



## Maintaining Legitimacy: The Environmental Management Practices and Green Innovation on Indonesian Manufacturing Companies

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**Abstract:**

Maintaining legitimacy through environmental management practices and green innovation is often seen as less supportive of the company's efforts to improve performance and competitive advantage. This paper aims to analyse the legitimacy motivation of companies participating in the performance rating assessment program in environmental management (PROPER). Another goal is to find out the effectiveness of the motive to maintain legitimacy in improving environmental performance and competitive advantage. The document analysis employs to analyse data. The findings indicate that maintaining the legitimacy of stakeholders is the motivation for manufacturing companies to carry out environmental management and green innovation. The data also suggest that maintaining legitimacy from a wider range of stakeholders brings more tangible economic and non-economic benefits, such as higher environmental performance and competitive advantage, compared to focusing solely on maintaining legitimacy from the government. The findings also show that the PROPER deconcentration policy which is being promoted to improve supervision of companies in environmental management by involving the provincial government, companies and universities is effective in increasing the number and compliance of companies in environmental management. However, the government needs to look for breakthroughs so that companies apply environmental practices beyond compliance by considering several points from the criteria or requirements for exceeding compliance in article 6, such as the implementation of environmental management systems, achieving energy efficiency, saving water, reducing and utilizing waste. non-hazardous materials and solid waste, are transferred to the criteria or compliance requirements in article 5.



## Introduction

The rapid industrial growth in developing countries appears to have two opposing sides. The one side, industrial growth has a positive effect on economic growth and employment growth, however, on the other hand, it has a negative impact on environmental sustainability. Developed countries, which have stronger and healthier financial resources, can reduce the negative impact of industrial growth by using environmentally friendly technologies and provide appropriate incentives to industry. Investments in environmentally friendly technology are costly and this may be an obstacle for companies in developing countries. To force companies to participate in minimizing environmental impacts, the government issues environmental regulations. However, there are some companies that have chosen to be proactive in taking initiatives to mitigate the environment beyond what is required by regulations (Sharma, 2000).

Previous studies have revealed that stakeholder pressure is the main trigger for companies to carry out environmental management and green innovation (Khana & Speir, 2007; Saha & Darnton, 2005; Winter & May, 2001). Companies respond to stakeholder pressure to gain and/or maintain stakeholder legitimacy. Freeman (1984) classifies stakeholders into two, primary stakeholder and secondary stakeholder. Primary stakeholders are identified as stakeholders who have a direct influence on the achievement of company goals. The primary stakeholders include consumers, suppliers, investors, and creditors. The secondary stakeholders include the government, media and environmental activists or organizations. Although these secondary stakeholders are considered to have an indirect influence in achieving company goals, however, many studies show government pressure to be the main motivation for companies to adopt environmental management systems and green innovation. Regulations related to water quality standards, air quality standards, waste management and sanctions are considered effective in forcing companies to comply with regulatory provisions. Another study states that the adoption of environmental management practices and green innovation is caused by companies getting pressure from broader stakeholders, not only the government but also from competitors, investors and creditors and consumers. Pressure from a wider range of stakeholders not only increases regulatory compliance but also encourages companies to operate more efficiently.

Scholars revealed that differences in motivation in carrying out environmental management practices and green innovation will have different impacts on environmental performance (Hart, 1995). Environmental management practices and green innovation that are motivated to maintain the legitimacy of the government results in lower or limited environmental performance compared to environmental management practices and green innovation which are motivated to gain competitive advantage. On the other hand, another opinion suggests that maintaining government legitimacy through environmental management practices and green innovation can promote competitive advantage.

This paper attempts to analyse the motives for obtaining and/or maintaining legitimacy through environmental management practices, green innovation and their impact on environmental performance and competitive advantage. The analysis was carried out based

on the environmental management performance (PROPER) report published by the Indonesian Ministry of Environment and Forestry.

