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Influence Policy and Fitness State Electricity Company (PLN) Investment Business Generation

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Abstract

The purpose of writing this article is to describe the effect of the acquisition of financial imbalance between the IPP and PLN benefits and there are opportunities opportunity income or cost savings that have accrued PLN to push subsidy burden and strengthen financial performance, marginal cost pricing. The method of analysis used in the writing of this article is to approach the time value of money, and the marginal cost pricing theory. The results of the data analysis is the power plant investment capital structure consists of 30 % equity and 70 % owner of bank financing. Grace period of 3 years during construction of the project , PLN Wisdom on power purchase rates were higher in the early stages of the IPP is helpful in solving their financial obligations , and providing significant financial benefits , especially after the debt is paid off . , PLN to obtain financial benefits a relatively small than getting an IPP , but PLN obtain social benefits in the form of the image of the company , PLN has the opportunity to optimize the income opportunity or cost savings , especially against the new contract period to come , PLN can optimize the potential income opportunity or cost savings through improvement of the model calculations , the purchase price policy changes and establishment of schemes that generate financial benefit balance of the parties .

Keyword: Capital budgeting, cost of service, prcing policy

1. Introduction

Statistical data reported national electricity Director General of Electricity and Energy Development or LPE shows the ratio electrification or Indonesian people who have enjoyed power in 2008 until the year 2012 increased quite drastically. Year 2008-2009 electrification ratio recorded 65.1 % and 65.8 % or an increase of approximately 0.7 % . The low electrification ratio shows that Indonesian people are still many who do not have power. Recognizing this , in 2009 began to take steps to increase the generating capacity of large-scale construction project known as the 10,000 MW power plant or an increase of about 40 % compared to the existing generation capacity during the period amounted to 25 636 MW (PLN Statistics , 2012) . Furthermore, PLN to service customers waiting list and the addition of a large scale that starts with a new splicing million a day on the anniversary of PLN October 27, 2010. Of these policies, 2010-2012 electrification ratio began to increase with the achievement of each of 67 , 2 % , 72.9% and 75.8 % . The problem that arises is PLN facing financial difficulties in realizing the construction of the 10,000 MW power plant, and a source of investment funds from the state budget cannot be obtained, because the burden of subsidy borne by the government is getting heavier and increased sharply over time .

To meet the needs of the target of 10,000 MW of generating capacity , or independent power producers or IPPs purchasing power given the opportunity to build a power plant , and the PLN provide support in terms of , first the whole production will be purchased by PLN , the purchase price of PLN's power from private companies established a two-stage , which is the first stage of the purchase price is higher tailored to the needs of cash for the payment of the mortgage debt , interest on loans and working capital , then in the second stage after the bank loan is paid off , the purchase price is lower , and the third investment eligibility is determined at the level of the internal rate of return or IRR particular , as well as a reference in

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determining the purchase price of electricity to be paid by PLN discretion of the purchase price , the PLN coined an important role in helping to run the business feasibility generation IPP , and produces benefits for the parties . Operationally , the PLN is able to enhance the positive image of the service system , especially in terms of , first set up the system of supply through adequate generation capacity , both tackle rapidly rotating blackouts or power crisis in several lie within the region through the rental of construction machinery pending completion of generation , and the third meet demand electric power in a planned manner through efforts to achieve the electrification ratio target based on the program that is 100 % 75/100 Indonesian people have access to electricity in the 75th anniversary of independence in 2020. Wisdom PLN to purchase a two-stage tariff system is very attractive to the private sector or as exciting investor of the banks to prepare funding and demand by the industrial power plant engine maker mainly from China . Wisdom PLN is very supportive of the business managed IPP generation , because the investor will receive the benefit , in terms of the first , its own funding or equity investors only about 35 % , with the remaining 65 % of banking debt . Bank debt is indirectly paid by PLN through the wisdom of purchasing a higher rate in the early stages , thereby easing the burden of the IPP investors . Second , the wealth of the IPP investors grow significantly , about 35 % of the original value of the assets to 100 % after the debt is paid off years to 7 or 8. Third , the IPP to avoid the risk of operational liquidity problems because the purchase has calculated rates of return on investment or cost of component A , charge maintenance - fixed or B component , the cost of fuel or a component C , and maintenance costs - variable or component D. Fourth , after the debt is paid off , the IPP opportunity to expand the existing capacity at least equal to , and from the banks more attractive than the initial conditions due to historical factors of success and wealth accumulation that further strengthen the IPP collateral . Fifth , after the debt is paid off , the IPP gain margin significantly during the remainder of the contract period of about 22 years in the future , because the investment of 30 % has returned to 100 % at the time the debt is paid off in the eighth . Behind the wisdom of the treatment system of the power purchase rates , PLN coined bargaining position to obtain financial benefits opportunities to help ease the burden of operational costs , strengthen liquidity and ease the burden on the state budget subsidies . Financial benefit is the opportunity to earn income (income opportunity) or cost savings (cost saving) , which can be generated through a variety of alternatives that can be considered , the first alternative

