Alternatif captive power plant untuk mendapatkan energi listrik dengan biaya pokok penyediaan murah dan handal pada PT Semen Padang = Alternative captive power plant to obtain electrical energy at the lowest possible cost and reliable at PT Semen Padang

Pondy Tjahjono, author

Abstrak

[Kenaikan tarif listrik PLN sebesar 13% perdua bulan pada tahun 2014 berdampak bagi PT.Semen Padang yang mengandalkan pasokan utama dari PLN. Dampak kenaikan tarif adalah peningkatan biaya belanja listrik ke PLN untuk produksi semen sebesar 33,4%. Penelitian ini bertujuan untuk membangun model untuk mengetahui kelayakan pembangunan captive power plant pada PT. Semen Padang dengan tetap berpegang pada prinsip “good quality of energy at the lowest possible cost” untuk menurunkan belanja listrik. Model yang dibangun adalah metode deterministik dan probabilistik dengan simulasi Monte Carlo. Penelitian ini berhasil membuktikan hipotesis bahwa pembangunan captive power plant layak untuk dilakukan dikarenakan nilai dari NPV > 0 dan IRR > MARR, tetapi dari hasil perhitungan probabiitas resiko menunjukkan probabilitas mendapat NPV > 0 adalah 59.10% sementara probabilitas mendapat IRR > MARR adalah 55,78%, sehingga sebaiknya tidak dibangun pada saat ini menunggu menguatnya nilai tukar rupiah terhadap dollar Amerika.

.....Increasing of electricity tariff by 13% per two months in 2014 will impact to PT Semen Padang that rely on the main supply from PLN. The impact of the tariff increase is the increase in the cost of electricity to PLN for cement production by 33,4%. This research objective to build a model to determine the feasibility of the construction of captive power plant at PT. Semen Padang by sticking to the principle of "good quality of energy at the lowest possible cost" in order to reduce electricity cost. The model which will be built is deterministic and probabilistic methods by Monte Carlo simulations. This research was able to prove the hypothesis that the development of captive power plant is feasible because the value of NPV> 0 and IRR> MARR, but from the calculation of risk indicates taht the probability to get NPV > 0 is 59.10% while the probability to get IRR> MARR is 55.78% , so it should not be built at the time being waiting for the strengthening of the rupiah against the US dollar., Increasing of electricity tariff by 13% per two months in 2014 will impact to PT
Semen Padang that rely on the main supply from PLN. The impact of the tariff increase is the increase in the cost of electricity to PLN for cement production by 33,4%. This research objective to build a model to determine the feasibility of the construction of captive power plant at PT. Semen Padang by sticking to the principle of "good quality of energy at the lowest possible cost" in order to reduce electricity cost. The model which will be built is deterministic and probabilistic methods by Monte Carlo simulations. This research was able to prove the hypothesis that the development of captive power plant is feasible because the value of NPV> 0 and IRR> MARR, but from the calculation of risk indicates taht the probability to get NPV > 0 is 59.10% while the probability to get IRR> MARR is 55.78% , so it should not be built at the time being waiting for the strengthening

of the rupiah against the US dollar]