## Literature Review

### Legitimacy and Environmental Management

Legitimacy theory states that legitimacy is a status or condition that is achieved when the value system of an organization is in line with the wider community value system (Bhattacharyya, 2014). According to Shocker & Sethi (1973), the company survival and growth depends on its ability to provide the economic, social or political benefits desired by stakeholder groups who are the source of its strength. Deephouse, Bundy, Tost, & Suchman (2016) distinguishes three types of legitimacy: pragmatic, moral and cognitive legitimacy. Pragmatic legitimacy is based on the conformity of the organizational value system with the expectations of stakeholders, moral legitimacy is based on the conformity of the organization's value system with the prevailing social value system and cognitive legitimacy is based on the conformity of the organization in achieving its objectives in the best ways, technically, efficiently, and effectively. Maintaining pragmatic legitimacy is driven by the desire of the organization to fulfil its stakeholder interests. Moral legitimacy focuses on the desire to improve social welfare. Lindblom (1994) revealed that companies carry out social responsibility to gain and/or maintain legitimacy for several purposes such as; correcting public misconceptions about company performance, changing public expectations about company performance, showing performance achievement and shifting public attention to things other than company performance (Magness, 2006). The environmental performance report which is part of the sustainability report becomes a medium for companies to maintain the trust and legitimacy of stakeholders (Miles & Covin, 2000).

Environmental performance is defined as the measurement result of an environmental management system related to an organization's ability to control its environmental impact based on its environmental policies, goals and targets (Burgos-Jiménez, Vázquez-Brust, Plaza-Úbeda, & Dijkshoorn, 2013). Environmental performance generated from environmental management (Henri & Journeault, 2008; Klassen & Whybark, 1999; López-Gamero, Molina-Azorín, & Claver-Cortés, 2009). Based on the Law of the Republic of Indonesia No. 23 of 1997 on the environment, environmental performance is defined as the company's performance in creating a good environment (green). Scholars Hart 1995; Kassinis & Vafeas (2006); King & Lenox (2001); Russo & Fouts (1997) mentioned that environmental performance is effective tool to obtain social legitimacy and competitive advantage.

Referring to the opinion of several authors, environmental management practice consists of actions taken by companies to reduce environmental impacts arising from their activities. The adoption of an environmental management system is one of the company's commitments to carry out environmental management practices. An environmental management system is a set of procedures, policies and planning, implementation, evaluation, and feedback activities aimed at minimizing environmental impacts and

improving the company's environmental performance. Environmental management system adoption requires the support of financial resources, human resources, and technology. As a rational business entity, founded for profit, the company uses a cost and benefit approach in making decisions (Gunningham, Kagan, & Thornton, 2004). A studies revealed that the investment of funds to implement an environmental management system is very significant (Delmas, 2002). However, the threat of being subject to sanctions, fines, legal fees and revocation of business licenses due to non-compliance with environmental regulations often forces companies to adopt an environmental management system (Darnall & Sides, 2008). Some companies comply on environmental regulations to maintain the legitimacy from the government. Others adopt environmental management systems for several purposes; comply with regulations, achieve competitive advantage through cost efficiency, increased sales, and reputation. Selecting multiple motivations in adopting environmental management system identified as the company's efforts to maintain legitimacy from various stakeholder such as, investors, creditors, and consumers. Identical with any company, stakeholders make decisions based on rational consideration. Investors will only choose companies that have the ability to generate returns and capital gains as they expected. Return on investment is obtained when the company generates a profit, which yielded from increasing revenue and minimizing costs. Creditors will provide credit when companies that are financially sound or able to return the principal and interest at maturity. In general, company health indicators are measured by the company's ability to generate profits. Competitors, whose success resulted in cost savings, environmentally friendly products and higher trust from consumers, creditors, and investors, triggered other companies to adopt the same environmental management system. Previous research has revealed that company participation in environmental management systems can boost the company's reputation as an environmentally friendly company (Darnall & Kim, 2012; Iatridis & Kesidou, 2016; Santos, Mendes, & Barbosa, 2011)

