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**ENVIRONMENTAL ACCOUNTING PRACTICES IN  
INDONESIA: CASE STUDY ON STATE OWNED  
ENTERPRISES**



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**DOCTOR OF PHILOSOPHY  
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**ENVIRONMENTAL ACCOUNTING PRACTICES  
IN INDONESIA: CASE STUDY ON STATE OWNED  
ENTERPRISES**



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in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**



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## Abstrak

Perakaunan alam sekitar (*EA*) di Indonesia kurang mempunyai data perakaunannya disebabkan ketidakcukupan piawaian perakaunan alam sekitar atau ia kurang memberi tumpuan kepada piawaian antarabangsa. Sorotan karya menunjukkan EA diperlukan oleh pihak berkepentingan luar dan pihak pengurusan dalaman untuk mengekalkan kestabilan perniagaan. Satu kajian kes kualitatif telah dijalankan untuk memahami keperluan pembaikan EA dari perspektif peraturan Indonesia, untuk memahami prosedur umum amalan perakaunan yang berkaitan dengan alam sekitar oleh syarikat-syarikat nasional, untuk mengesyorkan rangka kerja konseptual EA yang munasabah untuk Perusahaan Milik Negara (SOEs). Data telah dikumpulkan dari tujuh belas peserta melalui dua tetapan pengumpulan data; tetapan pertama adalah dari pengawal selia, dan tetapan kedua adalah dari dua syarikat, menggunakan tiga teknik pengumpulan data: wawancara, pemerhatian dan semakan dokumen yang kemudiannya ditriangulasi untuk tujuan analisis. Rangka konseptual yang wajar dicadangkan oleh kajian ini terdiri daripada enam kategori dari perspektif pengawal selia Indonesia, dan empat kategori dari perspektif pengurusan dalaman yang berkaitan dengan amalan EA. Kategori dari perspective pengawal selia yang seharusnya dilaksanakan secara integrasi, ialah: penggunaan piawaian organisasi, penguatkuasaan undang-undang alam sekitar, pengurusan sistem dan aktiviti organisasi, pelaporan, penilaian perakaunan alam sekitar, dan aspek kelestarian. Kategori dari perspektif pengurusan dalaman kedua-dua Perusahaan Milik Negara (SOEs) terdiri daripada: pertumbuhan dan kelestarian, pematuhan undang-undang peraturan, penambahbaikan operasi standard, dan peningkatan alam sekitar dan produk mesra. Dapatan menunjukkan bahawa amalan EA dipengaruhi oleh perspektif pengurusan dalaman, iaitu: struktur kos, pengukuran prestasi, dan pendedahan atau pelaporan. Kesimpulannya, hasil kajian ini menyumbang kepada pembuat dasar dalam menentukan peraturan dan prosedur pelaporan EA di Indonesia.

**Kata kunci:** perakaunan alam sekitar, perusahaan milik negara, penyelidikan kualitatif, kajian kes

## Abstract

Environmental accounting (EA) in Indonesia is lacking in its accounting data due to the insufficiency of its environment accounting standards or focus on international standards. Literature indicates that EA is needed by the external stakeholders and the internal management to maintain business stability. A qualitative case study was conducted to understand the EA treatment from the perspective of Indonesian regulations, to understand the general procedures of accounting practices associated with the environment by national companies, and to recommend a plausible conceptual EA framework for State-Owned Enterprises (SOEs). The data was gathered from seventeen participants in two settings of gathering data; the first setting was from regulators, and the second setting was from two companies, using three data collection techniques: interviews, observations, and document review which were later triangulated for analysis purpose. The plausible conceptual framework that was proposed by this study consisted of six categories from the Indonesian regulators' perspectives, and four categories from the internal management perspectives of the EA practices. The categories from regulators' perspective which should be set in an integrated manner, are: the use of organizational standards, the enforcement of environmental laws, the management of organization systems and activities, the reporting, the evaluation of environment accounting, and the sustainability aspects. The internal management's perspective of the two SOEs consisted of: growth and sustainability, compliance with regulatory laws, improvement of standard operations, and environmental improvement and friendly products. Findings showed that the EA practices were influenced by the internal management perspectives, which are: cost structure, performance measurement, and disclosure or reporting. In conclusion the findings of this study contribute to policy-makers in deciding the regulations and the procedures of EA reporting in Indonesia.

