

# **Opening the Black Box: Understanding the World Bank's Loans Toward Geothermal Development in Indonesia Under Yudhoyono Administration**

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## **Abstract**

This research aims to tracing and understanding the international integration of policy transfer and norm diffusion over geothermal industry in Indonesia by the World Bank under Yudhoyono administration which is from 2004 to 2014, as well as to get a better understanding on the World Bank's purposes behind this agenda. To get in depth – analysis and valuable findings, the vein of this research is primary focused on the interrelation between two elements, the World Bank's loans and weak governance which are believed become the strong factor toward the liberal geothermal regulatory framework in Indonesia.

The awareness of geothermal development in Indonesia has significantly increased along with the concern of energy security. Apart of the concern of energy security, geothermal development also aimed to deal with another global issue of climate change. However, to translate this need and pressure, Indonesia has faced so many challenges due to lack of qualified human resources and financial resources. Knowing this issue, the World Bank was pleased to help Indonesia accelerating the geothermal development through foreign loans, targeting on policy reforms which expected would be able to attract foreign direct investment. Critics say that the most part of the World Bank's loans did not reflect Indonesian needs, but rather than the accomodation of aid fads for neoliberal economics integration.

The completion of this research has generated some findings which are surprisingly more than just shifting the Indonesian political economic become more open as the neoliberal's prerequisites, but also caused a holistic impacts such as economic, politics, and socio – cultural impacts. The findings have led a greater recognition that there is no aid without strings attached.

**Keywords: Indonesia's geothermal, Energy Security, Climate Change, the World Bank, Loans, Weak Governance**

## Introduction

Indonesia is blessed with an abundant of natural resources. One of them is geothermal in which Indonesia is the third biggest geothermal prospects in the world after America and Phillipine. However, the development of Indonesia's geothermal is practically very slow. With the total prospects of 29,000 Mwe, only 1,345.3 MWe or only 4.6 percent that have been installed in the past 30 years since the Kamojang was launched as the first geothermal power plant in Indonesia (Mujiyanto et al. 2013). A lot of challenges and a complex barriers have inhibited the development of geothermal in Indonesia, such as lack of qualified human and financial resources, however, the most biggest challenge is the willingnes of government officials including the political leaders to put priority on the acceleration of Indonesia's geothermal development.

The development of geothemal in Indonesia does matters since Indonesia has a concern of energy security. As many scholars argued that Indonesia will run out of fossil fuels in less than 12 years and will become entirely dependent on energy imports unless decisive action is taken (Abdullah 2005; Husman et.al 2013; As Hikam 2014; Riza Azmi et.al 2014). Apart of energy security concern, geothermal development aims to deal with another global issue of climate change since geothermal plays major role in climate change mitigation due to its capability to provide clean energy with very little emits and almost zero Green House Gas (World Geothermal Communities 2010). Thus, there is a pressing need to accelerate the development of advanced energy tehcnologies in order to address the global challenges of providing clean energy, mitigating climate change and sustainable development, particularly to know that Indonesia is the fifth biggest Green House Gas (GHG) emitter among Organisation for Economic Co-operation and Development (OECD, 2010).

Knowing that the agenda to flesh out the national energy diversification and climate change mitigation through the development of geothermal remain elusive, the World Bank was pleased to help to accelerate the development through its foreign loans. Noticeable, the World Bank has poured a bunch of foreign loans which aims for policy reforms to attract the foreign direct investment since Indonesia was not able to undertake this agenda independently due to its limitation. As a result, a real significance of the changes of Indonesian geothermal policies can be seen on (1) the issuance of the Ministry of Energy and Mineral Resources' Regulation. 22 year 2012 in which assign the State-Owned Utility (PT. PLN) to purchase the electricity

generated from geothermal power plants (4) the issuance of the new geothermal law no. 21 year 2014 which issued just before the end of Yudhoyono's second term to replace the Indonesian Law of geothermal no. 27 year 2003. The main changes include geothermal activities are no longer considered as mining activities so that exploration and exploitation can be done in conservation forest areas, distinction between direct and indirect utilization, and centralization of the tender process for indirect utilization projects (International Energy Agency, 2014). Clearly the changes have resulted in a much more conducive situation to convince the stakeholders of the geothermal industry contributing significantly to the national economy.

