Journal of Energy Technologies and Policy
ISSN 2224-3232 (Paper) ISSN 2225-0573 (Online)
Vol.5, No.12, 2015

The Effect of Human Resource Capacity towards Performance of Electrical Energy Policy and Its Impact on Outcomes of Electrical Energy Policy Based on Regionalization in Indonesia

Sumanggar Milton Pakpahan[1] Abdul Hakim[2] Andy Fefta Wijaya[2] Irwan Noor[2]
1 Doctoral Student, Faculty of Administrative Science, University of Brawijaya, Indonesia
2 Lecturer, Faculty of Administrative Science, University of Brawijaya, Indonesia

Abstract
This study aims to examine the determinants of performance of electrical energy based on regionalization policy and their impact on the outcomes for the general public and to test the electrical energy policies performance impact towards the outcomes ofelectrical energy policy. This research was located in Indonesia in 2015, with a base of electrical energy policy in national scale. The research was conducted in 6 PLN working area that includes the Regional I: Sumatra, Region II West Java, Region III: East Java, Regional IV Kalimantan, Regional V: Sulawesi and Nusa Tenggara, Regional VI: Papua and Maluku. The analylitical tool used is the Structural Equaiton Modeling (SEM) for testing the structural model, and ANOVA (Analysis of Variance) for testing the difference for each region. The research show (1) There is a positive relationship between human resource capacity to performance and outcomes of electrical energy policy. The better human resource capacity, the better performance of electrical energy policy, and the better outcomes of electrical energy policy. (2) There is a positive relationship between performance of electrical energy policy to outcomes of electrical energy policy. The better performance of elctrical energy policy, the better outcomes of electrical energy policy. The organizational structure of PT PLN (Persero) that supports the regionalization policy is to prevent a slowdown in the process of completion of construction projects, problem solving and customer service operations. This regionalization policy needs to be organized well in which the Director is responsible based on job function and be responsible for the operational and business.
Keywords: Human Resource Capacity, Performance of Electrical Energy Policy,

1. Introduction

Each day, today's energy needs is increasing. The increase is in line with the increasing of population and industrial growth, no doubt, energy needs metaphorically just like a snow ball's that continues to grow. The essential energy that's needed today and in the future is electrical energy. This energy can also be said to have become an integral part of the needs of people's daily life. But admittedly, the implementation of the provision of electrical energy by PLN (Persero), as the official agency designated by the government to manage the problem of electricity in Indonesia, is not easy. Until now, PLN is still not fully answer the electricity needs of the community.

The causes are diverse. For example, the geographical condition of Indonesia which consists of thousands of islands. As Indonesia is an archipelago country, clearly it's showed its own difficulties. Moreover uneven electricity centers, the low level of demand for electricity in some areas. On the other hand, the high marginal cost of electricity energy supply systems development could be another cause to the problem of electricity in the country.

From the internal side of PLN, there is a problem of the limitation of financial capabilities also are factors inhibiting the provision of electrical energy on a national scale. Equally important is the energy derived from fossil fuels becoming increasingly long decline, especially in terms of quantity. Currently, that is still the "backbone" of energy in Indonesia is petroleum. Of course, that is a mainstay of this should not be forever. A time will reduce it and then discharged. To overcome the dependence on fossil energy use is especially petroleum. In addition, it needs to be studied further, what other energy that could become an alternative.

Indonesia with a very wide region, predicted by many parties to have the potential of electricity and energy that are not little. In west part of Indonesia today, electrification ratio in 2010 reached about 65%, even in eastern part of Indonesia, the electrification ratio is still below 50%. It is necessary to have active participation of many parties to increase it, especially investors. However, no doubt the local government (local government) also have to play a role in it. For one thing, the Electricity Law, local governments have a strategic role in the development of electricity and should be involved. This is what should get more prioritized to be developed. Predicted every region has the potential of electrical energy that is not small. The electrical potential of the region will continue to grow in line with the natural energy resources that it has, such as oil and gas reserves as well as coal.

Planning and construction of electrical energy has been oriented to the concept of Continental by assuming that Indonesia is a vast landlocked country. The term used is based on a policy of centralization. There are several things that indicate the concept of Continental, they are: (1) The price of electricity is set applies equally throughout the territory of Indonesia, although the cost of production of each region is different, (2) National Grid

(even Asean Grid) Program by building a power plant with large size and distribute electrical energy with a wire transmission and distribution to all consumers, despite having to cross the ocean, (3) Planning centralized by integrating aggregated (total) energy needs electricity nationally and projecting those needs to the needs of the Power Plant and Oil Refinery is the duty of the central government to build, and (4) Location industries that require large electrical energy does not consider the availability of electrical energy with the assumption that energy is available and can be supplied from anywhere.

With the Continental concept, there is a mismatch with the geographical condition of Indonesia as archipelago country, which caused the raise of the problems and difficulties in distributing electrical energy throughout the territory of the islands with expensive infrastructure costs as already experienced today. Though our primary energy production, especially coal and approximately 50 percent of our gas production is exported. Although the excessive of production compared to the needs but that can not be transmitted and distributed to all areas in need due to lack of infrastructure and lack of distribution (distribution) as stated in the problem statement above that Indonesia has not found the concept of proper management of electrical energy. The exact concept is to change the paradigm of energy policy of the national electricity mainland base (continental) to the concept of state-based electrical energy development or the islands known as regionalization policy-based electrical energy. Steps of the concept of the islands are as follows:

The price of electrical energy must vary in each region in accordance with the amount of production costs. The law on electricity that can support is already exist, which there is a Regional Electricity Rates where electricity rates are determined by the Local Government and Regional Representatives Council. Likewise with MP3EI program which in its work program plans already see that Indonesia is an archipelago country. So also with the concept of the archipelago countries, the electrical energy subsidy is not the same (should be) in each region there may even be areas that do not require electrical energy subsidies because for energy production cost is cheaper.