**Keywords:** environmental accounting, state-owned enterprises, qualitative research, case study



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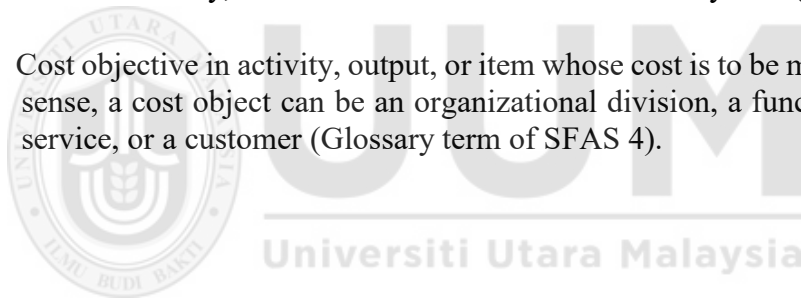
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## Glossary of Terms

1. Accounting is an area for creating account and transparency for an accountability matter (Catasus, 2008; Kang & Gray, 2011) or defined as an activity that provides information that is usually presented in a financial quantitative for decision-making, planning, resource control, operation, assess the achievements of the institution or company and financial reporting to investors, creditors and the relevant authorities in the monitoring or audit and provide reports to the public
2. Accounting discretion is tendency to avoid negative earning surprise (Bowen, Rajgopal & Venkatachalam, 2008).
3. Comparability information arises as to how information of financial accounting about similar transactions or events must be collected, transformed and presented to have the same contents (Krisement, 1997).
4. Contingent costs refer to environmental costs that are not certain to occur in the future but depend on uncertain future events (e.g., costs of remediating future spills). Sometimes referred to as "environmental liabilities," "liability costs," or "contingent liabilities." (Elijido-Ten, 2004; Firoz & Ansari, 2010).
5. Economic performance is the quantitative measurement the performance of company financially and market position which can be calculated using accounting based measures and capital market based measures (Earnhart & Lizal, 2010).
6. Environmental accounting is a term that relates to the inclusion of environmental costs into the accounting practices of the company or government agency (EPA, 2007).
7. Environmental costs are the impact both monetary and non-monetary as the result of activities that affect environmental quality.
8. Environmental definition the combination of all of physical and organic factors that act on a living being, residents, or ecological society and power, its endurance and growth to support economic system and human welfare (Barbier, 1989; Yusoff & Lehman, 2009).
9. Environmental disclosure is the disclosure of information relating to environment matters within the company financial statements regarding to environmental conservation activities by companies and other organizations, including public interest organizations and local public entities, provides information for stakeholders to understand, evaluate, and give their support to such efforts ( Jones & Solomon, 2013; Negash, 2012).

10. Environmental performance is the quantitative measurement the performance of the company in creating a better environment (green).
11. Financial statements is the quantitative and qualitative indication the company's actual situation and provide information about resources, claims to resources, and the changes that occur in it (Kieso, Weigandt & Warfield, 2007, p.1386).
12. Social accounting is related to the quality of life and welfare of human resources that consists of social report, value added statement and social balance sheet (Jobstl & Hogg, 2005; Mook & Quarter, 2006; Othman & Ameer, 2009).
13. Substance over form is one of accounting principle which recognize business transactions should be accounted in accordance with their (economic) substance instead of their (legal) form (Whittington, 2007).
14. Technical matters in accounting are presented to show how accounting can positively affect business performance.
15. Positive law is a natural law that gives rise to a set of accepted moral principles within a society, it focuses on action than normative system (Hart, 1958).
16. Cost objective in activity, output, or item whose cost is to be measured. In a broad sense, a cost object can be an organizational division, a function, task, product, service, or a customer (Glossary term of SFAS 4).



## List of Abbreviations

ABC/M	Activity-Based Costing and Management
AEI	Analysis on Environmental Impact
AMDAL	<i>Analisa Dampak Lingkungan</i> (see AEI)
ASEAN	Association of South East Asian Nations
BOD	Board of Directors
CDM	Clean Development Mechanism
CEO	Chief Executive Officer
CER1	Certified Environment Reduction
CER2	Corporate Environmental Report
CH4	Chemical compound methane
CIP	Community Investment Program
CO2	Carbon dioxide
CSI	Cement Sustainability Initiative
CSR	Corporation Social Responsibility
DRKPL	<i>Dokumen Ringkasan Kinerja Pengelolaan Lingkungan</i> (see CER2)
EcP	Economics Performance
EMA(1)	The Environmental Management Act (see PEMA)
EMA(2)	Environmental Management Accounting
EMS	Environmental Management System
EP	Environmental performance
ERPA	Emission Reduction Purchase Agreement
FSA-RI	Financial Services Authority of Republic Indonesia (see OJK)
GAAP	Generally Accepted Accounting Principles (see PSAK)
GCG	Good Corporate Governance
GMP	Good Manufaturer Process
GMS	General Meeting of Shareholders
GRI	Global Report Initiative
IAS	International Accounting Standard
IFRS	International Financial Reporting Standards
IPAL	<i>Instalasi Pengolahan Air Limbah</i> (wastewater treatment plan)
IPO	Initial Public Offering
IUCN	International Union for Conservation of Nature
K3	<i>Kesehatan dan Keselamatan Kerja</i> (Health and Safety Works)
KLHK	<i>Kementrian Lingkungan Hidup</i> (Ministry of Environment)
LLC	Limited Liabilities Company (see PT)
MtCO2e	Million metric tons of carbon dioxide equivalent
NGO	Non- Governmental Organisation
NO2	Nitrogen dioxide
OJK	Otoritas Jasa Keuangan (Financial Service Authority)
P/L Report	Profit/Loss Report or Comprehensive Income Report
PEMA	The Protection of Environmental Management Acts (Number 32 Year 2009)

