

International Forum on Regional Development SDGs 2022 **—Initiatives by Keidanren to Address Climate Change—**

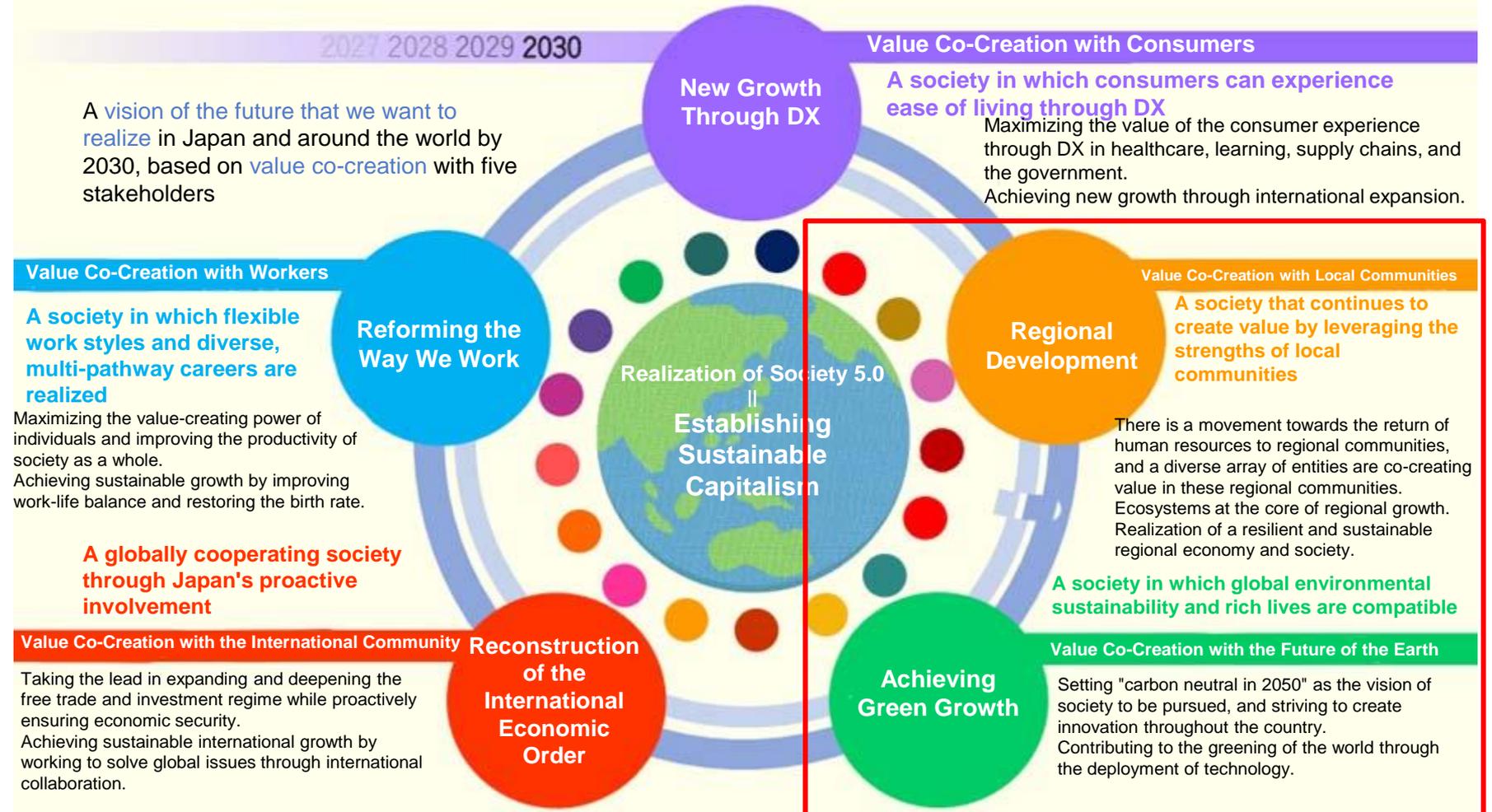
January 14, 2022
Keidanren (Japan Business Federation)
Environment & Energy Division

1. Basic Concept

Establishment of Sustainable Capitalism (" New Growth Strategy")

Vision of the Future in 2030

Establish **sustainable capitalism** with Society 5.0, which brings together the wisdom of diverse stakeholders and co-creates diverse value through digital transformation (DX)