Development of electrical energy which is conducted in each region prioritizing of the potential of electrical energy that exist in the region and the location of industrial energy-intensive located in the area of energy sources of electricity, so the infrastructure distribution of electrical energy is not too large and expensive (do not have to cross the ocean because each island can use its own electrical energy potential that the island has to the fullest). This will impact also the reduction in production costs (the price of electricity and energy subsidies). Thus what transferred between regions instead of electrical energy but instead industry product.

Planning the electrical energy is handed to the region with emphasis on the potential of the region and the characteristics of the needs of the region. This will increase the efficiency of electrical energy development and will result in the cost of production of electrical energy will be cheaper. The local government will take responsibility for the availability of electrical energy in their respective regions. For example one of them, the land acquisition which has been inhibiting the development of electrical energy infrastructure will be easier to be released because of all the local authorities and society would be more willing to use their land so that there is enough electrical energy in its region and cheaper. General Regional energy plan (rued) which will be a reference later in the preparation of the General Plan of National Energy (RUEN) will make the planning of the electrical energy that is no longer concentrated in the center anymore (centralization to regionalization).

Regionalization of the electrical system that is on each island will have a management and the system has its own electricity, There will be no interconnection to cross the sea between islands, as long as the island does not have a 100 percent electrification ratio, meaning that the electricity in the area has been 100 percent fulfilled. This will affect the distribution of development for the area that has low electrical energy resources, industry will be developed in the region itself [1,2,3].

If possible this change should be made and started on the General Plan of National Energy (RUEN) that will be prepared by the Government and will be determined by DEN, so is the case with the Regional Energy Plan (rued). Ideally RUEN made based on RUED so that they actually represent the needs and characteristics of each region. But for the early stages, it is difficult to do because of the immature state of the area makes RUED has no direction from the central government, especially because of the lack of Human Resources in the area to initiate the preparation of RUED. If later the area has been able to make RUED every five years, RUEN can be revised so that later the main task of the Central Government in the preparation of RUEN is combining regional planning and completing things that collide or be "detrimental" nationally.

This study aims to examine the determinants of performance of electrical energy based on regionalization policy and their impact on the outcomes for the general public. Farrington [4] examines some of the resources are closely related to energy, as well as Milen [5], whho defines the capacity of the resource as the ability of individuals, organizations or systems to function as it should be effectively, efficiently and continuously. Human resource capacities as organizers, resource capacity to support political, economic resources capacity as a driver, as well as the capacity of social resources as capital offenders, users and processors. This study wants to explore the capacity of human resources as the driving performance of electrical energy policies. The influence of human resource capacity of the energy policy performance has been investigated by Keppley [6], Sachs *et al*., [7], Hood *et al*., [8], Freedman *et al*., [9], Ibrahim [10], and Islamy [11].

On the other hand, this study wants to test the electrical energy policies performance impact towards the outcomes ofelectrical energy policy. With improved performance and improvement determinant factors that affect the performance of energy and electricity Indonesia, is expected to also have improve outcomes primarily related to electrical energy policy. Electrical energy policy can be said to benefit the community in a nation if it fulfills the fundamental aspects, namely the increase in income per capita of the population, an increase in the welfare of the population, a decrease in the level of social vulnerability, and improving the quality of national security. The influence of the energy policy towards the outcome (outcomes) of energy policy have been investigated by Matthwey *et al*., [12], Matti *et al*., [13], Munasinghe *et al*., [14], Parson *et al*., [15], Sach *et al*., [7], Parson *et al*., [16], and Islamy [11].

2. Theoretical Review

2.1. Human Resource Capacity (Capacity of Human Resources).

In the process of development of capacity there are dimension, focus, and the type of activity. The dimensions, the focus and the type of activities according to Milen [4], are: (1) the dimensions of human resource development, with a focus: professional personnel and technical capabilities as well as the types of activities such as: training, direct practice, the climatic conditions of employment and recruitment, (2) dimension of strengthening the organization, with a focus: governance management to improve the success of the role and functions, as well as the types of activities such as incentive systems, equipment personnel, leadership, organizational culture, communication, managerial structure, and (3) institutional reform, with a focus on: institutional and system as well as the macro-structure, the types of activities: rules of economic and political, policy and regulatory changes, and constitutional reform. Correspondingly, Milen [4] stated that if the development of the capacity become series of strategies aimed to improving the efficiency, effectiveness and responsiveness, the development of capacity should focus on the dimensions: (1) the development of human resources, (2) the strengthening of the organization, and (3) institutional reform. Human resource capacity is defined as the ability of an individual (human) or organization (groups of people) to perform the function of electrical energy policy effectively, efficiently, and continuously. As for the measurement of human resource capacity includes the skills, knowledge, abilities (skills) all employees of PT. PLN as the organizer of the electrical energy in Indonesia.

2.2. Performance of Electrical Energy Policy

The good electrical energy policy performance is needed. The policy implementation accelerate the effort to improve the electrification ratio in Indonesia by conducting the electricity connection to new consumers in high quantities every year and handle the electricity needs from the waiting lists. It can be conducted giving the attention to the readiness of total electricity supply procurement planning which is available. This policy is created in order to get the picture which is more generating certain and secure energy sources that are cheaper and efficient and available. The performance measurement of electrical energy policy is based on six indicators, namely: the development of generation capacity, the development of transmission and substations, distribution development, the development of rural electrification, development of new and renewable energy, as well as the development of climate change mitigation [7].

