

**CORPORATE SOCIAL RESPONSIBILITY REPORTS VIA WEBSITE
(A COMPARISON OF COAL MINING COMPANY IN INDONESIA AND
U.S)**

A THESIS

**Presented as a Partial Fulfillment of the Requirements to Obtain Bachelor
Degree in Accounting Department**



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UNIVERSITAS ISLAM INDONESIA

2018

LEGALIZATION PAGE

CORPORATE SOCIAL RESPONSIBILITY REPORTS VIA WEBSITE (A
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U.S)

A BACHELOR DEGREE THESIS

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EXAMINER APPROVAL PAGE

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DECLARATION OF AUTHENTICITY

Herby I declare to the originality of this thesis; I have not presented someone's work to obtain my university degree, nor have I presented anyone else's words, ideas, or expression without acknowledgment. All quotation is cited and listed in the references of the thesis.

If in the future this statement is proven to be false, I am willing to accept any sanction complying with the determined regulation or its consequences.

Yogyakarta, October 3rd, 2018



Nanda Widyaningrum



ACKNOWLEDGMENT

Alhamdulillah rabbil alamin. All praise to Allah SWT for all the blessing and mercy. Peace and salutation be upon Prophet Muhammad SAW, his family and his best friends, who guided us to the bright side until the end of time. This thesis entitled “**Corporate Social Responsibility Reports via Website (A comparison of Coal Mining Company in Indonesia and U.S)**” has done and finished with the blessing of Allah SWT. The writer realized this thesis won't be finished without any advice, support and help from the people around. Therefore, the writer would love to appreciate those in order:

1. Allah *Subhannahu Wa Ta 'aala*, for all His blessing that get the writer through all the process.
2. Prophet Muhammad SAW, for the lesson in order for the writer to be proper Moslem.
3. Dearly beloved parents, Mom and Dad, for showing the writer on being a decent human being and to teach the writer to see the good in everything.
4. Beloved brother, Agung Widhi Pramana, for being the writer's very best friend since day one.
5. To the writer's person for sticking on the writer's side through everything. Here's to the forever we'd spend!

6. Mr. Arif Rahman, SIP., SE., M.Com., Ph.D., as the writer's content advisor for giving the writer guidance and advice through the process of this study.
7. Mrs. Annida Asni, S.Pd., as the writer's language advisor for giving the writer guidance and advice for the writing process of this study.
8. Flint and Jess, for all the love, support and being the family that the writer's always need.
9. Shane Dawson, Morgan Adams, Ryland Adams, Garrett Watts and Andrew Siwicki, for being such an inspiration for the writer to keep on going.

No actual word can really describe how massive the support and love has been to the writer. It has been a long journey for this thesis to finally be done. Thank you so much once again for all the support and love.

Cheers!

Yogyakarta, October 3rd 2018

Nanda Widyaningrum

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ABSTRACT

The reporting of Corporate Social Responsibility (CSR) has been debated for a very long time. There is no specific type or framework for the report. However, GRI G4 is the answer for many coal mining companies that are willing to make CSR report, including Indonesia and U.S. Moreover in this globalization era where everything is available online, the existence of proper website is tremendously important. How the stakeholders catch the signal of a company from its website can surely impact the long run of a company. This study focused on finding the CSR reports on website for Indonesian and the U.S coal mining company which then being compared all together in order to find the pattern. This pattern showed certain aspect as the main concern for each country. As a guideline, General Reporting Initiative (GRI) G4 was used to see whether these coal mining companies are following the existing framework.

Keywords: Corporate Social Responsibility, Coal Mining, Stakeholders, Website, General Reporting Initiative

CHAPTER I

INTRODUCTION

1.1 Background of Study

The existence of mining has always been a controversial issue to the society. It is one of the biggest industries that contribute for a country's economic growth as well as the environment damage. Mining activities contribute to increase radiological dose as they accelerate the leaching of elements and minerals from rocks to the environment (USEPA, 1995; Baik et al., 2003; Flues et al., 2006; Fungaro and Izidoro, 2006). Once the mining is completed, there has to be plans for mining sites to undo the effects on environment and habitat around. Mining activities are blamed for affecting both people and the environment (Kemp, 2010; Jenkins, 2004); these effects include social disruption and dislocation, relocation and resettlement, and adverse impacts on heritage and livelihood (Danielson, 2006; Kemp, 2010; Owen & Kemp, 2015). The activities can also lead to various geological and environmental problems such as the deterioration of land and water resources, geologic hazards and destruction of the ecological landscape (Zhiguo et al, 2011).

One of mining industry is coal. Coal has been at the heart of humans live and work. It relates to one another since the Industrial Revolution (Sartre, 1977). According to World Resource Council, coal has become the second most important energy source that covers more than 30% of global primary energy consumption in 2016. It shows that even though the environment is in a crucial

state, it will be difficult to replace coal in the near future. The availability of coal itself is not centred, it spreads all over the world which makes a lot of countries become an independent consumer. The main five coal producing countries are China, the U.S., India, Australia, and Indonesia which provide almost 80.5% of the world's coal (Dudley, 2016).

The relationship between Indonesia and the U.S has been very well on global corporation, not only in economy, education, defence and security, law enforcement but also on climate, environment and energy. According to the U.S Embassy (2009), officials from both countries consult regularly on issues such as humanitarian assistance and disaster relief, climate change, and the spread of communicable diseases. Both countries also committed to reduce greenhouse gas emission in the energy and transportation sectors through the Indonesia Clean Energy Development project in 2015 which was funded by the United States for International Development (USAID).

According to BP Statistical Review of World Energy (2017), Indonesia has become the leader on coal exporting since 2005, when it overtook Australia's place. Regarding global coal reserves, Indonesia currently ranks 9th, containing roughly 2.2 % of total proven global coal reserves according to the most recent BP Statistical Review of World Energy. There are numerous smaller pockets of coal reserves on Sumatra, Java, Kalimantan, Sulawesi and Papua. However, the three largest regions of Indonesian coal resources are South Sumatra, South Kalimantan, and East Kalimantan. On early 1990s, there were a lot of coal mining sectors reopened for foreign investment. Indonesia witnessed a significant

increase in coal production, coal export and domestic sales of coal. 70-80% of Indonesia's coal production is exported abroad, while the remaining is sold on domestic market. In contrast, Greenpeace (2015) said that on modeling from Harvard University, estimates that coal-fired power plants currently in operation cause 6,500 premature deaths every year in Indonesia. The main causes of these premature deaths include strokes (2,800), ischemic heart disease (2,500), chronic obstructive pulmonary disease (430), lung cancer (350), and other cardiovascular and respiratory disease (1,000). The health impacts also include 100 deaths of young children due to increased risk of acute respiratory infection. 800 deaths are due to increased exposure to ozone, and the rest due to increased exposure to toxic particulate matter.

On the other hand, the United States produces about 1 billion tons of coal, about 12% of world's supply. From all the coal resource, the U.S uses 40% of it for electricity. However, the U.S also suffers from the impact of coal mining activity on their environment. Coal mining companies in the United States put a hard focus on the social costs of mining (Prine, 1971) as everything related to mining, combustion, waste disposal, and each activity in between, adversely affect public health and environment.

A goal of a company is aligned with the company's mission, vision, and values (Chron, 2018). Some are profit company while some are non-profit companies that they are not solely exists to make profit. With the existence of a company, there is a rapid growing costumer's awareness of environmental damage caused by the companies' activity. The example includes Starbucks'

commitment to the environment through the “Shared Planet” program in 2006 and Patagonia’s initiative to ensure that their products are produced under safe, fair, and humane working condition throughout its supply chain (Patagonia, 2014). Until the mid- 2000s, global mining companies extracted mineral resources without due concern for their environmental and social impacts on wider society (Jenkins, 2004).

The global mining industry’s adverse socio- environmental impacts are stimulating the emergence of anti- mining campaigns, movies, and civil society protests and reports throughout the world (Ali, 2003; Cameron, 2009; Earthworks, 2012; FOE, 2002; Greenpeace, 2010; Kocsis, 2004; McAller and McElhinney, 2006; MiningWatch, 2004; PRI, 2010; Rotheroe, 2000; WWF, 2007). Companies within the mining industry ought to consider CSR strategies in their company management policy in the moment their mining activity commences (Kepore and Imbum, 2011). CSR has been identified to be one of the most instrumental tools in ensuring the attainment of sustainable development in developing countries (Idemudia, 2007). According to Durovic and Randic (2011), CSR represents activities that have impact on the environment, society and human resources. There are tons of prior research on applying CSR and how the reports change the game on a business. These days, mining industry has been adopting and developing Corporate Social Responsibility (CSR) policies across regions and societies (Du and Vieira, 2012). However, as the reporting of CSR is still voluntary in some region, there are no rules on what to report. In an attempt to address the problems, the Global Reporting Initiative (GRI) was formed. It is an

institution that provides companies and the public with standardized accounting guidelines which challenge companies to report both positive and negative aspects of its CSR engagements (Hanh and Lülfs, 2013; Hanh and Kühnen, 2013). It is a complex concept that has been argued from time to time as it will take a lot of energy and money as well. However by adopting this, a mining company implies the recognition and integration of social and environmental concern in their operation- leading to entrepreneurial practices that satisfy those concerns (Valor and De la Cuesta, 2003).

In this era, people tend to become more accepting and trusting others on the internet. Web promotion or some might say marketing through website, enables companies to attract stakeholders and increase the traffic on their website (Javadian Dehkordi et al., 2012). According to Van Doren, Fechner and Green-Adelsberger (2000), web promotion has become the foundation for many businesses today. It provides wide possibilities of information that engage different kinds of CSR communication, such as through corporate websites or social media. Studies analysing the internet as a tool for communicating with stakeholders and a social responsibility disclosure medium have been growing in number (Esrock and Leichty, 1998, 2000; William and Pei, 1999; Maignan and Ralston, 2002; Patten, 2002; Cooper, 2003; Snider et al., 2003; Campbell and Beck, 2004; Douglas et al., 2004). It shows that internet can be a powerful tool for a coal mining company on promoting their willingness on applying CSR as the consequences for damaging the environment.

Based on the issue above, this research discussed about the Corporate Social Responsibility report on the website. Here the researcher also chooses to focus on coal mining company of two countries, Indonesia and the U.S. Therefore, the title of this study is **“Corporate Social Responsibility reports via website” (a comparison of coal mining company in Indonesia and U.S).**

1.2 Research Questions

Based on the descriptions above, the issues to be analysed on this research are:

1. How does the coal mining company in Indonesia apply their CSR report on the website?
2. How does the coal mining company in the U.S apply their CSR report on the website?

1.3 Research Objective

Based on the problem formulation written above, this research aims to:

1. Analyse the application of CSR report on the website of Indonesian coal mining company,
2. Analyse the application of CSR report on the website of the U.S coal mining company, and

3. Understand the pattern on Indonesia and the U.S coal mining company of their CSR reports.

1.4 Research Contributions

Benefit of this research:

1. To researcher

This research provides knowledge and deep understanding on how coal mining company in Indonesia compare to the U.S company on applying CSR reporting on their website and also provide the pattern to compare which field is getting more attention on each countries. It will be useful as the material for those who enter the environmental field in accounting.

2. To future researcher

This research will be beneficial for the future researcher who is interested to do the same research on this field with different scope and approach.

1.5 Writing Systematic

To simplify and clarify the writing of this thesis, the writer uses systematics of writing so that the writing will be more focused. This research will be divided into several chapters, those are:

CHAPTER I: INTRODUCTION

This chapter contains background of the study, identification of the problem, problem formulation, research objectives, research contributions, and systematic of writing.

CHAPTER II: REVIEW OF RELATED LITERATURE

This chapter describes references of previous studies which have been done in the same field as well as load the foundation of theory used to approach the issues that will be examined.

CHAPTER III: RESEARCH METHOD

This chapter elaborates the method of analysis used in the study and data source that are used.

CHAPTER IV: DATA ANALYSIS AND DISCUSSIONS

This chapter contains the finding results from the data that have been obtained previously and analysis to find out the influence of the obtained respective data.

CHAPTER V: CONCLUSION AND RECOMENDATION

This chapter is the concluding chapter which contains the conclusions and implications of the analysis results of the data of the previous chapters.

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 Stakeholders Theory

Stakeholder theory contains theory of how managers or stakeholders should act and should view the purpose of organization, based on some ethical principle (Friedman, 2006). According to Freeman (1984), the old definition of stakeholder is “any group or individual who can affect or is affected by the achievement of the organization’s objectives”. On the latest version of Freeman (2004), it defines stakeholder as “those group who are vital to the survival and success of the corporation”. Friedman (2006) stated the groups and individuals considered as the stakeholders are customer, employees, local communities, suppliers and distributors, shareholders, media, public in general, business partner, future generation, past generation (founders of organization), academics, competitors, NGOs or activist, government, regulator, and policymakers.

The way on how a business involved with all of those stakeholders lists above will be a key feature of the CSR concept. A study from a stakeholder’s perspective concludes that a proactive attitude towards environmental issues can lead to social acceptability of technologies and environmental management (Mutti, Yakovleva, Vazquez-Brust, and Di Marco, 2012). A central premise of much of the literature on stakeholder theory is that focusing on stakeholders, specifically treating them well and managing for their interest, helping a firm to create value along a number of dimensions and is therefore good for firm

performance (Donaldson and Preston, 1995; Freeman, 1984, 1994; Freeman, Harrison and Wicks, 2007; Harrison, Bosse and Phillips, 2010; Jones, 1995; Jones and Wicks, 1999).