Now the stakes are high. With the rising of neoliberal regime of development in Indonesia, the author agrees with many scholars viewing that Indonesian economy is on the hand of international structural power. In short, for good or bad, Indonesia was being dragged into the era of liberalization which could potentially put Indonesia in the foreign direct investment dependancy condition.

### **Theoretical Framework**

The theoretical framework is used to get a better understanding about why a state's domestic regulation can be liberalized by the World Bank. Throughout the history of global governance, the global policy arena is filled with a wide variety of actors who act like active agents that want new structures and rules to solve problems, change outcomes and transform international life. Considering the approach of this research, the World System theory is suitable to use to cut into deep analysis.

In this theory, the level of nation-state is classified into three levels hierarchy which are Core (Developed Countries), Semi-Periphery (Developing Countries) and Periphery (Third World Countries). Core Countries are dominant capitalist countries that exploit peripheral countries for labor and raw materials. On the other hand, Peripheral Countries are dependent on core countries due to lack of capital and have underdeveloped industry. Finally, Semi-Peripheral countries share characteristics of both core and peripheral countries (Wallerstein, 2006). In this case, Indonesia with more than 240 million population is considered Semi-Periphery that has been targeting by the Core as a big market of geothermal industry.

Particularly, to know that so far less than 5 percent of total geothermal prospects which have been developed.

To achieve this objective, Core Countries which have a heavy load of interests, partnering with the World Bank, need to mapping out the strategic approach. And the best strategy for economics and politics integration is through capital loans because it always goes with certain conditionalities. In a policy world which is obsessed with the belief that only global expertise is valuable, the World Bank has no real rival. More to add, with funds to disburse and technical advice to give, the World Bank is in a better position to advance development paradigms (Goldmann, 2000).

With this being said, we come to understand that there are two fundamental factors, the burden of debt and weak governance, that have widely opened the doors for external actors to intervene the state's domestic political economy including in drafting domestic regulation. Weak governance which consists of untenable politics, incompetence and corruption are subject to the international intervention towards domestic political economy. And foreign loans used as a means of strategic plan.

### **The World Bank's Engagements**

In Indonesia context, policy-makers have often turn to international actors including the Bank for analysis, advice and knowledge input since they lack the capacity to undertake such analysis and regulatory constraints. There are financial incentives too which benefit for Indonesia, as the World Bank can pay for its own research (Datta et.al, 2011). However, even though the role of the World Bank is very significant but the whole process in policy making is a complicated process involving many actors in which some of them have more role to play while others are only marginally involved. The relationship between these actors in policy making arena largely depend on the institutional setting, their interests and efforts in which they use this arena to persuade, bargain and pursuit their interests.

With those complex process, the World Bank need to mapping out the strategic approach. And the best strategy for economics and politics integration is through capital loans because it always goes with certain conditionalities or targets. It worked very well and has made the Bank was considered to be credible source of policy advice. Although the World

Bank's loan portfolio is relatively small in comparison with other donors, but the World Bank that has significant staff numbers, approaching 800 staff in Indonesia who providing mainly technical assistance in which many of whom are funded by a range of donors through trust funds (Holford, 2017). To succeed, the World Bank must strictly monitor scientific norms inside and outside the Bank. Inside the Bank, staff behavior is strictly monitored because any negative effects<sup>1</sup>, for example the Bank's ecologically disastrous dam projects and socially disastrous structural adjustment policies, have been easily documented by activists-scientists, and it would be extremely difficult for the World Bank to conceal to investors and the public (Goldman, 2000).

As for the geothermal development, the Government of Indonesia (GOI) has tried to map out its own potential energy resources, especially the renewable ones, and set out a master plan to maximise their use. The National Energy Blueprint 2005 – 2025 has targeted the share of renewable energies in the primary energy supply to grow from the current 4.3% to 17% in 2025 in which geothermal playing an increasingly important role. Followed by supporting PLN, the state-owned power company, in devising and implementing the 10,000 MW Fast Track program to meet Indonesia's growing demand and aim to achieve 86% electrification rate by end of 2016. To ensure a more environmentally sustainable development, the GoI launched a second 10,000 MW Fast Track program in late 2008 that is predominantly made up of renewable energy, with geothermal energy making up 40% of the target (Sakya, 2012). However, the implementation generally remains elusive due to several issues, especially to develop independently.