2.3. Outcomes of Electrical Energy Policy

A plan of public policy can be incorporated into the agenda of the working plan of the Government when problems of the public have or are getting attention widely in the community, especially the attention of the actors and the policy of stakeholders (stakeholders). A public problem may not be responded or may not be processed through the policy process if the problem is not identified overall or because it has not been put on the agenda of the work plan of the Government or if the problem does not have the benefit or positive impact (outcomes) for the community and for the Government in order to handle or control the public issue in hand. Likewise, it could be because the public problem is not eligible to be processed further for some reason or another thing that has been considered by the Government. Because in certain conditions and situations there are also public policy made by the government that could be interpreted by the public not as a form of problem solving but instead as a tool to legitimize power or strengthen and protect the dominance of particular interests of one social group to other social group or there are also policies made by the Government with the aim to strengthen certain reasons for a problem that is deemed unfit by the Government to follow up to become a new public policy.

Studying the outcomes adopted from the theory of economic development as an output from the input of the policy, in this case electrical energy. Development is a manifestation of the process toward material progress of the economy, so that measures its success can be seen from the magnitude of economic indicators such as GDP growth, GDP growth, the process of accumulation of capital for investment, and Tertiary consumption. With such characteristics, countries compete to achieve economic prosperity through the implementation of series of systematic development, with the main purpose of satisfying the public (people) in the material. Such as the development philosophy is often referred to as "Fordism", which refers to efforts to create a prosperous world

community based on maximizing usability without boundaries, formed by three important elements, namely rationality, efficiency, and production / consumption mass [17].

3. Result and Discussion

This research was located in Indonesia in 2015, with a base of electrical energy policy in national scale. The research was conducted in 6 PLN working area that includes the Regional I: Sumatra, Region II West Java, Region III: East Java, Regional IV Kalimantan, Regional V: Sulawesi and Nusa Tenggara, Regional VI: Papua and Maluku. The analylitical tool used is the Structural Equaiton Modeling (SEM) for testing the structural model, and ANOVA (Analysis of Variance) for testing the difference for each region, with human resource capaciy as exogenous variable, performance of electrical energy policy as intervening endogenous variable, and outcomes of electrical energy policy as pure endogenous variable. Figure 1 shows the analysis result.

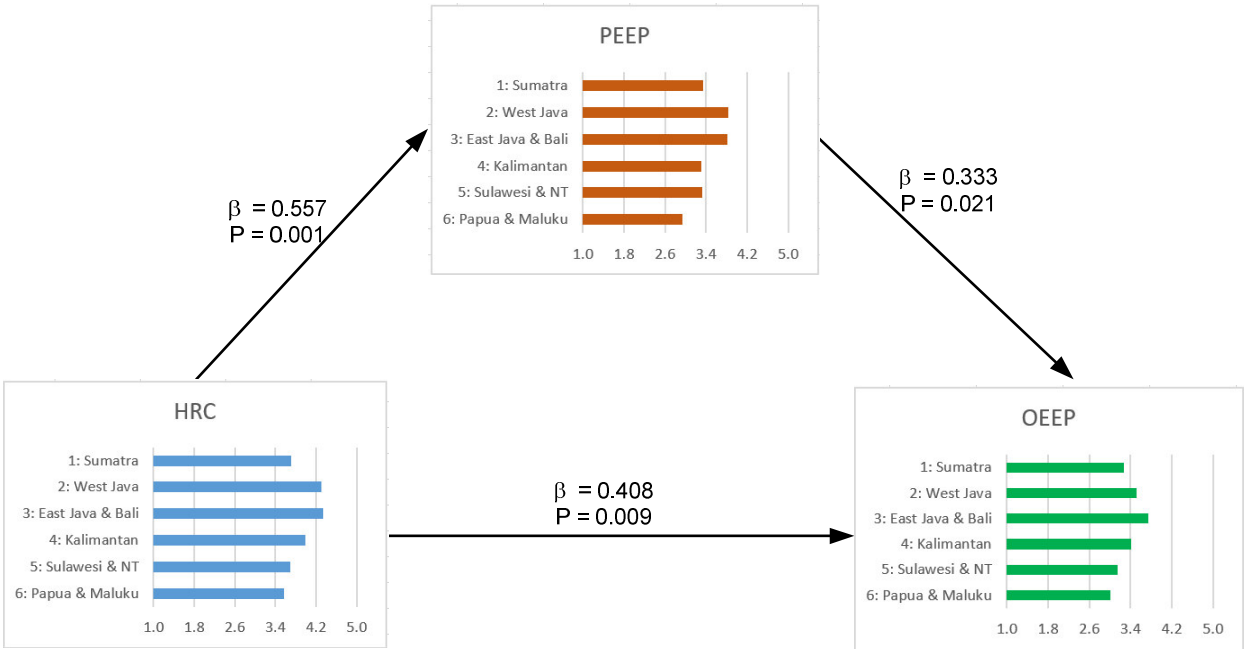

Figure 1: Analysis Result: SEM and ANOVA Test

Figure 1 presented a model relationship between the Human Resource Capacity (HRC) impact to Performance of Electical Energy Policy (PEEP) and Outcomes of Electrical Energy Policy (OEEP). Based on ANOVA test show the difference between HRC, PEEP, and OEEP between each region ($P = 0.001 < 0.05$). Its impact that the regional policy of electrical energy, it is necessary to make efforts to reform the management of the power sector as well as the efforts to restructure the organization and governance of national electricity towards the regionalization in accordance with the archipelagol-based management and development model.

Based on SEM result shows that there is a positive relationship between human resource capacity to performance and outcomes of electrical energy policy. The better human resource capacity, the better performance of electrical energy policy, and the better outcomes of electrical energy policy. The SEM result also shows that there is a positive relationship between performance of electrical energy policy to outcomes of electrical energy policy. The better performance of elctrical energy policy, the better outcomes of electrical energy policy.

3.1. Human Resources Capacity and Its Impact to Performance and Outcomes of Electrical Energy Policy

There is a positive relationship between human resource capacity to performance and outcomes of electrical energy policy. The better human resource capacity, the better performance of electrical energy policy, and the better outcomes of electrical energy policy. This research is in lin with whats observed by: Keppley [6], Sachs *et al*., [7], Hood *et al*., [8], Freedman *et al*., [9], Ibrahim [10], and Islamy [11].