2.2 Signaling Theory

The emergence of signaling theory was resulted from the study of information economics under conditions in which buyers and sellers dealt with asymmetric information while interacting in the market (Spence, 1974). According to Connelly et al (2011), getting accurate information is crucial as it affects the decision making processes used by individuals, businesses, and governments. Signaling theory helps to explain the behaviour of two parties when they have access to different information (Connelly, Certo, Ireland, and Reutzel, 2011). It values in convincing combination that can enhance the exchange legitimacy. Influence legitimacy is gained when resource holders support the organization. It is not necessary because they believe that it provides specific favourable exchange but rather because they see it as being responsive to their larger interests (Suchman, 1995).

In the era of globalization, a company is equipped with website to display the information to attract the stakeholders. The strategic signaling refers to actions taken by a signaller to influence view and behaviour of the receiver (Zmud, Croes, Shaft, and Zheng, 2010). A firm that reports its CSR, signals to stakeholders the unobservable attributes that make the firm capable of filling institutional voids and considering society at large (Miller et al., 2009; Porter and Kramer 2006, 2011; Rivoli and Waddock 2011). If stakeholders value these unobservable

attributes, then relevant stakeholders may provide premiums to firms that adopt CSR practices (Ramchander et al., 2012; Spence 1973).

2.3 Legitimacy Theory

Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, belief, and definitions (Suchman, 1995). Matthew (1993) stated that legitimacy theory is organizations seek to establish congruence between the social values associated with or implied by their activities and the norms of acceptable behaviour in the larger social system in which they are a part. In so far as these two value systems are congruent, we can speak of organizational legitimacy.

Every company is trying to manage its legitimacy because it will ensure the continued inflow of capital, labour and customers necessary for viability. It also forestalls regulatory activities by the state that might occur in the absence of legitimacy and pre-empts product boycotts or other disruptive actions by external parties. By mitigating these potential problems, organizational legitimacy provides managers with a degree of autonomy to decide how and where business will be conducted” (Neu et al., 1998). The existence of website will be very helpful to maintain a good legitimacy of a company as Patten (2002) stated that with the increasing of media attention can certainly lead to the potential for increased pressures from any of the three sources (dissatisfaction of public, new

or proposed political action, and increased regulatory oversight), increases in pressure can also arise, particularly with respect to regulatory oversight.

2.4 Corporate Social Responsibility (CSR)

The concept of CSR is interpreted differently by many people and organizations. CSR is a complex concept that has been debated by the academics for over seven decades. It is a plan to change the way of business management, including a commitment to the society. Unfortunately, the application of CSR sometimes requires a help from an expert which will cost a lot for the company. Some people argue that CSR should be a voluntarily as it seems to distract a company from its primary goal to get a lot of profit and please the need of its stakeholders. However, Freeman (2004) defines stakeholder as “those group who are vital to the survive and success of the organization”, which means that CSR can be a way for a company to stay existed for a long term run.

CSR could be defined as a conjoint set of obligation, and legal and ethical commitment- national and international- to stakeholders, which stem from the impact that organizations generate through their activity and social labour, environmental and human rights issues. CSR implies companies’ recognition and integration of social entrepreneurial practices that satisfy those concerns and configure their relationship with their interlocutors (Valor and De la Cuesta, 2003). It is also known as a concept that involves strategic and long-term business approach that will benefit both of the company and the social environment.

The definition of CSR is not limited to theorist. The European Commission (2008) defines CSR as the responsibility of enterprise for their impacts on the society. Furthermore, the definition is expanded by respect for applicable legislation, and for collective agreements between social partners as a prerequisite for meeting that responsibility. To fully meet their corporate social responsibility, enterprise should have in place a process to integrate social, environmental, ethical, human rights, consumer concerns into their business operations and core strategy in close collaboration with their stakeholders' (European Commission, 2011).

2.4.1 Corporate Social Responsibility (CSR) in mining sector

Broad (2014) defines CSR in mining industry as within the business operations of companies economic, social and environmental responsibilities, as well as the need of the host communities. It shows two things. First, it suggests that mining companies are required to cautiously balance the competing interest of all stakeholders regardless of their salience (Dashwood, 2007; Jenkins, 2004). Second, it entails that CSR is a 'zero sum game' characterized by a symbiotic relationship between companies, host communities, employees and ecosystems (Elkington, 1997).

Corporate social responsibility is a concept where organizations serve the interest of society by taking responsibility for the impact of their activities on customers, employees, shareholders, communities, and environment aspects in all aspects of their activities. It is about balancing the diverse demands of

communities and to protect the environment with ever present need to make a profit (Jenkins, 2004).

2.4.2 CSR and the Role of Companies' Website

With the development of internet and globalization, many mining companies have started to have their own website. It becomes a way for an industry to promote its business. Company websites are usual media for communicating CSR policies and practices due to wider stakeholder interest and their information needs (Amaladoss and Manohar, 2013). An effective communication strategy to promote CSR activities and establish a relationship with a community, media, and environmental groups can bring a lot of positive results. Promotion of CSR through website is almost identical to the promotion of any kind of product or service (Gangeshwer, 2013). That means, by reporting CSR on the website, the company promotes itself and build a stronger relationship with the customer while also attract the new ones. Therefore, website is an important tool on modern business.

2.5 Global Reporting Initiative (GRI)

The way of CSR reporting in mining sector has been such an issue as there is no specific of systematic and comprehensive approach of CSR in mining industry. The developed and available reporting standards are used in this respect, such as GRI (Global Reporting Initiative), which consider all dimensions of sustainable development. Kumar (2014) emphasize the importance of GRI which represents the leader in promoting the sustainability reports. As the user of CSR

reports are not just external but also internal, Hedberg and Von Malmborg (2003) stated that CSR report and GRI guidelines are beneficial for internal users because it provides the information about the accomplished activities and obtained result.

The purpose of GRI framework is to promote standardizes organizational performance towards the goal of sustainable development (...) “among organization of any size, sector, or location, “(...) from a small enterprises to those extensive and geographically dispersed operations” (GRI, 2006). The GRI standards that is being used for this research is GRI G4 guidelines with the lists of 12 different categories of environmental indicators (GRI, 2013) such as material, energy, water (use), biodiversity, emission, effluent and waste, transport, products and services, compliance, environmental grievance mechanism, supplier environmental assessment, and overall (refers to environment related financial investment). These approaches will be assessing and communicating mining contribution to sustainability within each analysed principle.

Aspect A: Material

Materials used by weight or volume deals with the total weight or volume that are used to produce and package the organization’s primary products and services during the reporting period. *Percentage of materials used that are recycled input materials* deals with the percentage of recycled input materials used to manufacture the organization’s primary products and services. (“G4 Sustainability Reporting Guidelines,” 2013).

Aspect B: Energy

Energy consumption within the organization deals with total fuel consumption from non-renewable sources in joules or multiples (including fuel types used), total fuel consumption from renewable fuel sources in joules or multiples (including fuel types used), reports in joules, watt-hours or multiples, total energy consumption in joules or multiples, and the sources of the conversion factors used. *Energy consumption outside the organization* deals with energy consumed outside of the organization, standards, methodologies, and assumptions used, and the source of the conversion factors used. *Energy intensity* deals with the energy intensity ratios, the organization-specific metric chosen to calculate the ratio, the types of energy included in the intensity ratio: fuel, electricity, heating, cooling, steam, or all, and whether the ratio uses energy consumed within the organization, outside of it or both. *Reduction of energy consumption* deals with the amount of reduction in energy consumption achieved as a direct result of conservation and efficiency initiatives, the types of energy included in the reduction: fuel, electricity, heating, cooling, and steam, the basis for calculating reductions in the energy consumption such as base year or baseline, and the rationale for choosing it, and standards, methodologies, and assumption used. *Reduction in energy requirement of products and services* deals with the reductions in the energy requirements of solid products and services achieved during the reporting period, the basis for calculating reductions in energy consumption such as base year or baseline, and the rationale for choosing it, and

the standards, methodologies, and assumption used. (“G4 Sustainability Reporting Guidelines,” 2013).

Aspect C: Water

Total water withdrawal by source deals with total volume of water withdrawn from the sources, and standards, methodologies, and assumption used. *The water sources significantly affected by withdrawal of water* deals with the total number of water sources significantly affected by withdrawal, and standards, methodologies, and assumption used. *Percentage and total volume of water recycled and used* deals with the total amount of water recycled and reused by the organization, the total volume of water recycled and reused as a percentage of the total water withdrawal, and standards, methodologies, and assumption used. (“G4 Sustainability Reporting Guidelines,” 2013).

Aspect D: Biodiversity

Operational sites owned, leased managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas deals with the following information of each operational site owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas. *Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas* deals with the nature of significant direct and indirect impacts on biodiversity with references, and significant direct and indirect positive and negative impacts with references. *Protected or restored habitats* deal with the size

and location of all habitat protected areas or restored areas, and whether the success of the restoration measure was or is approved by independent external professional, the status of each area based on its condition at the close of the reporting period, and standards, methodologies, and assumption used. *Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk* deals with the total number of IUCN Red List species and national conservation list species with habitats in areas affected by the operations of the organization. (“G4 Sustainability Reporting Guidelines,” 2013).

Aspect E: Emissions

Direct greenhouse gas (GHG) emissions (scope 1) deals with gross direct (scope 1) GHG emissions in metric tons of CO₂ equivalent, independent of any GHG trades (purchases, sales, or transfers of offsets or allowances, gases included in the calculation (whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all), biogenic CO₂ emissions in metric tons of CO₂ equivalent separately from the gross direct (scope 1) GHG emissions, the chosen base year, the rationale for choosing the base year, emissions in the base year, and the context for any significant changes in emissions that triggered recalculations of base year emissions, standards, methodologies, and assumptions used, the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source, and the chosen consolidation approach for emissions (equity share, financial control, operational control). *Energy indirect greenhouse gas (GHG) emissions (scope 2)* deals with gross energy indirect

(scope 2) GHG emissions in metric tons of CO₂ equivalent, independent of any GHG trades (purchases, sales, or transfers of offsets or allowances), gases included in the calculation, if available, the chosen base year, the rationale for choosing the base year, emissions in the base year, and the context for any significant changes in emissions that triggered recalculations of base year emissions, standards, methodologies, and assumptions used, the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source, if available, and the chosen consolidation approach for emissions (equity share, financial control, operational control). *Other indirect greenhouse gas (GHG) emissions (scope 3)* deals with gross other indirect (scope 3) GHG emissions in metric tons of CO₂ equivalent, excluding indirect emissions from the generation of purchased or acquired electricity, heating, cooling, and steam consumed by the organization (exclude any GHG trades, such as purchases, sales, or transfers of offsets or allowances), gases included in the calculation, if available, biogenic CO₂ emissions in metric tons of CO₂ equivalent separately from the gross other indirect (scope 3) GHG emissions, other indirect (scope 3) emissions categories and activities included in the calculation, the chosen base year, the rationale for choosing the base year, emissions in the base year, and the context for any significant changes in emissions that triggered recalculations of base year emissions, standards, methodologies, and assumptions used, and the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source, if available. *Greenhouse gas (GHG) emissions intensity* deals with the GHG emissions intensity ratio, the organization-

specific metric (the ratio denominator) chosen to calculate the ratio, the types of GHG emissions included in the intensity ratio: direct (scope 1), energy indirect (scope 2), other indirect (scope 3), and gases included in the calculation. *Reduction of greenhouse gas (GHG) emissions* deals with the amount of GHG emissions reductions achieved as a direct result of initiatives to reduce emissions, in metric tons of CO₂ equivalent, gases included in the calculation (whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all), the chosen base year or baseline and the rationale for choosing it, standards, methodologies, and assumptions used, and whether the reductions in GHG emissions occurred in direct (scope 1), energy indirect (scope 2), other indirect (scope 3) emissions. *Emissions of ozone-depleting substances (ODS)* deals with production, imports, and exports of ODS in metric tons of CFC-11 equivalent, substances included in the calculation, standards, methodologies, and assumptions used, and the source of the emission factors used. *NO_x, SO_x, and other significant air emissions* deals with the amount of significant air emissions, in kilograms or multiples, standards, methodologies, and assumptions used, and the source of the emission factors used. (“G4 Sustainability Reporting Guidelines,” 2013).

Aspect F: Effluents and Waste

Total water discharge by quality and destination deals with the total volume of planned and unplanned water discharges, and standards, methodologies, and assumptions used. *Total weight of waste by type and disposal method* deals with the total weight of hazardous and non-hazardous waste, and how the waste disposal method has been determined. *Total number and*

volume of significant spills deals with the total number and total volume of recorded significant spills, spills that were reported in the organization's financial statements, and the impacts of significant spills. *Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the basel convention² annex i, ii, iii, and viii, and percentage of transported waste shipped internationally* deals with the total weight for each, and the percentage of hazardous waste shipped internationally. *Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff* deals with water bodies and related habitats that are significantly affected by water discharges based on the criteria described. ("G4 Sustainability Reporting Guidelines," 2013).

Aspect G: Products and Services

Extent of impact mitigation of environmental impacts of products and services deals with quantitatively the extent to which environmental impacts of products and services have been mitigated during the reporting period, and if use-oriented figures are employed, report the underlying assumptions regarding consumption patterns or normalization factors. *Percentage of products sold and their packaging materials that are reclaimed by category* deals with the percentage of reclaimed products and their packaging materials for each product category, and how the data for this Indicator has been collected. ("G4 Sustainability Reporting Guidelines," 2013).

Aspect H: Compliance

Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations deals with significant fines and non-monetary sanctions, and where organizations have not identified any non-compliance with laws or regulations, a brief statement of this fact is sufficient. (“G4 Sustainability Reporting Guidelines,” 2013).

Aspect I: Transport

Significant environmental impacts of transporting products and other goods and materials for the organization’s operations, and transporting members of the workforce deals with the significant environmental impacts of transporting products and other goods and materials for the organization’s operations, and transporting members of the workforce (where quantitative data is not provided, report the reason), how the environmental impacts of transporting products, members of the organization’s workforce, and other goods and materials are mitigated, and the criteria and methodology used to determine which environmental impacts are significant. (“G4 Sustainability Reporting Guidelines,” 2013).