### **Legitimacy and Green Innovation**

Innovation is identified with new or modified ideas, methods, technologies, processes and products. Management literatures reveal that continuous improvement is the principle of innovation. The goal of innovation is to produce products that meet consumer expectations in terms of quality, price and service. Customer satisfaction will increase the company's competitive advantage. Slightly different from conventional innovation, green innovation is intended not only to increase the company's competitive advantage but also to reduce the company's negative impact on the environment. Rennings (2000) defines eco-innovation as the process of developing new ideas, behaviours, products, and processes aimed at reducing environmental burdens or achieving environmental sustainability targets. In line with the motivation for adopting an environmental management system, companies conduct green innovations due to some motivations; regulatory pressures (government), market focus, technology (Barrutia & Echebarria, 2015; Horbach, Rammer, & Rennings, 2012). Regulatory pressure forces companies to use certain processes, methods, or technology to minimize their

environmental impact. For example, a company is ordered to install air filters to reduce air pollution or build a wastewater treatment plant to minimize water pollution. Compliance with regulations is carried out to maintain its legitimacy. However, for companies other than focusing on regulatory pressures, green innovation is also used as a strategy to meet consumer demand (market focus) for environmentally friendly processes and products. The strategy executed by shifting hazardous materials with environmentally friendly materials, implementing environmentally friendly production processes, recycling and using environmentally friendly packaging. Viewed from the aspect of legitimacy, the company's green innovation efforts are a way for companies to maintain consumer loyalty. The OECD (1997) classifies innovation into technical innovation and organizational innovation. Technical innovation is divided into process innovation and product innovation. The technical innovation process is divided into end-of-pipe and cleaner production. End of pipe technology is not an important part of the production process, only an additional measure to comply with environmental requirements. Some implementations of end-of-pipe technology include the use of combustion devices for waste disposal, using sound absorbers to avoid noise, and installing air filters to minimize air pollution (Ziegler & Rennings, 2006). Meanwhile, cleaner production technology is directly aimed at reducing environmental impacts during the production process, for example, recycling materials and using materials that are more environmentally friendly (Ziegler & Rennings, 2006). Cleff & Rennings (1999); Frondel, Horbach, & Rennings (2007) analysed the category of end-of-pipe technology versus cleaner production technologies, finding evidence that end-of-pipe technology is more associated with motivation for compliance with environmental regulations while production technology net is more introduced for economic reasons such as market share and cost reduction.

The views of previous authors regarding the role of regulation in driving the adoption of environmental management systems and innovation appear to be mixed. Porter & Linde (1995) suggest that strict regulation stimulates the discovery and introduction of cleaner technologies, improves environmental performance, and results in more efficient production processes. Fernando & Xin (2017) from their study in Malaysia suggest that coercive pressure from policy makers is needed to encourage companies to take the first steps to become environmentally friendly companies. Rehfeld, Rennings, & Ziegler (2004) concluded that environmental regulations not only affect eco innovation but also the performance of eco innovation. The regulations encourage companies to comply to a certain target level (Arimura, Hibiki, & Katayama, 2008). Khanna & Anton (2001), regulation statistically and significantly influences environmental management initiatives. The regulations force companies to adopt technology, pay attention to pollution thresholds, and report their pollution emissions to reduce their impact on the natural environment (Darnall & Sides, 2008). Previous studies have suggested that regulation significantly influences industrial pollution reductions, however, the pollution threshold set by regulations leaves companies not motivated to reduce emissions beyond regulatory requirements. To overcome this limitation, an alternative environmental policy is needed that encourages companies to

voluntarily carry out environmental management practices that exceed regulatory provisions (Arimura, Darnall, Ganguli, & Katayama, 2016). Gunningham et al., (2004) revealed that several instruments are needed to increase the effectiveness of environmental management implementation, enforce mandatory environmental regulations and encourage the implementation of voluntary environmental management, provide socialization and training, and incentives (positive and negative).

