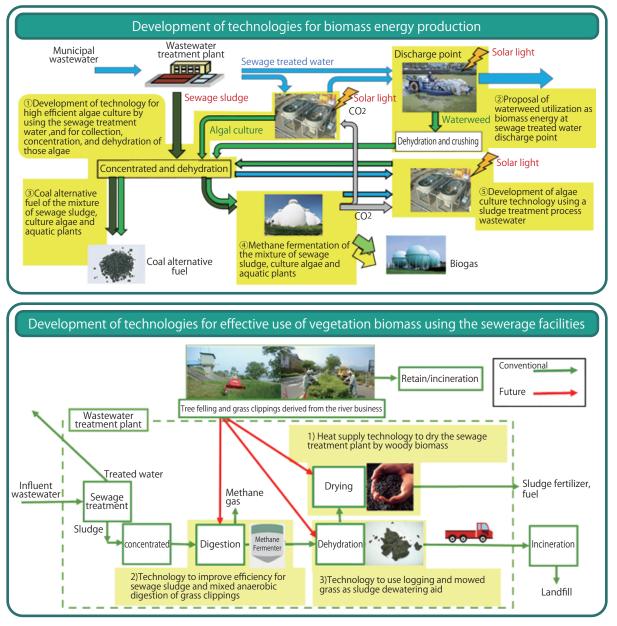
## (10) Research on effective use of resources/energy focusing on sewer facilities



Research period: FY2016-2021 Program leader: Director of Materials and Resources Research Group



There is a growing expectation for renewable energy towards building of a recycle-oriented society. "Basic Energy Plan" that was approved by the Cabinet in 2016, shows the promotion policy of effective use of the sewage sludge as one of the renewable energy. The Ministry of Land, Infrastructure and Transport has set "New sewer vision" and it shows resourceintensive, energy supply base and self-reliance in the sewage treatment plants as a medium-term goal. It includes facilitation of new technological development such as mixing process of sewage sludge and other biomass and extraction methods of useful algae using nutrients in the sewage. On the other hand, for example, biomass such as mowed grass and logging produced in rivers are required to be used without simply disposing. In particular the sewage treatment facilities are expected to accept biomass and use as energy required for sewage treatment.

In this program, in light of these circumstances, we develop production methods for biomass energy and aim to achieve highly efficient alga culture using the treated sewage and embark on the studies in advanced technologies for collection, concentration and dehydration for algae culture. We also examine the applicability of result of mixture of algae culture/ water plants and sewage sludge to the coal alternative solid fuel. Technology for utilization of wood chips and pellets as dehydration agent for sewage sludge is also a part of our research.