Kelayakan teknis dan ekonomi pemanfaatan compressed biomethane dari limbah cair kelapa sawit = Technical and economical feasibility of compressed biomethane from palm oil mills effluent

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Abstrak

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Paradoks kondisi Sumatera Utara selain sebagai penghasil minyak dan gas juga merupakan provinsi ke-2 terbesar produsen kelapa sawit yang saat ini sedang mengalami krisis energi listrik. Paradigma perhitungan jumlah potensi dari limbah cair kelapa sawit (POME) sebesar 94 MW di Provinsi Sumatera Utara yang seakan-akan bersifat terpusat, kenyataannya besar potensi tersebut tersebar dan umumnya terletak di kawasan remote area sehingga umumnya menjadi tidak ekonomis untuk membangkitkan energi listrik dari lokasi tersebut dan disalurkan kepada pengguna. Alternatif skenario lain yang lebih layak adalah pemanfaatan limbah cair kelapa sawit (POME) menjadi compress biomethane yang dapat digunakan sebagai bahan bakar untuk berbagai kebutuhan yang memiliki tingkat probabilitas kelayakan NPV>0 sebesar 94,87% dan IRR>suku bunga sebesar 95,18% lebih tinggi dibandingkan skenario pemanfaatan dalam bentuk listrik.
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ABSTRACT
The paradox of North Sumatra conditions other than as a producer of oil and gas is also the 2nd largest provincial producer of palm oil is currently experiencing a power crisis. Paradigm calculation of the potential amount of palm oil mills effluent (POME) by 94 MW in the province of North Sumatra that seemed to be centralized, in fact great potential spread and are generally located in remote areas that generally becomes uneconomical to generate electrical energy from the site and distributed to users. Another alternative scenario more feasible is the use of palm oil mills effluent (POME) into compressed biomethane which can be used as fuel for various needs that have a probability level of feasibility NPV> 0 by 94.87% and IRR> interest rate of 95.18% higher than the utilization scenarios in the form of electricity., The paradox of North Sumatra conditions other than as a producer of oil
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