Aspect J: Overall

Total environmental protection expenditures and investments by type deals with total environmental protection expenditures by waste disposal, emissions

treatment, and remediation costs, and prevention and environmental management costs. (“G4 Sustainability Reporting Guidelines,” 2013).

Aspect K: Supplier Environmental Assessment

Percentage of new suppliers that were screened using environmental criteria deals with the percentage of new suppliers that were screened using environmental criteria. *Significant actual and potential negative environmental impacts in the supply chain and actions taken* deals with the number of suppliers subject to environmental impact assessments, the number of suppliers identified as having significant actual and potential negative environmental impacts, the significant actual and potential negative environmental impacts identified in the supply chain, the percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment, and the percentage of suppliers identified as having significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment. (“G4 Sustainability Reporting Guidelines,” 2013).

Aspect L: Environmental Grievance Mechanism

Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms deals with the total number of grievances about environmental impacts filed through formal grievance mechanisms during the reporting period, of the identified grievances, report how many objects were addressed during the reporting period and resolved during the

reporting period, and the total number of grievances about environmental impacts filed prior to the reporting period that were resolved during the reporting period. (“G4 Sustainability Reporting Guidelines,” 2013).

2.6 Previous Research

Pactwa & Wozniak (2017) conducted a research on the reporting policy on mining industries in Poland. The research aimed to present the CSR reporting with the GRI indicators then compared the result of domestic companies to another foreign company. The result shows that those mining industries in Poland are examples of good practices in terms of CSR. While comparing it to another foreign industry, it shows that the foreign industry is not having a complete reporting on its CSR. It shows that Poland’s mining industry is a better company even when it is a domestic as it is more environment- friendly and society-friendly sector than the foreign company.

A research about how a mining company build a relationship with local communities through CSR formula by Majer (2013) shows that leaders in the industry are trying to approach the sphere in a comprehensive manner by CSR. The area of CSR social involvement, including the construction of relationship with local communities is extremely important for mining companies and the impact on the environment posed by mining company. The fact that most of mining companies plan further actions related to CSR is worth stressing, such as setting strategic and systematic evaluations and reporting activities, based on the recognition of international standards.

Narula, Magray, and Desore (2017) did a research on the livelihood on coal mining area in India affected due to the mining activity. The highlight of the research is how CSR investment can be directed or focused towards livelihood generation activities is important. If a community want to be able to generate livelihood for themselves, a CSR implementation will extremely be useful in India.

Mzembe and Downs (2014) conducted a research with qualitative method on the stakeholders perception of an African-based multinational mining company's CSR. Overall, a lot companies consider on applying CSR for the stakeholder's perception based on the interviews held. This study becomes a bridge for the managers of the company and the stakeholders of Paladin (Africa) to get a better shared understanding of the CSR.

Another research on CSR of mining companies in Kyrgyzstan and Tajikistan by Kotilainen et al (2014) has shown that CSR activities should be analysed as consisting of global commitments on the other hand, and varying forms of national-scale and local implementation practice. The CSR activity should be communicated and webpages can be useful. Using a local language and not only in English but also other language to help the local population for a better understanding.

CHAPTER III

RESEARCH METHOD

3.1 Type of Study

Type of study that is being used by the researcher is qualitative. In qualitative research, it is common that the data are based on 1 to 30 informants (Fridlund and Hildingh, 2000). A qualitative content analysis highlights the integration view of speech or text with its specific context. Qualitative content analysis is a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns (Hsieh and Shannon, 2005).

Hsieh and Shannon (2005) discussed three approaches to qualitative content analysis. First is conventional qualitative content analysis, which coding categories are derived directly and inductively from the raw data. This is used for grounded theory development. Next is directed content analysis, which initial coding starts with a theory or relevant findings. For this approach, the researcher engages themselves in data in order to validate or extend a conceptual framework or theory. The third approach is summative content analysis, which start with the counting of words or manifest content then extend it to include latent meanings and themes. It is used to explore the usage of words or indicate the inductive manners.

In this research, the researcher used directed content analysis approach which allows the researcher to do initial coding that starts with a theory or

relevant research findings. It is used to validate or extend a conceptual framework or theory. The framework for this study was provided by GRI G4 on environmental indicators with twelve aspects as the guideline.

The first step to do a qualitative content analysis begins with preparing the data. When the data comes from existing texts, the choice of the content must be justified by what you want to know (Patton, 2002). Here, the researcher observed ten coal mining companies from Indonesia and the United States based on its Foreign Direct Investment (FDI) by International Energy Agency (IEA). IEA was established in 1974 and it has been working to ensure reliable, affordable and clean energy for its 30 member countries and beyond. The mission is guided by four main areas which are energy security, economic development, environmental awareness, and engagement worldwide. On the other hand, FDI is an investment in a business by investor from foreign country and has control of, or at least substantial influence over, the decision-making of a foreign business. Based on Organization of Economic Cooperation and Development (OECD), it can be controlled by owning 10% or more of the business. For having a good FDI, the parties (the company and foreign investor) should have a medium to stay updated to one another.

By having a good website management, both parties can have a good communication and proper information that they are interested in. Therefore, this study used secondary data provided by the websites. Based on the list of IEA in 2012- 2017 for coal companies, the researcher found ten companies with the highest level of FDI. From Indonesia, the companies that were observed are

Bumi Resource, Bayan Resource, Borneo Lumbung, Adaro Energy, and Harum Energy. While Peabody, Arch Coal, Alpha Natural, Cloudpeak, and Westmoreland were observed from the U.S side.

The website from those companies stated before will be observed thoroughly from the CSR tabs to the information available from the websites that relates to CSR matter. That is because sometimes the CSR tabs only provide the awards that he companies achieve from applying CSR on their company and not providing much information about the CSR activity. Once the researcher finished with gathering the websites and preparing the GRI G4 for the guidelines, the researcher then began to observe the website one by one at the same time respectively. For the sake of consistency, the researcher decided to use Google Chrome as the web browser and framed the time of observation from February to April 2018 at 4- 8 p.m GMT+7. The information then have to be unitized before they can be coded, and differences in the unit definition can affect coding decisions as well as the comparability of outcomes with other similar studies (De Wever et al., 2006). Therefore, defining the coding unit is one of the most fundamental and important decisions (Weber, 1990).

Mirer (1990) stated that dummy variable is used when observing a category. The code that usually used is 1 (one) for the included or 0 (zero) for excluded category. For this research, the researcher used the guidelines prepared on the table lists and put number 1 (one) for every time the website provides listed of information and 0 (zero) when the website is not providing the listed information then concludes it all together for the identification of some patterns.

This study observes the CSR reporting via company website. Dealing with it, some companies provides CSR tab on its website and some just put it among other information. Therefore, the first thing that the researcher did was to check on the CSR tab. Based on that, the researcher found that CSR tab is mostly about CSR activities by the companies and also some awards. It was very small number on CSR tabs that actually applies the GRI G4 guidelines. The researcher then began to observe more through the website with the help of the guidelines. For every list that is checked, the researcher tried to get the evidence on it.

When there is information provided by the website, the researcher then began to put the code (1 or 0) on the table. By the time all the aspects have done being observed, the researcher then went back to do the observation for the following two months. Afterwards, the researchers broke the result into twelve aspects and described each aspect all together from both countries and assigned it with the proof. Then lastly, the researcher will discussed all together and looked for a pattern made from the observation. This pattern will be the answer for research questions and helped the researcher to understand the CSR reports for coal mining company of Indonesia and the U.S.

Table 3.1 Websites analysed

Name of company	Location	Website of the company
Bumi Resource (BuR)	East and South Kalimantan	www.bumiresources.com
Bayan Resource (BaR)	East and South Kalimantan	www.bayan.com.sg
Borneo Lumbang (BL)	Kalimantan	www.borneo.co.id
Adaro Energy (AE)	East and South Kalimantan	www.adaro.com
Harum Energy (HE)	East Kalimantan	www.harumenergy.com
Peabody (P)	Illinois, New South Wales, Queensland	www.peabodyenergy.com
Arch Coal (AC)	West Virginia, Wyoming, Colorado, Illinois	www.archcoal.com
Alpha Natural (AN)	West Virginia	www.alphanr.com
Cloudpeak (C)	Wyoming	www.cloudpeakenergy.com
Westmoreland (W)	Alberta, North Dakota, Ohio, Texas, Wyoming, Montana, New Mexico	www.westmoreland.com

CHAPTER IV

DATA ANALYSIS AND DISCUSSION

4.1 Overview

Chapter four presents and explains the descriptive data analysis through the conducted observation (which was conducted by the researcher). Data gained from the company websites were listed on the previous chapter. Further, the data were analyzed on CSR reports based on GRI G4 guidelines on environmental categories. There are twelve categories and each category was analyzed from both sides (Indonesia and the U.S) which showed a pattern on its reporting style.

4.2 Data Analysis per Aspect

In this section, there are twelve parts of aspects that are analyzed from ten companies. Each aspect was analyzed with the provided tables and then compared all together in order to understand the pattern shown after.

4.2.1 Materials

Table 4.1 Table Materials

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN1	Material used by weight or volume	1	1	1	1	1	1	0	0	0	1
EN2	Percentage of material used that are recycled input materials	1	0	0	1	0	1	0	0	0	0

Table 4.1 shows the material aspects that GRI G4 was listed for CSR report. EN1 concerns about the report of total weight or volume of material that are used to produce and package the organization primary product and services during the reporting period. Based on the table, Indonesia shows more numbers than the U.S. From total, all five companies of Indonesia have this information on their website while only two companies provide it. This shows that Indonesia companies are taking material matter as one of their main concern of CSR reports.

Figure 4.1 Bumi Resource on EN1

Konsumsi Bahan Tidak Terbarukan The consumption of non-renewable materials:	Jenis Material Material	Penggunaan Purpose	Satuan Unit	Tahun Year	
				2015	2016
	Amonium	Bahan peledak / Explosives	Ton		86,573
	Magnetite	Pencucian batubara / Coal washing	Ton		1,060
	Flocculant	Pencucian batubara / Coal washing	Ton		36
	Lime	Pencucian batubara / Coal washing	Ton		128
	Lime	Pengapuran air asam / Neutralizing acidic water	Ton		3,944
	Lubricating Oil	Pelumas / Lubricant	Kilo Liter		6,480

Figure 4.2 Bayan Resource on EN1

Bayan Overview

The Bayan Group is engaged in open cut mining of various coal quality from mines located primarily in East and South Kalimantan. Being an integrated coal producer in Indonesia the Bayan Group through its various mines, produces coal ranging from semi-soft coking coal to environmentally-friendly low sulphur, sub-bituminous coal.

The Bayan Group, through various companies, has exclusive rights to mine under five Coal Contracts of Works (CCOWs) and three Kuasa Pertambangan's (KPs) awarded by the Government of Indonesia over a total concession area of 81,265 Ha/ The Bayan Group coal resources and reserves have been independently verified and certified to international JORC standards by third-party mining consultant.

Serving as an integrated coal producer, the Bayan Group has its own coal loading infrastructure. It owns the largest coal terminal in Indonesia known as the Balikpapan Coal Terminal located in Balikpapan, East Kalimantan, with a throughput capacity of 15 million metric tonnes per annum and a stockpiling capacity of approximately one million tonnes across 16 stockpiles. It can fully load large Panamax vessels (up to 90,000 DWT) and partially load Cape size vessels (up to 200,000 DWT), making the Bayan Group an exceptional integrated coal producer. It is also the only coal producer in the country to operate a Floating Transfer-Station that can be moved to take advantage of the location with the greatest demand or to avoid bad weather and can be positioned to load capsized vessels. These infrastructure assets complement the logistical aspects of the Bayan Group's business and at the same time, provide benefits to take advantage of ample mining opportunities. Whenever capacity permits, these infrastructure assets are also readily utilized by third parties from whom the Bayan Group receives a secondary source of income.

The Bayan Group continues to invest in exploration at its existing mine sites while also exploring potential acquisitions of new coal assets and expansion of infrastructure facilities to complement its existing portfolio

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EN2 deals with the report of percentage on recycled input material used to manufacture the organization primary products and services. Here, both countries show a small number which are two for Indonesia and one for the U.S. Recycling, as we know, is one of the best things that a human being can do to make a positive impact to the world. These days, a lot of people are starting to live with more environmental friendly lifestyles. Therefore, the act of a big company doing such a good activity on recycling their material used will be a huge positive impact.

Figure 4.3 Adaro Energy on EN1 and EN2

Table of the Use of Materials and Recycled Materials

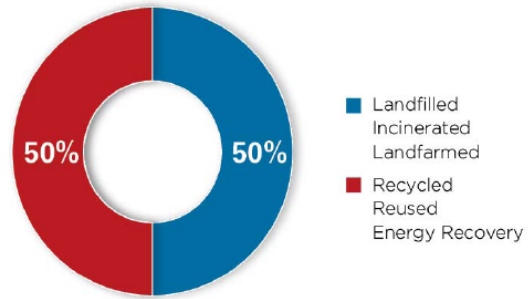
Material	Consumption Amount			Recycled Amount				
	2012	2013	Up (Down)	2012	2013	Up (Down)	% Recycled Material	
Lubricant (in liters)	6.452.128	6.696.985	3,8%	121.381	47.295	-61%	1,9%	0,7%
Grease (in liters)	202.768	314.487	55,1%	-	-	n/a	0%	0%
Ammonium Nitrate (in kgs)	27.125.760	32.965.271	21,5%	-	-	n/a	0%	0%
Emulsion (in kgs)	20.798.634	24.377.936	17,2%	-	-	n/a	0%	0%
ANFO (in kgs)	9.839.520	10.120.829	2,9%	-	-	n/a	0%	0%

Figure 4.4 Peabody EN2

Recycling and Waste Management

Peabody’s waste management strategy incorporates a variety of environmentally responsible practices that address regulatory requirements and sustainability practices. Approximately 10,102,700 kilograms of material was recycled and reused, and 840,579 kilograms of material was used for energy recovery in 2015. Recycled materials included batteries, steel, used oil filters, used oil, lighting products, computers and electronics, antifreeze, small vehicle tires and paper waste. Materials used in energy recovery included used oil, washer solvents and used grease. In 2015, recycling, reuse, and energy recovery accounted for 50 percent of waste disposal activities.

