Mitigation measures against global warming in Japan

Low-carbon society and civil engineering

The relationship of civil engineering projects to greenhouse gas emissions is complex. In addition to direct emissions from infrastructure engineering projects, there are emissions related to their operation and maintenance, emissions resulting from production of materials, and so on. Therefore, it is possible to reduce emissions through a variety of activities, which include the study of whether or not to build infrastructure structures, introduction of emissions to evaluation of procurement, as well as approaches to design, design standards, and technological development. These efforts are thought to have a great deal of potential.

Civil engineering strategies for a low-carbon society

Reducing emissions in infrastructure projects

The goal is to reduce greenhouse gas emissions by conserving energy in infrastructure projects, including the use of more efficient construction equipment and development of energy efficient construction technologies.

Reducing emissions resulting from civil engineering materials

The goal is to reduce greenhouse gas emissions throughout the lifespan of civil engineering materials by using recycled materials and switching to low-carbon materials including lumber.

Reducing greenhouse gas emissions during the operation of infrastructure facilities

The goal is to reduce greenhouse gas emissions by developing and promoting the use of energy saving technologies and energy recovery technologies during the operation of water supply and sewer facilities, etc.

Reducing greenhouse gas emissions accompanying the use of infrastructure structures

The goal is to reduce greenhouse gas emissions by developing and promoting the use of technologies that contribute to energy conservation during the use of transportation facilities including roads.

Supporting the development of low-carbon energy technologies

The goal is to reduce greenhouse gas emissions by developing renewable energy utilization such as wind and hydro power, and by supporting technological development for promotion of nuclear power, high-efficiency thermal power, carbon capture and storage, and so on.

Building low-carbon urban systems through city and transportation planning

The goal is to reduce greenhouse gas emissions through city and transportation planning for a low-carbon urban structure.

Supporting developing countries

The goal is to reduce greenhouse gas emissions in developing countries by providing support on low-carbon technologies and planning methodologies.

The Nunobiki Plateau Wind Farm in Koriyama, Fukushima Prefecture produces enough electricity for about 35,000 households, resulting in an annual reduction of 53,000 tons of carbon dioxide per year.
(Photo: J-Power)