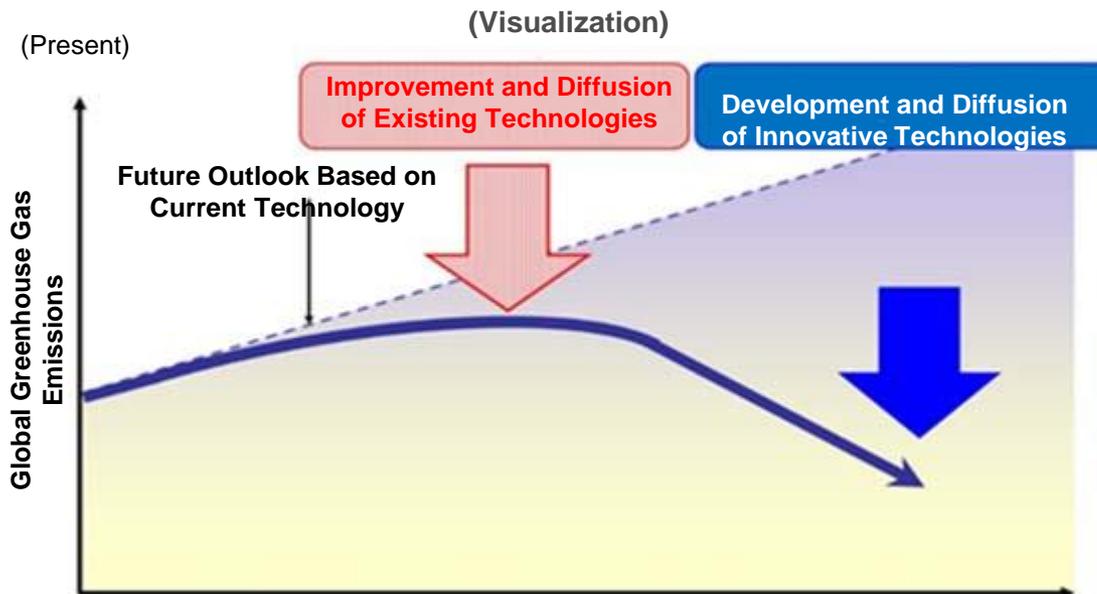
Keidanren's Basic Approach to Climate Change Measures

- In order to link climate change measures to green growth, it is necessary to simultaneously promote (1) energy conservation and (2) low-carbon and decarbonized energy.
- **In the medium term, it is important that we improve and spread existing low-carbon technologies** (accumulation of best available technologies (BAT) and concrete measures, such as the Keidanren Carbon Neutrality Action Plan), and **in the long term, it is essential that we develop and spread innovative technologies**(creation of innovation, such as in Keidanren's Challenge Zero).

Factor Breakdown Equation for CO2 Emissions (Kaya Identity)

$$\text{CO2 Emissions} = \frac{\text{Energy Supply Volume}}{\text{GDP}} \times \frac{\text{CO2 Emissions}}{\text{Energy Supply Volume}} \times \text{GDP and Population}$$

