

Perbandingan karakteristik shale gas di Amerika dan Indonesia serta analisa keekonomian sistem kontrak shale gas di Indonesia =  
Comparison of shale gas characteristic in America and Indonesia and economic analysis of shale gas contract system in Indonesia / Febrian Ardiyanto

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Abstrak

**ABSTRAK**

Kebutuhan energi di Indonesia semakin meningkat dan cadangan gas alam semakin menipis. Indonesia memiliki potensi shale gas yang besar dan perlu dikembangkan. Pada tesis ini dibahas perbandingan karakteristik shale gas di Amerika dan Indonesia. Perbandingan perkembangan shale gas antara lain data eksplorasi, teknologi, infrastruktur dan sistem kontrak. Perbandingan karakteristik shale gas dari umur batuan, tipe endapan dan properti batuan menentukan kesuksesan hydraulic fracturing. Studi shale gas dilakukan di Cekungan Bintuni yang memiliki potensi Risked GIP 114,3 TCF dan TRR 28,6 TCF. Profil produksi shale gas menggunakan metode penurunan hiperbolik dan perkiraan biaya investasi berdasarkan data di Amerika dan Indonesia.

Analisa keekonomian shale gas di Cekungan Bintuni menunjukkan sistem konsesi lebih menarik dibanding sistem PSC bagi perusahaan. Nilai IRR maksimal sistem konsesi sebesar 16,57% sedangkan IRR maksimal sistem PSC dengan porsi bagi hasil 55%:45% sebesar 15,8%. Pemberian insentif Tax Holiday selama 5 tahun pada sistem PSC porsi bagi hasil 55%:45% pada tipe sumur penurunan sedang memberikan IRR 14,04% dan pemasukan bagi negara \$720 juta selama 20 tahun masa produksi

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**ABSTRACT**

Indonesia's energy demand increases otherwise natural gas resources diminish. Indonesia has big shale gas resources and need to be developed. This thesis compares shale gas in America and Indonesia. Comparison of shale gas development includes exploration data, technology, infrastructure and contract system. Comparison of shale gas characteristic such as source rock age, depositional type and property of rock determine hydraulic fracturing successes. Shale gas study performed in Bintuni basin with 114,3 TCF Risked GIP and TRR 28,6 TCF. Production profile shale gas using hyperbolic decline curve method and investment cost based on America and Indonesia data.

Economic analysis of shale gas in Bintuni basin shows that concession system more attractive than PSC for company. The best IRR concession system

was 16,57% and PSC system was 15,8% on 55%:45% profit split. The present of tax holiday incentive for 5 years using 55%:45% profit split on medium decline rate wells results IRR 14,04% and \$720 million for Government of Indonesia during 20 year production lifetime.