Translating this demand, the World Bank and its sister organization, the Asian Development Bank (ADB) pouring a massive capital flows under two schemes of loans: (1)

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<sup>1</sup> Worth to note that mega-projects are not honest numbers. Analysts are used to do manipulation. Recalling the case of Rave Kanbur, the World Bank's editor, who resigned because the U.S. Treasury Secretary Larry Summers insisted on changing the report's wording "globalization" since Summers felt the report's depiction was too negative. Also, two independent panel reports hired by the World Bank president Wolfensohn to evaluate the Bank's dam building on Mapuche Indian land in Chile were suppressed because Wolfensohn was uncomfortable with their findings. As well as University of Arizona anthropology professor, Ted Downing, was threatened with a law suit because he wanted to translate his panel's report so the Mapuche people could read it.

See Michael Goldman. "The Power of World Bank Knowledge". (University of Minnesota, 2000). Online. [file:///C:/Users/USER/Downloads/The\\_power\\_of\\_World\\_Bank\\_knowledge.pdf](file:///C:/Users/USER/Downloads/The_power_of_World_Bank_knowledge.pdf) Accessed on 12 April 2017

International Bank for Reconstruction and Development/IBRD; and (2) International Development Assistant/IDA. Notable two series of projects in regards to the Indonesian geothermal development have been executed under those schemes of loans. The first series of projects named Development Policy Loan (DPL) which aims to support Indonesia-led reform programs to improve public financial management, advance the connectivity agenda as well as strengthen the financial sector and accelerate investment. DPL have been started since 2004 with several kind of projects such as the Financial Sector and Investment Climate Reform and Modernization (FIRM) I and II worth \$600 million, the Institutional, Tax Administration, Sosial and Investment (INSTANSI) I and II worth \$ 700 million, the Connectivity DPL I and II worth \$ 400 million (Loan Number 8396-ID 2014; 2014, Loan Number 8305-ID 2013; Loan Number 8304-ID 2013; Loan Number 8209-ID 2012; Loan Number 8208-ID 2012; Loan Number 8206-ID 2012). The second series of projects named Geothermal Power Generation Development began since 2007 until 2014 (World Bank IBRD-IDA, 2017)

A massive development loans above consistently flowing since according to the World Bank there remains room for corrective actions that might be negatively impacted in the process of integration into the world economy. For instance, the scaling-up geothermal development by Pertamina Geothermal Energy (PGE)<sup>2</sup>. The World Bank is helping kick-start PGE's investment program through the development of the Ulubelu (Units 3 & 4) and Lahendong (Tompasso) (Units 5 & 6) geothermal fields. Loans totaling US\$ 300 million are being extended from the World Bank's facility for lending to middle-income countries through IBRD loans and from the global Clean Technology Fund (CTF)<sup>3</sup> established to promote climate-friendly investments. The financing package includes a US\$ 175 million loan from the IBRD with a variable spread loan (LIBOR + variable spread), maturity of 24.5 years, and a grace period of 9 years. Whilst the CTF is providing a US\$ 125 million loan at concessional

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<sup>2</sup> PGE is a leading geothermal developer and a fully owned subsidiary of the state-owned oil and gas company, Pertamina. PGE has been mandated by the GoI to undertake a globally unprecedented scale-up of over 1,000 MW of geothermal capacity, which would make it a global leader in geothermal development. The World Bank is working with PGE to help kick-start this ambitious program by immediately developing the fields where preparation is advanced and to strengthen the company's capacity to successfully implement its investments. See Duke Center for International Development, "Scaling-Up a Renewable Energy in Indonesia. An Integrated Approach to Evaluating a Green Finance Investment". Energy Sector Management Assistance Program. Knowledge Series 015/13. (Durham, 2013)

<sup>3</sup> CTF is a part of the global Clean Investment Funds, a group of funds comprises of African Development Bank, Asian Development Bank, European Bank, Inter-American Development Bank and the World Bank, established by the international community to promote climate-friendly and transformational investments with the total investment of US\$ 5.8 billion.