To PLN, capability of human resources is a partner as well as an asset that continually supports its business operations in the realization of the Company's vision and mission in the long term. Therefore, the increase of human resources competency becomes a strategic issue in line with increasing electricity demand, business growth, and the Company's wide expanse of business operations.

PLN has prepared a human resource road map for reference in the periodic review and renewal of management plan. The compiling of the road map shall always take into account the Company's current conditions and the strategic plans for a few years to come. In the road map application, every program item is conducted by considering and observing the general policy of human resources management, that "PLN human resources development will always be in line with the Company's conditions, bearing in mind primarily the operational

locations widely distributed in the entire country. The recruitment as well employee quality and competency improvement are adjusted to PLN's needs, medium-term or long-term."

PLN has been designing and implementing long-term human resource management strategies as part of the implementation of the human resources road-map especially in the determination of the position in accordance with the qualification of human resources and business development needs. This is done by focusing on: (i) meeting the required HR quality of the organization (ii) managing under-performing employees, (iii) outsourcing / following business partnership policies and methodologies, (iv) creating partnerships with educational institutions and (v) building competitive recruitment system for fresh graduates.

As an ever growing organization, PLN requires a significant number of additional employee, in accordance with the realization of development project of power plants, network expansion and increase of total customers. PLN to implement the two main approaches in meeting the needs of employees, namely: (1), ensuring that the existing workforce has been optimized or that everyone is working effectively and efficiently with productivity equal to the company which practices world-class best standards. (2), to improve the quality and quantity of labor in accordance with organization needs.

Taking into account business development challenges in the future, PLN seeks to prepare its human resources to become professional, competent, integrity-based individuals. This is aimed at supporting the business development strategic plan implementation through the Human Capital Management System (HCMS), which have competitive, fair and transparent characteristics.

HCMS consists of seven main pillars, namely i) Organizational Development and Manpower Planning System, ii) Recruitment System, iii) Competency and Career Development System, iv) Learning System, v) Performance Management System, vi) Appraisal System, and vii) Industrial Relations System. Brief description on these pillars is as follows.

1. Organizational Development and Manpower Planning System PLN considers some parameters in managing human resources so as to be in line with the organization needs and business development, comprising: business unit employee composition, budget availability and efficiency factor, and employee productivity both overall and business unit-wise.
   Employee recruitment is conducted by taking into account: (i) corporate strategy and policy, (ii) employee productivity level, which is measured by the power sold (kWh) divided by the number of employees targeted for the current year, (iii) availability of personnel budget, and (iv) information technology-supported efficiency and integration program that PLN runs.
2. Recruitment. In recruitment process, the Company applies basic policy that stipulates that recruitment process starts from the business unit's need (user) and the final process (interview) involves the user.
   Recruitment is carried out at regional scale so as to facilitate potential employees in the respective area to join the recruitment and to support the increase in local employee in the composition. In relation to absorption of members of local workforce, the recruitment is carried out in various areas, such as Aceh, Medan and all the way to Jayapura.
   In some cases, to absorb members of local force in East Indonesia, the Company works in cooperation with local governments by providing: (i) expert classes to the teaching staff or vocational schools, (ii) granting college scholarships to superior high school candidates; and (iii) additional courses for local workforce.
   In general, recruitment is carried out based on long-term needs assessments. The selection process involves a third party, and its execution includes administrative aspects, attitude tests, aptitude tests, physical examinations and interviews. Before becoming permanent employees, candidates complete new employee orientation programs.
   To guarantee the availability of a highly-skilled workforce as a result of the recruitment process, PLN conducts "Direct Shopping" events and "Job Fairs" in coordination with higher education institutions. The activities can be divided into three types of recruitment programs: (i) recruiting the holders of university degrees (S1) or diplomas (D4, D3), (ii) recruitment programs for the holders of D3 diplomas and (iii) the recruitment of steam power plant operators.
   Recruitment for fresh graduates is carried out centrally and coordinated by PLN Headquarters, while recruitment for employee of high school/vocational school graduates is open and carried out by respective PLN Main Unit. PLN also runs scholarship programs through education service agencies and daily online applications. The recruitment process is then followed by training programs for improving the competency of new and existing employees.
   The recruitment process results will ne evaluated annually, and the employee needs of each unit will be mapped for every operational period. Each unit's recruitment process will remain ongoing until the need quota has been met.
3. Training and Learning System. Every year, the Company runs several training and educational activities for all its employees at every rank and in every functional area to improve their competence and skills.
   Training programs for employees can be divided into several types depending on employee position and the

skills development system that is given, and cover: a. Pre-employment training programs to prepare PLN's job candidates. All candidates recruited under regular procedures participate in this training, conducted by PT PLN (Persero) Training Center (Pusdiklat). b. Professional training programs for improving employee skills in accordance with their work areas, for both structural and functional functions. This program is managed by PLN's Training Center and can be run by an external provider if PLN Pusdiklat does not have or cannot manage such a program. c. Support programs for increasing competency to level as required by the position. This program is aimed so that employees can perform work in accordance with the position duties. The training that the Company needs covers Knowledge Management, Goods and Service Procurement, Environment, Legal, Risk Management, Public Relations and other fields. In 2013, 72.841 people participated in the professional training and support training (2012: 61,726 participants). d. Escalation training programs for employees who will be promoted to the next level (SSE) or to a higher structural level (EE). This training is conducted by PT PLN (Persero) with Corporate University as the main executing institution. This training will select leader candidates who are visionary, responsive to the world's changes and able to compete in international world. In 2013, escalation training was given to 3001 participants. (2012: 1,441 participants). e. Retirement training programs for employees preparing for retirement, so that they would remain having positive activities to support the family's welfare. In 2013, 1.426 employees participated in retirement-training programs. (2012: 87). f. Executive development programs for employees selected to continue their education inside or outside the nation.

