Press release

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NEC

Keio University

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NEC and Keio University Co-Create New Approach to Credits for Future CO2 Reduction through Disaster Prevention and Adaptation

-Aim to establish a consortium in FY2023 to promote social implementation-

NEC and Keio University announce the joint creation of "Future Carbon Reduction Credits," a new approach to calculate and visualize future CO_2 reductions through disaster prevention and adaptation, and to make them tradable by converting the reductions into credits (financial products), with the aim of creating a decarbonized society through industry-academia collaboration and open innovation.

NEC and Keio University are focusing on CO_2 emissions from natural disasters, which cannot be prevented from occurring in the future, and the amount of CO_2 emissions that can be reduced. This new approach will contribute to the promotion of ESG investment for carbon reduction and the revitalization of investment for disaster prevention and adaptation measures by companies, governments, and municipalities. In order to implement "Future Carbon Reduction Credits" in society, we will accelerate the expansion of disaster prevention solutions, research to ensure objectivity and transparency in the amount of CO_2 reduction, and the development of financial products to enable carbon credit market transactions. Through these efforts, we aim to establish a consortium in FY2023 by inviting partners such as companies, universities, governments, and municipalities across industries and fields.

Global warming is causing more severe and frequent natural disasters such as floods and forest fires, which are having a significant impact on the world in terms of both the natural environment and the social economy. Natural disasters not only emit CO_2 when forest fires and other disasters occur, but also when infrastructure and buildings are rebuilt after tsunamis, floods, and other disasters. It is estimated that more than 10% of the world's annual CO_2 emissions of 33.5 billion tons are attributable to these natural disasters. (*) Under these circumstances, it is becoming increasingly important to not only address "Mitigation", the reduction and control of greenhouse gas emissions that cause global warming through the introduction of renewable energy and energy conservation measures, but also "Adaptation," the preparation for the effects of climate change, in order to achieve a decarbonized society.

Carbon taxes, which impose taxes based on carbon content, and emissions trading schemes, which trade greenhouse gas emission allowances set by individual countries and companies, are spreading in Europe and other countries. Our approach is unique in that it is based on the future carbon reduction enabled by disaster prevention and adaptation, as opposed to the conventional approaches, which trade the reduction amount of CO2 actually emitted in the past. This will encourage companies, governments, and municipalities to introduce advanced technologies for disaster prevention and adaptation, improve and introduce infrastructure and buildings, and make proactive ESG investments to support these efforts.

About "Future Carbon Reduction Credits"

The project combines NEC's experience and know-how gained through its technological development of disaster prevention solutions, such as real-time tsunami inundation and damage estimation systems and infrastructure monitoring technologies, with Keio University's academic knowledge and interdisciplinary activities. This is a new approach that enables the circulation of funds by calculating and visualizing future CO_2 emission reductions based on "the incidence of damage from natural disasters," "the amount of damage to structures caused by damage," and "the rate of disaster reduction through disaster prevention solutions," and converting them into financial instruments as current values. This makes it possible, for example, to visualize the amount of future CO_2 emission reductions associated with avoiding the collapse or reconstruction of buildings by combining disaster prevention solutions for flood damage such as tsunamis and floods with information on the soundness of buildings in the affected area and other information in a simulation.

By promoting efforts to commercialize the calculated and visualized amount of CO_2 reduction as a financial product through a financing mechanism that provides incentives for such reduction, we will promote the activation of investment by companies, governments, and municipalities for the purpose of ESG investment toward decarbonization and disaster prevention and disaster adaptation measures.

Future Development

NEC and Keio University will promote the social implementation of this new "Future Carbon Reduction Credits" approach as a climate change countermeasure to realize a decarbonized society. We will study the application of potential carbon credits to flood disasters, such as tsunamis, and natural disasters, such as earthquakes and forest fires. In addition, in order to accelerate the expansion of disaster prevention solutions, research to ensure objectivity and transparency of CO_2 emission reductions, and the development of financial instruments for carbon credit market transactions, we aim to establish a consortium in FY2023 with partners from companies, universities and governments across industries and fields.

The following endorsements have been received for this new approach.

"Japan is a major player in disaster reduction, and the concept that disaster reduction is not a cost but a necessary investment to maintain the resilience of society is widespread. In the area of climate change adaptation, Japan is leading the world in developing concrete measures and initiating investments in response to disasters that are becoming more severe due to climate change. The "Future Carbon Reduction Credits" program is a mechanism to visualize the actions of stakeholders who are working on climate change adaptation through the market, and companies focusing on ESG management can demonstrate their social contribution activities to the world through investment in the program. This system has the potential to be an effective incentive for the economy to change its behavior toward climate change adaptation. The World Disaster Reduction Forum is very much looking forward to the realization of Future Carbon Reduction Credits, which could be a promotional measure for climate change adaptation from Japan to the world."

World BOSAI Forum, Founder and Representative Director
International Research Institute of Disaster Science, Tohoku University, Professor
Yuichi Ono

"According to the 2015 Global Enabling Sustainability Initiative GeSI SMARTer2030 research, ICT can reduce 20% of global CO_2 emissions. It must be said though, that there is not yet sufficient research on the contribution of digital technologies to accelerate climate adaptation. We are glad to see that Digital leading companies such as NEC have been innovating and investing in digital solutions that can strongly contribute to the adaptation to climate impacts. GeSI is eager to work with NEC in further advancing, investigating, promoting and accelerating the deployment of digital solutions in real environments, thereby ensuring sustainable living for all."

GeSI (Global Enabling Sustainability Initiative), CEO
Luis Neves

(*) Based on NEC research as of February 6, 2023