PROPER	<i>Program Penilaian Peringkat Kinerja Perusahaan</i> (Program Performance Rating)
PSAK	<i>Pernyataan Standard Akuntansi Keuangan</i> or Statement (see GAAP)
PT	Perseroan Terbatas (Limited Liabilities Company see LLC)
SEA	Swedish Energy Agreement
SOE	State-Owned Enterprises
UNFCCC	United Nations Framework Convention on Climate Change
UNCTAD	United Nations Conference on Trade and Development
WBCSD	World Business Council Sustainable Development
WHO	World Health Organisation
WRI	World Research Institute



# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

This chapter explains the background of the study by highlighting its objectives, the problem statement, the scope and significance of the study. In a broad sense, this chapter explains the reasons for and importance of understanding environmental accounting (EA) practices by state-owned enterprises, especially in the Indonesian context.

### 1.2 Background of the Study

There are many tragic industrial environmental-disasters that are still fresh in our memory. These tragic events have claimed huge loss of life and property. One of this is the explosion of the drilling pipe of British Petroleum (BP) at the Deep-Water Horizon on 22 April 2010. This resulted in 11 counts of manslaughter and USD4.525 billions fines coupled with other payments by BP. After this event, BP had to make other enormous payouts to thousands of fisherman and businesses, and was banned from seeking new contracts with the US government because of the company's oblivious business integrity during the disaster (<http://castonline.ilstu.edu>, 2011).

Furthermore, on 26 May 2006 the Sidoarjo (Indonesia) mud-flow began to erupt that destroyed 13 villages, dozens of factories and shops and a highway. The most likely cause according to a majority of experts was the gas exploration well by PT-Lapindo Brantas. The experts suggested that disaster will occur up to 20 to 25 years. Up to

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## Appendix A

### Participants Identification

Company A's participant identification

Num.	Key person	Function	Data
1	Mr. Slamet (CA.1)	Head of CSR	1. Interview on May 2015 2. The financial statements and Sustainability Report can be downloaded at the website
2	Mr. Samsuri (CA.2)	Head of Production	1. Interview on June 2015 2. Photographs
3	Mr. Zakaria (CA.3)	IT staff	Brief interview on May 2015
4	Mr. Yuliantoro (CA.4)	Head of the Environmental monitoring section	Interview on May 2015
5	Mr.Zarkasi (CA.5)	IT staff	Interview on June 2015

Table Company B's participant identification

<b>Num.</b>	<b>Name</b>	<b>Function</b>	<b>Data</b>
1.	Ms. Nurlela (CB.6)	Manager of Public Relation and Internal Policy	1) Interview on May 2015 2) Data hardcopy of company profile 3) Notes about financial statements 2014 4) Access data online downloaded from company website
2.	Mr. Edwin (CB.7)	Staff of PR	Interview on May 2015
3.	Mr. Zaki (CB.8)	Head of CSR and General Affairs	Interview on June 2015
4.	Mr. Wawan (CB.9)	Head of Bina Lingkungan (Community partnership)	Interview on May 2015
5.	Mr. Yayan (CB.10)	Staff of CSR and General Affairs	Interview on June 2015
6.	Ms. Ratna (CB.11)	Staff of Bina Lingkungan (Community partnership)	Interview on June 2015

Table Experts of Regulator's identification

<b>Name Regulator</b>	<b>Function</b>	<b>Address</b>	<b>Data</b>
Otoritas Jasa Keuangan or Indonesia Financial Service Authority	1) Ms.Etty Senior Specialist (ER.12) 2) Ms.Naomi Head of Sub-Bureau of Regulation of Non-bank Financing (ER.13)	Gedung Sumitro, Jakarta	1) Interview on February 2013 and December 2015 2) Finance Minister meeting notes in Shanghai 2012 3) Integrated reporting scheme 4) Japan consultation notes on early adopt of EA 2005
Kementrian Lingkungan Hidup or Ministry of Environment The Republic of Indonesia (KLHK)	1) Mr. Slamet Head of Energy Division (ER.14) 2) Mr. Hilal Staff of Corporate assessment and compliance (ER.15)	Building B Floor 4, Jakarta	1) Interview 2) Self assessment procedures 3) List of company awarded by KLHK