perform calculations tariff adjustment after the debt is paid off According IPP contribution towards repayment PLN approximately 65 % of the investment value, Because The owner 's equity is only about 35 % of the investment value. The second alternative , a flat rate or averages calculated over the age of about 30 years of economic investment , then the excess over the purchase of fee payment to the debt-to PLN after IPP repay bank debt 8th year . The third alternative , the contribution of PLN on the settlement of financial liabilities as a share of PLN , IPP compensated over possession after the debt is paid off IPP 8th year . The fourth alternative , Accelerate the takeover of IPP by PLN for example , 10 years after the bank loan is paid off . The fifth alternative , after the bank debt is paid off 8th year , the rate of component A is eliminated and instead calculated a reasonable margin on certain or a number in the balance as the IPP . Based on the description above , the first problem is the discretion whether it Provides the balance of the purchase price of the acquisition of the financial benefit of the parties ? , Secondly Whether the PLN has the opportunity to optimize the income or cost savings, given its bargaining position ? , Of Reviews These problems , the purpose of this analysis is assessed the effect of the price policy to the financial benefits of PLN party Click or call now and analyzes the opportunities PLN Obtain benefits or reduce operating costs to Strengthen the financial performance or reduce the burden of state budget Subsidies.

2. Literature Review and Research Hypothesis

The hypothesis proposed in this study is predicted to gain a financial imbalance between the IPP and PLN benefits and there are opportunities opportunity income or cost savings that have accrued PLN to push subsidy burden and strengthen financial performance . To prove the hypothesis and conduct an analysis of the problem , the relevant literature approach is needed investment decisions , pricing policy , and comparison to previous research findings

Investment

To find out the balance of the financial benefits , the initial step that needs to be done is to analyze the financial feasibility of investments managed by the IPP generation . In theory, according to Willem FS (the " Feasibility Study of Industrial Projects " by Kashmir and Jafar , in October 2009 , P.4-6) (1) , states that investment dollars are sacrificing now for the dollar in the future . From this definition contains two important attributes , the risk and the time limit . Sacrificing a certain amount of money when investing , expects a return on investment with the expected future profits coming . Sacrifice now contains the assurance that the investment is definitely excluded , but the results are coming future is uncertain , depending on the condition of a period to come . In practice , investments consist of investments or a real estate investment is an investment in the form of fixed assets and financial investments or financial investment is an investment in shares , obligation , and other securities . Investments can also be interpreted as an investment for an activity that has a relatively long period of time in a variety of business fields . While the project is defined as activity that involves various resources gathered in organization or company to achieve certain goals that have been set previously . Furthermore , according to Soeharto in his book Faith Project Feasibility Sudi (2002 , P.17-18) (2) , states that the eligibility criteria for private project owners put on the financial and economic aspects , while the government uses broader criteria such as economic growth , welfare community , and also to encourage private initiative . In addition, eligibility also depends on the type of project , the greater the larger the scale of the project funds will be planted, so the increasingly wide range of dn more in the nature of the review . The study was conducted to determine that the project is profitable when compared with the operating funds that will be issued . Besides, it is also reviewing other aspects such as marketing , technical and engineering , legal , environmental impact and other important because it is likely to give input on issues of economic, financial and projects - investment wisdom price