Recycled/Reused/Energy Recovery vs. Landfilled/Incinerated/Landfarmed



4.2.2 Energy

Table 4.2 Table Energy

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN3	Energy consumption within the organization	1	0	1	1	0	1	0	0	0	0
EN4	Energy consumption outside of the organization	0	0	0	0	0	0	0	0	0	0
EN5	Energy intensity	0	0	0	0	0	0	0	0	0	0
EN6	Reduction of energy consumption	1	0	0	1	0	0	0	0	0	0
EN7	Reduction in energy requirements of products and services	0	0	0	0	0	0	0	0	0	0

Table 4.2 shows the aspects of energy that is suggested by GRI G4 to be included on CSR report. EN3 deals with total energy consumption within the organization, which can be electricity, heating, cooling and steam consumption.

Based on the table above, three out of five Indonesian companies provide this information on their website while only Peabody provides this on the U.S side.

Figure 4.5 Bumi Resource on EN3

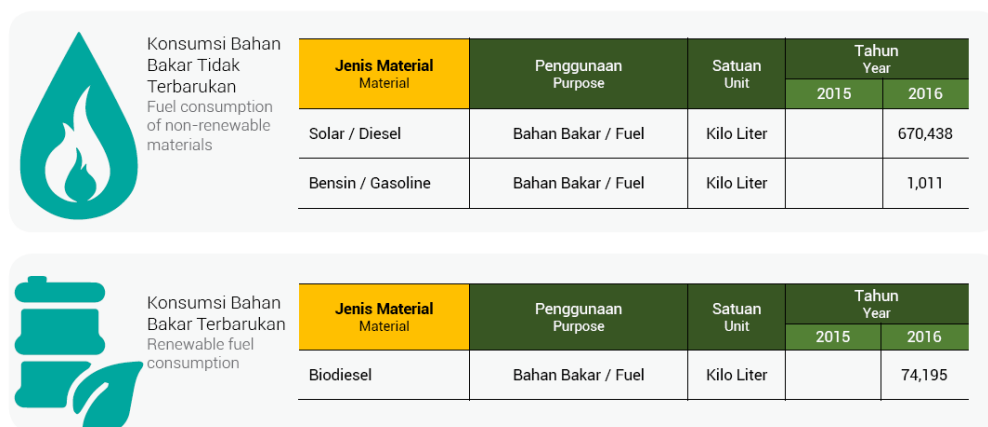


Figure 4.6 Adaro on EN3

Table of the Energy Consumption from Diesel Fuel and Biodiesel

Energy Source	Consumption Amount		
	2012	2013	Up (Down)
Diesel Fuel (in Liter)	622.340.002	635.255.444	2%
Diesel (in gigajoules)	23.586.686.087	24.076.181.339	2%
Biofuel (in gigajoules)	-	27.241.930	n/a
Total (in gigajoules)	23.586.686.087	24.103.423.269	2%

Notes:

- Conversion factor: 1 liter of diesel fuel = 37.9 Joules (Example from the Minister Energy and Mineral Resources Regulation no. 14 year 2012 on Energy Management)
- Electricity and solar energy consumptions are not yet calculated.
- Energy consumption outside organization or value chain is not yet calculated.

Furthermore, EN4 concerns about the energy consumption outside the organization while EN5 deals with energy intensity, for both inside and outside organization and EN7 deals with reduction energy requirements of products and services. The data collected from the observation shows that zero out of ten companies are not providing these information. It shows that both countries have

the same idea that stakeholders are not taking those issues seriously. Therefore they are not providing it as there is zero interest on it.

Lastly, EN6 concerns about the amount of energy consumption reduction. Based on the table above, there are only two companies that provide this information and both of them are Indonesian companies (Bumi Resource and Adaro Energy).

Figure 4.7 Bumi Resource on EN6

Since 2008, we have initiated a fuel-saving programme. KPC commissioned a special team to identify the cause of continuous waste, and ultimately implemented a system of improvement, such as socializing SOP to turn off the engine in unproductive conditions and SOP to maintain the match factor of truck-shovel at optimum operational level. In addition, we also reviewed the optimal range match factor for the option to turn off the shovel when not in use or to shut down the truck when it is off for sufficient time and to install a special light in the truck to monitor whether the operator actually shut down the engine in the standby truck. From the successful implementation of the programme, we managed to save 9,109 kiloliters of fuel in 2016.

Figure 4.8 Adaro Energy on EN6

Table of the Energy Reduction Initiatives

Initiative	Type of Energy	Calculation Method	Achievement in Energy Reduction (gigajoules)	
			2012	2013
The use of solar panels for mining support tools	Diesel Fuel	Power consumption (kWh) * 3.086 (conversion facto: 1 kWh= 3.086 liter of diesel fuel)	4,707,858	9,008,907
The utilization of used lubricants to substitute diesel fuel as blasting agent	Diesel Fuel	The use of used oil = reduced diesel fuel	4,600,340	1,792

4.2.3 Water

Table 4.3 Table Water

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN8	Total water withdrawal by source	1	0	0	1	0	1	0	0	0	0
EN9	Water source significantly affected by withdrawal of water	1	0	0	1	0	0	1	1	0	0
EN10	Percentage and total volume of water recycle and reused	0	0	0	1	0	1	0	0	0	0

Table 4.3 above shows the collected data on the using of water for the company. EN8 deals with the water withdrawal by sources such as surface water, ground water, collected rainwater, waste water from other organization and municipal water supplies. From the table, we can see that two out of five companies from Indonesia provide this information on their websites (Bumi Resource and Adaro Energy) while Peabody is the only company from the U.S that provide this information.

Figure 4.9 Bumi Resource on EN8

Total Pengambilan Air Baku KPC / Water Retrieval of KPC

Lokasi Location	Jumlah Liter Amount Litre
Air Sungai Sangatta / <i>Water of Sangatta River</i>	2,218,613
Air Permukaan dan Sumur Bor Tanjung Bara / <i>Surface Water and Tanjung Bara Drilling Well</i>	995,367
Total pengambilan air / <i>Total of water retrieval</i>	3,213,980
Total air baku diolah (<i>pretreatment</i>)	2,164,347

Figure 4.10 Peabody on EN8

Section G4-EN8: Total Water Withdrawal by Source: The sum of water drawn into the boundaries of the organization from all sources including surface water, groundwater, rainwater and municipal water supply for any use over the course of the reporting period.

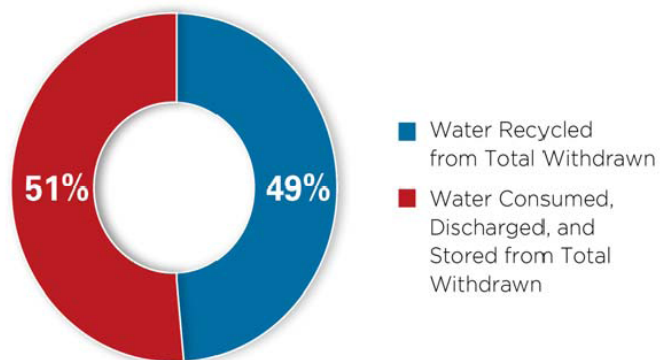
G4-EN8 Total Water Withdrawn by Source	
Total Withdrawn Surface Water	28,394 ML
Total Withdrawn Ground Water	14,955 ML
Total Withdrawn Municipal/Purchased Water	1,868 ML
Total Water Withdrawn	45,217 ML

EN9 concerns about the total number of water sources significantly affected by the withdrawal. From the table above, we can see that both countries are tied by two out of five companies for each. It shows that both Indonesia and the U.S have the same idea on the importance of water affected from the mining activities. On the other hand, EN10 deals with the total volume of water recycled and reused by the organization. Both Indonesia and the U.S are showing the same number from Adaro Energy and Peabody.

Figure 4.11 Peabody on EN10

Peabody is committed to pursuing opportunities to reduce, reuse and recycle water whenever possible and about 50 percent of total water withdrawn or 22,112 megaliters was recycled and reused in 2015. Examples of recycling and reuse at Peabody operations include the recycling of water at coal preparation plants, truck washes and coal storage areas. Peabody strives to use closed loop water circuits at coal preparation plants with the average preparation plants achieving 73 percent recycling rates.

Percent Water Recycled of Total Withdrawn Globally



4.2.4 Biodiversity

Table 4.4 Table Biodiversity

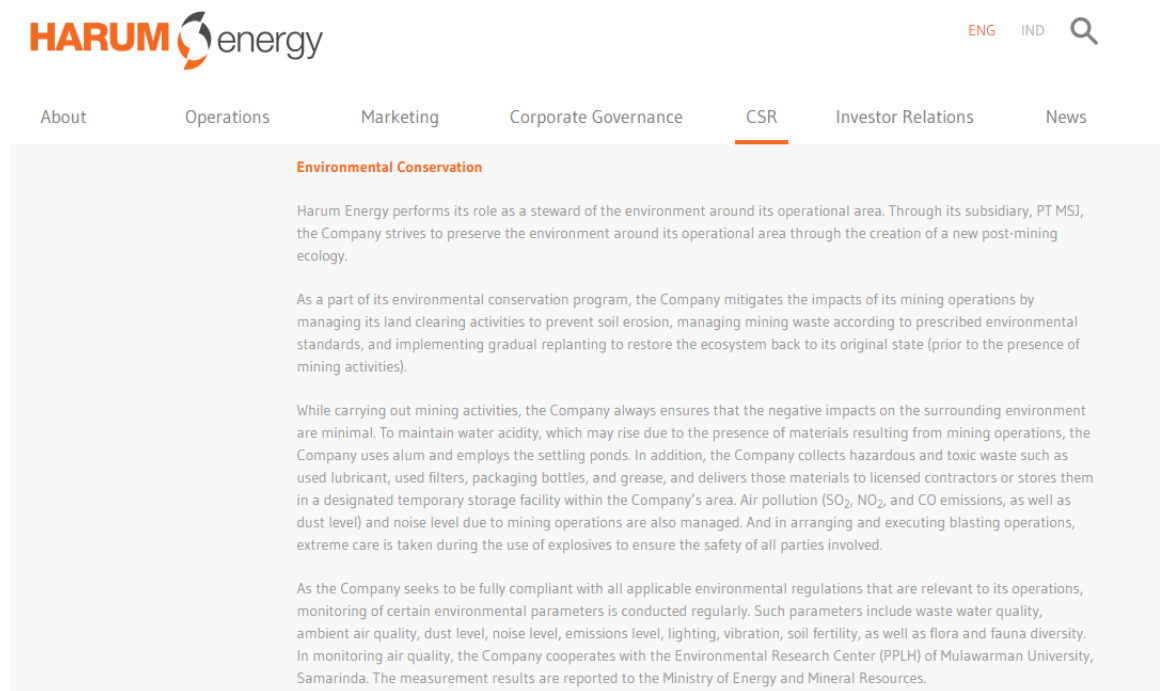
Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	1	0	0	1	1	1	1	1	1	1
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	1	1	0	1	1	1	1	0	0	1
EN13	Habitats protected or restored	1	0	1	1	1	1	1	1	0	1
EN14	Total number of IUNC Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	1	0	0	1	0	1	1	0	0	0

Table 4.4 above shows the aspect on GRI G4 guidelines on biodiversity that are recommended to be put on CSR reports. According to the observation result, this aspect shows significant numbers from both sides. There are more companies that provide this information rather than the one that is not. EN11 concerns about the information for each operational site owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas. As a mining company, this seems to be a big deal as there are more than half of the observed companies report this on their websites. Three out of five Indonesian companies provide this information while four out of five American companies provide this as well. Here shows that the U.S companies have more concern about this issue more than Indonesian companies.


Figure 4.12 Bumi Resource on EN11

PT KPC has a partnership with Nature Conservation Agency (BKSDA) to make wildlife migration especially Orangutans from mining sites or employee housing to safer locations (forest or Kutai National Park area). Throughout 2016, KPC rehabilitated 5,159,780 plants. All of these plants are in 10 areas under KPC monitoring.

Figure 4.13 Harum Energy on EN11



The screenshot shows the Harum Energy website's navigation menu with 'CSR' selected. The 'Environmental Conservation' section is highlighted, containing three paragraphs of text. The first paragraph states that Harum Energy, through its subsidiary PT MSJ, preserves the environment by creating a new post-mining ecology. The second paragraph describes the company's mitigation of mining impacts through land clearing, waste management, and replanting. The third paragraph details the company's efforts to minimize environmental impacts, such as managing water acidity, hazardous waste, air pollution, and noise levels during mining operations.

HARUM energy ENG IND 

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Environmental Conservation

Harum Energy performs its role as a steward of the environment around its operational area. Through its subsidiary, PT MSJ, the Company strives to preserve the environment around its operational area through the creation of a new post-mining ecology.

As a part of its environmental conservation program, the Company mitigates the impacts of its mining operations by managing its land clearing activities to prevent soil erosion, managing mining waste according to prescribed environmental standards, and implementing gradual replanting to restore the ecosystem back to its original state (prior to the presence of mining activities).