1 Energy Conservation 2 Low-Carbon and Decarbonized Energy 3 Economic Activities, Etc.



2. Proactive Approaches by the Business Community

Keidanren's Climate Change Initiatives to Date

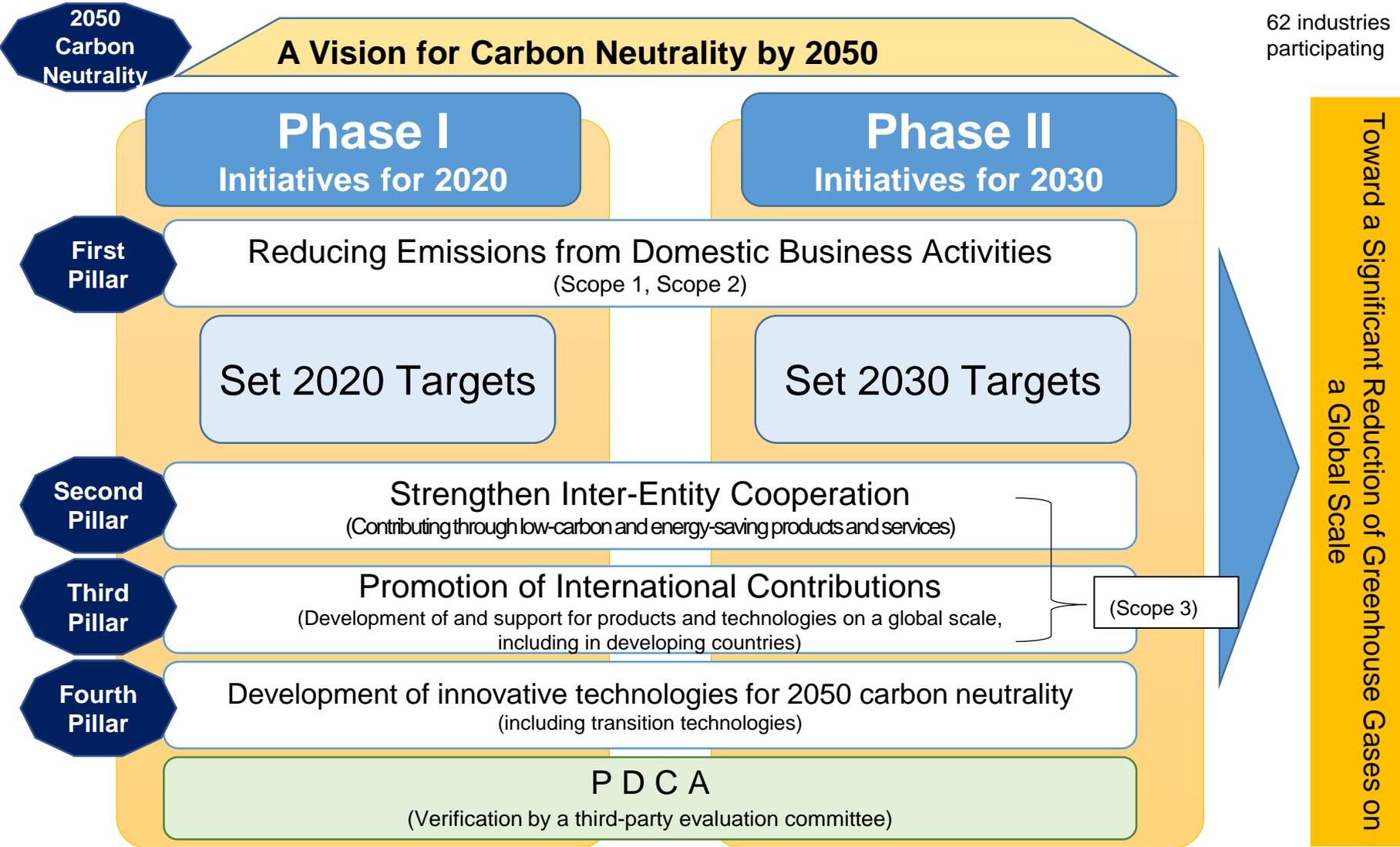
- Keidanren always acts proactively, ahead of the policy decisions of the United Nations and the Japanese government.



Outline of Keidanren's "Carbon Neutrality Action Plan"

- Contribute to global-scale, long-term measures to combat global warming by formulating a vision and implementing the four pillars of our initiatives

62 industries participating

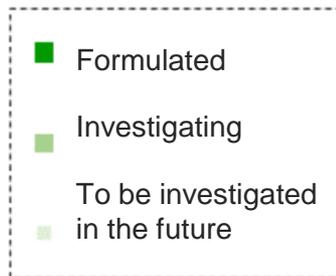
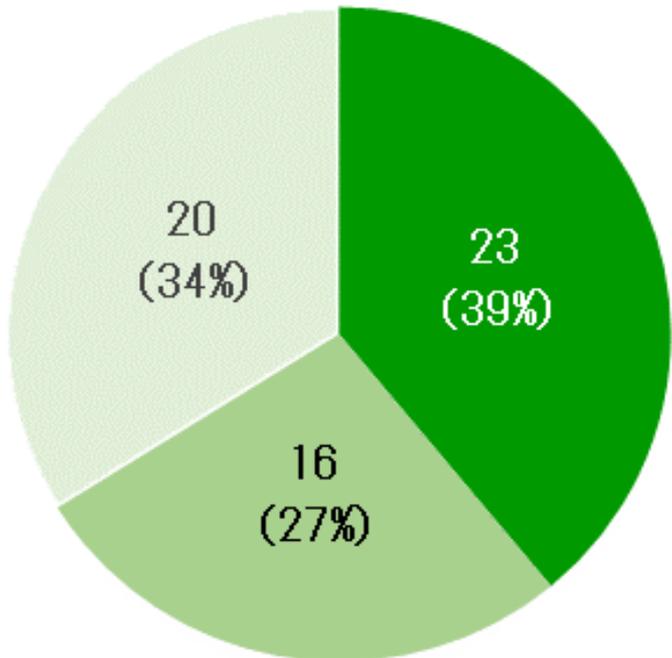


Status of the Formulation of Visions for Carbon Neutrality by 2050

- All industries have formulated a vision, are investigating a vision, or plan to investigate a vision. The CO₂ emissions of the 23 industries that have already formulated visions are 90% of the total CO₂ emissions for all participating industries.
- This is an expression of our commitment to do our utmost to realize carbon neutrality by 2050.