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Ikatan Akuntan Indonesia (IAI) or  Institute of Indonesia Chartered Accountants	1. Ms. Jenny (ER.16)  2. Mr. Ibrahim (ER.17)	1. Technical assistance of Accountancy regulation, Jakarta 2. Member of IAI, Surabaya	Interview
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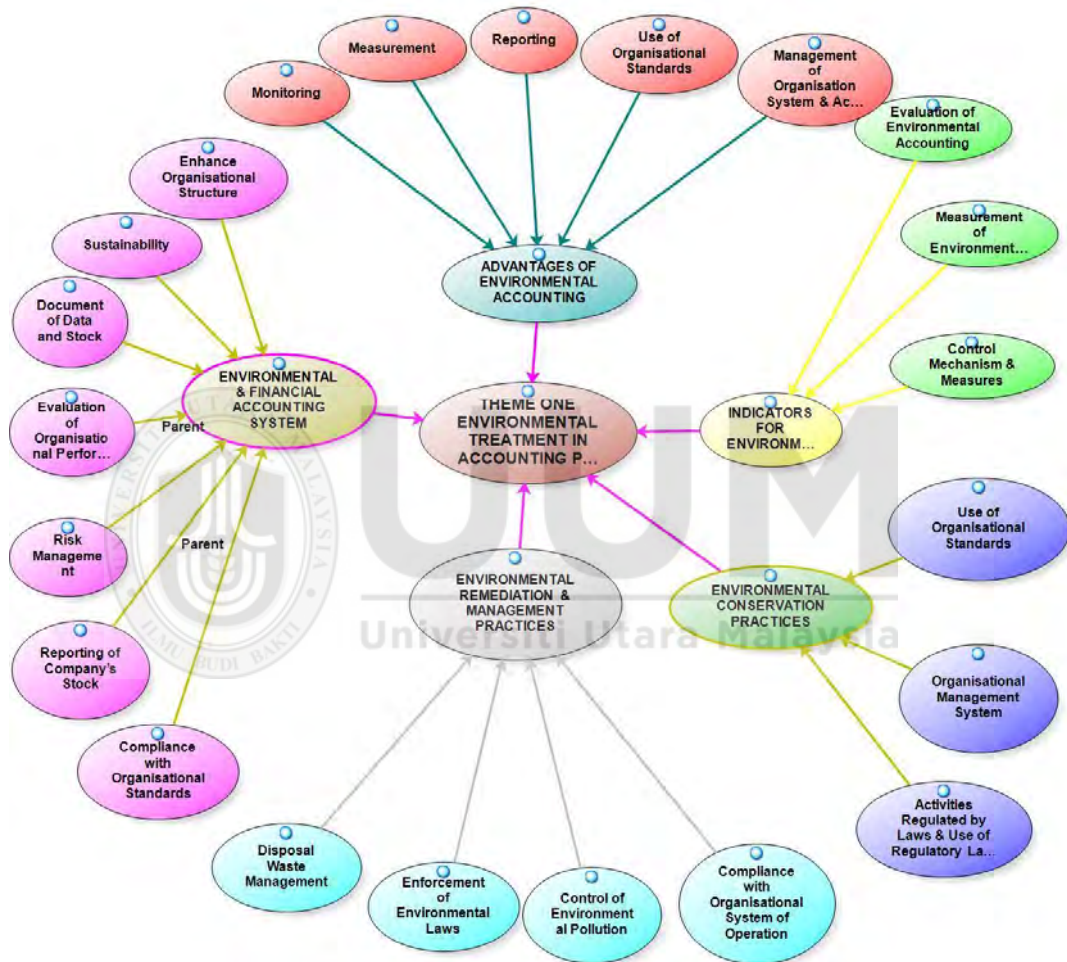
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# Appendix B