While carrying out mining activities, the Company always ensures that the negative impacts on the surrounding environment are minimal. To maintain water acidity, which may rise due to the presence of materials resulting from mining operations, the Company uses alum and employs the settling ponds. In addition, the Company collects hazardous and toxic waste such as used lubricant, used filters, packaging bottles, and grease, and delivers those materials to licensed contractors or stores them in a designated temporary storage facility within the Company's area. Air pollution (SO₂, NO₂, and CO emissions, as well as dust level) and noise level due to mining operations are also managed. And in arranging and executing blasting operations, extreme care is taken during the use of explosives to ensure the safety of all parties involved.

As the Company seeks to be fully compliant with all applicable environmental regulations that are relevant to its operations, monitoring of certain environmental parameters is conducted regularly. Such parameters include waste water quality, ambient air quality, dust level, noise level, emissions level, lighting, vibration, soil fertility, as well as flora and fauna diversity. In monitoring air quality, the Company cooperates with the Environmental Research Center (PPLH) of Mulawarman University, Samarinda. The measurement results are reported to the Ministry of Energy and Mineral Resources.

Figure 4.14 Peabody on EN11

Conservation of Wyoming's Wildlife

Peabody is part of a unique association in Wyoming's Powder River Basin known as the Thunder Basin Grasslands Prairie Ecosystem Association (TBGPEA). This group seeks to join local landowners, ranchers, and energy companies to fund and implement a variety of conservation efforts in the region.

Peabody was one of the original partners of TBGPEA when it started in 1999 with the goal of working to enhance black-tailed prairie dog habitat in the region and help forestall its listing as an endangered species. Even though the prairie dog wasn't listed as an endangered species, the group continued to work on habitat enhancement measures, and has expanded its focus to include a number of species that could be proposed for protection under the Endangered Species Act. One of these is the greater sage-grouse which lives on and in sagebrush, and needs habitat for leeks, or traditional breeding grounds, as well as nesting and brood-rearing activities.



Peabody's commitment to conserving the sagebrush area creates habitat for the sage-grouse as well as other wildlife species such as elk.

Figure 4.15 Alpha Natural on EN11

CONSERVATION

When it comes to conservation, we believe working in partnership with others makes the most impact. That's why we are active partners with the U.S. Fish and Wildlife Service, The Nature Conservancy and the Appalachian Regional Reforestation Initiative. Through these partnerships we have abided by the philosophy of *Running Right* - helping clean rivers, study the impact of mining on wildlife and planting half a million trees a year, to cite a few examples.

Recently, we partnered with the [US Fish and Wildlife Service](#) and [Virginia Tech](#) to conduct a scientific study to determine if endangered mussels were impacted by certain coal mining related activities. The preliminary results showed no discernable link.

Alpha also sponsored the first Coal Mining and the Aquatic Environment Symposium held in Abingdon, Virginia in 2007. This symposium brought together academic, regulatory and coal industry scientists to openly discuss ongoing and needed research on coal mining and its potential impacts upon sensitive aquatic species.

We support the [Powell River Project](#) through both monetary donations and active participation on the governing board and committees. And we fund other PRP environmental and energy-related projects.

As an active partner with [The Nature Conservancy](#), we are working on a variety of projects. Included is an effort to prioritize Abandoned Mined Land restoration opportunities in the [Clinch River](#) and [Powell River](#) watershed to obtain a large post mining conservation easement, and participation in the [Clinch-Powell Clean Rivers Initiative](#).

We also actively support and participate in the [Appalachian Regional Reforestation Initiative](#) and encourage the use of the [Forestry Reclamation Approach](#). Altogether Alpha plants around half a million trees a year. And together with [Bristol Virginia Utilities](#), we have forged a conservation partnership that includes planting a tree for every electricity meter on the BVU system. The BVU partnership has also resulted in Alpha-sponsored environmental scholarship awards as part of their community scholarship program, and joint Earth Day and Arbor Day activities.

And last, but not least, we sponsor conservation groups such as [The National Wild Turkey Federation](#), [The Ruffed Grouse Society](#) and [Quail Forever](#).



EN12 deals with the nature of significant direct and indirect impacts on biodiversity. It includes the construction or use of manufacturing plants, mines, and transport infrastructure, pollution, reduction of species, habitat conversion, and changes in ecological process outside the nature range of variation. Based on table 4.4, Indonesian companies show more numbers than the U.S which is four to three.

Figure 4.16 Bumi Resource on EN12

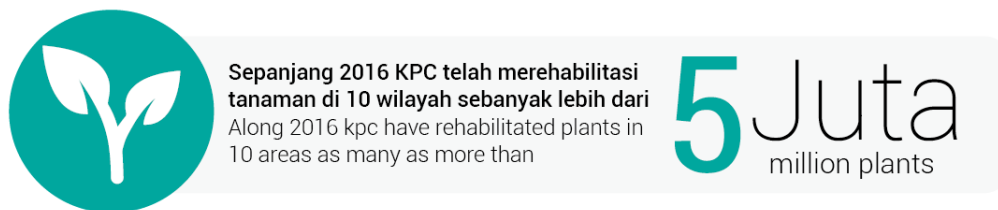





Figure 4.17 Adaro Energy on E12

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Bamboo is an effective way of managing watersheds.

We added environmental responsibility as another pillar of our social investment program in 2013. We have focused on the conservation of watersheds through bamboo planting.

Bamboo is an effective way of managing watersheds because it regulates the quantity and quality of water and also serves as a sediment control system that prevents the reduction of flow in rivers.

In addition, bamboo can be sold for handicraft, which gives this program both environmental and economic value.

In 2014, we continued bamboo planting to halt land degradation along the rivers in the Tabalong and Balangan districts. Yayasan Adaro Bangun Negeri (YABN), the Adaro Bangun Negeri Foundation, plays a key role in educating and training local communities on the economics and environmental benefits of bamboo planting.

In 2015, we plan to provide 5,000 seeds and the location to plant bamboo trees, and form two groups at Tabalong and Balangan districts so that this program can run sustainably.

EN13 concerns about protected or restored habitats. It is the report of size and location of all habitat in the protected areas or restored areas, and also the status of each area based on its condition at the close of the reporting period. Based on the observation, the result shows a very significant numbers as there is only one company from each side that is not providing this information. It means that four out of five companies have the same idea on how important this issue is.

Figure 4.18 Bumi Resource on EN13



Figure 4.19 Peabody on EN13

Environmental Best Practices in Land Restoration

Peabody is committed to implementing environmental best practices across our global platform. The company's work at Busseron Creek in Sullivan County, Indiana, demonstrates this commitment. Like many other streams in Indiana, Busseron Creek was straightened to enhance drainage in the early 1900s. In 2015, Peabody restored 75 percent of the 14,450 linear feet of planned stream restoration, and will complete the project in 2016. The restoration included added structures to the stream to enhance habitat for fish and other aquatic organisms and offsite stabilization of stream banks. In addition, the project restored 234 acres of offsite wetlands.



In 2015, Peabody restored 75 percent of Busseron Creek in Indiana to its original contour; the project will be completed in 2016.

Lastly, EN14 deals with the total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations or the organization, by the level of its extinction risks (currently endangered, endangered, vulnerable, new threatened, least concern). Based on the observation, the result shows that both countries have the same number. Two out of five companies are providing this information.

Figure 4.20 Adaro Energy on EN14

Table of Protected Mammalian Species in Restored Area

Species name (Indonesian and Latin)	Status	Number of species per December 31	
		2012	2013*
Bekantan (<i>Nasalis larvatus</i>)	Endangered	> 25 individuals/group (2 groups)	> 20 individuals/group (3 groups)

Note:

*) No special research conducted, but an independent team of flora and fauna inventory found additional groups in areas different from the previous year.

Table of Bird Species in Restored Area

No.	Family	Scientific Name	Indonesian Name	Common name	PP 7/99		IUCN					
					L	TL/BL	EN	VU	NT	LC	NA	
1	Accipitridae	<i>Haliaeetus Indus</i>	Elang bondol	Brahminy Kite	1	-	LC-d	-	-	-	1	-
2	Accipitridae	<i>Ichnaeetus malayensis</i>	Elang hitam	Black Eagle	1	-	LC-d	-	-	-	1	-
3	Alcedinidae	<i>Alcedo meninting</i>	Raja-udang meninting	Blue-eared Kingfisher	1	-	LC-d	-	-	-	1	-
4	Alcedinidae	<i>Ceyx rufidorsa</i>	Udang punggung-merah	Rufous-backed Kingfisher	1	-	LC-d	-	-	-	1	-
5	Alcedinidae	<i>Pelargopsis capensis</i>	Pekaka emas	Stork-billed Kingfisher	1	-	LC-d	-	-	-	1	-
6	Apodidae	<i>Collocalia maxima</i>	Walet sarang-hitam	Black-nest Swiftlet	-	1	LC-d	-	-	-	1	-
7	Artamidae	<i>Artamus leucorhynchus</i> , <i>A. leucorhynchus</i>	Kekap babi	White-breasted Woodswallow	-	1	LC-s	-	-	-	1	-
8	Campephagidae	<i>Hemipus hirundinaceus</i>	Jingjing batu	Black-winged Flycatcher-shrike	-	1	LC-d	-	-	-	1	-
9	Campephagidae	<i>Lalage nigra</i>	Kapasan kemiri	Pied Thriller	-	1	LC-s	-	-	-	1	-
10	Campephagidae	<i>Pericrocotus flammeus</i>	Sepah hutan	Scarlet Minivet	-	1	LC-s	-	-	-	1	-

4.2.5 Emission

Table 4.5 Table Emission

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN15	Direct Greenhouse Gas (GHG) emissions (scope 1)	0	0	0	1	0	1	0	0	1	0
EN16	Energy indirect Greenhouse Gas (GHG) emissions (scope 2)	0	0	0	1	0	1	0	0	1	0
EN17	Other indirect Greenhouse Gas (GHG) emissions (scope 3)	0	0	0	1	0	1	0	0	1	0
EN18	Greenhouse Gas (GHG) emissions intensity	0	0	0	1	0	1	0	0	1	0
EN19	Reduction of Greenhouse Gas (GHG) emissions	0	0	0	1	0	1	0	0	1	0
EN20	Emissions of Ozone- Depleting Substance (ODS)	0	0	0	1	0	0	0	0	0	0
EN21	NO _x , SO _x , and other significant air emissions	0	0	0	1	1	1	1	0	0	0

The existence of Greenhouse is pretty popular in the U.S more than in Indonesia. According to The Statistics Portal (2016), the U.S is the second largest producer of CO₂ emission worldwide for 15.99% while Indonesia is not even included on the data. It is because the U.S is well supported with the technology for this matter, such as NASA while there is no such thing in Indonesia. However, Adaro Energy seems to be committed on these issues. We can see on the table above, Adaro Energy scores a perfect number. Peabody from the U.S is on the second place with only one score behind on EN20.

Figure 4.21 Adaro Energy on Emission

Table of Amount of Greenhouse Gases from the Use of Diesel Fuel

	Amount		
	2012	2013	Up (Down)
Diesel Fuel consumption (Liter)	622.340.002	635.255.444	2,08%
Greenhouse Gases from the Use of Diesel Fuel (metric tons CO ₂ e)	1.667.871	1.702.485	2,08%

Note:

- Assumption for calculating CO₂ emissions: 1 liter of diesel fuel = 2.68 kg of CO₂, as suggested by the United States Environmental Agency (EPA)

Table of Greenhouse Gas Intensity Related to the Use of Diesel Fuel

Greenhouse Gas (GHG)	Total GHG (in metric tons of CO ₂ e)		
	2012	2013	
GHG from direct diesel fuel consumption	1.667.871	1.702.485	
	Amount Produced and Delivered		
Production	2012	2013	Up (Down)
Envirocoal 4000 (in metric tons)	7.633.549	7.869.854	3,10%
Envirocoal 5000 (in metric tons)	39.553.279	44.396.330	12,24%
Total Production (in metric tons)	47.186.828	52.266.184	10,76%
GHG intensity (in metric tons CO ₂ e/metric ton)	0,04	0,03	-7,84%

Figure 4.22 Peabody on Emission

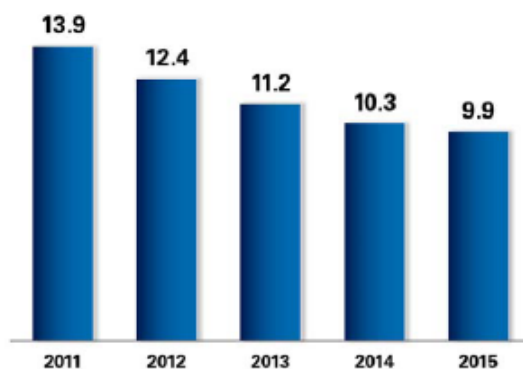
Investing in Efficiency to Limit Greenhouse Gas Intensity

Peabody's greenhouse gas management begins before mine development, continues during overburden and coal removal and is finalized during post-mine reclamation. Peabody has made marked progress toward reducing the release of greenhouse gasses at our operations, as measured by emissions in pounds of carbon dioxide equivalent or CO₂e (CO₂, CH₄ and N₂O) per units of production (raw tons of coal mined and cubic yards of overburden moved).

In 2015, Peabody reported a continued decline in emissions levels – marking six consecutive years with a reduction in total greenhouse gas emissions across global operations. In addition, greenhouse gas intensity declined from 10.3 to 9.9 CO₂e, a result of conscious energy efficiency initiatives. Measuring emissions on a per-unit basis provides a more accurate picture of the emissions profiles of mines at different stages of development.

