologies, (ii) ensure credibility through verification and transparent reporting, (iii) build market awareness, and (iv) provide enabling support that drives corporate adoption.
- While high-level rules exist, progress depends on sector-specific guidance that clarifies reference scenarios, functional units, and system boundaries for each industry. Active use of avoided emissions metrics by investors and financial institutions—in evaluations, stewardship, and financing—helps translate corporate AE into enterprise value and accelerates adoption.

Necessary actions and issues

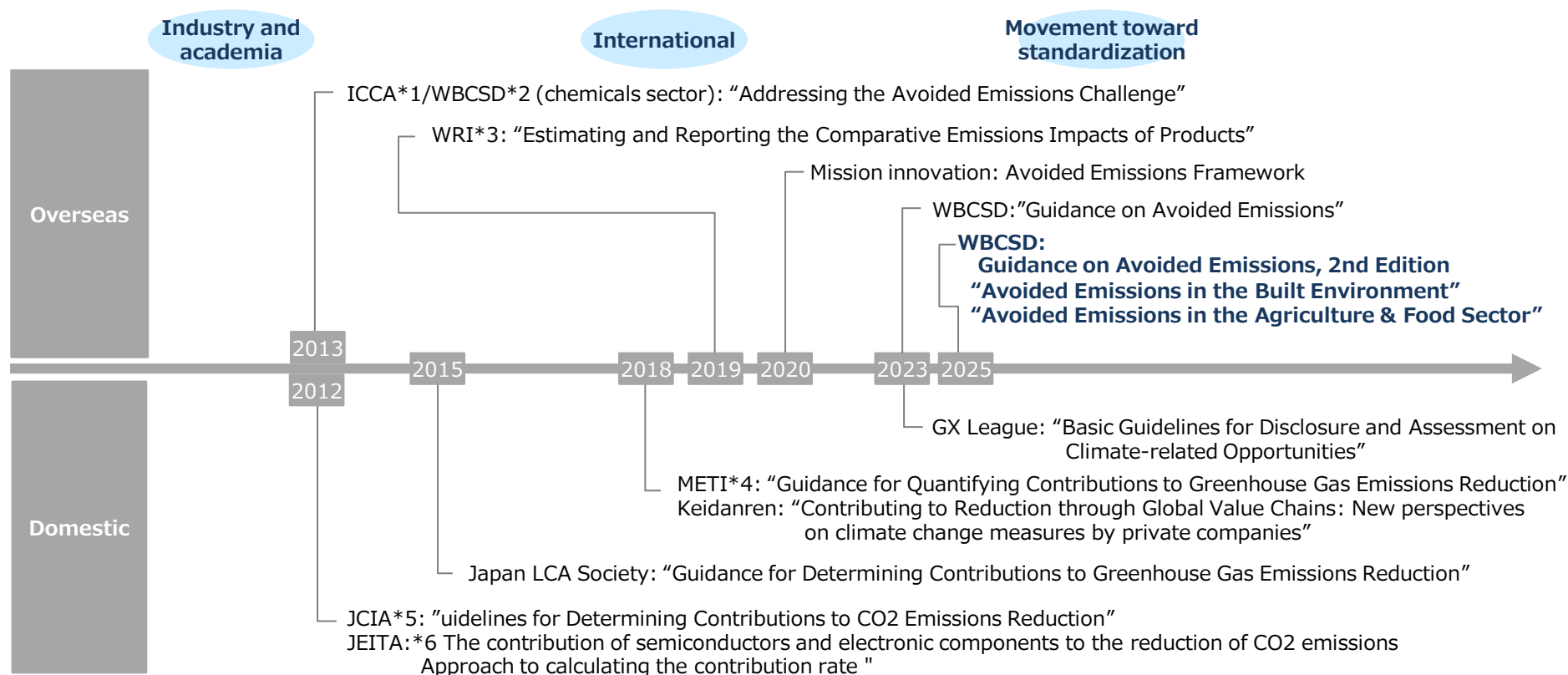
Objective	Accelerate the transition to a decarbonized economy and strengthen industrial competitiveness by expanding the number of companies that quantify, disclose, and are appropriately valued for avoided emissions.	
	Key actions and issues	Current status and future direction
Establishment of methodology	Develop robust methodologies and tools for quantifying avoided emissions.	<ul style="list-style-type: none"> ✓ Progress in rulemaking ✓ Sector-specific guidance is under development.  Chap.2
Reliability and objectivity	Enhance credibility and objectivity through third-party verification and certification frameworks.	<ul style="list-style-type: none"> ✓ Some companies have implemented third-party verification and certification schemes.
Awareness	Align with international standards and promote transparent communication to deepen global understanding.	<ul style="list-style-type: none"> ✓ Discussions on integration with GHG Protocol and ISO are underway, further raising global awareness.
Incentives that encourage and support companies' initiatives	Provide incentives for financing and integration of AE into corporate valuation.	<ul style="list-style-type: none"> ✓ Utilization and dissemination by financial institutions—through dialogue, assessment, and financing—foster a virtuous cycle for avoided emissions adoption.  Chap.4
	Support initiatives through policy design and implementation, including demand-side measures.	<ul style="list-style-type: none"> ✓ Consider demand creation through public procurement, carbon pricing, and related policy measures.

