

Analisis Kelayakan Investasi Pembangkit Listrik Energi Bersih dan Terbarukan di Area Lahan Kosong Pembangkit Listrik Tenaga Uap Babelan = Analysis of Investment of Renewable Energy in the wasteland of Coal-fired Power Plant Babelan.

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Abstrak

ABSTRAK

Pembangkit Listrik Tenaga Uap Babelan dengan luas lahan 54 hektar area. Total 18,02 hektar lahan rencana pengembangan penambahan pembangkit di masa depan didalam area PLTU memiliki potensi sebagai pembangkit listrik energi bersih dan terbarukan. Penelitian ini bertujuan untuk mencari analisis akan kelayakan investasi dengan metode Capital Budgeting. Opsi pembangkit yang dipilih berdasarkan pertimbangan mempunyai porsi energi bersih dan terbaruka, meminimlaisir modifikasi infrastruktur dan penanganan bahan bakar. Didapatkan opsi Pembangkit Listrik Tenaga Surya (PLTS), Pembangkit Listrik Tenaga Uap (PLTU) bahan bakar campuran batubara dan Palm Kernel Shell (PKS) dan Pembangkit Listrik Biomassa (PLTBm) Palm Kernel Shell (PKS) dengan biaya investasi. PLTS sebesar US\$ 2.680.920,96/MW dengan payback period ditahun ke 1, BCR 0,14, NPV US\$ -624193,36, IRR -0,21, PI 0,98 Biaya investasi. PLTU bahan bakar campuran batubara dan palm kernel shell (PKS) sebesar US\$ 940.419,74/MW dengan payback period di tahun ke 7, BCR 1,88, NPV US\$ 96.820.090,27, IRR 8%, PI 1,74, discounted payback period ditahun ke 5,55. Biaya investasi PLTBm palm kernel shell (PKS) US\$ 1.565.751,02/MW dengan payback period ditahun ke 11, BCR 0,21, NPV US\$ -230.902.577,68, IRR -1%, PI -0,05, discounted payback period ditahun ke 9,94.

ABSTRACT

Babelan Coal-fired Power Plant with an area of 54 hectares of area. A total of 18.02 hectares of land planned for the future development inside the area of the PLTU has the potential for clean and renewable energy power plant. This study aims to find an analysis of the analysis of investment with the Capital Budgeting method. The power plant options selected are considered to have a portion of clean and renewable energy, minimizing infrastructure modification and fuel handling. Options are Solar Power Generation (PLTS), Co-firing coal and biomass palm kernel shell (PKS) Power Plant (PLTU) and Palm Kernel Shell (PKS) Biomass Power Plants (PLTBm) with an investment cost for PLTS US \$ 2.680.920,96/MW with a payback period in the first year, BCR 0.14, NPV US \$ -624193.36, IRR -0.21, PI 0.98 Investment costs for co-firing coal and biomass palm kernel shell (PKS) US \$ 940,419.74/MW with a payback period in year 7, BCR 1.88, NPV US \$ 96,820,090.27, IRR 8%, PI 1.74 , discounted payback period in the year 5.55. Investment costs for PLTBm palm kernel shell (PKS) US \$ 1,565,751.02/MW with a payback period in the 11th year, BCR 0.21, NPV US \$ -230,902,577.68, IRR -1%, PI -0.05 , discounted payback period in the year 9.94.