Pricing policy should consider the structure of costs and other factors that affect the achievement of the company targets to be achieved . This is relevant to the views expressed by Rajan Saxena (2009) (3) , and Walter Nicholson (1995) (4) ,. Meanwhile, according to Philip Kotler and Keving Lane Keller in his book Marketing Management (2012 , P.404 - 432) (5) , states that .... in setting pricing , a company follows a six - step procedure ; (1) selecting the pricing objective . Five major objective : survival , maximum current profit , maximum market share , maximum market skimming , and product quality leadership. (2) determining demand , price Click or call now will lead of demand and have a different impact on the company's marketing objectives . (3) Estimating costs, (4) analyzing competitors ' costs, price and offers . (5) selecting a pricing method ; markup pricing , target -return pricing , perceived -value pricing , value pricing , going- rate pricing , and auction pricing . (6) selecting the final dishes, in the selection that price , the company must consider additional factors ; Impact of other marketing activities , company pricing policies , the going - and- risk- sharing rpcing , and the impact of price on other parties .

Results of Previous Studies

The results of the study are relevant to this study include a study by Aminullah Assagaf (July 2009 , P.267-284) (6) , in his book " Generation Investment Feasibility Analysis - Applications , Steam Power Plant " . Analyses were performed with the projection -based approach to financial cash flows and realistic assumptions , the results of the calculation (a) Net Present Value or NPV , indicating that the coal power plant investment is quite feasible with the level of NPV $\geq$ 0 Rp 3,194,112 million . (b) Benefit cost ratio or B / C ratio is feasible with a level B / C $\geq$ 1 1.63 . (c) Internal Rate of Return or IRR qualify worthiness IRR (15.94 %) $\geq$ cost of capital (11 %) , and (d) Modified internal rate of return , or MIRR MIRR meet eligibility requirements (15.31 %) $\geq$ cost of capital (11 %) . Furthermore , by Aminullah Assagaf (2014, P5-9) (7) , in his study of The Financial Management PLN - Today and the Future , argued that the contract for the purchase of electricity from IPPs in 2012 has reached approximately 25 % of the total kWh of production , should be opportunities for PLN earn income opportunity or cost saving

3. Research and Methodology

The Data Required

To perform the analysis associated with the wisdom of the purchase price of electric power, financial benefits and feasibility of power generation investments , the necessary data in this study include matters relating to (a) the investment costs of steam power plant (power plant) , capacity will be built , construction period , and age of economic investment , (b) structure capital , (c) interest , loan repayment period , and the distribution of dividends , (d) capacity factor or the capacity of the power plant is used to produce a kWh , production , own use , and sale of kWh (e) consumption and the price of coal , (f) the maintenance , the cost of spare parts and maintenance services , (g) the costs and number of employees , (h) the cost of administration and general , (i) for the purchase of of electricity , tariff calculation component , term of the contract and the wisdom of its application , (j) the feasibility of investment , IRR stipulated period of the PLN and power purchase contracts in order to attract investors , and (k) the wisdom of a power purchase contract between PLN private power companies . And to facilitate the calculation , required several assumptions , namely (a) the exchange rate of USD against the USD , (b) production at a stable operating conditions without interference or installations which means , (c) the purchase price of coal through long-term contracts for stability material prices fuel and coal supply certainty as needed , (d) components of rates and business costs using a base of USD , so the change in the USD exchange rate will be followed equally by changes in income and expenses , (e) establish the feasibility of PLN power plant investment in certain IRR to help performance financial private power company , and (g) dividend payment made after repayment of bank debt by the IPP .

Method of Analysis

Approach the Time Value of Money

To determine the level of financial benefits made IPP generation investment , the approach can be used time value of money which the cash inflow and cash outflow are rated according niali now and then determined its feasibility . For investment appraisal and formulation used in the approach of the time value of money is as stated by Aminullah Assagaf (2011) , Bambang RJ (2008) (8) ,, Generous Sjahrial (2010) (9) ,, Suharto Faith (2002) , Rosavi Hossain (1996) , Indriyo Gitosudarmo and Basri (2008) , Irham Fahmi (2014) (10) ,, TE Copeland and JF Weston (2010) (11) ,, LJ Gitman and Zueter CJ (2012) (12) , Lukman Shamsuddin (2013) (13) ,, Pauline Weetman (1999) (14) ,, Suad Husnan (2010) and Suliyanto (2010) (15) ,. Relevant to the assessment of the investment , according to Arthur J. Keown , John D. Martin , J. William Petty , and David F. Scott in his book Financial Management : Principles and Applications (2008 , P.301-323) (16) ,, suggests that in order to decide the investment proposal is acceptable , taking into account the criteria used time value of money , namely (a) the net present value or NPV , (b) profitability index (PI) or a benefit cost ratio or B / C ratio , (c) internal rate of return or IRR , and (c) the modified internal rate of return , or MIRR . Formulation of investment appraisal as references mentioned above are basically the same, which as noted Eugene F. and Phillip R. Daves Brogham in Intermediate Financial Management (2007 , P.396-479) (17) , below ,