## Nvivo Results Before Saturation Process

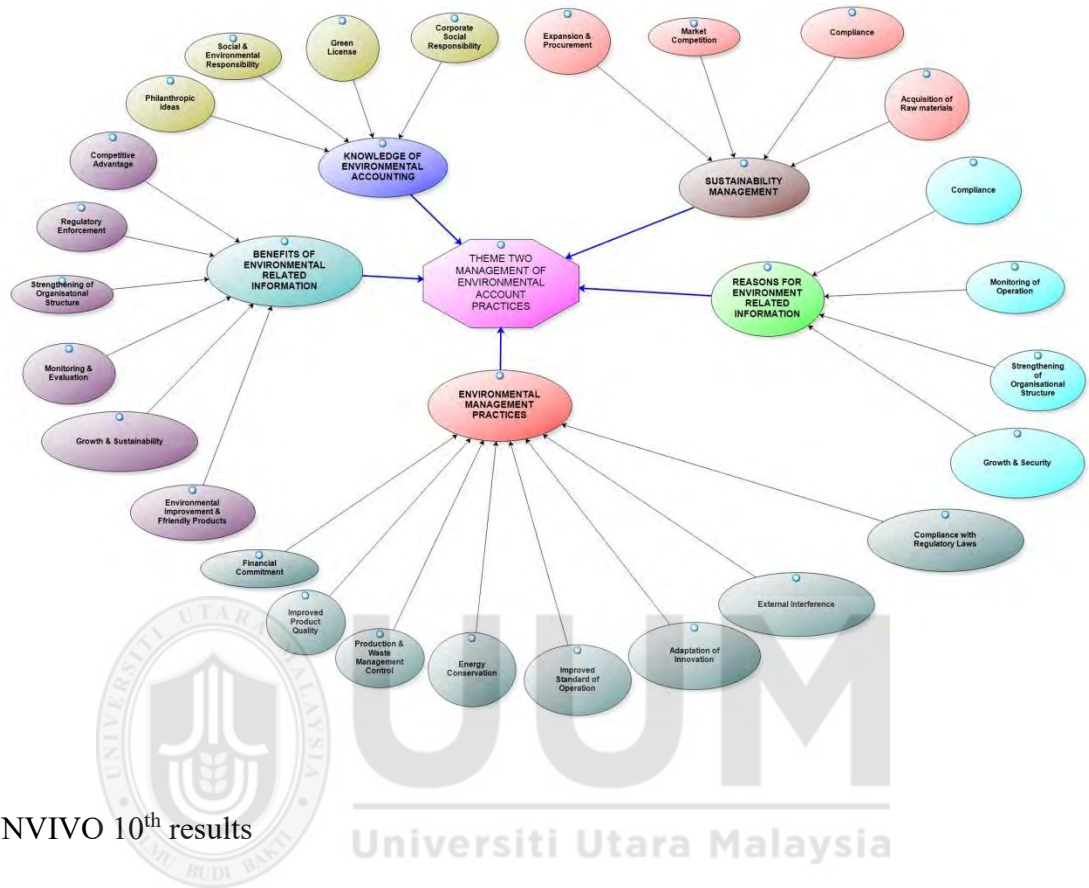
### THEME 1: ENVIRONMENTAL TREATMENT IN ACCOUNTING PERSPECTIVE



NVIVO 10<sup>th</sup> result



## THEME 2: MANAGEMENT OF ENVIRONMENTAL ACCOUNT PRACTICES



## Appendix C

### Agreement Value and Saturation Process

Krippendorff, K. (2011) conveys about agreement value on qualitative data that has no fixed value that could indicate when agreement occurred merely by chance, a condition that is commonly equated with the complete absence of reliability. By chance alone, with two values, one would expect at least 50% agreement, with four theme is 25%, with ten themes is 10%, etc. Based on Krippendorff, K. (2011) in this research is divided two values (regulators and companies) regarding resources (participants) perspective on EA practices, so the category choose with the agreement value more than 50%.

Table Agreement Value of Categories

Values	Participants (sources) numbers
Theme one	6
Theme two	11

To get agreement value more than 50% for theme one regard to number of sources should be  $>3$  (more than 3) and theme two is more than 5 ( $>5$ ) sources.

<b>Theme</b>	<b>Sub Theme</b>	<b>Category</b>	<b>sources</b>
<b>One: ENVIRONMENTAL TREATMENT IN ACCOUNTING PERSPECTIVE</b>	Advantages of EA	Management of Organisation system & activities	4
		Reporting	4
	Environmental & financial accounting system	Sustainability	4
		Indicators for EA	Evaluation of EA
	Environmental conservation practices	Use of organizational standards	5
		Enforcement of environmental laws	4
<b>Two : MANAGEMENT OF ENVIRONMENTAL ACCOUNT PRACTICES</b>	Benefits of environmental related information	Environmental improvement & friendly products	8
		Growth & sustainability	7
	Environmental management practices	Compliance with regulatory laws	6
		Improved standard operations	6

Sources' number in saturation process

Nodes			Source
1	THEME ONE ENVIRONMENTAL TREATMENT IN ACCOUNTING PERSPECTIVE		0
2	ADVANTAGES OF ENVIRONMENTAL ACCOUNTING		0
	Management of Organisation System & Activities	4	✓
	Measurement	3	
	Monitoring	1	
	Reporting	4	✓
	Use of Organisational Standards	3	
3	ENVIRONMENTAL & FINANCIAL ACCOUNTING SYSTEM		0
	Compliance with Organisational Standards	3	
	Document of Debt and Stock	1	
	Enhance Organisational Structure	3	
	Evaluation of Organisational Performance	3	
	Reporting of Company's Stock	1	
	Risk Management	1	
	Sustainability	4	✓
4	ENVIRONMENTAL CONSERVATION PRACTICES		0
	Activities Regulated by Laws & Use of Regulatory Laws & Guidelines	1	
	Organisational Management System	3	
	Use of Organisational Standards	5	✓
5	ENVIRONMENTAL REMEDIATION & MANAGEMENT PRACTICES		0
	Compliance with Organisational Systems of Operation	2	
	Control of Environmental Pollution	3	
	Deposal Waste Management	1	
	Enforcement of Environmental Laws	4	✓
6	INDICATORS FOR ENVIRONMENTAL ACCOUNTING		0
	Control Mechanism & Measures	2	
	Evaluation of Environmental Accounting	5	✓
	Measurement of Environmental Accounting	3	
7	THEME TWO MANAGEMENT OF ENVIRONMENTAL ACCOUNT PRACTICES		0
8	BENEFITS OF ENVIRONMENTAL RELATED INFORMATION		0
	Competitive Advantage	4	✓
	Environmental Improvement & Friendly Products	8	✓
	Growth & Sustainability	7	✓
	Monitoring & Evaluation	3	
	Regulatory Enforcement	2	
	Strengthening of Organisational Structure	1	
9	ENVIRONMENTAL MANAGEMENT PRACTICES		0
	Adaptation of Innovation	2	
	Compliance with Regulatory Laws	8	✓
	Energy Conservation	5	✓
	External Interference	1	