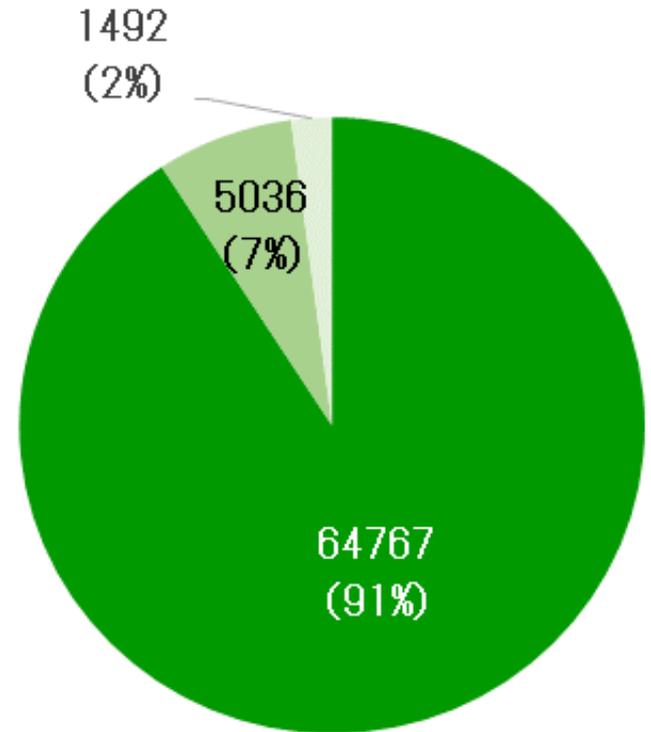
Formulation Status of Participating Industries

Based on Number of Industries



*Preparing Answers: 3 industries

Emissions Basis (10,000 t-CO₂)



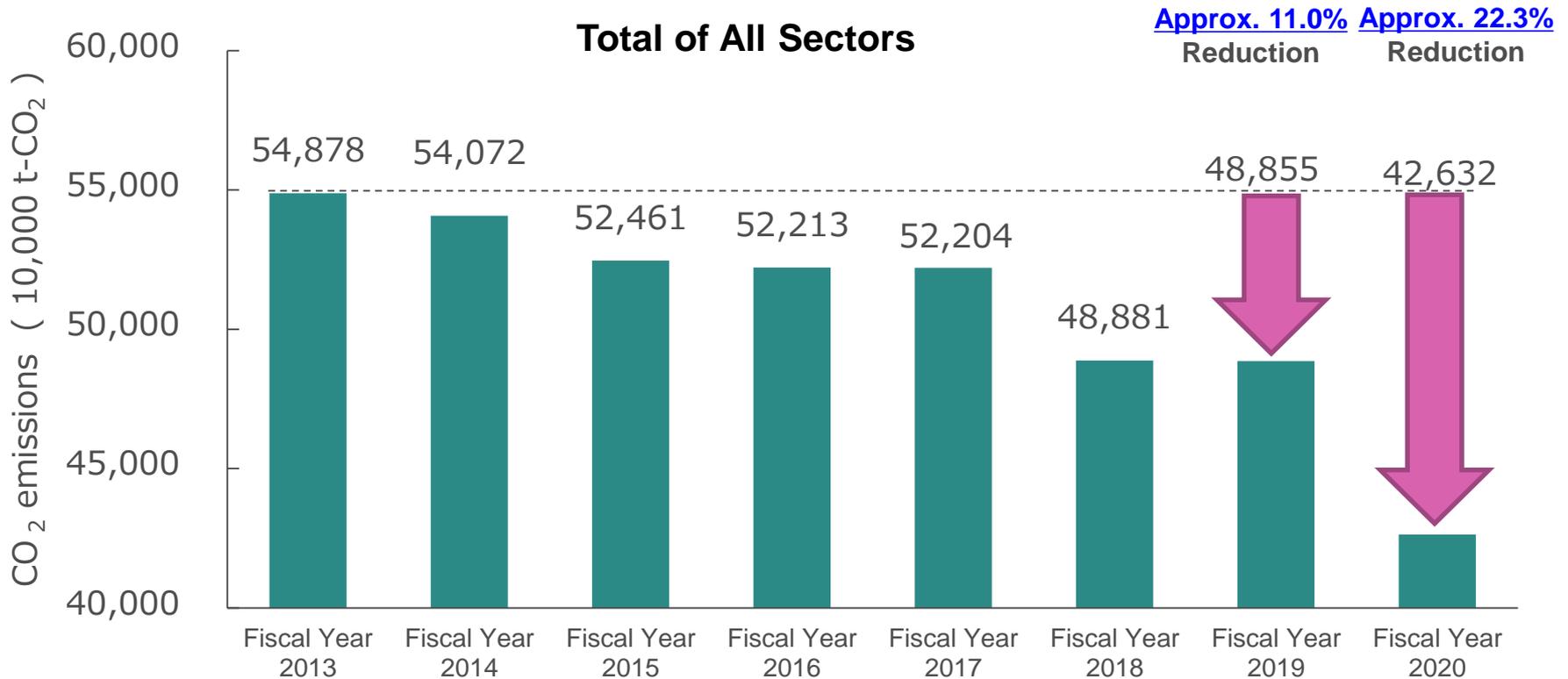
*Using CO₂ emissions after allocation of electricity for industrial, business, and transportation sectors.