(a) Net Present Value (NPV),

$$\text{NPV} = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \cdots . + \frac{CF_n}{(1+r)^n} - \text{Initial Cost}$$

$$NPV = CF_0 + \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \cdots . + \frac{CF_n}{(1+r)^n}$$

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}$$

(a) *Profitability Index (PI)* atau *Benefit cost ratio (B/C ratio),*

$$\frac{PV\ of\ future\ cash\ flows}{Initial\ cost} = \frac{\sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}}{CF_0}$$

(b) Internal Rate of Return (IRR),

$$CF_0 + \frac{CF_1}{(1+IRR)} + \frac{CF_2}{(1+IRR)^2} + \cdots . + \frac{CF_n}{(1+IRR)^n} = 0$$

$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+IRR)^t} = 0$$

(c) Modified Internal Rate of Return (MIRR),

$$\sum_{t=0}^{n} \frac{COF_t}{(1+r)^t} = \frac{\sum_{t=0}^{n} CIF_t\ (1+r)^{n-t}}{(1+MIRR)^n}$$

$$PV\ of\ costs = \frac{Terminal\ value}{(1+MIRR)^n}$$

$$PV\ of\ costs = PV\ of\ terminal\ value$$

where ; initial investment , the cash inflows of 1 to n , r the discount rate , t the period from 1 to n , and the terminal value as cash inflows to be received after the period ended operation . Based on the criteria mentioned investments , investment plans can be declared eligible if they meet the requirements (a) the net present value or NPV ≥ 0 , (b) profitability index or the B / C ratio ≥ 1 , (c) internal rate of return or IRR $\geq$ cost of capital and (d) modified internal rate of return or cost of capital $\geq$ MIRR .

b. Theory Approach to Cost

Understanding of the cost structure is very important in assessing the load to be taken into account in the investment worthiness indicators Calculation and determination of the transaction price . An understanding of the theory of critical costs in the company's operational decisions as expressed in the writings of Aminullah Assagaf (2008) (7) ,, EJ Douglas and Scott Callan (1995) and JM Perloff (2001) . (18) , In that connection, it is to assess and evaluate the accuracy of the pricing policy that occurs in the sale and purchase of electricity between PLN and IPPs , MKA theoretical basis used is the cost approach theory. In the calculation of the cost for purchase price policy , the need to distinguish between variable costs (VC) or variable cost and fixed cost (FC) or a fixed fee . Variable costs , costs associated with the volume of production or sales volume . The more the greater the resulting production costs, fixed average variable cost (AVC) or the average variable costs are cash or fixed . While fixed costs , costs associated with any period of time or fixed and not related to production volume sales one . The increase in the volume of production or sales do not affect the amount of fixed cost , but the average fixed cost or (AFC) or the average fixed costs will be smaller when the volume of production or sales increases. Cost structure formulated in the following equation ,

$$TC = FC + VCQ$$

Where, TC total costs , fixed costs and VCQ FC : variable costs per unit

c. Marginal Cost Pricing Approach

One theory of cost -based approach that can be used at the discretion of the business rates based on the cost of services such as electricity and the other is through marginal cost pricing approach . This approach reflects the relationship between marginal cost with marginal revenue or MC MR will establish the optimal conditions for maximum gain or loss or minimum . MR as a function of TR down established by the price or quantity of P and Q. In sales or market structure that is controlled by government policy , the cost curve is horizontal P is equal to the MR curve . So the price of the optimal conditions balance formed at the point P =

MR = MC or known by the price that goes along the curve MC or referred to as the marginal cost pricing , and produce maximum profit or minimum loss