2. Trends in Methodological Guidance and Standardization

Development of Guidelines

- To promote the widespread adoption of avoided emissions, it is essential to establish robust calculation methodologies. Since the 2000s, both academia and industry have contributed to the evolution of avoided emissions methodologies, with international organizations and governments issuing a range of guidelines.
- Recent publications by the GX League and WBCSD have accelerated standardization efforts. Going forward, further development of sector-specific international guidance is anticipated.

Development status of major guidance



Source: Based on various disclosure documents.

Industry-Specific Guidance on Avoided Emissions

Examples of Industry-Specific Guidance on Quantifying Avoided Emissions				
Sector	Guidance, standards, etc.	Issuer	Date of publication	Overview and features
Chemicals	Guidelines for Calculating Contributions to CO2 Emissions Reduction	Japan Chemical Industry Association	February 2012	Quantifies avoided emissions by comparing target and reference products using carbon life cycle assessment (c-LCA). Contribution ratios are not set, due to methodological challenges.
	[International] Avoided Emissions: The Essential Role of Chemicals	ICCA, WBCSD	October 2013 Revised December 2017	Provides an international framework for quantifying and reporting avoided emissions from chemical products across the value chain, with case study examples.
Electrical and Electronic	Approach to Calculating the Contribution Ratio of Semiconductors and Electronic Components to the CO2 Emission Reduction Contribution of Products	JEITA	September 2012	Uses input-output analysis to quantify the contribution of performance improvements in semiconductors and electronic components to overall energy savings.
	Guidelines for Quantifying the Contribution of Semiconductors and Electronic Components to Product-Level CO2 Emission Reductions	JEITA	January 2016 Revised July 2022	Establishes methods for allocating the contribution of electronic components to final product emissions reductions using input-output tables and energy consumption ratios.
	[International] IEC 63372: Standard for Quantifying and Communicating Avoided Emissions in Electrical and Electronic Products	IEC*1	2025 (planned)	An international standard for quantifying and communicating the carbon footprint and reduction contribution of electrical and electronic products and systems.
ICT/IT	Guidelines for Evaluating the Eco-Efficiency of ICT	Japan Eco-Efficiency Forum	2005	Framework for evaluating the effect of ICT application on reducing GHG emissions in other industries (Green by ICT).
	[International] ITU-T L.1410: Methods for Evaluating GHG Emissions Reduction Effects of ICT Applications	ITU-T*2	March 2012 Revised 2014	Provides international recommendations for evaluating GHG emissions reduction effects of ICT applications, including quantification of reductions in transportation, material use, and energy consumption.

Source: Based on various disclosure documents.

Industry-Specific Guidance on Avoided Emissions

Examples of Industry-Specific Guidance on Quantifying Avoided Emissions				
Sector	Guidance, standards, etc.	Issuer	Date of publication	Overview and features
Automotive Parts	Guidelines for Quantifying Environmental Impact Reduction by Automotive Parts	JAPIA *1	March 2024	The contributions made by automotive parts manufacturers are evaluated separately for improving their own manufacturing processes and for reducing emissions during vehicle use through reductions in vehicle weight and improvements in fuel efficiency.
Gas	Guidelines for Quantifying GHG Reduction Contributions in the City Gas Sector	Japan Gas Association	March 2024	Guidelines for quantifying GHG reduction contributions from city gas sector activities, including fuel switching to natural gas and adoption of high-efficiency equipment.
Finance	[International] Guidance and Methods for Calculating Financed Emissions and Avoided Emissions	PCAF*2	December 2024	Provides international standards for calculating and disclosing emissions associated with investment and loan portfolios.
Food and Agriculture	[International] Avoided Emissions in the Agriculture & Food Sector	WBCSD	September 2025	Presents calculation methods for multiple use cases, addressing sector-specific challenges such as data availability and seasonal variability.
Buildings and Real Estate	Guidelines for Quantifying Environmental Impact Reduction by Automotive Parts (Draft)	Nikken Sekkei	June 2025	Draft that presents a basic concept for quantifying the GHG reduction contributions of new construction and renovation of real estate. Calculation methods are organized for each entity, including real estate companies, design companies, and material and equipment companies.
	[International] WBCSD: Avoided Emissions in the Built Environment	WBCSD	September 2025	Provides calculation methods for use cases, including thermal insulation materials, building management systems, and low-carbon concrete.

Source: Based on various disclosure documents.

*1 JAPIA: Japan Auto Parts Industries Association. *2 PCAF: Partnership for Carbon Accounting Financials.

GX League

- The GX League promotes the dissemination of avoided emissions through the GX Business Working Group. In 2023, the League published the "Basic Guidelines for Disclosure and Evaluation of Climate-related Opportunities" and "Leveraging Avoided Emissions: Financial Institution Case Studies." In 2024, it released "Hypothetical Cases for Avoided Emissions Disclosure," providing virtual examples of disclosure for products and services contributing to avoided emissions.
- Additionally, the League opened its GX Dashboard, a platform for companies to disclose GHG emission reduction targets, which they have voluntarily set, and their progress, including initiatives related to avoided emissions, thereby facilitating transparent information sharing among stakeholders.