Using CO₂ emissions before electricity allocation for the energy conversion sector.

First Pillar: Actual Emission Reductions in Domestic Business Activities

- Total CO₂ emissions for all sectors have continued to decline since FY 2013, and will be reduced by approximately 11% as of FY 2019.
- Even without the impact of the new coronavirus, steady results are expected to have been achieved.

Results for FY 2013-2020



*The total of the preliminary figures for CO₂ emissions (after allocation of electricity) from 56 of the 62 participating industries. The most up-to-date values at the time of the survey were used for the calorific value and the carbon emission factor to calculate CO₂ emissions.

*The scope of calculation differs between FY 2013 and FY 2019/2020 due to overseas business transfers, etc.

Outline of Keidanren's "Challenge Zero"

- In June 2020, Keidanren, in **collaboration with the government**, launched "Challenge Zero." **We will strongly promote and encourage, both in Japan and abroad, the** innovation actions that companies and other organizations are taking on to realize a decarbonized society.
- By promoting "Challenge Zero," we aim to create a **"game changing situation"** in which each entity **competes for innovation toward a decarbonized society**; to **attract ESG investment** to companies that take on the challenge of innovation; and to promote collaboration between industry, academia, and the government, as well as intra- and inter-industry cooperation, for the purpose of creating innovation.
- **As of December 1, 2021, 192 companies and organizations** have announced 401 initiatives.

Participating companies declare that they will take on one of the following challenges and announce their specific actions:

[A] Innovations in net-zero emission technologies (including transition technologies)

[B] Proactive implementation and diffusion of net-zero emission technologies

[C] Proactive investment and financing for companies engaged in the above



Communicating the initiatives of the business world aimed at creating a decarbonized society and encouraging innovation

