# Clean Energy Production with Municipal Sewage Sludge - Preparation of Highly Refined Fuels from Municipal Sewage Sludge -

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This study attempted co-agglomeration of municipal sewage sludge with a mixture of oil and coal in order to remove heavy metals and ash from agglomerates and significantly lower water content of agglomerates. Surface property of sewage sludge was controlled with surface control agents. Agglomerates of sewage sludge and oil-coal mixture (Sludge-Oil-Coal-Agglomerate: SOCA) included less than 60 % of water and thus the SOCA could be processed mechanically for enlargement of the SOCA particles. It was expected that the relatively low water content in the SOCA could be achieved by removal of internal water in coal particles as well as water on the SOCA surface. The calory of the used coal was 6,900 kcal/kg and the composition of ash in the coal was ca. 9%, while the calory and ash composition in sewage sludge were 3,2000 kcal/kg and ca. 35%, respectively. The SOCA showed that the ash composition was below 5%, and the calory was over 7,200 kcal/kg. Accordingly, it was suggested that the SOCA would be used as a highly refined fuel for production of clean energy. This work was financially supported by the new & renewable energy project in the MOCIE.