Hypothetical Cases for Avoided Emissions Disclosure

hypothetical cases using potentially credible products and services

1. Decarbonization of energy such as electricity and heat
2. Electrification
3. Electrification of transportation
4. Emission reduction during product use phase
5. Energy efficiency through lightweight material
6. Energy efficiency during product use phase
7. Manufacturing and supply of products using low-carbon and decarbonized raw materials
8. Extension of product life
9. Supply of products contributing to decarbonization of buildings
10. Emissions reduction from livestock
11. Emissions reduction in waste management

GX Dashboard

Overview of the company's avoided emissions

- ① Overview (corporate strategy, governance, targets, and progress)
- ② Quantitative results (aggregate and by product/service)

Avoided emissions of key products/services

- ① Explanations of key products and services
- ② Eligibility
- ③ Calculation method
- ④ Quantitative results (products/services)
- ⑤ Assessment of potential adverse impacts (e.g., rebound effect)
- ⑥ Others (e.g., third-party verification, uncertainty)

Transparent disclosures including corporate strategy, governance, target products, and calculation methods facilitate information sharing among stakeholders.

WBCSD | Overview

- The World Business Council for Sustainable Development (WBCSD) has played a leading role in shaping global guidance on avoided emissions and mitigation contributions. The cross-sectoral "Guidance on Avoided Emissions: Helping business drive innovations and scale solutions toward Net zero" was first published in March 2023, with Version 2 released in July 2025. Sector-specific guidance, including case studies for the built environment and food & agriculture sectors, was published in September 2025.
- A dedicated guide for investors on assessing the impact of future GHG emissions reductions was also released to support climate finance and accelerate innovation.

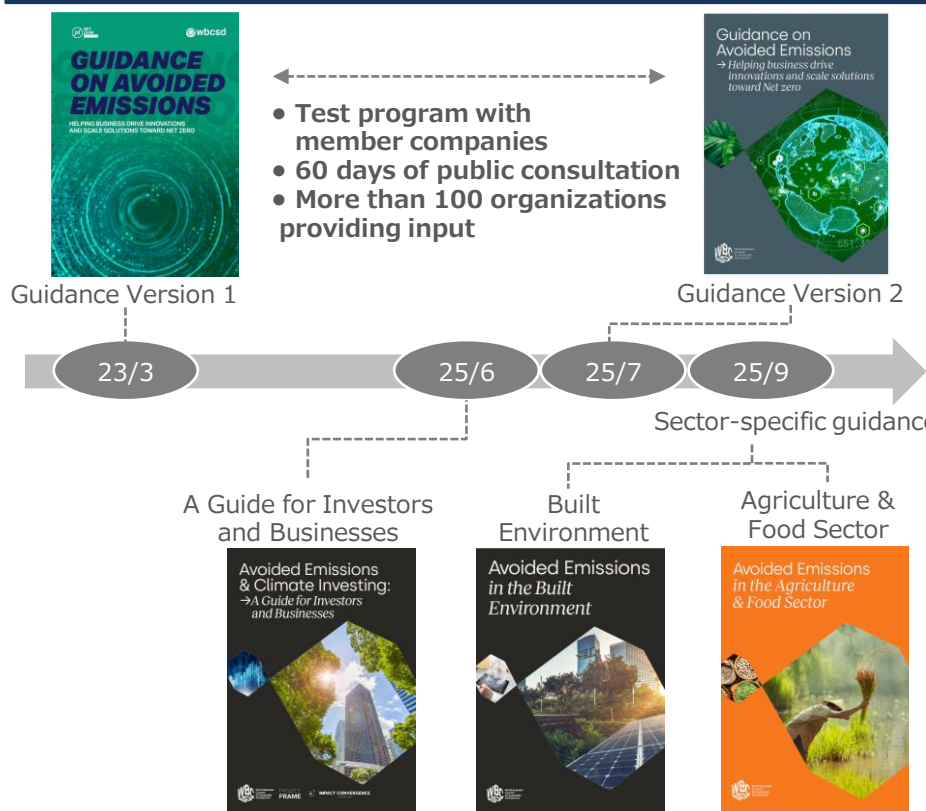
Organization Overview

Name	World Business Council for Sustainable Development
Established	1995
Overview	<ul style="list-style-type: none"> • A global business-led organization advancing international frameworks for climate change and sustainability • Membership: ~230 companies from over 30 countries (including nearly 10% of them from Japan) • Provides policy recommendations, develops frameworks, and offers practical support for corporate sustainability • Co-developed the GHG Protocol, the global standard for GHG accounting and reporting, with the World Resources Institute (WRI)

Positioning of the GHG Protocol

- The GHG Protocol, co-developed by the WBCSD and WRI, is the global standard for GHG accounting and is widely adopted by international initiatives such as CDP, SBTi, and TCFD.
- Ongoing collaboration with ISO aims to further harmonize international standards for GHG measurement and disclosure.

