

Financial aspect for feasibility study of geothermal business development project to support clean development mechanism in Indonesia

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Abstrak

[ABSTRAK

Industri Geothermal di Indonesia merupakan Industri yang Emerging karena Regulasi Pemerintah yang tertuang dalam Perpres No. 5 tahun 2006 mengenai Kebijakan Energi Nasional. Terlepas dari itu dampak kenaikan harga minyak dunia, meningkatnya subsidi yang diberikan, ketergantungan terhadap BBM impor serta faktor-faktor lingkungan dan global turut memberikan peluang bagi industri ini untuk tumbuh.

Kebijakan Energi Nasional itu sendiri mengisyaratkan peningkatan penggunaan Energy Mix yang berasal dari sumber-sumber yang terbarukan termasuk didalamnya Panas Bumi (Geothermal). Dengan demikian diperlukan suatu studi kelayakan untuk menilai usaha dalam mengembangkan industri ini.

Berdasarkan analisis, pengeluaran modal yang dibutuhkan adalah sebesar USD 304,450,0.

Dengan rasio hutang terhadap modal adalah 70:30. Biaya modal adalah 10,9%, yang didefinisikan sebagai discount factor. Analisis NPV akhir sebesar USD 35.571.740 tanpa CDM Insentif dan USD 47.241.590 dengan CDM Insentif, kesimpulannya adalah bahwa pembangunan proyek panas bumi usaha ini layak dan diterima. Kenaikan NPV berkisar antara 15% sampai dengan 34%, peningkatan IRR berkisar antara 9% sampai dengan 24%, penurunan PP berkisar antara 14% sampai dengan 40%, dan peningkatan PI adalah 5%. Peningkatan nilai ekonomi ini dihasilkan oleh Pendapatan Carbon sebesar USD 6.927.000/y dari pengurangan emisi sejumlah 628.392 tCO₂/y.

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ABSTRACT

The development of geothermal industry in Indonesia represents the emerging phase, because of the impetus of government regulations which is decanted in President Decree No. 5 year 2006 about National Energy Policy. Increase of the world oil price, increase of fuel subsidy budget, dependence on import for fulfilling domestic fuel demand, and also global and environmental factors partake to give opportunity for this industry to grow. National Energy Policy itself beckoned to evolve the growth proportion of Energy Mix that coming from renewable resources. One of the potential renewable resources energy is Geothermal. Therefore it is necessary to exercise a feasibility study to assess the effort for developing this industry.

Based on the analysis, the capital expenditure needed is amounting to USD 304,450,0.

The debt to equity ratio will be 70:30. The Cost of Capital is 10.9%, which is defined as the discount factor. The final NPV analysis of USD 35,571,740 without and USD 47,241,590 with CDM Incentives, thus the geothermal business development project is feasible and accepted. The NPV increment is ranging from 15% up to 34%, the increment of IRR is ranging from 9% up to 24%, the decline of PP is ranging from 14% up to 40%, and the PI increment is 5%. The increment of economic value of the geothermal project business development is generated by the proceed of Carbon Revenue amounting to USD 6,927,000/y from the

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