<https://www-cif.climateinvestmentfunds.org/fund/clean-technology-fund>. Accessed on 25 March 2017

terms, through the World Bank. The terms of the CTF loan are 0.25% service charge as interest, total maturity of 40 years, and a grace period of 10 years (ESMAP, 2013). Through this capital loans, the Bank will leverage the projects they finance with analytical work, policy advice, technical assistance, strategic partnerships and capacity building to systematically increase standards of governance at each level of government the Bank engages, with lending in the range of \$450 - \$850 million (World Bank, 2003).

Figure 1  
Country Partnership Framework

<b>Project Title</b>	<b>Project ID</b>	<b>Commitment Amonunt (US\$ million)</b>	<b>Status</b>	<b>Approval Date</b>
Institutional, Tax Administration, Social and Investment (INSTANSI) DPL 2	P144775	400.0	Closed	Nov 19, 2013
First Connectivity Development Policy Loan	P124006	100.0	Closed	Nov 20, 2012
Institutional, Tax Administration, Social and Investment (INSTANSI) DPL	P126162	300.0	Closed	Nov 20, 2012
Indonesia Development Policy Loan 8	P122982	400.0	Closed	Nov 22, 2011
Geothermal Clean Energy Investment Project	P113078	175.0	Active	July 26, 2011
Indonesia Seventh Development Policy Loan	P117874	600.0	Closed	Nov 18, 2010
Indonesia Climate Change Development Policy Project	P120313	200.0	Closed	May 25, 2010
Geothermal Clean Energy Investment Project	P113078	208.0	Closed	Oct 26, 2009
Fifth Development Policy Loan	P110191	750.0	Closed	Dec 9, 2008
Second Infrastructure Development Policy Loan	P111905	200.0	Closed	Dec 9, 2008

Second Development Policy Loan	P096594	400.0	Closed	Dec 15, 2005
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Source: The World Bank, 2017

The table shows all programs related to geothermal development for Indonesia from 2004 – 2014 funded by the World Bank. The aims of those programs were mainly on policy economic reforms and geothermal explorations to support the acceleration of Indonesia’s geothermal development.

As a result, some actions taken by the GoI under the program of Indonesia Climate Change Development Policy Loan, particularly on energy mitigation, such as the policy framework to promote renewable energy development and investment by (1) issuing Presidential Decree No. 4/2010 which assigns to PT Perusahaan Listrik Negara (PLN) the acceleration of power plant development using renewable energy, coal, and gas and mandates PLN to develop and purchase power from renewable energy resources; (2) issuing MEMR Ministerial Regulation No. 32/2009 on purchase standard price of electricity power by PLN from geothermal electricity power station; (3) issuing MEMR Ministerial Regulation No. 31/2009 on the purchase price of electricity from renewable energy; and (4) issuing MOF Ministerial Regulation No. 24/2010 on tax incentives for renewable energy development. In addition, the GoI also has improved the policy framework to promote energy efficiency development and investment by: (1) issuing Government Regulation No. 70 /2009 on energy conservation; and by (2) MEMR having developed and implemented a national system of energy audits for major firms in key sectors (Loan Number 7915-ID, 2010).

Ideally, the changes would have resulted in a much more conducive situation to convince the stakeholders of the geothermal industry contributing significantly to the national economy. The implementation of this new regulations is awaiting for the derivative regulations such as the Presidential Decree and The Ministerial Decree<sup>4</sup> (Saefulhak, 2017). Such a framework which is believed would enhance the credibility, capacity, and willingness of Indonesian governments to commit to pro-private-sector or at least cost-recovery policies. Without this legislation, foreign investors were not investing, despite expressions of interest (Diop, 2017).