Guidance on Reduction Contributions



Use cases published on the WBCSD | Implementation Hub

- Beyond developing the theoretical framework for avoided emissions, the WBCSD actively promotes practical implementation by publishing real-world use cases.
- Currently, seven reference cases are available, including two from Japanese companies recognized for their leadership. For example, Hitachi Energy demonstrates avoided emissions through high voltage direct current (HVDC) technology for efficient long-distance renewable energy transmission.

Hitachi Energy (HVDC)

System Boundary

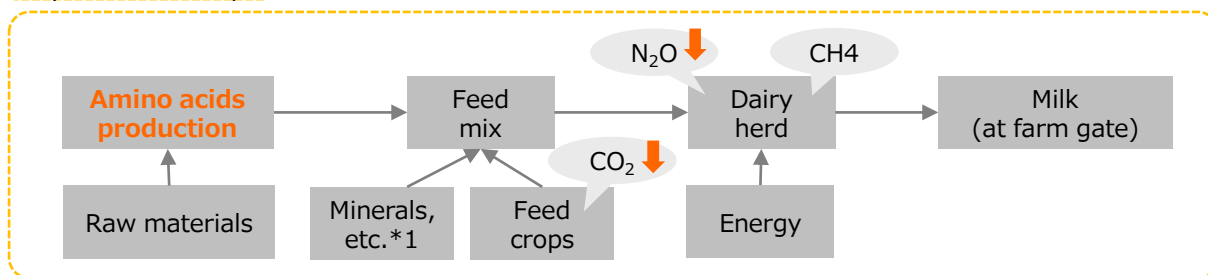
Business-as-usual scenario	<ul style="list-style-type: none"> • The UK electricity grid is primarily supplied by coal- and gas-fired power plants (IEA average emission factors).
Low-carbon scenario	<ul style="list-style-type: none"> • Integration of a 1,200 MW offshore wind farm into the UK grid via Hitachi Energy’s technology • HVDC enables efficient, long-distance transmission of large volumes of renewable energy with minimal losses, supports grid stability (e.g., black start capability), and reduces the environmental footprint compared to AC transmission.
Functional unit	kWh
Impact	213.2 gCO ₂ /kWh (18 million tons of CO ₂ avoided over the next 20 years)
Time period	forward looking for lifetime of grid connection (20 years)
Scope	United Kingdom
System boundaries	Renewable energy source to grid connection point, including lifecycle emission of energy source and HVDC

Use cases published on the WBCSD | Implementation Hub

- Ajinomoto showcases avoided emissions from amino acid feed supplements that improve livestock productivity.
- Each case details calculation assumptions and considers environmental and social impacts.

Ajinomoto (AjiPro®-L)

System Boundary



Business-as-usual scenario	<ul style="list-style-type: none"> • Dairy cows are fed high-protein, GHG-intensive diets lacking essential amino acids, resulting in inefficient protein use and higher N₂O and CO₂ emissions.
Low-carbon scenario	<ul style="list-style-type: none"> • Supplementing with AjiPro®-L (lysine) optimizes amino acid balance, reduces high-protein feed use, and lowers N₂O and CO₂ emissions while maintaining productivity.
Functional unit	kg CO ₂ e/kg milk
Impact	0.09kg CO ₂ e/kg milk annually
Time period	Year-on-year
Scope	United States*2
System boundaries	Feed cultivation, amino acid production, feed mix, dairy herd emissions including N ₂ O manure management, until farm gate (Other factors such as methane emissions from both enteric fermentation and manure are excluded from consideration for a more conservative result.)

Source: WBCSD Implementation Hub.

*1 Energy, raw material inputs and wastes included.

*2 Manure management system and feed design utilized in the calculation are based on the weighted averages from US practices.

Key Issues and Recommended Approaches

- While the establishment of calculation and disclosure guidelines promotes transparency and encourages companies to report avoided emissions, developing uniform and rigorous standards remains challenging. Disclosure objectives and contexts differ across companies, and not all aim solely for quantitative or economic outcomes.
- Achieving a decarbonized society requires each company to clearly demonstrate and communicate the value of its contributions. Constructive dialogue between companies and third parties (e.g., financial institutions) is essential to ensure the credibility and significance of disclosed claims.