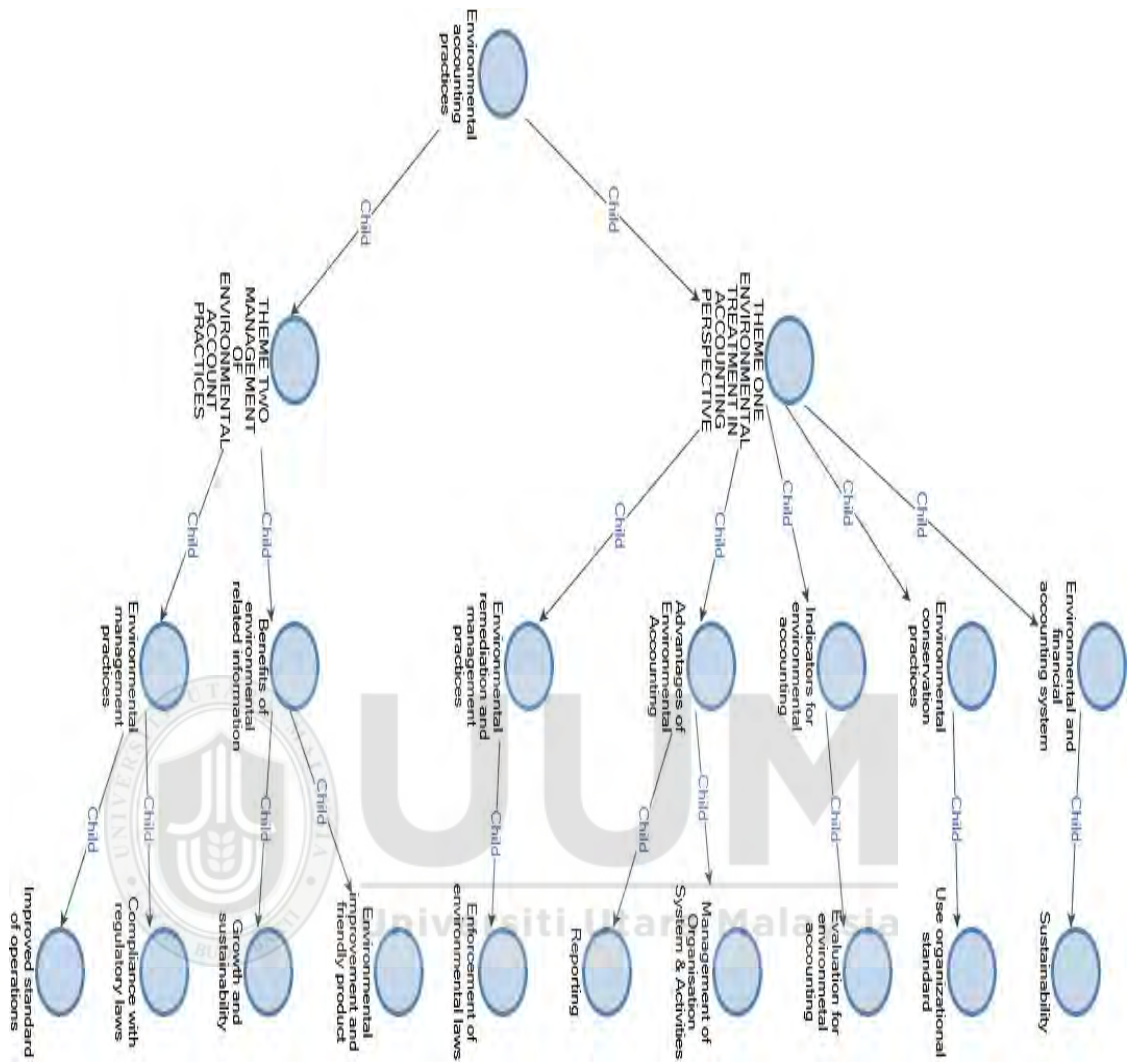
## Nodes

Name	Score
Financial Commitment	7
Improved Product Quality	1
Improved Standard of Operation	6
Production & Waste Management Control	4
<b>KNOWLEDGE OF ENVIRONMENTAL ACCOUNTING</b>	0
Corporate Social Responsibility	3
Green License	2
Philanthropic Ideas	1
Social & Environmental Responsibility	3
<b>REASONS FOR ENVIRONMENT RELATED INFORMATION</b>	0
Compliance	4
Growth & Security	1
Monitoring of Operation	3
Strengthening of Organisational Structure	3
<b>SUSTAINABILITY MANAGEMENT</b>	0
Acquisition of Raw materials	1
Compliance	5
Expansion & Procurement	3
Market Competition	1