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<sup>4</sup> Interview. Yunus Saefulhak. Director of Geothermal. Ministry of Energy and Mineral Resources. Jakarta, 10 March 2017

## **The Holistic Impacts**

After putting together all the efforts to make this agenda happens, noticeable the holistic impacts as the causal relationships between liberal agendas, the need for foreign aid and weak governance which caused the decision of Yudhoyono government to liberalize Indonesia's geothermal industry. So far, the common perception of the World Bank's hidden agenda behind its capital aid is an active components in the construction of neoliberal global architecture. In the context of Indonesia's geothermal development, this agenda gradually evolved over the years to become something more intrusive that applied a broad array of economics, politics, and socio – cultural areas.

### **Economic Impacts**

First, the economic impacts which caused by the World Bank's loans. Economic policy under the neoliberal model applied to Indonesia has focused on setting up economic free market and productive investment. It is believed will be able to create a sustainable development. In reality, sustainable development is yet to happen, however, sustainable debt already rose since Indonesia has kept borrowing the loans and kept paying the debts, as said by Dani Setiawan (2011), the chairman of Anti-Debt Coalition/Koalisi Anti Utang (KAU), that Indonesia's foreign debt which continuously increased was believed will last forever. Notable on 2009 to 2010, it has increased 65 to 70 trillion rupiah, whilst the National Budget Plan on 2011 stated that payment of external debt was 247 trillion rupiah or increased 10 trillion rupiah compared to 2010. Those payment taken from tax revenue and fuel subsidy.

The condition getting worse since the weak of administration and management which caused the national budget being wasted paying unclear external debts. Juanto said that The Audit Board of Republic Indonesia/Badan Pemeriksa Keuangan's audit (BPK) in 2011 found that 500 out of 2000 documents of Indonesia's foreign debt were gone. As the result, there were ministries that kept paying the debts over and over without knowing clearly what they paid for. They did it just like a regular task (Juanto, 2017). Coupled with the debts which gone to the corrupt officials. The findings of KAU in 2012 found several zero-realisation of programs implementation that supposed to be funded by foreign loans (Rrd, 2012). With this

being said, clearly that external debt has put Indonesia on crisis and proof that Indonesia is not independent, as Arruda says,

“External debt is like a third world war – a different kind of war, one where children die instead of soldiers”. (Arruda, 2000)

A sharp rise in lending to Indonesia has made Indonesia with crippling debt payments over the past and next decades. Either Pertamina as the parent company of PGE suffering from the debts. On the fiscal year ended on 31 December 2014, Pertamina’s net revenue was US\$ 1.57 billion, down 50% year-over –year<sup>5</sup>. The significant decrease in revenue was primarily driven by the unfavourable foreign currency impact, the pressured costs and paying the debts. The director of Pertamina further stated that Pertamina will be at risk over next decade even if high growth rates are achieved since Pertamina is under the condition of loans dependency and they have to face so much pressures to pay the debts including the interests which the due date is on year 2020. In dealing with the cash flow problems, Pertamina has proposed some solution such as restructurisation on business and subsidiary companies. Currently they have 20 subsidiary companies and 127 sub-subdiary companies (DPR-RI, 2015).

In addition, it turned out that only small amount out of the principle total amount of loan that is in fact given to the borrower. This unwanted condition can be seen on one of the World Bank and PGE project named Geothermal Clean Energy Investment Project to develop geothermal resources in Ulubelu and Lahendong which is worth US\$ 508 million of loan. Through this project, several big countries managed to lift the heavy harness of contracts awarded. Japan was benefitted from the Sumitomo Corporation contract awarded by PGE for the construction of the unit 1, 2, 3 and 4 at the Ulubelu geothermal power station. Other than that, the primary equipment such as the geothermal steam turbine and the power generators for all those projects have been manufactured by Japan company, Fuji Electric Co., Ltd. (Sumitomo Corporation, 2014). And previously, Toshiba has won a contract awarded by PLN’s subsidiary company, PT. Geo Dipa Energy to supply the plant’s essential equipment such as the steam turbine, generator and key auxiliary & management equipment for Patuha Geothermal Power Plant Project Unit 1 (Toshiba Corporation, 2011). Whilst the United Kingdom was benefitted from the Mott MacDonald contract awarded by PGE for the business consultancy including the feasibility studies of the whole series of Ulubelu and Lahendong

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<sup>5</sup> The President Director of Pertamina, Dwi Soetjipto, reported the evaluation of Pertamina’s performance on fiscal year 2014 in front of Indonesian Parliaments on the Hearing Meeting dated 20 January 2015

geothermal development projects. This point shows that among the most important structures of the current world-system is a power hierarchy between core and periphery in which powerful and wealthy Core societies dominate and exploit weak and poor Peripheral societies through technology as a central factor in the positioning of a region in the Core or the Periphery (Grimes, 1995).