In 2013, PLN Pusdiklat managed training programs for 82.499 employees (2012: 73,546 participants), either of PLN, PLN subsidiaries as well as external parties, with a total realized education budget of Rp284.44 billion (2012: Rp324.78 billion).

Other activities that were managed to support competency- based SDM programs were Core-Competency Assessments to increase the understanding of employee competencies in a definite and through manner.

4. Performance and Career Management. PLN consistently implements competency-based human resource management system referring to the provision that executive development is done by improving the competency of human resources according to the requirements specified for each level, by improving talent management system. PLN has implemented education and training programs and executive development programs.

   To measure the performance of employees, PLN has developed appraisal system based on Key Performance Indicators (KPI) for individual appraisal. KPI is the performance benchmark, while KPI target is the performance target that translates the standard and agreed results as well as the appropriateness with the job description. KPI target of a position mainly functions to assure that every employee has the job that is in accordance with the objectives of such position.

   PLN guarantees equal opportunity for all employees in developing their careers and competence in a manner appropriate with corporate development. A consistent application of the principle of equality was made in this reporting year. There were no cases of discrimination connected with ethnicity, race, religion or gender at any level of the Company.

Total electric power production in 2014 amounted to 228.5 GWh, an increase by 5.7% compared to electricity production in 2013 of 216.2 GWh. Total sales of electricity in 2014 amounted to 198.6 GWh, an increase by 5.9% compared to sales in 2013 amounted to 187.5 GWh. The sales were mostly for household consumption (42%) and industrial customers (33%). In 2014, PLN customers increased by 3,497,026 bringing the total subscribers by the end of 2014 to be 57,463,234, an increase by 6.5% compared to 2013 of 53,996,208 customers. Network losses in 2014 reached 9.71%, better than the previous year which was of 9.91%. Service reliability level is determined by the System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI). In 2014, SAIDI reached 5.81 hour/customer/year and SAIFI was 5.58 times/customers/year compared to 2013 with SAIDI reached 5.76 hour/customer/year and SAIFI reached 7.26 times /customers/a year.

Whereas in 2013 the Company had Rp 26,235.61 billion loss, in 2014 the Company managed to earn Rp 11741.61 billion profit. Operating revenues reached Rp 292,721.19 billion, grew by 11.79% compared to 2013 which amounted Rp 261,847.04 billion. The operating revenues was 63% derived from the sales of electricity, amounting to Rp 186,634.48 billion, and 33% derived from Government subsidies or Rp 99,303.25 billion. The cost of business in 2014 was Rp 246,909.97 billion, higher than in 2013, which was Rp 220,911.18 billion. 69% of the cost, which was Rp 170,487.93 billion, was used for the purchase of fuel (primary energy), i.e. coal, natural gas and fuel oil.

As a State-Owned Enterprise which is mandated by the Law to provide sufficient electricity supply (availability) with adequate quality and reliability and at an affordable price (efficiency), the Board of Directors of PT PLN (Persero) needs to develop a Long Term Plan or Rencana Jangka Panjang (RJP) 2015-2019 as a corporate directive which translates into five-year target, in order to ensure:

Capability for power generation, network, installation (electricity infrastructure); Sufficiency of energy

(kWh), which is able to be produced, transmitted and distributed, through the electricity infrastructure, to customers; 3. Quality and reliability that correspond to technical specifications, design, construction and operation/ maintenance; 4. Reasonable price (efficiency) associated with the cost of electricity supply (BPP). 5. PLN has the financial ability to fund infrastructure development such as generation, transmission, substation to serve customer as well.

All company levels' consistency, hard work, and discipline in conducting strategic initiative to hold programs and achieve short term priority target bring several results, as follow:

- Marketing Aspect Electricity sales in 2014 increased as many as 5.9 % to 198,602 GWh as a result of increase in every customer group. Sales to industries groups faced a relatively slow growth, which was 2.37%. Meanwhile, an average growth of 7.7% occurred in sales to other customer groups, which was higher than 7.04% that happened in 2013.
- The increase of electricity sales corresponded with the growth of customers which faced an increase of 3.49 millions or increase to 6.48% of total customers in 2013, resulting in a current total of 57.49 million customers. This increase led national electrification ratio to 84.3% (including non-PLN customers), from 80.36% in 2013.
- The growth of sales and customers resulted in an increase of 7.45% or equivalent to 6.936 MVA of connected power in 2014, therefore, all connected power summed up to 100,031 MVA. The throttling economic growth led to slow housing development, resulting in a small household customer growth rate of 6.37%.
- Less conducive economy did not obstruct PLN's efforts in balancing the increasing electricity demand and sufficient electricity supply. As a result, electricity production reached 228.554 GWh and had an increase of 5.72% from that of previous year.
- PLN consistently applies a strategy which decreases fuel usage and increases coal, gas, and renewable energy usage in order to reduce the Basic Cost of Electricity Production as well as produce fuel mix that provides maximum benefits.

In 2014, electrical power produced from owned fuel power plant decreased as much as 16.06% from that of previous year. This was the result of completion of several big-scale FTP-1 generators and operating hydropower plants. In spite of it, the overall electricity production from owned plant increased as much as 5.99%, reaching 152,853 GWh. Sufficient precipitations in weather condition in 2014, as well as addition in electricity supply from coal and gas power plants, helped support efforts in decreasing fuel usage.

PLN also intensifies the usage of new renewable energy in producing electricity, such as the utilization of geothermal power plant or vegetable substances, wind and solar energy. The total of electricity produced from new renewable source in 2014 of 26.15 GWh and in 2013 of 26.67 GWh. PLN is committed to keep increasing the proportion of power produced from new renewable energy. The effort in improving the quality of fuel mix helped PLN reduce the increase of Basic Cost of Electricity Production to approximately Rp1,424/KWh, or equivalent to 6% from Rp1,339/kWh in 2013.