Key Issues and Direction of Response

Issues		Reference WBCSD	Direction of response		
Target solution	<ul style="list-style-type: none"> • The selection of target solutions should be clearly justified. 	<ul style="list-style-type: none"> • Mitigation effects should be validated using the latest climate science (e.g., IPCC, EU taxonomy). 	<div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;">Careful explanation</div> <div style="border: 1px solid gray; padding: 5px; margin-bottom: 5px;">Sector-specific guidances</div> <div style="border: 1px solid gray; padding: 5px;">Data utilization</div>	+	<ul style="list-style-type: none"> • For areas not fully defined in guidance, engage in dialogue with relevant stakeholders to clarify legitimacy and significance of claims.
Calculation period	<ul style="list-style-type: none"> • Reporting periods may differ depending on methodological choices. 	<ul style="list-style-type: none"> • Regardless of method, annual reporting is recommended, with clear justification for the chosen period and methodology. 			<ul style="list-style-type: none"> • For elements that are difficult to quantify precisely, such as allocation, the company's contribution should be assessed broadly, rather than seeking strict accuracy.
Reference scenarios	<ul style="list-style-type: none"> • Reference scenarios may vary by company, even for similar solutions. 	<ul style="list-style-type: none"> • Reference scenarios should be set conservatively, considering market averages, regulations, and regional factors. 			
Allocation	<ul style="list-style-type: none"> • Methodologies for allocating avoided emissions across the value chain remain under development. 	<ul style="list-style-type: none"> • Where possible, use allocation methods based on physical or economic relationships, measured data, or stakeholder agreement. 			
Data quality	<ul style="list-style-type: none"> • Ensuring high data quality for future impact assessments remains a challenge. 	<ul style="list-style-type: none"> • Prioritize primary data; use high-quality secondary data when primary data is unavailable. 			

3. Trends in Corporate Initiatives on Avoided Emissions

Examples of Corporate Initiatives, by Sector

- Avoided emissions are a critical consideration for companies across diverse industrial sectors, including manufacturing, solution provision, and social infrastructure development.
- In Japan, many companies have strong potential to claim avoided emissions, particularly those with a track record of continuous energy efficiency improvements and stable supply of high-quality materials.

Reduction Contribution and Impact in a Wide Range of Industries

	Sector	Examples of Products and Services
Up-stream	Chemicals /materials	carbon fiber, RO membrane, LiB materials, bio-PET, low-carbon cement
	Non-ferrous metals and steel	low-carbon steel, lightweight aluminum materials, LiB materials
	Retail/ wholesale	aluminum, copper, needle coke
Mid-stream	Electronic components	batteries and storage batteries, HVDC,high-efficiency motor inverters, LED lighting
	Food and agriculture	high-performance feed, precision agriculture, plant-based foods
	Electrical equipment and industrial machinery	energy-saving home appliances, high-efficiency industrial equipment
Down-stream	Automobiles	EVs, HEVs, PHEVs, FCVs
	Building and real estate	energy-saving buildings, low-carbon building materials
	Sales and leasing	renewable energy equipment leasing, ESCO
Infra-structure · System, etc.	Transportation and logistics	modal shift to rail,joint delivery and logistics optimization
	Energy	renewable energy, new energy, city gas
	ICT/IT	high-efficiency cloud computing, telework,transportation optimization

Examples of Corporate Initiatives, by Sector

- Effectively visualizing and communicating these initiatives is essential for both realizing a decarbonized society and enhancing corporate value.

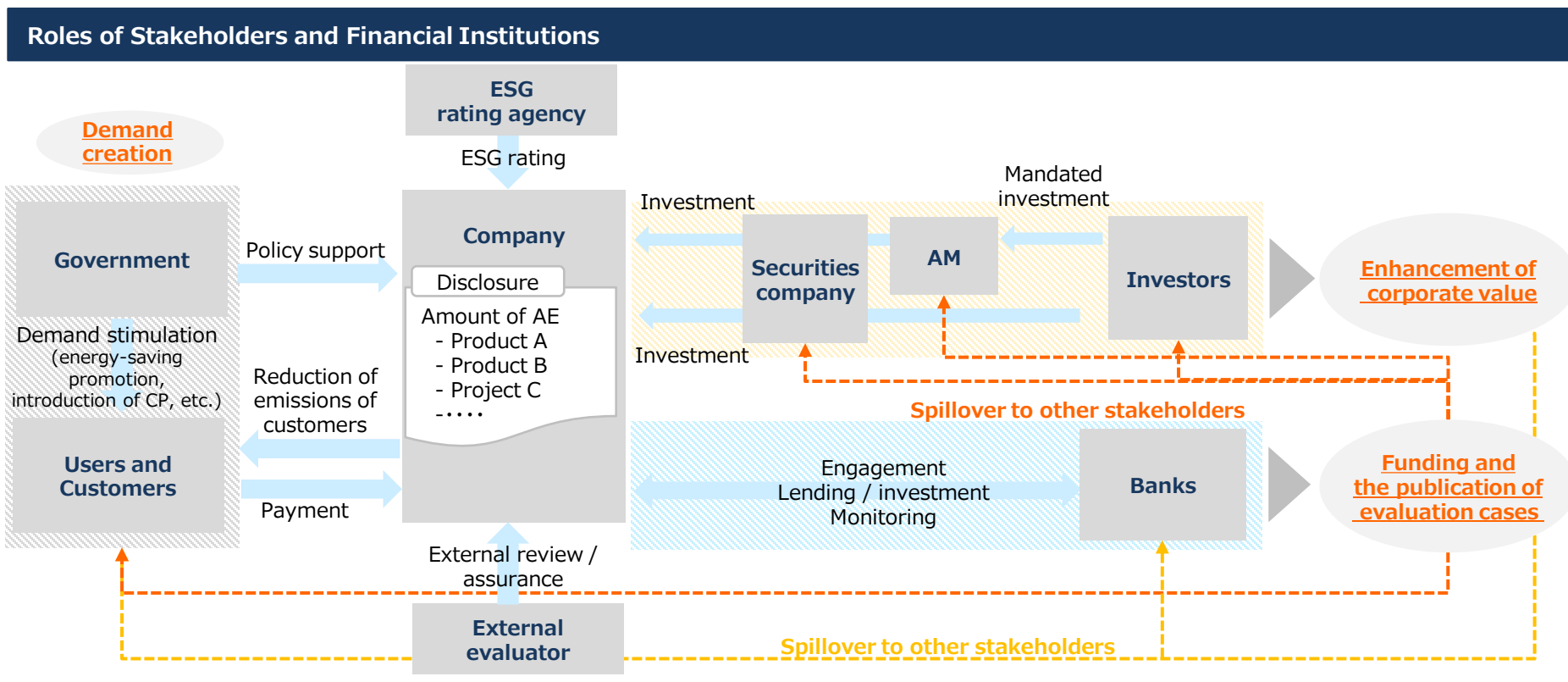
Reduction Contribution and Impact in a Wide Range of Industries

