Biomass and waste management and energy recovery

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Abstract

We are facing ever expanding demand for energy, due to the growth of population and economies all over the world, and are also facing a global warming. In this situation, renewable energies such as solar energy, and energy from wastes, justifiably attract considerable attention. The growth of population also causes the increase of waste generation. Therefore, the management of solid waste and related biomass resources and energy recovery from those are becoming very important issue in every country. In the lecture, the history and current situations of the waste disposal and management in Japan as well as developed countries are firstly reviewed. Then, current and cutting-edge technologies are shown in several scenarios: thermal and chemical process, biological process, and the combination of thermal and biological processes. Finally, future problems and prospects are discussed.