Moreover, as written in the project appraisal document of the Geothermal Clean Energy Investment Project, the World Bank is also assisting in expanding sales of carbon emission reductions (CERs) from the geothermal projects to enhance their financial viability. Notwithstanding that it might be true, but like the others aid with strings attached, the continuing focus on the national interest is clear in the promotion of Sweden business within the aid program. On 12 August 2013, PGE signed an Official Development Assistance (ODA) Declaration with the South Pole Group, a Sweden company, in which South Pole agrees to upgrade the geothermal power plant turbines for Ulubelu and Lahendong projects to maximize the emissions reduction<sup>6</sup>. As for PGE, PGE understand that PGE on behalf of Indonesia will not be eligible to claim the carbon credits (CERs, ERUs, or VERs) generated from those geothermal projects since all the carbon credits will be transferred to the ODA donor country (the Gold Standard, 2013). It seems like the South Pole did an expensive step, but actually worth the money since the carbon credit can be sold by the South Pole Group to any company in developed countries that needs an emission trading registry, and this business represents a lot of money. This is how the South Pole earns money from their environment services.

“ For emission reduction projects, once initiated, they yield fruits every year. Once we have our project’s emission reductions certified, we can virtually harvest the yearly emission certificates. Just like a farmer will harvest fruits. For every kilogram of avoided CO<sub>2</sub>, we generate certificates from every kilogram of CO<sub>2</sub> that is avoided by the project, which is why we have a strong interest in a long run-time for the specific project “. (Heuberger, 2009).

Not to mention, beyond the partial achievements that have been attained, the shift in Indonesia’s geothermal policy under Yudhoyono administration represents the country’s greater subordination to the strategic geopolitical and economic interests of great power countries. The Sarulla Geothermal case can be the strong evidence to support this statement.

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<sup>6</sup> South Pole is PGE’s partner since 2009 for Gunung Salak Geothermal Power Plant to do a Carbon Business. They are searching for business opportunities in the field of climate protection all over the world. Indonesia, according to South Pole, has a lot of potential when it comes to climate protection since Indonesia economy is growing rapidly and need new and more efficient power plants to cover the demand of energy. Youtube. Renat Heuberger. 2010. “Geothermal Power, Indonesia”. South Pole Group. [online]. <https://www.youtube.com/watch?v=DySdmzwsRTQ&t=1s> (accessed on 2 April 2017)

Located in the Tapanuli Utara, North Sumatra, the 330 MW Sarulla power plant is set to be the world's largest geothermal power plant when its construction is completed in 2019, managed by a consortium of three companies from three countries; Medco – Indonesia, Ormat – USA and Itochu – Japan. Though the construction has started but the story of the development is a long, interesting yet challenging on many levels (SOL, 2016). One strategy to overcome the Sarulla problems was through the World Bank's program called Development Policy Loans Climate Change which has been developed under the joint Japan and French lending program that began in 2008. In attempts to develop a comprehensive pricing and compensation mechanism, the kick off program held on 2010 and completed on 2011. As a result, some progress has been made such as the recognition of the GOI that the environmental benefits of geothermal are not reflected in the financial prices, and that generators should be paid a premium price internalizing these benefits. They finally also could reach agreement on a power purchase price with PLN, which undermines efforts to scale-up the development.