### **Environmental Management, Green Innovation and Environmental Performance**

Although the scholars agree that the environmental management system and green innovation are driven by the company's desire to maintain legitimacy from both the government and/or from other stakeholders. However, several authors revealed that the differences between one company and another in responding to the desires of different stakeholders will have an impact on environmental performance and the company's competitive advantage. For example, company A chooses regulatory compliance as the reason for adopting an environmental management system and green innovation. As a consequence of compliance, company A will concentrate on the environmental impact targets reduction set out in the regulations. Implementation of environmental management systems and green innovation will result in environmental performance as expected by regulatory provisions. Company B prefer to adopt environmental management system and green innovation to satisfied boarder stakeholder includes government. Company B will comply with regulated environmental impact reduction targets such as company A, however, to improve its competitive position company B will look for other approaches to reduce costs and increase sales through materials reduction, energy and water efficiencies, implementing reduce, reuse and recycle. The environmental management practices and green innovation carried out by company B will result in higher environmental performance and simultaneously increase the competitive advantage.

Studies have been conducted to determine the impact of environmental management practices and green innovation motivated by regulatory pressure on environmental performance and competitive advantage have not shown consistent results. Several studies suggest that maintaining government legitimacy result in lower environmental performance than maintaining the legitimacy (reputation) from boarder stakeholders. Studies Dowell, Hart, & Yeung (2000) indicate that environmental management practices carried out in response to regulatory pressures result in lower environmental performance compared to proactive environmental management. (Klassen & Whybark, 1999) found that investment in end-of-pipe technology results in lower environmental performance, end-of-pipe technology is provided to improving regulatory compliance (Ziegler & Rennings, 2006). Another evidence showed that end-of-pipe technology improved environmental performance but did not increase competitive advantage (Dong, Wang, Jin, Qiao, & Shi, 2014). In another study, scholars found competitive advantages of environmental management practices and green innovation driven by the desire to maintain government legitimacy depending on the scope of green innovation that is regulated by law (Dong et al., 2014; Khanna & Anton, 2001).



Encouraging firms to use cleaner production technologies will result in increased cost efficiency (Porter & Linde, 1995). Antonietti & Marzucchi (2013) found that a green investment strategy would increase company's efficiency, if the investment is carried out in clean production technology and is directed simultaneously to reduce externalities and raw materials usage. Russo & Fouts (1997) revealed that an increase in environmental performance can increase competitiveness if changes in the resource base and capabilities follow the design of the production process. Frondel et al. (2007) provide evidence that strict environmental regulations and policies are more important for end-of-pipe technologies, while cost savings, general management systems and specific environmental management tools tend to result from cleaner production. The imposition of higher taxes (regulation) on resource use encourages Japanese companies to use fewer resources that produced higher companies' efficiency (Arimura et al., 2016).

### **Research Method**

This study employs a qualitative method. Secondary data obtained from the Ministry of Environment and Forestry. Data in the form of the participation of manufacturing companies in the environmental management program. Data collection methods using documentation. Data analysis is carried out using document analysis. Document analysis is a systematic procedure for reviewing or evaluating documents (print or electronic). Document analysis involves skimming (superficial examination), reading (opening the overall examination), and interpretation. Document analysis requires data to be examined and interpreted to obtain meaning, acquire an understanding, and develop empirical knowledge (Corbin & Strauss, 2008). Document analysis is carried out to expose meaning, develop understanding, and find insights that are relevant to research problems (Merriam, 1988). One of the functions of the document provides a means to track change and development. Document analysis on periodic reports and final reports to obtain a clear picture of how an organization or program runs over time. There are three subject of document in this research. First, a PROPER report from 2002 to 2018, document analysis is carried out to obtain information about the level of company compliance in environmental management. Second, documents related to sanctions imposed to companies that are not compliant from 2011 to 2018, analysis is carried out to determine the effectiveness of the deconcentration policy imposed by the government. The last, documents related to green innovation and savings from 2015 to 2018, analysis is carried out to find out the relationship between the level of compliance and company performance.

Based on the Minister of Environment and Forestry regulation No. 3/2014 concerning the company performance rating assessment program in environmental management, paragraph 6, article 12 and article 13, there are five company's categories based on its environmental compliance. The two first categories are GOLD companies and GREEN companies that have carried out environmental management beyond what is required in article 5 and comply with the provisions stipulated in article 6. The article 5 states, the compliance of companies in

carrying out environmental management is evaluated based on five (5) points; the fulfilment of provisions in environmental permits, control of water pollution, control of air pollution, management of hazardous and toxic waste, as well control of environmental damage.

