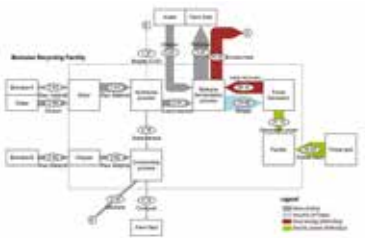
Asst. Prof.
HABUER

Study on anthropogenic mercury releases for the evaluation of the effectiveness of the Minamata Convention on Mercury

The combination of anthropogenic activities and long-term atmospheric transport has resulted in a sustained increase in global mercury concentrations in air, in water and on land. The Minamata Convention on Mercury (MCM), is a global treaty with the goal of protecting human health and the environment from anthropogenic releases of mercury. This study aimed to quantify the mercury inputs and outputs in China in 2016–2019 according to source category and investigate the effect of scenario/technology transformation required by the MCM on the subsequent distribution of mercury among environmental and intermediate reservoirs. This is the first attempt to provide a systematic evaluation of the validity of the MCM. As the MCM moves into the implementation phase, further information from scientific data and studies is critically needed to support decision-making and management. The results of this study can provide such information, facilitating the creation of strategic management policies for mercury as the MCM is implemented.

Feasibility Study of Biomass Waste Recycling System in University Campus

Okayama University has an expansive campus in Japan and generates much biomass that is usually disposed of by outsourcing waste treatment to private companies. The university should tackle reducing and recycling waste within the campus as a regional society member to establish a sound material-cycle society. We evaluated the potential to recycle the biomass waste on the campus by first measuring or estimating the amount of biomass waste generated almost through a year. Secondly, we conducted feasibility studies such as analysis of methane gas and compost production, power consumption, and CO2 emission of a methane fermentation facility and a composting facility.



Biomass Recycling Facility Process Flow in Campus