



Biomass subcommittee

Carbon neutral

Realization of carbon zero emissions through biomass technology

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We humans depend on carbon immobilized by photosynthesis for most of our food, energy, and materials. By inventing agriculture, humankind has transformed from a hunting society to a farming society and has made it possible to obtain a large amount of food. However, modern society is a hunting carbon society where energy and material production depend on fossil resources. As a result, carbon dioxide generated by combustion causes global warming, and a large amount of plastic pollutes the earth, causing global environmental problems. For this reason, energy and material production are also required to evolve into a cultivated society. Considering the energy and material circulation in Japanese society in 2050 based on the "Green Growth Strategy for 2050 Carbon Neutral" announced by the Japanese government in 2020, energy cultivation without carbon such as solar power, wind power, and hydroelectric power generation is expected. However, since fuels for transportation machinery such as aircraft and ships and materials such as plastics will continue to depend on carbon, carbon circulation by carbon cultivation using biomass is indispensable. Also, carbon cultivation is the only way to recover a large amount of carbon dioxide released into the atmosphere. To realize a carbon cycle society based on carbon cultivation, it is necessary to carry out bio-economy research and development that comprehensively addresses biomass production/conversion technology and waste utilization.

Vision: Realization of carbon cycle society.

Development of sustainable biomass material

We will establish a sustainable biomass material cultivation system.

Development of biomass-derived materials

We will establish material development technology through carbon cultivation.

Development of biomass fuel production technology

We will establish a zero-emission biomass fuel supply system.

Development of waste recycling system using methane fermentation

We will establish recycling technology for a sustainable waste-free bioeconomy.

Development of an evaluation method for social acceptance

We will realize a society that accepts carbon cultivation.

Bioeconomy Innovation Hub to Realize Carbon Cycle Society



Tokyo University of Agriculture and Technology

Hirosaki University

Nagaoka University of Technology

Waseda University

The National Institute of Advanced Industrial Science and Technology

Research Institute of Innovative Technology for the Earth

The Engineering Academy of Japan

Tokyo Metropolitan Government

Mitsubishi Chemical Co.

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Nihon Biodata Co.

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Tsugaru Biomass Power Generation Co.