Global Annual Greenhouse Gas Intensity Declines

Pounds of Greenhouse Gas Emitted (CO₂, CH₄ and N₂O) Per Unit



4.2.6 Effluent and Waste

Table 4.6 Table Effluent and Waste

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN22	Total water discharge by quality and destination	0	0	0	0	0	1	0	0	0	0
EN23	Total weight of waste by type and disposal method	1	0	0	1	0	1	0	0	0	0
EN24	Total number and volume of significant spills	1	0	0	1	0	0	0	0	0	0
EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention ² Annex I, II, III and VIII, and percentage of transported waste shipped internationally	0	0	0	1	0	0	0	0	0	0
EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharge of water and runoffs	0	0	0	0	0	1	0	0	0	0

Table 4.6 shows the sixth aspects on environment matter of GRI G4. There are four matters to this issue. EN22 concerns about the total volume of planned and unplanned water discharged by destination, quality of water, and whether it was reused by another organization. Based on the observation, there is only one company that provides this information on its website which is Peabody from the U.S. It shows that Peabody really does take a serious care on water as it also appears that it has a good report on water aspect on the previous data.

Figure 4.23 Peabody on EN22

Section G4-EN22: Total Water Discharge by Quality and Destination: Sum of water effluents discharged over the course of the reporting period to subsurface waters, surface waters, sewers that lead to rivers, oceans, lakes, wetlands, treatment facilities, and groundwater.

G4-EN22: Total Water Discharge by Quality and Destination	
Total Water Discharged to Surface Water (Rivers and Streams)	34,171 ML
Total Water Transferred to Third Party	86 ML
Total Discharged	34,257 ML

EN23 deals with the total weight of hazardous and non-hazardous waste with the disposal methods such as reusing, recycling, composting, recovery, incineration (mass burn), deep well injection, landfill, on-site storage, and other. It also deals with how the waste disposal method has been determined. Based on the table above, we can see Peabody also becomes the only company from the U.S with this information while there are two companies from Indonesia (Bumi Resource and Adaro).

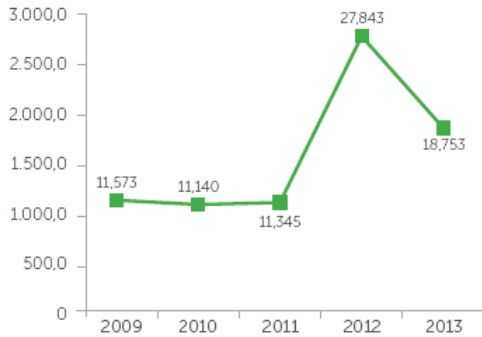
Figure 4.24 Bumi Resource on EN23

Tabel Data Pengelolaan Limbah Non B3 / Non Hazardous Waste Management

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Amount of General Waste (m3)	1,194	1,338	1,376	1,314	1,360	1,571	1,172	1,614	1,239	856	941	774	14,750
	Pemanfaatan kertas (kg) Paper Utilization	Pemanfaatan Sampah Dapur (kg) Kitchen Waste Utilization	Pemanfaatan Palet Kayu (unit) Wood Pallets Utilization	Pemanfaatan Kardus (m³) Cardboard Utilization	Penmanfaatan Cutting Edge (unit) Cutting Edge Utilization	Penmanfaatan Ban Bekas (unit) Used Tire Utilization							
Total	8,211	19,462	740	68	355	2,618							

Figure 4.25 Adaro Energy on EN23

Graph of the Amount of Organic Waste Composted (Kg)



Data on hazardous waste in 2012 and 2013 are shown in the following two tables.

The amount of hazardous waste increased in 2013 to 1,129 metric tons. Of this amount, we transferred as much as 742 metric tons to a third party, while the remaining 233 metric tons were stored in temporary storage.

Figure 4.26 Peabody on EN23

GRI G4-EN23 Waste By Disposal Method

Total Hazardous Waste Reused	0 Kg
Total Hazardous Waste Recycled	2,801,256 Kg
Total Hazardous Waste Composted	0 Kg
Total Hazardous Waste Energy Recovered	259,792 Kg
Total Hazardous Waste Incinerated	269 Kg
Total Hazardous Waste Landfilled	4,248 Kg
Total Hazardous Waste Landfarmed	0 Kg
Total Other Hazardous Waste	0 Kg
Total Non-Hazardous Waste Reused	92,026 Kg
Total Non-Hazardous Waste Recycled	7,209,418 Kg
Total Non-Hazardous Waste Composted	0 Kg
Total Non-Hazardous Waste Energy Recovered	580,787 Kg
Total Non-Hazardous Waste Incinerated	36,097 Kg
Total Non-Hazardous Waste Landfilled	10,714,545 Kg
Total Non-Hazardous Waste Landfarmed	2,542 Kg

Next is EN24 which concerns about the total number and volume of recorded significant spills. The recommendation of information that should be provided by GRI G4 is the location of spill, volume of spill, and the material of spill. From the observation, the researcher found that there are only two companies, both from Indonesia, that provide this information on its website, Bumi Resource and Adaro Energy.

Figure 4.27 Adaro Energy on EN24

TOTAL NUMBER AND VOLUME OF SPILLS [G4-EN24]

During 2012, there was no spills occurred in our operational areas. However, in the following year, we recorded four spill incidents as follows:

1. Diesel fuel spill flowing toward SP (Sump Pit) North 1.

We found a diesel fuel spill that flowed into the sediment pond SP North 1. We immediately cleaned up the spill on the water surface by placing absorbents downstream to prevent it from spreading to safety pond SP North 1.

The absorbed diesel fuel was then contained in a hazardous waste drum. To prevent recurrence, our contractor PT Saptaindra Sejati (SIS) conducted an investigation and reported the results to QHSE (Quality, Health, Safety, and Environment) Department of Adaro Indonesia for follow ups.

3. Diesel fuel spill in Wara

Our contractor, PT Rahman Abdijaya (PT RA), cleaned up diesel fuel spill found in the sump pit area in Wara by using absorbents. The timely response prevented the spill from spreading over a larger area. Afterwards, PT RA conducted an investigation and submitted the results to QSHE Department of Adaro Indonesia for follow ups.

4. Diesel fuel spill in the diesel fuel unloading facility in Kelanis

Approximately 51.25 liters of diesel fuel spilled and pooled on the floor of the pump house due to leakage. We drained the spill, placed oil spill booms and sprayed dispersant. We also carried out an investigation to find the cause and reported the results to QHSE Department of Adaro Indonesia.

EN25 deals with the total weight of transported hazardous waste, imported hazardous waste, exported hazardous waste, and treated hazardous waste. On this issue, only Adaro Energy commits to provide this information. It has the complete information on the produced, treated and also stored total weight.

Figure 4.28 Adaro Energy on EN25

Table of Hazardous Waste in 2012

		Amount in 2012 (in metric tons)		
No	Type	Produced	Treated	Temporarily Stored
1	Used batteries	59,53	56,80	2,73
2	Used filters	612,27	522,39	89,88
3	Residual grease	22,45	21,49	0,96
4	Paint, thinner, and solvent containers	23,71	23,30	0,42
5	Contaminated rags	54,00	47,35	6,66
6	Sawdust	2,06	1,59	0,47
7	Used printer cartridges / ribbons	1,47	1,46	0,01
8	Fluorescent lamps	0,59	0,53	0,05
9	Fuel drums	0,01	0,01	-
10	Used diesel	2,76	2,41	0,35
11	Grease drums	3,67	3,57	0,10
12	Used toner cartridges	0,67	0,67	-
13	Used hoses	25,20	25,13	0,07
14	Used TV monitors and computers	0,15	0,13	0,02
15	Used welding rods	15,53	15,53	-
16	Chemical drums	3,01	2,40	0,61
17	Used gloves	15,11	14,14	0,98
18	Residual soda ash	-	-	-
19	Residual PAC (Polyaluminum Chloride)	-	-	-
20	Sludges	2,75	2,75	-
21	Hydrocarbon-contaminated plastic	0,27	0,27	-
22	Medical waste	0,07	0,07	-
Total		845,27	741,97	103,30

The last issue on this aspect is EN26 that deals with water bodies and related habitats that are significantly affected by water discharges. Based on table 4.6, we can see that Peabody once again becomes the only company that provides this information on its website. It also provided with the information of water data itself.

Figure 4.29 Peabody on EN26

G4-EN26: Water Sources Significantly Affected by Discharge of Water	
Porcupine Creek (Wyoming)	1 ML
Foidal Creek (Colorado)	73 ML
Total Withdrawn Significantly Affected	74 ML

Water Data	
Total Water Withdrawn	45,217 ML
Total Water Withdrawn Surface Water (EN8)	28,394 ML
Total Water Withdrawn Surface Water Significant (EN9)	31 ML
Total Water Withdrawn Ground Water (EN8)	14,955 ML
Total Water Withdrawn Municipal/Purchased Water (EN9)	1,868 ML
Total Water Discharged (EN22)	34,257 ML
Total Water Discharged Surface Water (EN22)	34,171 ML
Total Water Discharged Surface Water Significant (EN26)	74 ML
Total Water Transferred to Third Party for Reuse (EN22)	86 ML
Total Volume of Water Recycled and Reused (EN10)	22,112 ML
Percentage of Water Recycled and Reused (EN10)	49%

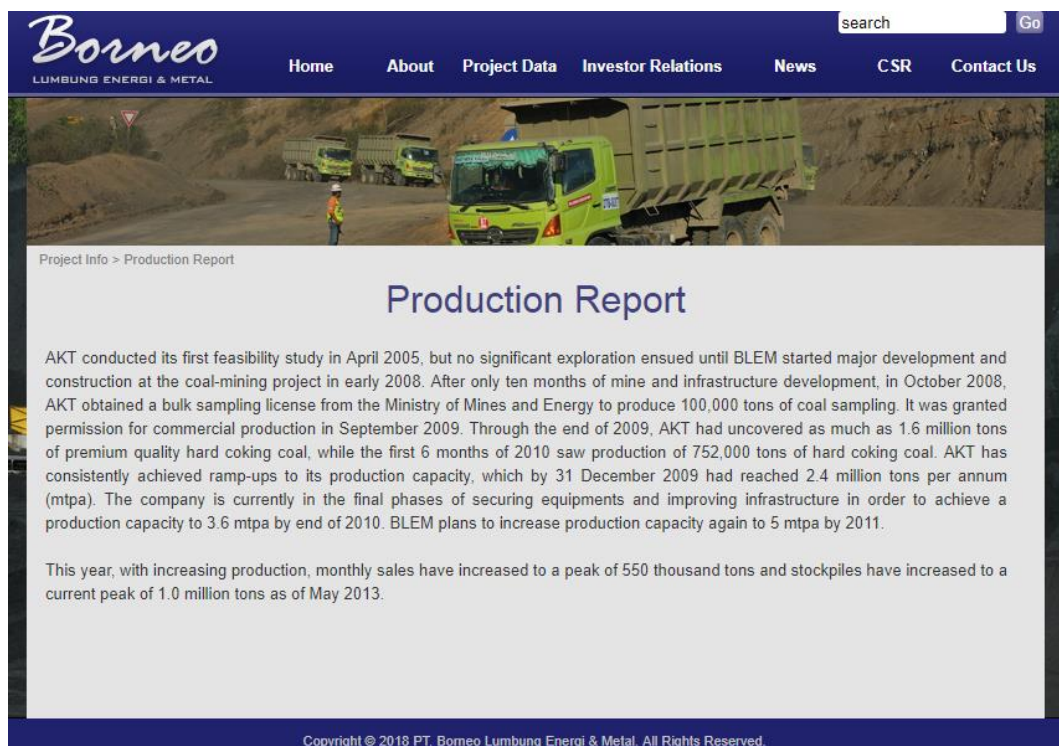
4.2.7 Products and Services

Table 4.7 Table Products and Services

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN27	Extent of impact mitigation of environmental impacts of products and services	0	0	0	0	0	0	0	0	0	0
EN28	Percentage of products sold and their packaging materials that are reclaimed by their category	0	0	1	0	0	0	0	0	0	0

Table 4.7 consists of the products and services matter that concerns about the environmental impact of products and services and also the percentage of reclaimed products and their packaging materials. Surprisingly, there is only one company that provides this information. Borneo Lumbung serves this information (EN28) on its website while the other nine companies are not.

Figure 4.30 Borneo Lumbung on EN28



The screenshot shows the website for Borneo Lumbung Energi & Metal. The header is dark blue with the company logo on the left and a navigation menu on the right. The main content area features a large image of a green truck at a mining site. Below the image, the page title 'Production Report' is displayed in a large, bold font. The text below the title describes the company's production history and current status.

Project Info > Production Report

Production Report

AKT conducted its first feasibility study in April 2005, but no significant exploration ensued until BLEM started major development and construction at the coal-mining project in early 2008. After only ten months of mine and infrastructure development, in October 2008, AKT obtained a bulk sampling license from the Ministry of Mines and Energy to produce 100,000 tons of coal sampling. It was granted permission for commercial production in September 2009. Through the end of 2009, AKT had uncovered as much as 1.6 million tons of premium quality hard coking coal, while the first 6 months of 2010 saw production of 752,000 tons of hard coking coal. AKT has consistently achieved ramp-ups to its production capacity, which by 31 December 2009 had reached 2.4 million tons per annum (mtpa). The company is currently in the final phases of securing equipments and improving infrastructure in order to achieve a production capacity to 3.6 mtpa by end of 2010. BLEM plans to increase production capacity again to 5 mtpa by 2011.

This year, with increasing production, monthly sales have increased to a peak of 550 thousand tons and stockpiles have increased to a current peak of 1.0 million tons as of May 2013.

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4.2.8 Compliance

Table 4.8 Table Compliance

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	1	0	0	1	0	0	0	0	0	0

On this aspect, GRI G4 only requires a company to report significant fines and non-monetary sanction in terms of total monetary value of significant fines, total number of non-monetary sanction, and cases bought through dispute resolution mechanism. From the observation, the researcher found that there are only two out of all ten companies that provide this information. Both of them are Indonesian companies, Bumi Resource and Adaro Energy.

4.2.9 Transport

Table 4.9 Table Tansport

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN30	Significant environmental impacts of transporting products and other goods and materials for the organizations, and transporting members of the workforce	0	0	0	1	0	0	0	0	0	0

Table 4.9 above deals with the significant environmental impacts of transporting products and other goods and materials for the organization's

operations, and transporting members of the workforce, and how it impact the environment. From all companies, only Adaro Energy provides this information.