4. Result and Discussion

Research Data

Of financial data and assumptions used in this study refers to the results of observations , interviews , secondary data and previous studies , as mentioned above (Aminullah Assagaf 2009 and 2014) (7) ,. The data are processed in a projection format of financial statements for investment

age, so as to facilitate the presentation of the cash inflow and cash out annual flow , describes the free cash flow , debt and interest to be paid . Describe the amount of cash inflow in the form of cash operating expenses and operating income as a result of the investment. While the initial cash outflow reflects the investment or the total cost incurred during the preparation of this investment , including interest during construction or during constraction interest or IDC . Technical preparation , types of data and assumptions are required in preparing financial planning is important to consider the company as expressed by Kashmir (2010) and Sri Dwi Ari Ambarwati (2010) . Research data used in this study include (a) a 600 MW power plant investment costs for USD700.000.000 or USD 1,166,667 per MW , equivalent to USD 11 317 million per MW , assuming the exchange rate of Rp 9,700 per USD refers to the time of decision making electricity purchases , (b) power plant construction period of 3 years , (c) age 30 years economical power plant investments , (d) in accordance with the capital structure of the banking requirements 35 % of the value of the investment financed by equity, the remaining 65 % financed by bank credit , (e) interest on bank loans accounted collectively credit portion of the USD and the rupiah by calculating weighted average cost or WACC of 8% , (f) a reference to reinvest rate using the risk free return (Rf) plus a calculated risk investments to choose alternatives to reinvest 10 % , (g) the term of repayment of bank loans 8 years with a grace period of 3 years during the construction of the power plant , or installment payments and interest begin do after operation commercial or COD , (h) or CF capacity factor used according to the ability of normal power plant power plant by 80 % , (i) the 4204 production year . 800 MWh with the calculation : (capacity of 600 MW power plant) x (8,760 hours of operation per year or 24 hours multiplied by 365 days in a year) x (CF 80 %) , and (j) itself kWh usage by private power companies 3 % , so the kWh sales 4,078,665 MWh per year with the calculation : (production of 4.2048 million MWh) x (100 % - 3 %) , (k) coal consumption of 0.466 kg per kWh sold, the rest due to the inefficiency factor load generators into electric company private or not taken into account in the calculation of the rate to be paid by PLN . Consumption of 1,899,272 tons of rock each year with the calculation : (4,078,665 MWh) x (0.466 kg per kWh) . The price of coal per ton of USD 920 486 , so the cost of coal to Rp 1,748,253 million per year , or the following calculation: (a coal consumption of 1,899,272 tons per year) x (price of USD 920 486 per ton of coal) , (l) the maintenance of plant machinery installation taken into account in the rate constant load maintenance category (component B) 0.312 USD or USD 30.26 cents per kWh and maintenance of variable load (component D) 0,101 USD or USD 9.79 cents per kWh . For the calculation of the cost of business in the group according to the projected net income (loss) , then the cost of maintaining a constant load of 100 % is assumed as maintenance costs , while maintenance costs are assumed variable load 40 % of maintenance (0.04040 USD or USD 3.92 cents per kWh) , 35 % of personnel costs (0.03535 USD or USD 3.43 cents per kWh) and a 25 % administration fee (0.02525 USD or USD 2.44 cents per kWh) , (m) the purchase price of electricity by PLN 7,897 USD cents per kWh to the cost -sharing element of payback or component A USD 3.065 cents , the cost of maintaining a constant load element or component B USD 0.312 cents , the cost of fuel elements or components C 4.419 cents USD , and the element of cost maintenance cent to USD 0,101 a variable load , (n) power purchase contracts assumed in accordance economical 30 years of age , after which it can be done if the negotiations are still generating decent installation operations , (o) the feasibility of private power company investment is assumed at 11 % IRR who meet eligibility requirements or greater than the cost of capital or WACC of 8% , (p) PLN wisdom related to determination

of the purchase price of electricity in two stages , the first stage is higher to help pay off the mortgage debt IPP lending , the second phase of the IPP lower after debt is paid off .