	Sector	Contributions/Impact
Up-stream	Chemicals /materials	<ul style="list-style-type: none"> Significant contribution to downstream emissions reduction through supply of intermediate products to various industries
	Non-ferrous metals and steel	<ul style="list-style-type: none"> Reduces downstream emissions via supply of intermediate goods and engineering solutions
Mid-stream	Retail/wholesale	<ul style="list-style-type: none"> Lowers supply chain emissions through a diversified business portfolio
	Electronic components	<ul style="list-style-type: none"> Contributing to the reduction of downstream product emissions by providing parts and products that support an electrified society (e.g., EVs and renewable energy)
	Food and agriculture	<ul style="list-style-type: none"> Contribution to emission reduction in livestock and agriculture through development of highly functional feed and efficiency of fertilizer use
Down-stream	Electrical equipment and industrial machinery	<ul style="list-style-type: none"> Contribution to reducing emissions at the product use stage by realizing energy-saving and high-efficiency products through advanced technological capabilities
	Automobiles	<ul style="list-style-type: none"> Achieves substantial emissions reduction through deployment of next-generation vehicles (EVs, HEVs, PHEVs, FCVs)
	Building and real estate	<ul style="list-style-type: none"> Reduces building life-cycle emissions via low-carbon materials, energy-saving equipment, and BEMS; achieves further reductions through new construction and retrofits
	Sales and leasing	<ul style="list-style-type: none"> Enables customer emissions reduction through provision of energy-saving equipment and low-carbon vehicles
Infra-structure System, etc.	Transportation and logistics	<ul style="list-style-type: none"> Reduces logistics emissions via modal shift to rail and joint delivery optimization
	Energy	<ul style="list-style-type: none"> Drives societal emissions reduction by supplying renewable and next-generation low-carbon energy
	ICT/IT	<ul style="list-style-type: none"> Enables emissions reduction across sectors through IT solutions that enhance efficiency and promote behavioral change

4. Role of Financial Institutions in Scaling Avoided Emissions

Roles of Stakeholders and Financial Institutions in Scaling Avoided Emissions

- As companies advance the disclosure of avoided emissions, the role of financial institutions in validating these claims and providing capital is becoming increasingly important for translating such efforts into social and economic value.
- In direct finance, establishing mechanisms to evaluate avoided emissions as climate-related opportunities facilitates capital raising from investors and promotes the integration of avoided emissions into financial markets.
- Indirect finance leverages the business model of banks and other intermediaries, which build long-term relationships through engagement, lending, and monitoring. This enables a deep understanding of corporate strategies and allows for tailored evaluation based on each company's characteristics and focus products. In addition to supporting businesses through financing, the publication of evaluation cases by financial institutions also raises awareness and promotes best practices among a broad range of stakeholders.

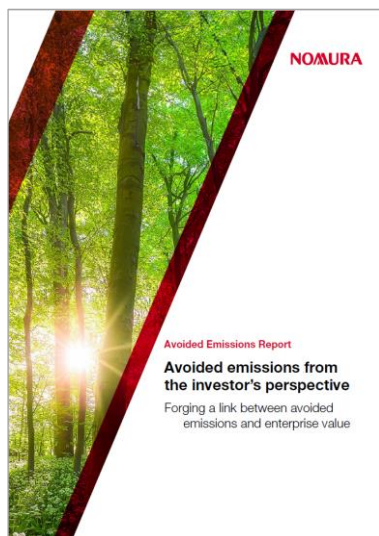


Initiatives by Securities Firms and Asset Management Companies

- Nomura Group published an Avoided Emissions Report titled “Avoided emissions from the investor’s perspective: Forging a link between avoided emissions and enterprise value” analyzing through various approaches whether avoided emissions can contribute to enhancing enterprise value from an investor’s perspective.
- The report explains how investors evaluate companies’ efforts toward avoided emissions and introduces practical examples of how Nomura Asset Management applies the metrics in corporate assessments, aiming to deepen mutual understanding between companies and investors.