PLN is getting more intensive in applying performance-based HR development to support competency improvement and productivity of all company levels. In 2014, PLN implemented online key performance indicator evaluation for individuals and groups. In order to increase productivity, PLN intensively applies knowledge management program in business processes, enhances the implementation of Competence-based Human Resource Management, and implements Strengthening Alignment Program on Employees Performance Management System to adjust Organization Performance with Individual Performance. PLN has also started arranging New Formulation to measure and increase Employees Productivity by considering demographics, geography, and other components.

In developing competencies, PLN conducted an assessment about Strategic Specialist Pool (SSP) in 2014 as Company's needs to maintain specific competencies in facing global competition. Moreover, PLN, together with competent management development institution, conducted Talent Pool Executive Management which was participated by 103 employees from top management level. PLN also intensified Corporate University's role in providing training and knowledge for PLN employees.

As a part of implementation of competence-based performance evaluation, PLN implements performance-based assessment programs, Career Path education & training program, Competency Portfolio test, fit and proper test, Work Task Employee evaluation, and an evaluation of employees receiving both national and international S2 (master degree) scholarships.

In 2014, PLN recruited 1,432 employee candidates with their education background ranging from Senior High School to S-1 (bachelor degree) in order to anticipate business development in the future. PLN consistently improves employees' engagement by providing ECC (Employee Care Center), conducting EES (Employee Engagement Survey) and preparing EES Guidelines. PLN uses the result of EES survey as a source to improve work environment to become a world-class corporate environment. In order to increase effectiveness and efficiency in managing HR, PLN puts effort in aligning the understanding of employee data management in all PLN units to increase data accuracy which is useful for strategic decision-making. Furthermore, PLN plans and implements talent pool software as one part of IT-based HR Information System implementation.

3.2. Performance of Electrical Energy Policy and Its Impact to Outcomes of Electrical Energy Policy

The SEM result shows that there is a positive relationship between performance of electrical energy policy to outcomes of electrical energy policy. The better performance of elctrical energy policy, the better outcomes of electrical energy policy. This research is in lin with whats observed by: Matthwey *et al*., [12], Matti *et al*., [13], Munasinghe *et al*., [14], Parson *et al*., [15], Sach *et al*., [7], Parson *et al*., [16], and Islamy [11]..

Based on 2013-2022 Electricity Power Supply Business Plan (RUPTL) which has been adjusted with Service Level Agreement (SLA), PLN plans a series of short-term development strategies and decides priority programs. The strategies that will be applied are basically similar to short-term development strategy applied in 2014, but there are several adjustments with preconditions happening in 2015. Meanwhile, PLN refers to 2013-2022 long term development plan regarding priority program which is divided into two periods, namely growth period in 2013-2017 and excellence period in 2018-2022.

Based on strategic targets in 2013-2017, PLN implements priority programs which aim to fulfill electricity needs by completing all construction of FTP-1 plant, using solar and wind energy as sources in remote area to increase electrification ratio, developing new renewable energy and conserving energy, starting the construction of Java-Sumatra interconnection, conducting the construction of large steam power plant in mine mouth in Sumatra, increasing the use of Peaked power plant with compressed natural gas, coal- and gas- fired power plant and Biomass technology to replace diesel power plants, increasing efficiency of electricity distribution, and increasing the quality of primary fuel mix to manage Basic Cost of Electricity Production and decrease electricity subsidies.

As a national company who have a responsibility to supply electricity for the whole region of the country, and at all levels of society, PLN is expected to meet the electricity needs. At current condition, electricity has not reached the whole community. Therefore, PLN has an obligation to continuously develop the distribution network and add power plant to meet the demand for electricity. Demand for electricity continuously grows in line with the progress of the national economy.

As mentioned previously, when economy grown by 1%, it requires additional electrical power of 1.5%. So that at the range of Indonesian economic growth in the range of 5-6%, the additional power required would be 7.5% to 9% of the current power capacity, or if measured in power metric, it would be an extra additional power of 3,500 - 5,000 MW per year. Indonesia's electrification ratio is approximately 84,3%, still lags behind some ASEAN countries that have reached 100% (Malaysia, Singapore, Thailand). To increase the ratio of PLN must add power generating units, and at the same time managing the existing units in order to operate optimally and can fulfill the growing demand.

Despite the global economic conditions over the last few years were less conducive to business, Indonesia was able to record a moderate economic growth at 5.78 percent. The amount of human resources and natural wealth are the main driving factors for such rate, preventing the national economy from implicated by global economic downturn. The economic growth made in the last few years brought Indonesia's Gross Domestic Product (GDP) per capita to go up again, at 8.8 percent from Rp33.5 million in 2012 to Rp35.5 million, according to the Central Statistics Bureau (BPS). The said GDP per capita brings Indonesia to the group of middle income countries.

In the next few years, Indonesia must work harder to step further to grow and make it to be a high-income country. The requirements for this include the increase of all people components' productivity, which can only be made through the increase of competency; competitive power and the support of adequate infrastructure. Both global and national economic observers are of the opinion that Indonesia still lacks the infrastructure, including roads, ports and electricity.

As of end of 2013, Indonesia's electrification ratio is 80.38 percent (including non-PLN subscribers). Such electrification ratio is still lagging behind compared to some other ASEAN countries, which already about 95 percent (the Philippines) and even 100 percent (Singapore, Thailand, Malaysia). To stimulate the development of electrical power construction in Indonesia, in 2009 the Government along with the House of Representatives-passed the Law No. 30 of 2009 on Electricity. On January 25, 2012 the Government issued Government Regulation No. 14 of 2012 on Electrical Power Provision Business Activities, which provides more detailed explanation regarding the supply of electricity.

