

# Seminar

**Topic:** How to Commercialize the R&D Achievements: Viable Waste-to-Green Product Technologies for Fuel Cost Reduction and Sustainable Waste Management

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**Venue:** Meeting Room 308, IPE Mansion

## Abstract

Tokyo Institute of Technology is developing and commercializing total technologies to convert unutilized resources such as solid wastes and biomass into high value added green products (solid fuel, liquid fuel, gaseous fuel, electricity and solid & liquid fertilizer) by combining various technologies which have been jointly developed with many companies. This presentation introduces the successful R&D and commercialization examples of these technologies focusing on the economical feasibility. The content of the technologies are as follows.

- Solid Fuel and Fertilizer Production Technology : The hydrothermal treatment technology can convert unutilized resources with various shapes, heating values and moisture contents into uniform dry powder-like solid fuels with the heating value equivalent to coal. If high moisture content biomass wastes such as sewage sludge, paper sludge and animal manure will be treated, organic liquid fertilizer can be produced.
- Liquid Fuel Production Technology : Gasoline or diesel equivalent fuel oils can be produced from waste plastics by employing the pyrolytic reforming oil production technology.
- Gasification and Power Generation Technology: The gasification technologies can produce gaseous fuel from solid fuels. Electric power can be generated from this gaseous fuel by employing internal external combustion engines. Solid fertilizer can be also produced in the form of bio-char.