

**STUDI TIMBULAN, KOMPOSISI, KARAKTERISTIK DAN  
POTENSI DAUR ULANG SAMPAH SEJENIS SAMPAH  
RUMAH TANGGA DI PT. PLN (Persero) UNIT PELAKSANA  
PEMBANGKIT TELUK SIRIH KOTA PADANG**

**TUGAS AKHIR**

Sebagai salah satu syarat untuk menyelesaikan Program Strata-1  
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## ABSTRAK

*Dalam kegiatan operasionalnya, PT PLN (Persero) Unit Pelaksana Pembangkit Teluk Sirih menghasilkan sampah Sejenis Sampah Rumah Tangga (SSRT) yang berasal dari aktivitas administrasi, pembenahan taman, kegiatan kantin, dan sebagainya. Penelitian ini bertujuan menganalisis timbulan, komposisi, karakteristik, dan potensi daur ulang sampah SSRT serta memberikan rekomendasi sistem pengelolaan sampah SSRT. Sampling dilakukan selama delapan hari berturut-turut di Tempat Penampungan Sampah (TPS). Pengukuran timbulan dilakukan dalam satuan berat dan volume. Pengukuran komposisi dan potensi daur ulang dilakukan berdasarkan persentase berat basah. Pengukuran karakteristik fisika meliputi faktor pemadatan dan berat jenis. Pengukuran karakteristik kimia meliputi proximate analysis dan rasio C/N serta karakteristik biologi meliputi biodegradabilitas dan populasi lalat. Hasil pengukuran timbulan sampah SSRT didapatkan 0,379 kg/o/h dalam satuan berat atau 2,886 l/o/h dalam satuan volume. Komposisi sampah SSRT terdiri dari sampah sisa makanan 26,70%, sampah plastik 19,14%, sampah kertas 14,09%, sampah logam 11,02%, sampah lain-lain 10,20%, sampah tekstil 8,39%, sampah kaca 3,96%, sampah halaman 3,90%, dan sampah kayu 2,60%. Faktor pemadatan sampah 1,189 dan berat jenis 0,1282 kg/l. Proximate analysis terdiri dari kadar air 23,908%, kadar volatil 69,726%, kadar abu 3,769%, fixed carbon 2,597% serta rasio C/N 24,10, uji biodegradabilitas 58,14% dan populasi lalat 8 ekor/m<sup>2</sup>. Potensi daur ulang sampah SSRT rata-rata 68,07% dengan sampah yang dapat didaur ulang adalah sampah kertas, sampah plastik, sampah kaca, sampah kayu, sampah makanan dan sampah logam. Sistem pengelolaan sampah yang direkomendasikan adalah pengomposan sampah layak kompos, penggunaan kembali sampah guna ulang, penjualan sampah daur ulang ke lapak, dan pengangkutan sampah residu ke TPA.*

**Kata kunci:** *karakteristik, komposisi, potensi daur ulang, sampah sejenis sampah rumah tangga, timbulan*



## ABSTRACT

*In its operational activities, PT PLN (Persero) Power Plant Teluk Sirih generate household alike waste solid (SSRT) originating from administrative activities, garden improvement, canteen activities, and so on. This study aims to analyze the generation, composition, characteristics, and recycling potential of SSRT waste and provide recommendations for SSRT waste management systems. Sampling was carried out for eight consecutive days at the Waste Collection Site (TPS). The measurement of yield is carried out in units of weight and volume. Measurement of composition and recycling potential is carried out based on the percentage of wet weight. Measurement of physical characteristics included compaction factor and specific gravity. Measurement of chemical characteristics included proximate analysis and C/N ratio as well as biological characteristics including biodegradability and fly population. The measurement results for SSRT waste generation were 0.379 kilograms/person/day in units of weight or 2.886 liters/person/day in units of volume. The composition of SSRT waste consists of 26.70% food waste, 19.14% plastic waste, 14.09% paper waste, 11.02% metal waste, 10.20% other waste, 8.39% textile waste, glass waste 3.96%, yard waste 3.90%, and wood waste 2.60%. The waste compaction factor is 1.189 and the specific gravity is 0.1282 kilograms/liters. Proximate analysis consisted of 23.908% water content, 69.726% volatile content, 3.769% ash content, 2.597% fixed carbon and 24.10 C/N ratio, 58.14% biodegradability test and 8 flies/m<sup>2</sup> population. SSRT waste recycling potential averages 68.07% with recyclable waste consisting of paper waste, plastic waste, glass waste, wood waste, food waste and metal waste. The recommended waste management system is composting waste worthy of compost, reusing waste for reuse, selling recyclable waste to lapak, and transporting residual waste to TPA.*

**Keyword:** *characteristics, composition, generation, potential for recycling, solid waste type household waste*