### **Political Impacts**

Second, the political impacts which caused the great conflicts within the players amongsts geothermal industry and development due to the notion of competition not only with local players but also with the foreign investors. Since the issuance of Ministry of Energy and Mineral Resources no. 2 year 2011 which was renewed with the regulation no. 22 year 2012, to assign the State-Owned Utility (PT. PLN) to purchase the electricity generated from geothermal power plants, an ongoing dispute involving PLN and PGE over the price of geothermal steam occurred and caused the country was in turmoil. PLN was reluctant to buy electricity from geothermal power plant because it was more expensive than the coal and gas-fired power plants. In addition, the Ministerial law did not provide clear direction about the mechanism through which PLN will be compensated for the associated incremental cost. This condition has put PLN on under pressure to reduce its costs and to off-take more expensive electricity. On the other hand, Pertamina which operates geothermal business through its subsidiary PT. Pertamina Geothermal Energy (PGE) argued that the developing cost for geothermal power plant was costly and therefore definitely needs compensation. The purchase tariff offered by PLN was not sufficient to cover geothermal costs including adequate return on equity (ESMAP, 2013).

Following up the geothermal power pricing matters, high tension also occurred concerning the conflicting jurisdictions between PLN and Pertamina of ownership over the steam power source (Younger, 2017). The new Indonesian geothermal law no. 21 year 2014 article 28 states about the direct appointment mechanism to award geothermal concessions to help accelerate the development of geothermal energy and reduce dependency on fossil fuels for power generation. This new mechanism are eligible for the SOEs that already developed other geothermal concessions or had prior experience in the industry. With this new regulation, PLN has expected for the government direct appointment to manage the geothermal power source from upstream to downstream. PLN argued it would be the only one solution to provide the most efficient tariff for public by cutting the supply chain sequence and pressing the developing cost (Gumelar, 2017).

This kind of movement posed a major threat to PGE. By the nature of the organisation, PGE would have limited options in terms of developing an alternative electricity generation project. Recalling at its creation, PGE was specifically tasked with developing geothermal resources and would be unlikely to compete with PLN for other types of state-owned electricity generating plant, and would also be unlikely to compete on the Independent Power Producers (IPP) market because PGE may feel threatened by the bigger private developers (Mundakir, 2017). Concerning the neoliberal economy policy which emphasize on the equal treatment including equal opportunity and allow the foreign investors play at the same areas, it will lead to the political and economic instability since this economy policy package doesn't support the growth of national industries which are hardly to compete with the foreign investors. Therefore, the National Energy Council (NEC) has suggested for the World Bank to define clearly the autonomy and authority between national and foreign developers.

Based to the current condition, PGE is strongly confident to carry out the high temperature geothermal power plant projects. Yet, they have insufficient knowledge or a skills base as well as lack financial resources within the low temperatures ones. Thus, NEC encouraged the foreign investors to develop the low temperature steam power sources and let the local developers to handle the high temperature steam power sources (Mariani, 2017). In the same fashion, Yusgiantoro (2000), former ministry of energy and mineral resources, suggested to give enough space and time for Pertamina to grow through oligopoly market

structure<sup>7</sup>. Further, he said was not in the same page as the World Bank which keen to boost the competitiveness since the shifting process from monopoly to competitive market is not a magical process. It needs a clear road map and takes enough time to be a world class company and has capacity to compete with foreign bigger companies. When the time comes, Pertamina will rise as a market leader. However shifting role and functions of Pertamina as the monopolist may cause loss of sovereignty and control over sources of natural resources particularly in the upstream business.

### **Socio – Cultural Impacts**

As Polanyi's main argument to criticize neoliberalism that the movement to create a self-regulating market was the result of a utopia that can never be fully realized without at the same time destroying society.

“The true criticism of market society is not that it was based on economics – in a sense, every and any society must be based on it – but that its economy was based on self-interest. Such an organization of economic life is entirely unnatural, in the strictly empirical sense of exceptional” (Polanyi, 1944)

Most compelling evidence, the pre-feasibility or feasibility studies for geothermal projects have shown an incomplete assessment of the engineering and environmental issues, nor a robust evaluation of the off-take payback arrangements. Worth mentioning the Dieng geothermal and Kamojang geothermal cases which have shown the significant engineering and environmental problems caused by drilling operations. In addition, the absent of a legally-based premise in the management of natural resources have caused serious problems such as the massive deforestation and the lake drought (Mariani and Sari, 2017).