The article 6 states that evaluation beyond compliance is carried out if companies have fulfilled all the provisions of article 5 and companies have fulfilled eight (8) other provisions; The article 6 states that evaluation beyond compliance is carried out if companies have fulfilled all the provisions of article 5 and companies have fulfilled eight (8) other provisions; 1) implementing environmental management systems, 2) achieving energy efficiency, 3) reducing and utilizing hazardous and toxic waste, 4) applying the principles of reduction, reuse and recycling of non-hazardous and toxic solid waste, 5) reduce air pollutants and greenhouse gas emissions, 6) achieving water efficiency and reducing of the burden of water pollution, 7) protecting biodiversity, and 8) empowering community. The third category BLUE companies, this companies called as compliant companies that have met environmental management standards as stipulated in Article 5. The next category, RED companies or less compliant companies that have carried out environmental management, however, the results have not met the minimum standards required in article 5. The last category BLACK companies or non-compliant companies that do not show efforts to carry out environmental management.

### Result and Discussion

The discussion began by examining the report on the rankings of companies' compliance with environmental management published by the Ministry of Environment and Forestry. The Indonesian government issued a policy regarding a company performance rating assessment program in environmental management (*PROPER*). This program was launched to assess and encourage companies' compliance in environmental management, especially in controlling air pollution, controlling water pollution, and managing hazardous and toxic waste. Another objective of this program is encouraging industry to apply green economy principles, namely energy efficiency, water efficiency, emission reduction, and biodiversity protection. This program has been proposed since 1992, at first this program was carried out to minimize river water pollution caused by industry. In 2002 the focus of program was expanded into three includes water pollution control, air pollution control, and management of hazardous and toxic waste. Until 2018, there were around 1800 manufacturing companies participating in this program (Table 1).

**Table 1.** Number of *PROPER* Participants and Its Compliance Level

Year	Number of company	Compliance Level				
		Beyond Compliance		Compliant	Less compliant	Non- compliant
		GOLD	GREEN	BLUE	RED	BLACK
2002-2003	82	0	8	52	20	2
2003-2004	194	0	9	99	64	22
2004-2005	432	0	21	182	116	41



2006-2007	519	0	45	305	73	9
2008-2009	576	1	40	385	118	32
2010-2011	690	2	54	433	154	47
2010-2011	995	5	106	603	233	48
2011-2012	1310	12	119	805	295	79
2012-2013	1792	12	113	1099	551	17
2013-2014	1891	9	121	1224	516	21
2014-2015	2076	12	108	1406	529	21
2015-2016	1895	12	172	1422	284	5
2016-2017	1743	19	150	1427	146	1
2017-2018	1872	20	155	1454	241	2

Source: The Ministry of Environment and Forestry, 2018.

**Table 2.** Percentage of Company based on Environmental Compliance Level

Year	Number of company	Compliance Level				
		Beyond Compliance		Compliant	Less Compliant	Non- Compliant
		GOLD	GREEN	BLUE	RED	BLACK
2002-2003	82	0	9.75%	63.41%,	23.39%	2.4%
2003-2004	194	0	4.64%	51.03%,	32.98%	11.34%
2004-2005	432	0	4.86%	42.12%,	26.85%	9.49%
2006-2007	519	0	8.67%	58.76%,	14.06%	1.73%
2008-2009	576	0.17%	6.94%	66.84%,	20.48%	5.5%
2010-2011	690	0.3%	7.82%	62.76%,	22.31%	6.8%
2010-2011	995	0.5%	10.65%	60.60%	23.41%	4.8%
2011-2012	1310	0.91%	9.08%	61.45%,	22.51%	6%
2012-2013	1792	0.67%	6.30%	61.32%,	30.74%	0.9%
2013-2014	1891	0.47%	6.4%	64.72%,	27.28%	1.1%
2014-2015	2076	0.58%	5.20%	67.72%,	25.48%	1%
2015-2016	1895	0.63%	9.07%	75.03%,	13.08%	0.2%
2016-2017	1743	1.09%	8.60%	81.87%,	8.37%	0.05%
2017-2018	1872	1.06%	8.28%	77.67%.	12.87%	0.1%

Source: Author, 2020.