The year 2013 is also a milestone for another promising development, namely the Service Level Agreement (SLA) between PLN and 12 Ministries and State Institutions, which is aimed to support the Indonesian electricity development and will start to be put into effect in 2014. PLN welcomes the high-level agreement, believing that this development will help streamline unsynchronized matters in the field that have hampered Indonesia's electricity from developing optimally.

Realizing the close relation between growth rate and the availability-of infrastructure, PLN is determined to build electricity power infrastructure to meet the electricity needs across the country. It is expected that the SLA aforementioned can be implemented soon so that PLN's efforts in realizing all business development programs can be accelerated and more efficient in order to meet electricity needs and support the growth of sustainable national economy.

The development and maintenance of electricity system, comprising power plants, transmission and distribution networks, along with the substations and distribution substations, requires the industry support and involves a great amount of investment. According to the Company's record, for 2012 alone, the Company's capex realization totaled Rp50 trillion. However, out of that expenditure, only a small portion was enjoyed domestically. Most of PLN's capex was an outflow to overseas due to the domination of imported products.

On the occasion of supporting domestic electricity industry growth and creating 'multiplier effect' to Indonesia's economic growth, PLN applies new approach in meeting the electricity equipment needs, both in power generation development and maintenance as well as transmission-distribution development and maintenance (including the substations and distribution supporting substations).

PLN applies the 'nurture system', namely driving the creation of certain electricity equipment manufacture that has not existed in the country. An example of this is high-voltage switchgear factory.

PLN has also applied procurement with an open-book system, namely a goods procurement system that transparently breaks down the structure cost for equipment that is limitedly available in the country. This is one of the ways to encourage foreign suppliers to cooperate with domestic suppliers. The purpose of this is more economical cost structure to PLN and the facilitation of knowledge transfer.

Another breakthrough that PLN made is the replacement of spare parts by prioritizing domestically made production. This came with the application of assessment system for domestic workshops that are capable to produce spare parts as well as evaluating their production quality and system.

Further, PLN applied the requirements of domestic product use to independent power producer (IPP). One of the requirements is the bidder at bidding stage is obliged to explicitly state whatever equipment it will supply from domestic production. All these efforts are aimed to support the domestic electricity industry as well as to increase PLN's operational efficiency in a long term. PLN believes that the efforts, which are also an enactment of the Industry Minister Regulation Number 54 of 2012 on Domestic Component Level in Domestic Electricity Field, will be able to support economic growth and create jobs.

Apart from directly contributing to the Government, the Company also provides indirect contribution, in the form of absorbing the local workforce in the Company's operational areas. The greater the local workforce is absorbed; the more economic activities in the vicinity of the Company's operations will increase, so the more the lives of the people in the area will also be improved.

The Company takes into account the importance of local manpower employment in choosing supply partners and power plant contractor partners as well as in power plant maintenance. In addition to absorbing manpower through supply partner, the Company contributes to the growth of the regional economy through payment of tax on vehicles on the entire fleet of operational vehicles operating in the area, thus contributing to regional revenue (PAD).

PLN provides additional contribution to the national economy by increasing the reliability of electrical power supply, so that economic activities, especially production activities, can take place at any time supported by reliable lighting. Apart from production activities, trade activities and other activities can also run better due to the increased quality of more accountable electricity distribution.

The economic competency development of the community surrounding the PLN's operational premises is realized through the Partnership Program, as part of the implementation of the corporate social responsibility in the form of Partnership Program and Environmental Empowerment for State-Owned Enterprises. The Partnership Program is a program for improving the abilities of small businesses so that they can become independent and resilient.

4. Conclusion and Reccomendation

The conclusion of this research are: (1) There is a positive relationship between human resource capacity to performance and outcomes of electrical energy policy. The better human resource capacity, the better performance of electrical energy policy, and the better outcomes of electrical energy policy. (2) There is a positive relationship between performance of electrical energy policy to outcomes of electrical energy policy. The better performance of elctrical energy policy, the better outcomes of electrical energy policy.

Based on the conclusion above, the reccomendation for this research are follows. The electricity sector in Indonesia is regulated by Law No. 30 of 2009 on Electricity. In accordance with this law, the government opened up opportunities for private investors to participate in the provision of electricity. Since the publication of the Law, the status of PT PLN (Persero) is no longer as PKUK (The Holder of electricity Charge) but turned into IUPTL Holder (Electricity Supply Business License) as well as other electricity companies. Thus the electricity sector, especially in the generation side, is wide open for private investors to invest as an IPP (Independent Power Producer). In the last ten years the electricity sector grew more than 7 percent annually. This growth is in the form of adding more capacity to generate, the length of transmission and distribution as well as customer accretion. Although the growth is great, but in some regions are still not able to fully meet the demand for electric power generation capacity due to its limitation. Capacity that is limited without the absence of alternative may cause a

burnout if there is a maintenance in the generator engine.

In the future, the existence and role of the region will become more important. Law No. 30 Year 2009 on Electricity provides a great opportunity for districts to manage and publish IUPTL electricity. Local Government will give more attention to the availability of local infrastructure, which could include the availability of electric power. Areas that have energy resources (local resources) such as Sumatra and Borneo, will demand harder so that the needs of electricity in the region could be fulfilled. In terms of PT PLN (Persero), it will encourage the strengthening of the organization in the area to be able to respond to local demand through the completion and decision-making in the area.

In the future, the direction of strategic development of PT PLN (Persero) will become a corporate entity which could be able for investments for the development of electricity infrastructure so that it can respond to the demands of the adequacy of electric power throughout the region in Indonesia. PT PLN (Persero) should be the corporate entity that is financially healthy in order to maintain market share and become larger in accordance with the rules of the corporation. Besides being an entity with a healthy financial condition, PT PLN (Persero) should also be efficient and meet the principles of accountability and can meet the level of operating reliability and service of electric power customers expect.