Since the process of exploration of geothermal run in those areas, the emergence of change both in ecological and socio-economic condition have occurred. Associated with the increasing of human's activity inside the forest causing widespread of deforestation and disruption of the role of forest as a provider of environmental services. The biggest driver of deforestation in Kamojang and Dieng was agriculture since the farmers or indigenous society followed the way of geothermal developers where the developers cut certain areas of the forests for infrastructure needs. Even more, they also gradually cut forests to provide more

<sup>7</sup> Oligopoly is a market structure in which the number of sellers is small but is big enough to affect the market. Rather than using price, firms in oligopolies tend to use product differentiation, branding and marketing to compete, with the goal being to increase market share.

See Paul Farnham. “Economics For Managers”. Chapter 9. Market Structure Oligopoly (New Jersey, Prentice Hall, Inc., 2005)

rooms for planting crops and grazing livestock. They cleared a lot of acres by cutting down trees and burning them in a process known as slash and burn agriculture. Notably in Dieng forest, 7.758 out of 10.000 acres was loss, that involved 4.000 acres in Wonosobo area and the rest in Banjarnegara (Kompas, 2014). The most of dramatic impacts noted from deforestation were erosion and sedimentation that clog the canal as well as massive flooding and a loss of habitats for millions of species.

Another important social cultural issue identified was the lack of communication between the developers, government officials and community on certain matters. Large demonstrations protesting the development of geothermal occurred in some areas such in Bedugul, Ciremai or the larger one in Rajabasa as the expression of the need of greater coordination and communication among stakeholders as well as the community. For instance, a cultural issue identified in Bedugul was caused by the most of Bedugul geothermal prospect which sit in the natural resources and conservation forest areas where the Holiness Mountains should be protected. The Balinese, with the “Tri Hita Karana” faith consistently keep equalizing the life and its environment from sea to mountain (Mulyadi et al, 2005). The Bedugul case is only one of many cases where culture element becomes a point often overlooked in which Government officials along with Elites have put too much attention on sustainable “physical” development but fail to notice the sustainable cultural and heritage.

Not to mention that the intention of developer to not encourage the wider citizen participation has caused the community who have rights to enjoy the natural resource were feeling left, as seen from Ciremai and Rajabasa geothermal cases. They also felt that the development had a dirty secret – underneath the surface good intention lay something sinister. As for the officials, they believed that at the exploratory stage, any public participation would be “wasteful and delaying” since the issue was too technical at this point. Consequently, keeping the public informed on the progress of this development has not been a high priority at that time. However, the community’s restless was an undeniable, fact of significant shortages in community water due to water extraction and settling ponds. More to add, the promise of Chevron to share 24 billion rupiah yearly for local government was not fair enough since the revenue from one village only was countable 15 billion rupiah yearly (Nugraha, 2014). At this point, agriculture as an important engine of growth and poverty reduction in Ciremai was potentially on risk and at the same time, there was a noticeable absence of political engagement to take appropriate actions.

## Conclusion

The array of theory, construct and hypotheses put forward on this research has concluded that politics in policy making is not about designing ideal scenario. It is about making sense of the regularities in the highly complex and random. Institutional analysis hardly exist due to focus of power balance and interplay.

Moreover, in Indonesia neo-liberalism cannot be fully implemented because it perceived as contradicts with the Indonesia ideology as a welfare state. Even for partial liberalization, liberalization policy of market access is something that needs a long preparation and adjustment for Indonesia by taking into account the interest in developing the national energy industry, infrastructure and human resources readiness, availability of financial resources and suitable regulations.

To this end, it is the obligation of government to protect the interests of the various publics who own or were effected by the use of these resources and to see that the general welfare of the local people was not abused by private interests. Specially in Indonesia with the neo-liberalism, allows foreign ownership until 95% in which many critics said not pro domestic entrepreneur and has sparked a new form of colonialism more or less. More importantly, the major failures in the public services, financial sector and in financial regulation were fundamental causes of the crisis. Thus, the GoI has to do whatever necessary to restore confidece, growth and jobs. And at the same time has to restructure the management administration, repair the financial system and strengthen financial regulation to rebuild trust and improve the governace.

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