

エコシステム

Ecosystem
Conservation
Society-Japan

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工業文明から生態系文明へ ～右肩上がりの経済成長の限界～

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私たちの豊かすぎる生活が、小さな地球をくいつぶしています。世界は将来世代のことを思う持続可能なくにづくりを求めています。生態系文明への転換に向けて、地球温暖化対策のさらなる推進が求められています。

Our excessively wealthy lifestyles are eating up our "small" earth. The world is demanding us to build a sustainable society for future generations. Measures for climate change solution must be urgently promoted.

From Industrial Civilization to Ecosystem Civilization

The Limit of Continuous Economic Growth

Industrial civilization (successfully developed by using fossil fuels) has given us, on one hand, rich and convenient lives but, on the other hand, given us the difficult challenge of 'Climate Change' as its by-product. Rapid increase of unheard of, extreme weather and climate events is one of the side effects of our industrial civilization. According to World Bank data, monetary loss caused by natural disasters in the world increased from an average US\$50 billion per year through the 1980s to an average US\$200 billion per year over the last 10 years. The United Nation's Intergovernmental Panel on Climate Change (IPCC) has been reporting that global climate change has been a contributor to the cause and increase of those damages.

The Synthesis Report of the IPCC Fifth Assessment Report, published last November, declared that 'Human influence on the climate system is clear' and that 'Warming of the climate system is unequivocal'. If we do not take additional mitigative measures to control climate change, it is estimated that by year 2,100 average global temperature will have risen by 3.7-4.8°C above the pre-Industrial Revolution level. In order to maintain global temperature rise below 2°C from the level of pre-Industrial Revolution to avoid a catastrophic impact of climate change, we must not exceed 1 trillion tons of allowable, cumulative, maximum GHG emissions by 2100 (carbon budget). But if world societies continue their current trend of CO₂ emissions, that threshold will be reached in only 31 years!

The IPCC estimates that if the governments of the world implement necessary measures and spend money to keep the global temperature rise below 2°C, the average impact of these efforts on worldwide GDP growth would be only 0.06% per year. But if we delay or neglect to take the necessary steps, the impact will be far greater as time goes by.

In order to avoid the worst case scenario, some developed countries have been actively making efforts to reduce greenhouse gas (GHG) emissions. Germany has declared that, by 2020, it will reduce its total GHG emissions by 40% from the

level of 1990 by increasing renewal energy percentage to more than one third of its total energy sources. Great Britain has established a new Climate Change Law to reduce more than 80% of GHG emissions from the level of 1990 by 2050. The European Union (EU) as a whole has recently declared that it will cut GHG by 40 % from 1990 level by 2030. In the United States, as a part of 'President Obama's Climate Action Plan of 2013', the administration is targeting a 30% reduction of CO₂ from coal-burning power plants from the 2005 level by 2030. Also, China already has a 5-year plan in place since 2011 to plant trees over 12.5 million hectares to sequester CO₂.

Increasing numbers of local municipalities are now tackling climate change problems by adopting variety of mitigation and adaptation measures to create a 'Low-Carbon Society'. For example, Hamburg, Germany has established a target to reduce GHG by 80% from the 1990 level by 2050. The city has implemented many programs to achieve its goal. For example, the city is keeping the size of the city compact to reduce people's transportation distances and is creating green areas throughout the city to absorb carbon. New York City has been implementing its 'PlaNYC' and the former Mayor Bloomberg has worked especially hard to limit the number of cars coming into the city and has promoted hybrid cars to reduce GHG emissions from the city's transportation sector. The city also has been trying to prevent or reduce storm water and flood disasters by utilizing the functions of natural ecosystems. The current Mayor Bill de Blasio also established a target last September to reduce GHG emissions by 80% from the city's 2005 level by 2050 with a plan 'to extensively reform buildings in New York City for the low-carbon future'.

To achieve a low-carbon society that controls global warming, we must change our fundamental concept and benchmark of 'development' from one of 'Expansion' to one of 'Maturity'. To achieve a 'Matured Society' ---that is, one with sustainable economic development and with climate change mitigation and adaptation all together at once--- the answer lies in creating a sustainable society that coexists with nature. Each country, local

municipality, citizen, corporation and NGO must play its necessary role to avoid disastrous climate change.

Thus far Japan has not established the most basic GHG reduction target to clearly show to the world. As there will be an international conference in Paris this fall to establish a new international framework to control climate change, Japan, as one of the major developed countries, should contribute in many ways toward the changeover to an 'Ecosystem Civilization'.



Wildfires in central California in August, 2013 (NASA)



A disappearing glacier in Greenland due to global warming



A scene of vast afforestation near Beijing (with its skylines in the distance)



Examples of projects to control storm water and floods utilizing the natural function of wetlands on Staten Island, New York City

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