Table 1 and Table 2 show, the number of participants (companies) who take part in the company performance rating assessment program in environmental management (*PROPER*) continues to increase. Table 1 shows that the increase in *PROPER* participants started in 2011. The number of participants increased from 995 to 1310 companies. This increase was due to the government starting to implement a deconcentration policy in 2010, previously the policy implemented was centralized supervision which emphasized a command and control approach. The government policy on *PROPER* deconcentration refers to government

regulation NO.38 / 2007 concerning the division of government authority between the government, provincial governments and district / city governments in environmental affairs based on external criteria, accountability, and efficiency. The PROPER-deconcentration is the delegation of authority from the central government (Ministry of Environment) to the provincial government in conducting environmental monitoring and evaluation. In the initial stage of environmental monitoring involving 8 provinces, in 2012 the number of provinces involved increased to 30 provinces. The increase in the number of provinces involved in supervision resulted in an increase in PROPER participants from 1310 (2011) to 1792 (2012). In 2013 the number of participants increased to 1891, the increase was not too significant compared to the previous period. The trend in the following years the number of participants was relatively stagnant. The 2015 PROPER report shows that deconcentration has led to an increase in the level of compliance from 49% (2010) to 72% (2014).

The increase in number of compliance firms was accompanied by a decrease in the number of BLACK or non-compliant companies. The PROPER report categorizes BLACK companies as companies that deliberately neglect causing pollution or environmental damage, as well as violating applicable laws and regulations and / or failing to carry out administrative sanctions. The types of violations committed do not have an environmental permit, false data and carry out direct disposal to the environment without treatment, open dumping of hazardous and toxic waste or hand over the waste to unauthorized third parties, and refuse supervision (PROPER, 2014). The PROPER report (2014) shows 21 BLACK companies consisting of hospitals, cigarette, dairy, metal smelting companies, textiles, gloves, hotels, PLTU energy, fried oil, soap, and biofuel. PROPER 2015, a BLACK company consisting of charcoal briquettes, bottled drinking water, food and beverages, fish processing and metal smelting. PROPER 2017 announced two BLACK companies: mineral mining and metal processing.

The percentage of compliant companies (BLUE) continued to dominate, even in the last three years (2015, 2016, 2017) experienced a drastic increase compared to previous years. PROPER is designed to encourage compliance in environmental management, the main target of the company is to achieve compliance performance as stipulated in article 5, regulation No. 3/2014. The compliance targets include compliance with environmental permits, air pollution control, water pollution control, hazardous and toxic waste management, and environmental damage control. Companies that achieve compliance criteria as stipulated in the regulations will be free from environmental sanctions and companies will also receive recognition in the form of certificates from the government as compliant companies. Meanwhile, companies that implement environmental management beyond compliance requirements adopt more environmental programs as mentioned in article 6, regulation No. 3/2014. In general, the adoption of more environmental programs requires more investment of resources (personnel, money) and time. This is a consideration that the majority of companies prefer to participate in standard (compliant) environmental management practices. By investing more resources and time, beyond compliance (Green and GOLD) companies get more economic and non-economic benefits including improved environmental

performance, higher government and stakeholder trust, cost efficiency, strengthening reputation and competitiveness. The increase in the percentage of compliant companies caused by the decreasing number of less compliant and non-compliant companies. Meanwhile, the average percentage of firms beyond compliance (GREEN and GOLD) is less than 10% and 1%, respectively. The regulation No.3/2014 article 13 mentions that GOLD companies as successful companies demonstrating environmental excellence in production and service processes, as well as conducting business that is ethical and socially responsible. Companies that occupy this GOLD position are relatively constant from year to year. These GOLD companies consist of oil and gas, energy, cement, mining, pharmaceutical and fertilizer companies.