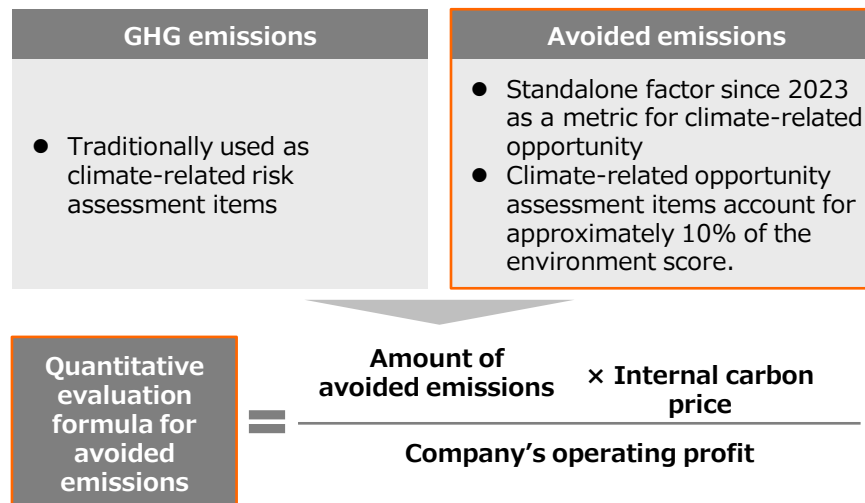
Nomura Securities

- ✓ From the perspective of portfolio strategists and quantitative researchers, the report examines whether avoided emissions can contribute to enhancing enterprise value.
- ✓ It suggests that, as definitions and calculation methodologies for avoided emissions become standardized and disclosure expands in both quantity and quality, avoided emissions may begin to be linked to enterprise value.



Nomura Asset Management

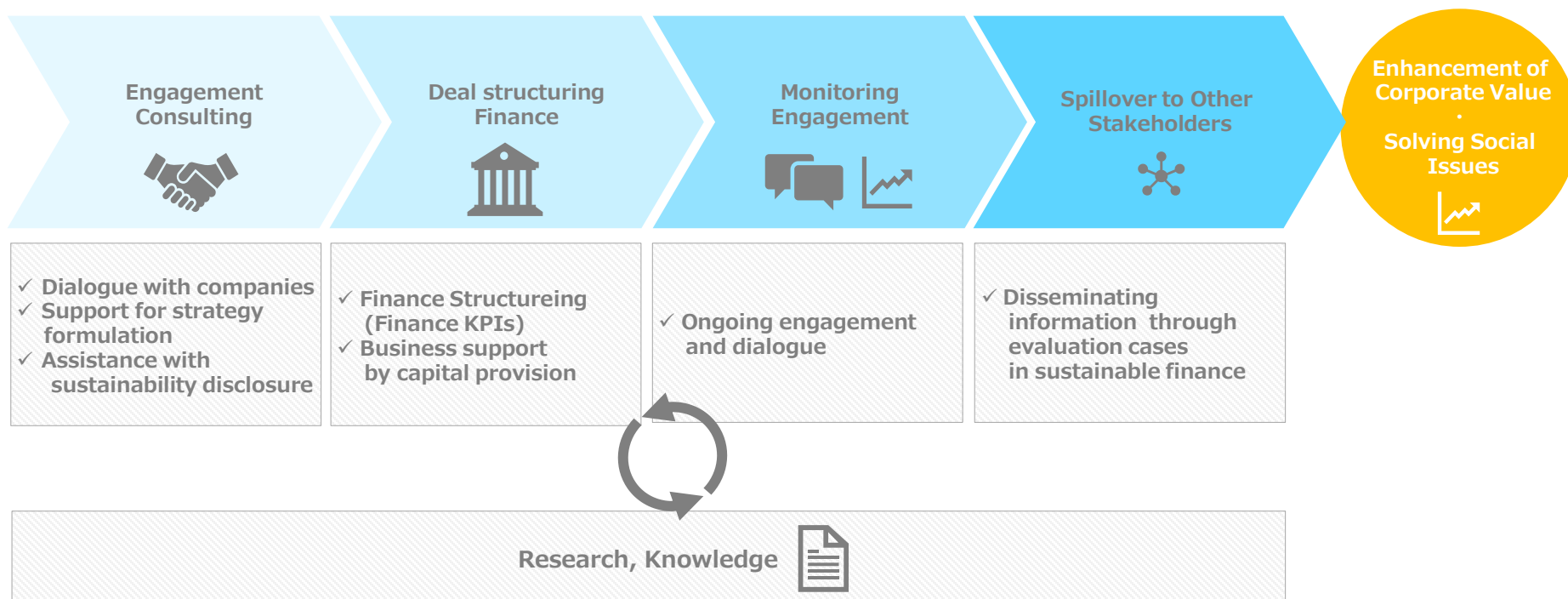
- ✓ Previously, ESG scores considered disclosure of avoided emissions. Since the 2023 revision, avoided emissions are now used as a metric for evaluating climate-related opportunities.
- ✓ Economic value is calculated by multiplying the avoided emissions disclosed by a company by Nomura Asset Management’s internal carbon price, and this value is then expressed as a ratio to operating profit to evaluate the company’s climate-related opportunities.