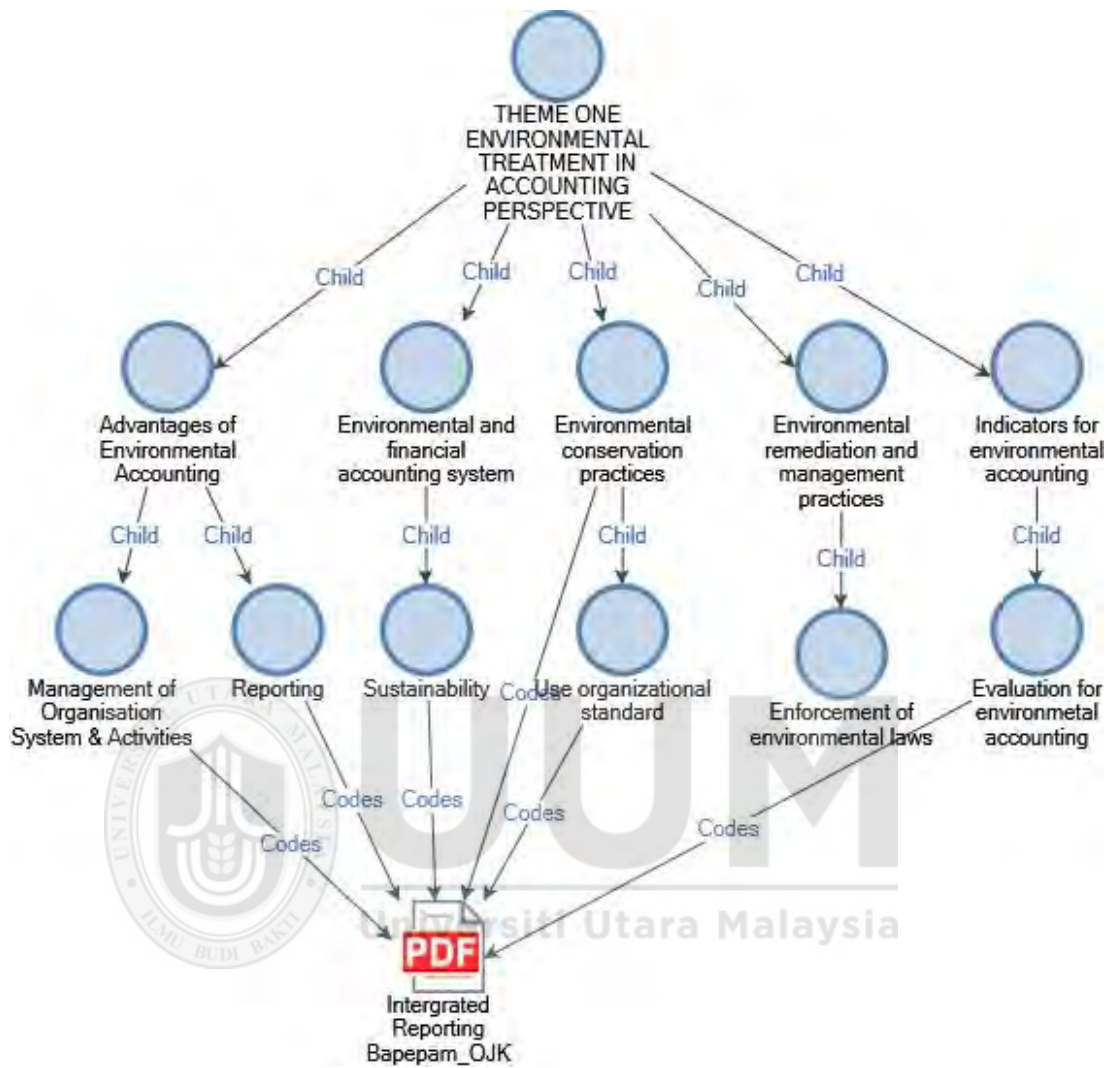


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## General Themes after Saturation Process