Figure 4.31 Adaro Energy on EN30

IMPACTS OF TRANSPORTING COAL AND MANAGEMENT OF THOSE IMPACTS [G4-EN30]

With reference to the Ministry of Environment's Decree No. 175 year 2012 on the Environmental Permits for Entire Production Activities of PT Adaro Indonesia's Coal Mines p to 80 Million Metric Tons, we have identified at least four impacts of our coal transportation on the environment. Our efforts to manage those impacts are as follows:

1. Our coal transportation has an impact on the decreasing air quality. This is mainly due to road and coal dust in mining sites, port area and haul road. What we do to suppress dust are as follows:
 - watering the haul road 3-4 times per day, especially during the dry season and in areas close to settlement areas.
 - regularly sweeping road dust along the haul road using a mobile power broom after watering
 - planting perennials and shrubs that can absorb dust along demarcation area and also maintaining the distance from 25 to 50 meters between the haul road or conveyor area and residential areas.
 - establishing procedures and installing speed limit signs for large vehicles and haul trucks.

4.2.10 Overall

Table 4.10 Table Overall

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN31	Total environmental protection expenditure and investment by type	1	0	0	1	0	0	0	0	0	0

Overall the aspect on GRI G4 concerns about the total environmental protection expenditure by water disposal, emission treatment, and remediation costs, and also prevention and environmental management cost. Based on the table above, there are only two companies provide this information and both of them are Indonesian companies, Bumi Resource and Adaro Energy. None of the U.S companies provide this information on its website.

Figure 4.32 Bumi Resource on EN31

Alokasi Biaya Perlindungan dan Pengelolaan Lingkungan Hidup Cost Allocation for Environmental Protection and Management	
Alokasi Biaya Lingkungan / Cost Allocation for Environment	Jumlah / Amount (USD)
Biaya Pengelolaan Lingkungan / Cost of Environmental Management	53,400,472
Biaya Pemantauan Lingkungan / Cost of Environmental Monitoring	874,274
Konsultan Lingkungan dan Pelatihan / Environmental Consultant and Training	469,244
Biaya Subkontraktor / Cost Subcontractor	26,576,104
Audit Eksternal ISO 14001 / ISO 14001 External Audit	147,212
TOTAL	81,467,307

Figure 4.33 Adaro Energy on EN31

Table of Details of Investment for Environmental Management and Monitoring (Rp)

No	Environmental Management & Monitoring Cost	2012	2013
1	Environmental Management Costs		
	• Land arrangement	16.923.876.119	11.384.310.346
	• Forestation, including:		
	a. Seeding	443.849.132	202.045.613
	b. Planting	8.944.876.423	3.824.682.940
	c. Tending	1.536.379.078	1.397.334.576
	d. Purchase of cover crops	205.467.006	134.914.364
	• Management of Environmental Quality		
	a. Surface water	8.535.474.280	12.994.117.512
	b. Prevention and treatment of acid mine drainage	1.995.480.000	2.067.416.039
	c. Biodiversity	-	379.620
	d. Environmental research and development activities	2.147.136.100	727.217.875
	• Dredging of sludge from settling ponds	12.106.255.084	7.647.040.088
	• Maintenance of settling ponds	1.919.862.333	4.836.527.946
	• Civil works, such as construction of dams / settling ponds	88.883.592.105	51.991.616.620
2	Environmental Monitoring Costs		
	• Procurement of monitoring equipment / laboratory equipment & materials	191.338.400	336.356.407
	• Laboratory analysis (environmental monitoring)	4.157.472.000	1.206.219.590
3	Commemoration of Earth Day, Environment Day and Mining & Energy Day	327.000.000	194.081.450
	Total	148.318.058.060	98.944.260.985

4.2.11 Supplier Environmental Assessment

Table 4.11 Table Supplier Environmental Assessment

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN32	Percentage of new suppliers that were screened using environmental criteria	0	0	0	1	0	0	0	0	0	0
EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	0	0	0	1	0	0	0	0	0	0

Table 4.11 deals with the reports on percentage on the new supplier and also the number of supplier which are subjected to environmental impacts assessment.

From two issues, there are only one company provides both of them and it is once

again, Adaro Energy. It appears that this company has complete information about this aspect on its website.

Figure 4.34 Adaro Energy on Supplier Environmental Assessment

Table of Management of Contractors' Environmental Aspects

Criteria	Included in the work contract?	Awards for those who meet the criteria
Preventive	Yes	letter of Appreciation
Corrective, if an incident occurs	Yes	letter of Appreciation
Management through procurement practices & policies	Yes	letter of Appreciation
Environmental aspects become criteria of work	Yes	letter of Appreciation
Transfer of knowledge and capacity improvement in the management of environmental impacts	Yes	letter of Appreciation
Termination of work contract with supplier, in the event of environmental incident	No	not relevant

Note: The criteria for implementation refers to CSMS

4.2.12 Environmental Grievance Mechanism

Table 4.12 Table Environmental Grievance Mechanism

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN34	Number of grievances about environmental impacts field, addressed, and resolved through formal grievance mechanism	0	0	0	1	0	0	0	0	0	0

The last aspect on environment of GRI G4 is environmental grievance mechanism. Here, it deals with the total number of grievance about environmental impacts. Adaro Energy is also the only company that provides this information on its website.

Figure 4.44 Adaro Energy on EN34

Table of Environmental Grievances Filed and Resolved

Reporting party	Total grievances in 2012		Total grievances in 2013		Total grievances filed before 2012 that have not been resolved as of 31 Dec 2013	Total grievances before 2012 resolved in the period of 2012 and 2013
	Filed	Resolved	Filed	Resolved		
Community	25	23	79	49	32	72

4.3 Discussion

Table 4.13 Table Data Collected

Indicators		Indonesia					The U.S				
		BuR	BaR	BL	AE	HE	P	AC	AN	C	W
EN1	Material used by weight or volume	1	1	1	1	1	1	0	0	0	0
EN2	Percentage of material used that are recycled input materials	1	0	0	1	0	1	0	0	0	0
EN3	Energy consumption within the organization	1	0	1	1	0	1	0	0	0	0
EN4	Energy consumption outside the organization	0	0	0	0	0	0	0	0	0	0
EN5	Energy intensity	0	0	0	0	0	0	0	0	0	0
EN6	Reduction of energy consumption	1	0	0	1	0	0	0	0	0	0
EN7	Reduction in energy requirements of products and service	0	0	0	0	0	0	0	0	0	0
EN8	Total water withdrawal by source	1	0	0	1	0	1	0	0	0	0
EN9	Water source significantly affected by withdrawal of water	1	0	0	1	0	0	1	1	0	0
EN10	Percentage and total volume of water recycle and reused	0	0	0	1	0	1	0	0	0	0
EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	1	0	0	1	1	1	1	1	1	1
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value	1	1	0	1	1	1	1	0	0	1

	outside protected areas										
EN13	Habitats protected or restored	1	0	1	1	1	1	1	1	0	1
EN14	Total number of IUNC Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	1	0	0	1	0	1	1	0	0	0
EN15	Direct Greenhouse Gas (GHG) emissions (scope 1)	0	0	0	1	0	1	0	0	1	0
EN16	Energy indirect Greenhouse Gas (GHG) emissions (scope 2)	0	0	0	1	0	1	0	0	1	0
EN17	Other indirect Greenhouse Gas (GHG) emission (scope 3)	0	0	0	1	0	1	0	0	1	0
EN18	Greenhouse Gas (GHG) emission intensity	0	0	0	1	0	1	0	0	1	0
EN19	Reduction of Greenhouse Gas (GHG) emission	0	0	0	1	0	1	0	0	1	0
EN20	Emission of Ozone- Depleting Substance (ODS)	0	0	0	1	0	0	0	0	0	0
EN21	NO _x , SO _x , and other significant air emissions	0	0	0	1	1	1	1	0	0	0
EN22	Total water discharge by quality and destination	0	0	0	0	0	1	0	0	0	0
EN23	Total weight of waste by type and disposal method	1	0	0	1	0	1	0	0	0	0
EN24	Total number and volume of significant pills	1	0	0	1	0	0	0	0	0	0
EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of Basel Convention ² Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	0	0	0	1	0	0	0	0	0	0
EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharge of water and runoffs	0	0	0	0	0	1	0	0	0	0
EN27	Extents of impact mitigation of environmental impacts of products and services	0	0	0	0	0	0	0	0	0	0
EN28	Percentage of products sold and their packaging materials that are reclaimed by their category	0	0	1	0	0	0	0	0	0	0

EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	1	0	0	1	0	0	0	0	0	0
EN30	Significant environmental impacts of transporting products and other goods and materials for the organization, and transporting members of the workforce	0	0	0	1	0	0	0	0	0	0
EN31	Total environmental protections expenditure and investment by type	1	0	0	1	0	0	0	0	0	0
EN32	Percentage of new suppliers that were screened using environmental criteria	0	0	0	1	0	0	0	0	0	0
EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	0	0	0	1	0	0	0	0	0	0
EN34	Number of grievances about environmental impacts field, addressed, and resolved through formal grievance mechanism	0	0	0	1	0	0	0	0	0	0

According to the observation, table 4.13 above shows the pattern of each country as a whole on its CSR reports. From the study, it shows that Indonesian companies are applying GRI G4 as their guidelines on reporting its CSR activity more than the United States companies does. Overall, there are three companies that are applying GRI G4 on its CSR which are Bumi Resource, Adaro Energy and Peabody. These three companies continuously show that they are trying their best to follow the GRI G4 framework.

Indonesian companies show fair numbers for all aspects as Bumi Resource and Adaro Energy are really trying to follow the GRI G4 framework. However, from the table, we can also see that material and biodiversity aspect seem to be the most concern of Indonesian companies. On the other hand, the U.S companies show its biggest concern on biodiversity aspect as almost all observed companies

are providing the information about it. As for the both parties, it shows that both Indonesia and the U.S are taking serious concern on the biodiversity aspect. It is probably because the companies think that biodiversity is important and it is easier to be controlled.

According to the theories applied for this study, some of the companies concern about the biodiversity due to the stakeholders concern on this aspect. These companies are signalling to the stakeholders that they are trying their best to fulfil on what matters to them. In the end, getting the loyalty and respect from the stakeholder will keep the company on a long run.

Nonetheless, these companies are trying to provide a good CSR report on its website. Some of them are just not applying the GRI G4 as the researcher cannot find some information on its website. They are having their own standard on reporting as there is no rule on what to report same as the previous research conducted by Pactwa & Wozniak (2017) on Poland's mining industries. They were comparing the CSR reports on Poland's mining industries to the foreign industries with GRI and also some domestic rules as the guidelines. As the result, some of the companies compared are applying GRI and some of them are not because they are having their own rules on what to report for CSR.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The aim of this study is to understand the pattern on Indonesia and the U.S coal mining company on their CSR reports via website. This study uses GRI G4 as a guideline on environmental indicators. The previous research showed that a domestic company of Poland as a good practice in terms of CSR. While it is being compared to foreign company, domestic company shows that it is more environment and society friendly.

This research used stakeholders theory, signaling theory and legitimacy theory to conduct the entire research. The stakeholders theory argues about how managers and stakeholders should take a look on the purpose of organization and that it can define the success of the organization. Based on the result, it shows that these companies are providing CSR reports on its website to be transparent so that the current and potential stakeholders will get accurate information of the company they put trust on.

Signaling theory discusses on both parties (buyer and seller) to get accurate information because it is crucial and it affect the decision making. To apply this theory, website is a very useful tool to send the signal to the receivers. From the observation, the researcher found that these mining companies are applying

signaling theory on their website because they are basically sell their good side on CSR reports to keep and attract its stakeholders.

Legitimacy theory deals with generalization of actions from an organization to be considered as desirable, proper, or appropriate to the society. It can help to ensure the life of a company. Once again, this theory suits well with a good management of company's website. Based on the study, companies' website with good CSR report will get more attention and approval from the society for its existence and activities.

This research took ten companies listed on International Energy Agency (IEA) from having uppermost Foreign Direct Investment (FDI) for 2012- 2017. Then it is being analyzed by qualitative content analysis with direct content analysis because the researcher used GRI G4 as the framework to make a guideline to observe environmental indicators. Table 5.1 below illustrated summary of the results.

Table 5.1 Table Summary of Results

Research Objectives	Results
How the coal mining companies in Indonesia apply their CSR report on the website?	The coal mining companies of Indonesia are showing a good number compared to the U.S. From all five companies being observed, there are two companies that are applying GRI

	<p>G4 as their guideline on reporting CSR, Bumi Resource and Adaro Energy. Indonesian companies also show that the main concerns on its CSR reports are material and biodiversity.</p>
<p>How the coal mining companies in the U.S apply their CSR report on the website?</p>	<p>Despite of showing lower number than Indonesia, the U.S shows its biggest concern on biodiversity aspect. There is also an outstanding company from this country applying GRI G4 on its CSR report which is Peabody.</p>
<p>The pattern on Indonesia and the U.S coal mining company of their CSR reports.</p>	<p>Both of the countries are showing big interest on biodiversity. It is probably because it is the closest one to their main job after finishing their mining activity.</p>

Based on the study, Indonesian companies are applying GRI G4 as their guideline on reporting its CSR on the website while the U.S is having their own ways on reporting it. Therefore, Indonesia is showing more numbers than the U.S which means that Indonesia is more environment friendly than the U.S.

5.2 Research Limitation

This research cannot be separated by any limitation that needs to be corrected and improved by the next researcher. The limitation of this researcher is that not all of the companies have a good website management because they are not updating their website regularly. The next problem is not all companies are applying GRI G4 that creates not really a significant numbers from both side but also the inability of the researcher to find some data which is not provided on their websites.