DBJ's Approach

- DBJ develops financial products that support client initiatives addressing social challenges and enhancing corporate value. To date, DBJ has provided financing focused on environmental performance, including energy efficiency and resource recycling, while also emphasizing client engagement and consulting.
- Looking ahead, DBJ aims to further leverage its cross-industry expertise to promote knowledge sharing and expand solutions for sustainability. In this context, quantifying and utilizing avoided emissions is positioned as a key theme for sustainable finance, such as sustainability-linked loans (SLLs).
- To mainstream avoided emissions in finance, DBJ recognizes the need to enhance evaluation standards and frameworks through collaboration with other financial institutions, rating agencies, and stakeholders.

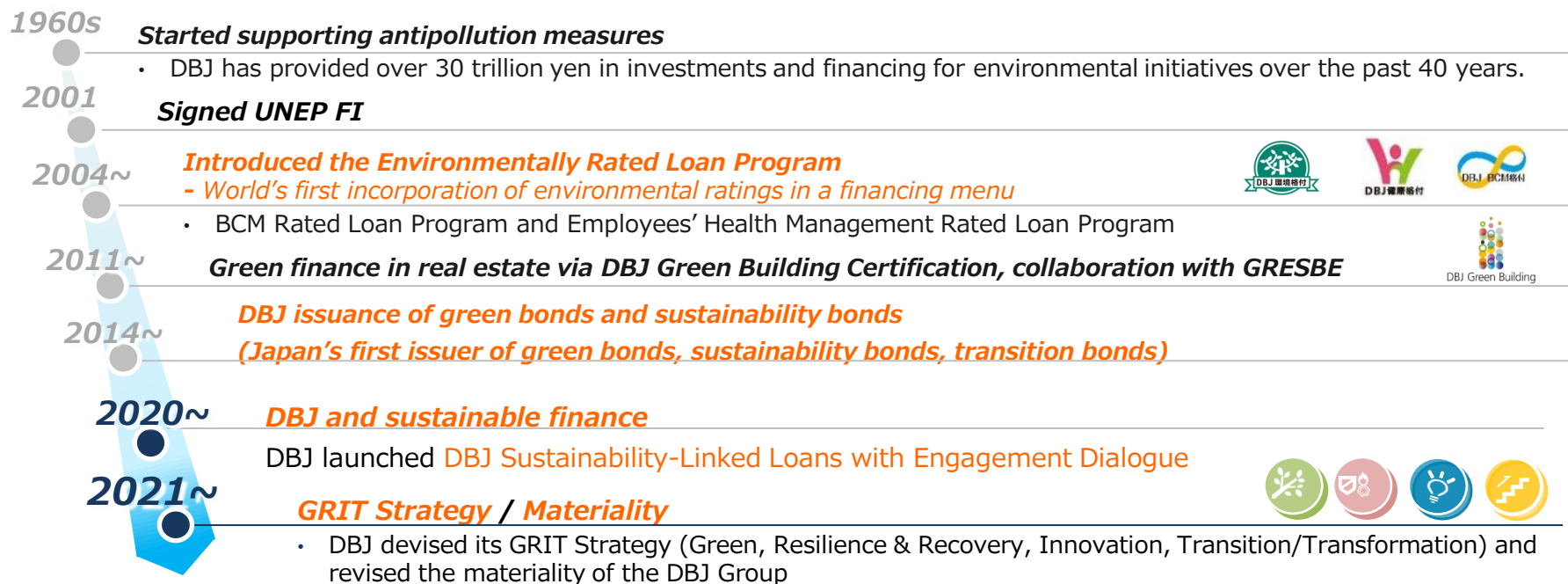
Direction of DBJ's Initiatives



Reference | Milestones in DBJ's Sustainability Initiatives

- DBJ pioneered the world's first Environmental Rating Loan in 2004, integrating non-financial (ESG) criteria into lending decisions. Since then, DBJ has expanded its sustainability finance lineup with products such as the BCM Rating Loan and Health Management Rating Loan, and has supported clients' sustainability strategies through the DBJ Sustainability Assessment Certification Loan (total: 1,639 projects, 3.17 trillion yen as of March 31, 2025).
- Building on this expertise, DBJ launched DBJ Sustainability-Linked Loan with Engagement Dialogue, a unique product that links financing conditions to clients' comprehensive sustainability strategies, thereby supporting both social value creation and sustainable corporate growth.

Milestones in DBJ's Sustainability Initiatives



Disclaimer

Copyright © Development Bank of Japan Inc. 2025
This material was prepared by Development Bank of Japan Inc. (DBJ).

This material was prepared for informational purposes only and is not intended as a solicitation for business. While it is based on information that we deem to be reliable, we make no guarantee as to its completeness or accuracy. Please use this material at your own discretion.

This material is a copyrighted work and is protected under copyright law. Reprinting or reproduction of this material, in whole or in part, requires the permission of the copyright holder. Please contact DBJ for permission.

When quoting, reprinting, or reproducing the contents in accordance with the provisions of the Copyright Act, please clearly state "Source: Development Bank of Japan".