To escalate compliance to a higher level, the government provides incentives and disincentives. Incentives in the form of trophies, award certificates and publications are given to companies that have ratings exceeding the required compliance. Disincentives are given to less compliant and non-compliant companies. Based on article 17 of the Minister of Environment and Forestry Regulation No. 3/2014, administrative sanctions will be imposed on companies which for two (2) consecutive years are categorized as RED (less compliant), law enforcement is given to non-compliant companies. Before being subject to administrative sanctions, companies that are less compliant will be fostered to improve their performance to become compliant companies. Sanctions are given if companies do not follow up on recommendations made by the evaluation team. These companies are given six months to follow up on the recommendation. From 2010 to 2017, the government has imposed sanctions toward companies that did not show compliance.

**Table 3.** The number of Companies Subject to Sanctions

Period	Number of companies subject to sanctions
2010-2011	2 companies were recommended for the investigation process, 37 companies have been forced to build waste control units, 6 companies are subject to administrative sanctions, 2 companies were subject to written warnings and 2 companies were closed.
2011-2012	71 companies were given administrative sanctions, 4 companies were recommended criminal action, 1 company recommended environmental disputes and 3 companies were closed.
2012-2013	10 companies were given coercive administrative sanctions. 4 companies are in the process of investigation, 3 companies have complied so that they are returned to the PROPER mechanism.
2013-2014	3 companies are proposed to be re-evaluated after completion of coaching, 1 company is continued to investigation, 15 companies are handed back to the PROPER secretariat.
2014-2015	21 companies have been returned to <i>PROPER</i> for coaching; 11 companies are subject to administrative sanctions; 2 companies in the process of

	observation; 2 companies are in the process of investigation and 1 company has not yet conducted case management.
2015-2016	5 companies are recommended for law enforcement
2017-2018	16 companies are subject to law enforcement

Source: The Ministry of Environment and Forestry

Table 1 and Table 2 show that there is a decreasing trend in the proportion of companies that are less compliant and non-compliant. The information presented in Table 3 implies that the decline was due to the government imposing strict sanctions on less compliant and non-compliant companies. The sanctions given include administrative sanctions, reprimands, guidance, coerce to build waste control units, law enforcement and the closure of business premises. Referring to the data, it can be concluded that the sanctions imposed by the government to improve the companies complying are effective. This fact supports empirical findings (Buysse & Verbeke, 2003). However, Table 1 shows that compliant companies maintain their position and are not motivated to improve their performance at a higher level. Column 3 and 4 on Table 2 shows the percentage of GOLD and GREEN companies is relatively constant under 1% and 10%. Thus, it can be concluded that the majority companies participated in the environmental management performance rating assessment program to meet compliant standards. Based on the provisions of article 5, the company has complied with the provisions of environmental permits, controlling water pollution, controlling air pollution, managing hazardous and toxic waste, as well controlling environmental damage. From this information, it can be concluded that regulatory pressure is effective in encouraging companies to carry out environmental management. This indicates that maintaining the legitimacy of the government is the motivation for the majority companies to carry out environmental management.

In contrast to the majority companies previously mentioned, GOLD and GREEN companies have a broader motivation in carrying out environmental management practices. Referring to article 6, evaluation of beyond compliance is carried out if companies have fulfilled all the provisions of Article 5 and companies have met eight (8) other provisions; 1) implementing environmental management systems, 2) achieving energy efficiency, 3) reducing and utilizing hazardous and toxic waste, 4) applying the principles of reduction, reuse and recycling of non-hazardous and toxic solid waste, 5) reduce air pollutants and greenhouse gas emissions, 6) achieving water efficiency and reducing of the burden of water pollution, 7) protecting biodiversity, and 8) empowering community. Based on the provisions of article 6, GOLD and GREEN companies carry out their environmental management practices not only to maintain legitimacy from the government, but also perform other things (regulated in article 6) to maintain their legitimacy from other stakeholders through increased reputation and internal efficiency.

Regarding the company's initiative to carry out green innovation, The Ministry of Environment and Forestry reported that green innovation and saving are produced by GOLD and GREEN. Table 4 shows that the number of green innovations generated continues to increase.

