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Analisis Real Options Peningkatan Lifting Produksi Minyak Bumi di Indonesia = Real Options Analysis on Increasing Lifting Volume of Petroleum Production in Indonesia.

Mohammad Bilal Nuraziz, author

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Abstrak

Di Indonesia, energi migas masih menjadi pemasok kebutuhan energi utama dalam negeri. Sebanyak 37,56% Tingkat produksi minyak bumi dalam negeri hanya mencapai angka 746.000 bpd, jauh dibawah kebutuhan energi dalam negeri sebesar 1,8 juta bpd. Sumur produksi minyak di Indonesia telah memasuki usia akhir produksi. Strategi peningkatan pemulihan produksi minyak berupa penerapan teknologi enhanced oil recovery seperti EOR injeksi-CO2, well workover, dan infill drilling telah diajukan. Parameter penelitian difokuskan pada perbandingan peningkatan jumlah produksi lifting produksi minyak bumi terhadap biaya investasi tambahan diperlukan untuk melihat hubungan keekonomian. Hasil penelitian menunjukkan bahwa diperlukan total investasi sebesar US$ 30,61 juta untuk menerapkan ketiga teknologi tersebut sehingga mampu menambah total lifting produksi minyak sebesar 143 bbl/d. Analisis keekonomian menggunakan NPV menghasilkan NPV sebesar US$3,7 juta dengan IRR sebesar 25% untuk penerapan teknologi tersebut. Analisis menggunakan Cox, Ross, Rubinstein (CRR) dan Binomial Lattice menghasilkan valuasi proyek peningkatan kualitas sumur sebesar US$ 25,72 juta dibandingkan dengan metode NPV sebesar US$23,68 juta

.....In Indonesia, oil and gas energy is still the main supplier of domestic energy needs. As much as 37.56% The level of domestic oil production only reached 746,000 bpd, far below the domestic energy demand of 1.8 million bpd. Oil production wells in Indonesia have entered the final age of production. A strategy to increase oil production recovery in the form of the application of enhanced oil recovery technology such as CO2-injection EOR, well workover, and infill drilling has been proposed. The research parameters are focused on the comparison of the increase in the amount of oil production lifting production against the additional investment costs needed to see the economic relationship. The results showed that a total investment of US$ 30.61 million was required to implement the three technologies so as to increase the total lifting of oil production by 143 bbl/d. The economic analysis using NPV resulted in an NPV of US$3.7 million with an IRR of 25% for the application of the technology. Analysis using Cox, Ross, Rubinstein (CRR) and Binomial Lattice resulted in a project valuation of well quality improvement of US$ 25.72 million compared to the NPV method of US$ 23.68 million.