Names and logos of participating companies

Specific actions

Comprehensive portrait

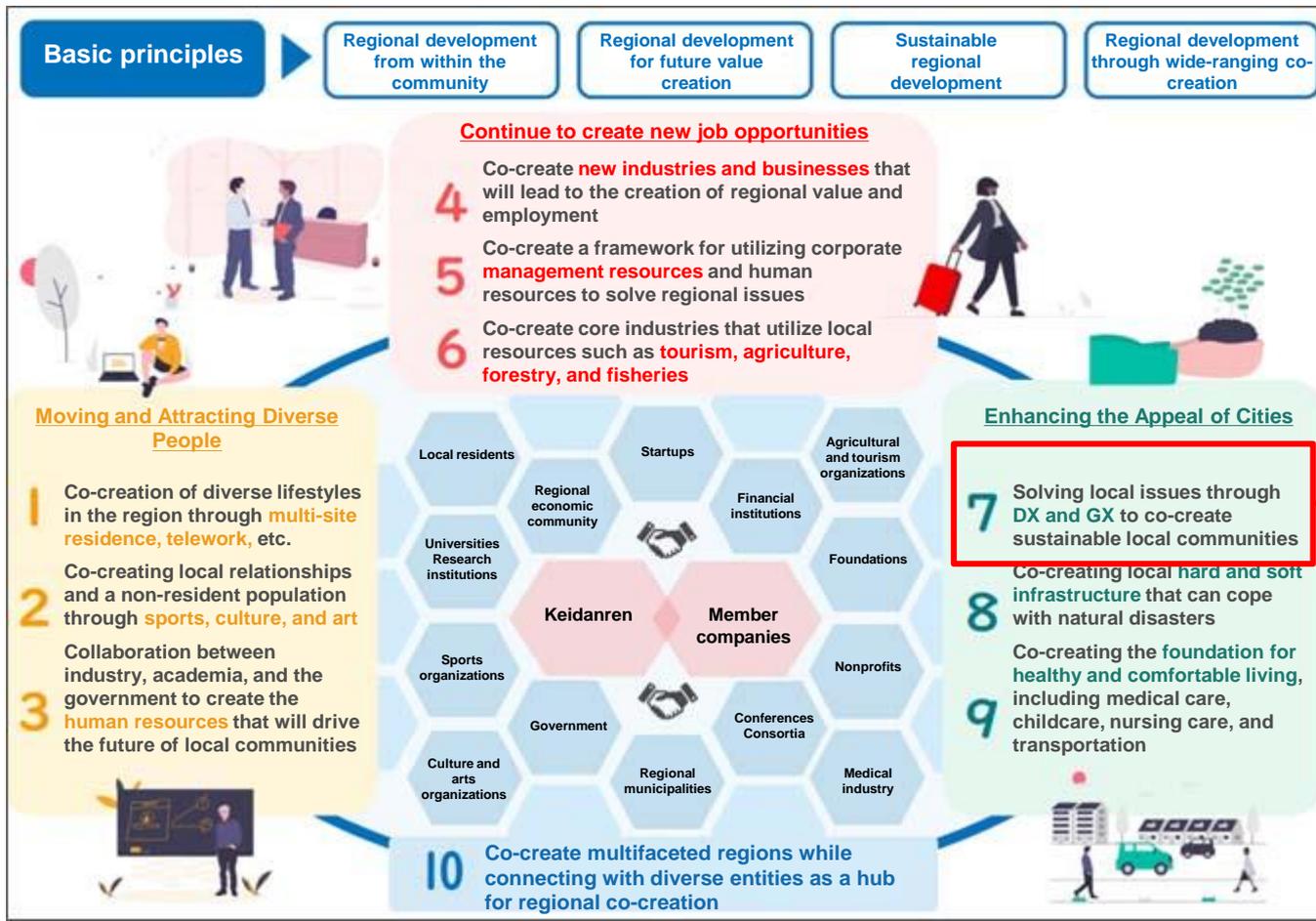
The Zero-Emissions Challenge

- This is a project to compile a list of companies that are taking on the challenge of innovation toward the realization of a decarbonized society, and to provide investors and others with information that they can use. The first list of approximately 300 companies was released in October 2020, and the second list of approximately 600 companies was released in October 2021.
- Targets projects of the Ministry of Economy, Trade and Industry (METI) related to "Environment Innovation Strategy." Lists the company names and the technical themes and names of the projects that each company is working on. Among these companies, those participating in "Challenge Zero" are clearly indicated on the list.

Greening / Decarbonization x Regional Development

- In November 2021, Keidanren published its “**Regional Co-Creation Action Program**,” which outlines its policy for initiatives aimed at realizing regional development and the details of actions to be taken with various collaborative partners based on this policy, and “**Regional Co-Creation Case Studies**,” which summarizes examples of initiatives by member companies and organizations. The collection of case studies is intended to accelerate and expand regional co-creation by promoting concrete cooperation and the sharing of know-how.
- **Various examples of green transformation (GX) initiatives** have also been collected.

Regional Co-Creation Action Program - Overview



Regional Co-Creation Case Studies

(Some excerpts from GX-related case studies)

- ① Demonstration of CO2-free hydrogen and other regional energy supply chains using renewable energy sources (Kitakyushu City, etc., IHI)
- ② Promotion of next-generation energy and regional development through solar power, storage batteries, etc. (Shizuoka City, ENEOS)
- ③ Hydrogen production demonstration project using used plastic (Kawasaki City, Showa Denko)
- ④ Decarbonization of Hiroshima University, etc. (Higashihiroshima City, Sumitomo Corporation)
- ⑤ Demonstration test of an autonomous DC microgrid for communities (Onna Village, Okinawa Prefecture, Sony Group)
- ⑥ Operation of AEMS in Kashiwa-no-ha Smart City, etc. (Kashiwa City, Hitachi Ltd.)