Facing the challenge of enormous growth in electricity, where the generation capacity must grow to 8430 MW per year, the transmission must be built 9.320 kilo meter per year, customer growth of 2.3 million per year, including the condition of the vast area of operation of PT PLN (Persero), which covers 1,922. 570 sq km land area with an area of 3,257,483 km2 waters reach, as well as the many islands that must be addressed its electricity by PLN, then in addition to funding needs, construction skills and operational excellence, also needed of the support of the organization and appropriate human resources so that future electricity program can be accomplished in accordance with the plan. To that required changes in the organization of PT PLN (Persero).

By looking at the challenges and the conditions that are faced above, the basic philosophy in organizational development PT PLN (Persero) fore-based regionalization is: (1) Organization of PT PLN (Persero) should be able to manage the growth of electricity that occurs throughout the region in Indonesia. In the management, including addressing the problem areas that are already well advanced as in Java and Bali, remote areas such as in Timika, or the islands like in Tual. Likewise, the organization of PT PLN (Persero) should be able to pay attention to regional characteristics, level of maturity and growth of the electricity infrastructure of different areas. (2) Organization of PT PLN (Persero) should be able to empower competences and local resources (local resources), including capital resources, potential energy, capacity and capability of the HR area. Areas such as Kalimantan, which has coal and gas resources must be managed properly so that it has advantages in power and capacity. (2) Organization of PT PLN (Persero) should be “end to end” so that it can handle processes ranging from construction to operation and can immediately solve existing problems and ensure a high level of accountability and financial health of the organization. (3) Organization of PT PLN (Persero) should be able to carry out the assignment of the Government especially to build 35,000 MW of new projects thoroughly and according to plan.

The organizational structure of PT PLN (Persero) that supports the regionalization policy is to prevent a slowdown in the process of completion of construction projects, problem solving and customer service operations. This regionalization policy needs to be organized well in which the Director is responsible based on job function and be responsible for the operational and business. To support the direction of regionalization policy PT PLN (Persero) become an entity that is financially healthy, then in the new organization propose to form six regional Business directorate which manages a particular region and has the function of end-to-end to manage the construction, operation and revenue in the regional electricity business. Government focus on development of 35,000 MW power plant will be managed by the Director so that the chance that it will be more success will be higher. With this concept, the accountability of the regional directorates will be stronger and comparable with its performance between regional directorates. Thus the new organizational forms of PT PLN (Persero) is: Directorate of Planning Corporate, Directorate of Procurement, Directorate for Human Resources and General, Directorate of Finance, and six Directorate Business Regional namely: regional Sumatra, Java in western area, eastern Java, Kalimantan regional, Sulawesi and Nusa tenggara, and Maluku and Papua. The Directorate is supported by the Unit in accordance with its function.

References

[1] Mazmanian, Daniel H. dan Paul A. Sabatier. 1983. *Implementation and Public Policy*. New York: Harper Collins.

[2] Meter, Donalds. Van & Horn, Carl E. Van. 1975. *The Policy Implementation Process: A Conceptual Framework*. Administration and Society, Vol.6

[3] Edward III, George C. 1980. *Implementing Public Policy*. Washington DC. *Conggressional Quarterly*, Inc.

[4] Farrington. 1999. *Sustainability Livelohoods in Practice: Early Application of Concepts in Rural Areas*. ODI Publishers.

[5] Milen, Anni. 2006, *What Do We Know About Capacity Building? An Onverview of Existing Knowledge and Good Practice*, World Health Organization (Department of Health Service Provision), Geneva.
[6] Keppley, Jesse M., 2012. *A Comparative Analysis of California and German Renewable Energy Policy*
[7] Sachs, Robert G. 1999. "Influences on National Energy Policy: We and They". *Journal Bulletin of the American Academy of Arts and Sciences,* Vol. 32, No. 8, pp.32-48.
[8] Hood, Hodgkinson Christopher. 1978. *Toward Philosophy of Administration*. Oxford: Basil Blackwell.
[9] Freedman, David., Rothenberg, Thomas., and Sutch, Richard. 1993. "On Energy Policy Models". *Journal of Business & Economic Statistics,* Vol. 1, No. 1, pp. 24-32
[10] Ibrahim Dincer. 2000. "Renewable energy and sustainable development: a crucial review". *Journal Renewable and Sustainable Energy Reviews 4*
[11] Islamy, Irfan M. 2001. *Policy Analysis*. Malang: University of Brawijaya.
[12] Matthew Jones, Chris Hope and Richard Hughes**.** 1990. "A Multi-attribute Value Model for the Study of UK Energy Policy". *The Journal of the Operational Research Society,* Vol. 41, No. 10, pp. 919-929.
[13] Matti Lehtovaara, Matti Karvonen, Tuomo Kassi 2013. "The role of energy support schemes in renewable energy market penetration". *International Journal of Renewable and Sustainable Energy*.
[14] Munasinghe, M and Cruz, W. 1995, "Economy wide Policies and the Environment: Lesson from Experience", World Bank Environment Paper No 10.
[15] Parsons, Wayne (2001). *Public Policy : Introduction Theory and Practice* Jakarta : Kencana Prenada Media Group
[16] Parsons, Wayne.1995. *Public Policy: An Introduction to The Theory and Practice of Policy Analysis*. Edward Elgar Publisher.
[17] Ahmad Erani Yustika, Mangku Purnomo, David Kaluge, Yusuf Risanto, Hendi Subandi, Rachmat Wibisono, Maeda Ramadhani, Dita Nurul Aini, 2014. "Participation, Investment Institutions, and Local Economic Development: The Study of Food Security in East Java – Indonesia. *International Jounrla of Humanities and Social Science, Vol 4 No 5 (1) Marc 2014,* pp 186-193.