b. The effect of price policy to financial benefits

Based on research data and assumptions used , the following calculation results obtained , the first calculation is based on the value of the investment project in the project capital expenditure is calculated entirely as a project or expenditure of money by investors so that the resulting rate of return reflects the rate of return on cash out flow feasibility as an overall good source of funds from investors and bank financing . The calculations show IRR 10.19 % are feasible for larger of the cost of capital of 8 % . Second , an assessment based on their own capital or equity financing that is assessing the feasibility rate of return capital investment for the owners . The rate of return based on equity is more feasible than the first , and the smaller contribution of equity capital because the results are more feasible payback speed owners . As a comparison, based on the equity IRR of 13.10 % obtained greater than 13.10 % calculation based project . If the relevance of the aspects of buying and selling and purchase of electricity between PLN and the IPPs more precise calculation of equity based on the grounds that investors only invest its capital by 35 % , so it is natural that the return on investment is calculated according to the amount of capital paid by the owner . The results of the comparison of financial benefit of the parties indicate that the PLN obtain financial benefits for buying electricity cheaper than using fossil fuels , and the IPP to obtain a return on investment significantly as previously described , namely (a) obtain a return on its original equity investment 35 % to 100 % , (b) be free from the burden of debt servicing and repayment risk because interest rates are higher, (c) able to expand its business at least equal to the capacity exist in because it has a stronger colletaral . Based on the financial benefits indicates that there is an imbalance between the acquisition of the financial benefits of PLN with the IPP , but when viewed in the economy then the cooperation has created a positive image for the PLN because it has managed to improve the national electricity service

Hasil Perhitungan Indkator Kelayakan

Base	MIRR	IRR	B/C	NPV	Finacial rate = COC	Reinvest rate
- Project	10,00%	10,19%	1,25	1.460	8,00%	10,00%
- Equity	11,46%	13,10%	2,05	2.313	8,00%	10,00%

Determination of the purchase price by the company did not refer to the cost structures that make up the cost of production or cost of goods sold either with a full costing method nor variable costing as was common in the business world . In the practice of cost -based pricing of services more relevant when using marginal cost pricing , where the pricing will generate the maximum profit or minimum loss . To achieve a balance among PLN and IPP should use cost -based pricing theory , but if there is a desire to help the company overcome liquidity problems IPP over a period of repayment of financial obligations , then calculation can be done with a variety of financial scenarios for example through debt or ownership to PLN PLN will taken into account after the bank debt is paid off 8 years .

c. Income Opportunity or Cost Saving

In exchange for the sale and purchase of electricity , PLN has the opportunity to earn income or cost saving opportunity for the position especially PLN as a single buyer that has a stronger bargaining position than the IPP . Given the scale of profitability generated by the IPP PLN should have the ability to optimize these opportunities , but the reality is still far from the level of fairness . Past management decisions should assess these opportunities more carefully , so that opportunities can be optimized only on transactions that have not been contracted . With the equity approach , the IPP is able to obtain the NPV of USD 2.313 billion , but the project approach produces only Rp 1,460 billion . The difference in the approach proves that the IPP and PLN calculations that use the base project , it reduces the income opportunity or a cost saving opportunity for PLN .

d. Alternative Solutions

Anticipating the possibility of the purchase of electricity from IPPs , the PLN should have a model that takes into account the investment feasibility analysis for a balance of financial benefit each party . The model is more realistic and relevant to this transaction is equity -based calculations . It should be considered as an opportunity for the benefit of financial gain is the amount of PLN reasonable rates for the age of 30 years of investment , then consider the contribution of PLN at the discretion of the IPP rates that can help pay off financial obligations. The above considerations can be formulated to achieve a balance point of profitability of the parties , especially to the new contract period to come .

5. Limitation of Study and Conclusion

Conclusion

Based on the results of research and analysis above , the following is summarized as follows ,

a. Power plant investment capital structure consists of 30 % equity and 70 % owner funding banking . Grace period of 3 years during construction of the project, then the payment of the debt and interest are started when the operation till the time limit of 8 years .

b . Wisdom PLN on power purchase rates were higher in the early a stage very helpful in resolving the IPP financial obligations , and providing significant financial benefits , especially after the debt is paid off .

c . PLN to obtain financial benefits, which are relatively small compared to the gain of IPP , but PLN obtain social benefits in the form of better corporate image in the eyes of consumers as to improve services .

d . PLN has a chance to optimize income or cost saving opportunity , especially against the new contract period to come .

e . PLN may optimize potential income opportunity or cost savings through improvements calculation models , change of policy determination of the purchase price and the balance of financial schemes that generate benefits both parties.

Limitation of Study

In this study there are some limitations , especially in the research data and assumptions from time to time may change due to various factor . This study is limited in revealing the background of management thinking in the decision against the interests especially financial benefits for PLN . This study has not perfect , so it needs further study to obtain a more complete picture of the cooperation between PLN and IPPs

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