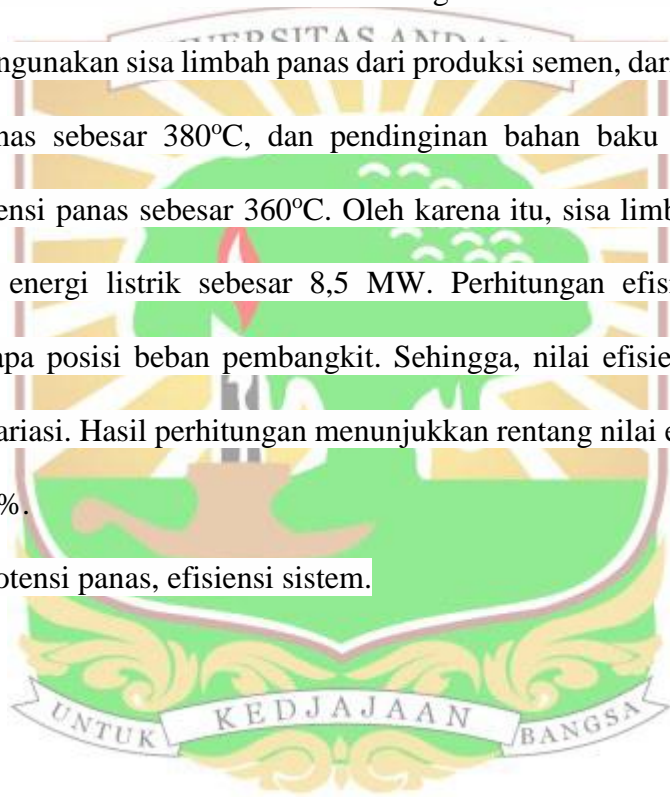


## Abstrack

Pembangkit Waste heat recovery power generation (WHRPG) di pabrik indarung V PT. Semen Padang menggunakan sisa limbah panas yang terbuang ke lingkungan. Pembangkit WHRPG ini prinsip kerjanya hampir sama dengan pembangkit listrik tenaga uap. Ada perbedaan yang mendasar dari kedua pembangkit listrik tersebut, yaitu: sumber bahan bakar. Pembangkit listrik tenaga uap menggunakan bahan bakar batu bara sedangkan Waste heat recovery power generation menggunakan sisa limbah panas dari produksi semen, dari preheater yang berpotensi panas sebesar  $380^{\circ}\text{C}$ , dan pendinginan bahan baku semen (clinker cooler, berpotensi panas sebesar  $360^{\circ}\text{C}$ ). Oleh karena itu, sisa limbah panas dapat menghasilkan energi listrik sebesar 8,5 MW. Perhitungan efisiensi dilakukan dengan beberapa posisi beban pembangkit. Sehingga, nilai efisiensi pembangkit WHRPG bervariasi. Hasil perhitungan menunjukkan rentang nilai efisiensi sebesar 12,42%-15,05%.

Kata Kunci: potensi panas, efisiensi sistem.



## Abstrack

Generating Waste heat recovery power generation (WHRPG), in the Indarung factory V PT. Semen Padang, use residual waste heat which discharged into the environment. The principle of work between WHRPG and electric steam power plants is almost same. The difference between of them is the source of fuel. The source of fuel electric steam power plant is coal while the source of fuel "Waste heat recovery power generation" is residual waste heat from cement production which has latent heat around  $380^{\circ}\text{C}$ , and the cooling process of cement raw materials which has the potential temperature about  $360^{\circ}\text{C}$ . Therefore, residual heat can produce electricity 8.5 MW. Efficiency calculations are done in several positions plant load. Thus, the value of generation efficiency WHRPG is varied. The estimates show the range of values of effectiveness is 12,42%-15,05%.

Keyword: Potential heat, system efficiency