5.3 Recommendation

The recommendation for future research is, it will be better if the consideration on choosing the companies is based on something that is more familiar. FDI is not a very common thing to use but it also makes a lot of sense if the companies are doing international relationship with foreign investors. In addition, recommendation for future researcher is to be sure that GRI G4 is well known and being used by most of the companies observed.

REFERENCES

- Ali, S.H. (2003). *Mining, the environment, and indigenous development conflict*. Tucson: University Arizona Press.
- Allen, B., & Reser, D. (1990). Content analysis in library and information science research. *Library & Information Science Research*.
- Amaladoss, M.X., & Manohar, H.I. (2013). Communicating corporate social responsibility: a case of CSR communication in emerging economics. *Corporate Social Responsibility and Environmental Management*, 20, 65-80.
- Baik, M.H., Hyun, S.P., & Hahn, P.S. (2003). Surface and bulk sorption of uranium (VI) onto granite rock. *J. Radioanal. Nucl. Chem*, 256, 11-18. Retrieved from <http://dx.doi.org/10.1023/A:1023331521718>.
- Broad, R. (2014). Responsible mining. *Moving from a buzzword to real responsibility*, 82, 793- 805.
- Campbell, D.A., & Beck, C. (2004). Answering allegations: the use of the corporate website for restorative ethical and social disclosure. *Business Ethics: A European Review*, 13, 100-116.
- Connelly, B.L., Certo, S.T., Ireland, R.D., & Reutzel, C.R. (2011). Signaling theory: a review and assessment. *Journal of Management*, 2, 12. Retrieved from <http://dx.doi.org/10.1177/0149206310388419>

- Cooper, S.M. (2003). Stakeholder communication and the internet in UK electricity companies. *Managerial Auditing Journal*, 18.
- Danielson, L. (2006). *Architecture for change: an account of the mining, minerals and sustainable development project*. Berlin: Global Public Policy Institute.
- Dashwood, H.S. (2007). Canadian mining companies and corporate social responsibility: weighting the impact of global norms. *Can. J. Pol. Sci*, 40, 129-156.
- De Wever, B., Schellens, T., Valcke, M., & Van Keer, H. (2006). Content analysis schemes to analyze transcript of online asynchronous discussion groups: a review. *Computer & Education*, 46, 6-28.
- Donaldson, T., & Preston, L.E. (1995). The stakeholder theory of the corporation: concepts, evidence, and implications. *The Academy of Management Review*, 20, 65-91.
- Douglas, A., Doris, J., & Johnson, B. (2004). Corporate social reporting in Irish financial institutions. *The TQM Magazine*, 16, 387-395. Retrieved from <http://doi.org/10.1108/09544780410563301>
- Du, S., & Vieira Jr., E.T. (2012). Striving for legitimacy through corporate social responsibility: insight from oil companies. *J. Bus. Ethics* 110(4), 431-427.
- Durovic, I. & Randic, D. (2011). *Značaj korporativne društvene odgovornosti za savremeno poslovanje*. Kragujevac: Nacionalna konferencija o kvalitetu.

- Earthworks. (2012). *Dirty gold campaign*. Retrieved from <http://www.nodirtygold.org/home.cfm>
- Elkington, J. (1997). *Cannibals with forks: the triple-bottom line of the 21st century business*. UK: New Society Publishers.
- European Commission. (2011). *Communication from the commission to the European parliament, the council, the European economic and social committee and the committee of the regions: a renewed EU strategy 2011-2014 for corporate social responsibility*. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?url=COM:2011:0681:FIN:EN:PDF>.
- Esrock, S.L. Leichty, G.B. (1998). Social Responsibility and Corporate Web Pages: *Self-presentation or Agenda Setting?*. *Public Relations Review*, Vo. 24.
- Esrock, S.L. & Leichty, G.B. (2000). Organization of corporate web pages: publics and functions. *Public Relations Review*, 26.
- Flues, M., Camargo, I.M.C., Silva, P.S.C., & Mazzilli, B.P. (2006). Radioactivity of coal and ashes from Figueira coal power plant in Brazil. *J. Radioanal. Nucl. Chem*, 270 (3), 597-602. Retrieved from <http://dx.doi.org/10.1007/s10967-006-0467-0>.

- FOE. (2002). *Phasing out international financial institution financing for fossil fuel and mining projects: demanding local community self-determination*. Amsterdam: Friends of the Earth International.
- Freeman, R.E. (1984). *Strategic management: a stakeholder approach*. Boston.
- Freeman, R.E. (2004). A stakeholders theory of modern corporation. *Ethical Management Review*, 5(3), 228-254.
- Freeman, E. Harrison, J., Wicks, A., Parmar, B., & De Colle, S. (2010). *Stakeholder theory: the state of the art, first*. New York: Cambridge University Press.
- Fridlund, B., & Hildingh, C. (2000). Health and qualitative analysis methods. *Student literature*, 13-25.
- Friedman, A.L. (2006). *Stakeholders theory and practice*. UK: Oxford University Press.
- Fungaro, D.A., & Izidoro, J.C. (2006). Remediacao da drenagem acida de mina usando zeolitas sintetizadas a partir de cinzas leves de carvao. *Quim.Nova*, 29, 735-740. Retrieved from <http://dx.doi.org/10.1590/S0100-40422006000400019>.
- Greenpeace. (2010). *Tar sands in your tank*. Retrieved from <http://www.greenpeace.org/canada/en/recent/Tar-Sands-in-Your-Tank/>
- GRI. (2006). *Sustainability Reporting Guidelines (G4)*. Amsterdam.

- GRI G4. (2013). *Sustainability reporting guidelines, reporting principles and standard disclosure*. Retrieved from <http://www.globalreporting.org/resorcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosure.pdf>).
- Hahn, R., & Kuhnen, M. (2013). Determinants of sustainability reporting: a review of results, trends, theory, and opportunities in an expanding field of research. *Journal of Cleaner Production*, 59, 5-21.
- Hahn, R., & Lülfs, R. (2013). legitimizing negative aspects in gri-oriented sustainability reporting: a qualitative analysis of corporate disclosure strategies. *Journal of Business Ethics*, 3.
- Harrison, J. S., Bosse, D. A., & Phillips, R. A. (2010). Managing for stakeholders, stakeholder utility functions and competitive advantage. *Strategic Management Journal*, 31(1). Retrieved from <http://dx.doi.org/10.1002/smj.801>.
- Hedberg, C.J. & Von Malmborg, F. (2003). The global reporting initiative and corporate sustainability reporting in Swedish companies. *Corporate Social Responsibility and Environmental Management*, 10(3).
- Hsieh, H.-F., & Shannon, S.E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 77-88.
- Idemudia, U. (2007). *Corporate partnerships and community development in the Nigerian oil industry: strengths and limitations (markets, business and*

regulation programme. Retrieved from

https://www.researchgate.net/publication/263604496_Conceptualising_the_CSR_and_Development_Debate.

Jenkins, H. (2004). Corporate social responsibility and the mining industry: conflict and constructs. *Corporate Social Responsibility and Environmental Management*, 11, 23-34.

Jones, T. M. (1995). Instrumental stakeholder theory: a synthesis of ethics and economics. *Academy of Management Review*, 20, 404-437.

Jones, T. M., & Wicks, A. C. (1999). Convergent stakeholder theory. *Academy of Management Review*, 24(2), 206-221.

Kemp, D. (2010). Community relations in the global mining industry: exploring the internal dimensions of externally orientated work. *Corporate Social Responsibility and Environmental Management*, 101(1), 93-109.

Kepore, P.K., & Imbum, P.K. (2011). Mining and stakeholder engagement disclosure in a Papua New Guinea mine. *Corp. Soc. Responsibil. Environ. Manag*, 18, 220- 233. Retrieved from <http://dx.doi.org/10/1002/csr.234>.

Kotilainen, J., Prokhorova, E., Sairinen, R., & Tiainen, H. (2015). Corporate social responsibility of mining companies in Kyrgyzstan and Tajikistan. *Resource Policy*, 45, 202-209.

- Kumar, R. (2014). *A study on sustainability reporting practices in Indian and global companies with special references to the petroleum companies*. India: University of New Delhi.
- Mahmood, M., & Orazalin, N. (2017). Green governance and sustainability report in Kazakhstan's oil, gas, and mining sector: evidence from a former USSR emerging economy. *Journal of Cleaner Production*, 164, 389-397.
- Maignan, I. & Ralston, D.A. (2002). Corporate social responsibility in Europe and the US: insight from businesses' self-presentations. *Journal of International Business Studies*, 33.
- Majer, M. (2013). The practice of mining companies in building relationship with coal communities in the context of CSR formula. *Journal of Sustainable Mining*, 12(3), 38-47.
- Mathews, M.R. (1993), *Socially responsible accounting*. London: Chapman and Hall.
- McAller, P., & McElhinney, A. (2006). *Mine your own business: the dark side of environmentalism*. UK.
- Miller, D., Lee, J., Chang, S., & Le Breton- Miller, I. (2009). Filling the institutional void: the social behaviour and performance of family vs non-family technology firms in emerging markets. *Journal of International Business Studies*, 21(2), 591-613.

- MiningWatch. (2004). *When mining doesn't work: towards sustainable mining communities*. Canada: MiningWatch.
- Mirer, T.W. (1990). *Economic statistics and econometrics*. Maxwell. Macmillan
- Mutti, D., Yakovleva, N., Vazquez- Brust, D., & Di Marco, M.H. (2012). Corporate social responsibility in the mining industry: perspective from stakeholder groups in Argentina. *Resources Policy*, 37, 212- 222.
- Mzembe, A.N., & Downs, Y. (2014). Managerial and stakeholder perception of an Africa-based multinational company's corporate social responsibility (CSR). *The Extractive Industry and Society*, 1(2), 121-370.
- Narula, S.A., Magray, M.A., & Desore, A. (2017). A sustainable livelihood framewok to implement CSR project in coal mining sector. *Journal of Sustainable Mining*, 16(3), 83-93.
- Neu, D., Warsame, H., & Pedwell, K. (1998). Managing public impression environmental disclosure in annual reports. *Accounting Organizational and Society*, 23.
- Owen, J.R., & Kemp, D. (2015). Mining- induced displacement and resettlement: a critical appraisal. *Journal of Cleaner Production*, 37, 473- 488.
- Pactwa, K., & Wozniak, J. (2017). Environmental reporting policy of the mining industry leaders in Poland. *Resource Policy*, 53, 201-207.
- Patagonia. (2014). *The footprint chronicles URL*. Retrieved from <http://www.patagonia.com/us/footprint>.

- Patten, D.M. (2002). Media exposure, public policy pressure, and environmental disclosure: an examination of the impact of tri data availability. *Accounting Forum*, 26.
- Patton, M.Q. (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage.
- Pitman. (1994). *The politics of stakeholder theory: some future directions. business ethics quarterly*. Retrieved from <http://dx.doi.org/10.2307/3857340>
- Porter, M.E., & Kramer, M.R. (2006). *The link between competitive advantage and corporate social responsibility*. Boston: Harvard Business Review.
- Porter, M.E., & Kramer, M.R. (2011). *Creating shared value*. Boston: Harvard Business Review.
- Ramchander, S., Schweback, R.G. & Staking, K. (2012). The information relevance of corporate social responsibility: evidence from DS400 index reconstitutions. *Strategic Management Journal*, 33, 303-314.
- Rivoli, P., & Waddock, S. (2011). *First they ignore you ...: the time-context dynamic and corporate responsibility*. Berkeley: California Management Review.
- Rotheroe, D. (2000). *The coconut revolution*. UK.
- Sartre, J.P. (1977). *Critique of dialectical reason: theory of practical ensembles verso*. London.

- Snider, J., Hill, R.P., & Martin, D. (2003). Corporate social responsibility in the twenty first century: a view from the world's most successful firms. *Journal of Business Ethics*, 48.
- Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87, 355-374.
- Suchman, M.C. (1995). Managing legitimacy: strategic and institutional approaches. *Academy of Management Review*, 20(3), 571-610.
- USEPA (United States Environmental Protection Agency). (1995). *Human health and environmental damages from mining and mineral processing wastes, archive document, office of solid waste, US environ.* US: Protection Agency.
- Valor, C., & De la Cuesta, M. (2003). Responsabilidad social de la empresa: concepto, medicion y desarrollo en espana. *Boletín Económico ICE*, 2755, 7-20.
- Van Doren, D. C., Fechner, D. L., & Green-Adelsberger, K. (2000). *Promotional strategies on the world wide web*. Retrieved from https://www.researchgate.net/publication/48334282_Factors_for_evaluating_the_web_as_a_marketing_tool_in_Greek_sport
- Weber, R.P. (1990). *Basic content analysis*. Newbury Park, CA: Sage Publications.

- Williams, S.M., & Ho Wern Pei, C.A. (1999). Corporate social disclosures by listed companies on their web sites: an international comparison. *The International Journal of Accounting*, 34, 389-419
- WWF. (2007). *WWF protecting U.S. Southeast rivers and streams from coal mining*. Retrieved from <http://worldwildlife.org/stories/wwf-protecting-us-southeast-rivers-and-streams-from-coal-mining>.
- Yakovleva, N., & Varquez- Brust, D. (2012). Stakeholder perspective on CSR of mining MNCS in Argentina. *J. Bus. Ethics*, 106, 191- 211.
- Zhiguo, Z., Naiqi, S., Yingshuang, W., Yongcheng, L., Yanyan, S., & Tao, H. (2011). Geological environment problems and countermeasures of Shijiaying mine in Western Beijing. *Procedia Environmental Sciences*, 11, 1245-1252.
- Zmud, R.W., Croes, H. Shaft, T., & Zheng, W. (2010). Systematic differences in firm's information technology signaling: implication for research design. *Journal of the Association for Information Systems*, 11.