**Table 4.** Innovations and Savings from GOLD and GREEN Companies

Environmental Management Practices	Year			
	2015	2016	2017	2018
Non-hazardous and toxic waste reduction	9,419,229 ton	3,245,604 ton	11,557,439 ton	6.829.428 Ton
Hazardous and toxic waste reduction	4,786,034 ton	6,444,846 ton	13,610,719 ton	16.344.704 Ton
Water efficiency	533,128,233 m <sup>3</sup>	447,463,288 m <sup>3</sup>	492,4087,329 m <sup>3</sup>	540,448,997 m <sup>3</sup>
Energy efficiency	919,098,110 Giga Joule	249,808,268 Giga Joule	230,619,485 Giga Joule	273,613,028 Giga Joule
Greenhouse gases emission reduction	48,076,583 ton CO <sub>2</sub> ,Eq	75,663,410 ton CO <sub>2</sub> , Eq	33,262,184 ton CO <sub>2</sub> , Eq	38,021,962 CO <sub>2</sub> ,Eq
Green innovation	150	260	401	542

Source: The Ministry of Environment and Forestry

Table 4 presents that environmental management practices produced by GOLD and GREEN companies are not only able to control air pollution, water pollution and control toxic and hazardous waste, but these companies are also successful in reducing the amount of non-hazardous and toxic waste, reducing the amount of hazardous and toxic waste, reduce water use, reduce energy use and greenhouse gas emissions. From Table 4, the performance of hazardous and toxic waste management shows an increasing trend. This is due to the increased management performance of toxic and hazardous waste from companies engaged in the mining, energy and mineral sectors and the increased utilization of waste by the manufacturing sector (Statistical Central Agency, 2018). Meanwhile, the trend of companies in reducing greenhouse gas emissions tends to fluctuate. It is true, greenhouse gas emissions are closely related to energy use, the greater the use of energy triggers the more emissions released. Conversely, less energy use results in lower emissions. PROPER encourages companies to use energy more efficiently. It is possible that the amount of reduction in greenhouse gas emissions was greater in 2016 than in 2017, this is because the energy savings generated in 2016 were greater than the energy savings in 2017 (Table 4). Thus, it can be concluded that companies that practice environmental management, in order to maintain the legitimacy from broader stakeholders, produce higher environmental performance than companies that perform environmental management practices and green innovation focused on maintaining legitimacy from the government.

Other than generating higher environmental performance, GOLD and GREEN companies produce cost savings resulted from water use reduction, energy use reduction, emissions reduction, and reduce, reuse and recycling hazardous and toxic waste and non-hazardous solid waste. In 2017, the savings obtained amounted to Rp.53 trillion, consisting of savings generated by GOLD companies of Rp.4.8 trillion and GREEN companies of Rp.48.2 trillion. The

highest contribution to savings comes from reduced emissions by 62%. In 2018, the amount of savings obtained increased drastically compared to 2017, amounting to Rp. 287.334 trillion. Savings information implies that environmental management practices and green innovation motivated by the desire to maintain legitimacy from broader stakeholder includes the government increase the company's competitive advantage. This fact supports the argument put forward by Young (1991) that the conservation approach involves processes and products to reduce waste at the source through energy use reduction, materials use reduction, conserve water and reduce fuel increase company's efficiency (Hart & Ahuja, 1996).

### Conclusion

Maintaining legitimacy is companies' reason that involved in environmental management practices and green innovations. Companies that adopt environmental management and green innovation to maintain legitimacy from government, have lower environmental performance and competitive advantage than companies that practice environmental practices and green innovation driven by the desire to maintain legitimacy from broader stakeholders. Based on the description in the discussion section, it can be concluded that environmental regulation is effective in encouraging the compliance of companies in Indonesia in carrying out environmental management. However, to encourage higher environmental performance and competitive advantage, it is necessary to adopt environmental management practices and green innovation that go beyond regulatory requirements. For this purpose, the government needs to modify or add compliance assessment points contained in article 5 with several points contained in article 6 such as, achieving efficiency in the energy and water, and reusing non-hazardous and toxic solid waste.

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