

Pengaruh spesifikasi gas jual terhadap keekonomian pemrosesan gas berkadar CO₂ tinggi

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Abstrak

Tesis ini menganalisis bagaimana pengaruh spesifikasi gas jual untuk memenuhi keperluan pembeli bahan bakar gas yang berbeda terhadap keekonomian pemrosesan gas berkadar CO₂ tinggi, seperti gas dari ladang gas X, dengan menggunakan teknologi membrane. Opsi spesifikasi gas jual yang dipertimbangkan adalah gas jual untuk pembeli dari LNG plant (15% mol kadar CO₂), fertilizer plant (20% mol kadar CO₂), power plant (30% mol kadar CO₂). Penelitian ini meliputi analisa kuantitatif terhadap indikator keekonomian dan analisa sensitivitas terhadap parameter yang berpengaruh terhadap keekonomian pemrosesan gas X. Hasil penelitian menyarankan bahwa opsi spesifikasi gas jual untuk fertilizer plant (20% mol kadar CO₂) memberikan indikator keekonomian terbaik dan paling tidak sensitif terhadap perubahan parameter yang berpengaruh terhadap keekonomian pemrosesan gas X.

The focus of this study is to analyze the impact of sales gas specification on the economics of membrane processing technology treating high CO₂ content gas to be applied by PT. Y to develop X Block Gas. There are three sales gas specification evaluated in the study i.e. feed gas for LNG plant (15% mole CO₂), feed gas for fertilizer plant (20% mole CO₂), and feed gas for power plant (30% mole CO₂). This study is quantitatively analyzing economic indicators and analyzing the sensitivity of major parameters such as gas price, operating expenditure, and capital expenditure affecting economics of processing of high CO₂ content gas from X Block. It is suggested that the option to produce feed gas for fertilizer plant (20% mole CO₂) gives the best result in terms of Net Present Value, Internal Rate of Return and Pay Back Period, as such option is not sensitive to parameters affecting the economics of X Block gas processing.