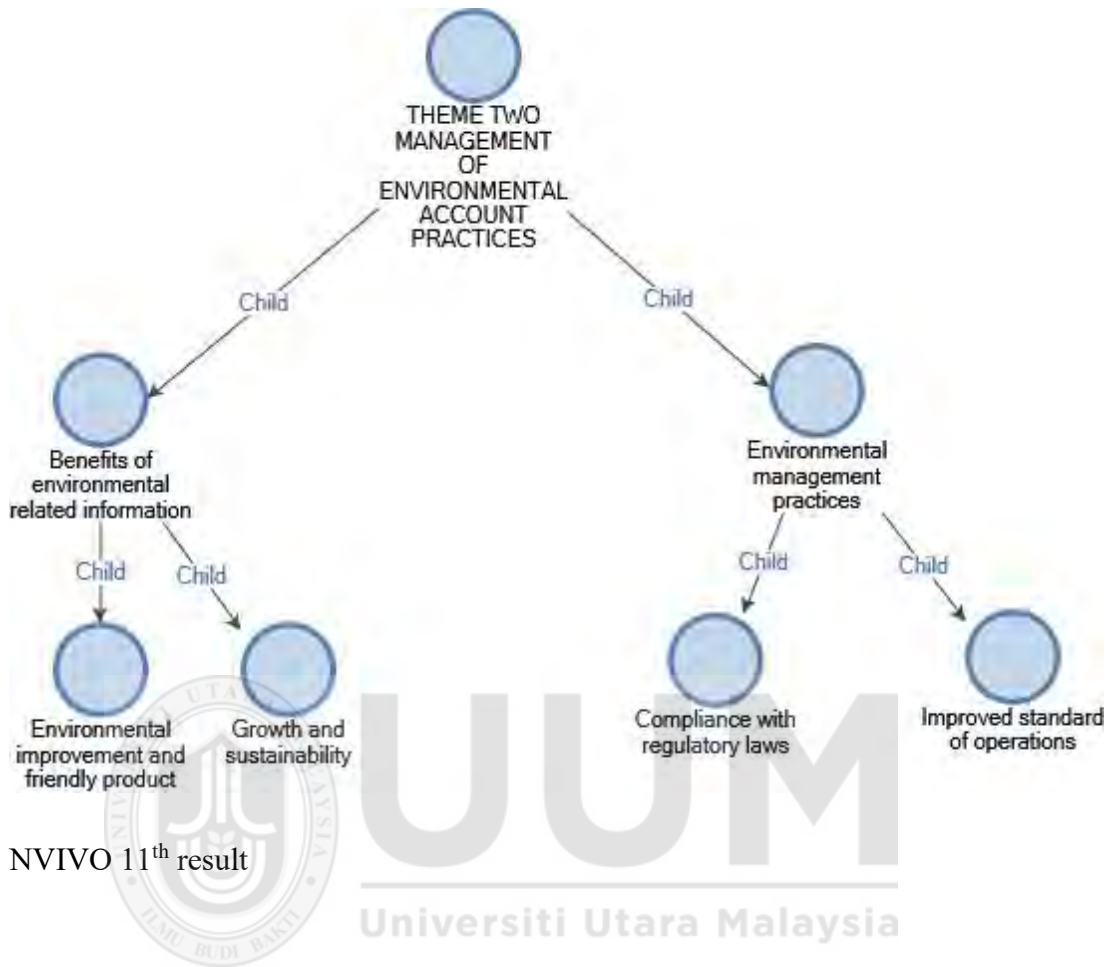


## Theme One of Environmental Treatment in Accounting Perspective



Articulation Regulators on EA Practices-integrating on economi, sosial, and environment activities through reporting

Theme TWO Perspective of management on environmental account practices





## Appendix D

### Context Unit on Categories and NVIVO Summary Report

Name	Memo Link	Symbolic saturation (immersion on practicing activity)
		a√ refer to cost structure
<b>THEME TWO: MANAGEMENT OF ENVIRONMENTAL ACCOUNT PRACTICES</b>		b# refer to performance measurement
		c <sup>ll</sup> refer to disclosure/ reporting matters
<b>ST3: BENEFITS OF ENVIRONMENTAL RELATED INFORMATION</b>	<p>&lt;Internals\Rep.CA3&gt; - § 1 reference coded [3.54% Coverage]</p> <p>Reference 1 - 3.54% Coverage Company has <b>still struggle about ownership</b>. Acquisition process to be PT Semen Indonesia which took over Tonasa Cement, Padang Cement.</p>	b#
	<p>&lt;Internals\Rep.CA5&gt; - § 1 reference coded [4.06% Coverage]</p> <p>Reference 1 - 4.06% Coverage Starting in 2012 for <b>environmental cost, then pursue for beneficiary</b> on 2014. We have been trying to develop environment as our first of many aspects for sustainability strategy.</p>	b#
<b>SST31: Growth &amp; Sustainability</b>	<p>&lt;Internals\Resp. CA1&gt; - § 1 reference coded [3.42% Coverage]</p> <p>Reference 1 - 3.42% Coverage One of the factors that contributed to the <b>Company's economic performance</b></p>	b#

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**achievement in 2013** was the ability to reduce costs by Rp300 billion.

<Internals\\Resp.CA2> - § 1 reference coded [3.51% Coverage]

Reference 1 - 3.51% Coverage  
**We can increase our productivity,** expand our market then become profitable and sustainable company. Profit will follow as first impact of sustainable condition.

b#

<Internals\\Resp.CB10> - § 1 reference coded [0.96% Coverage]

Reference 1 - 0.96% Coverage  
The existence of ISO 18001 on K3, the **company reduced the number of workplace accidents** reach to 0%

b#

<Internals\\Resp.CB11> - § 2 references coded [8.32% Coverage]

Reference 1 - 4.31% Coverage

Company has a **competitive advantage after employ higher environment standard.** Company Profit & Loss Reports Increased year by year ranked in harmony with environmental-compliance.

c ll

Reference 2 - 4.00% Coverage

**The CSR report is important for foreign parties** who become business partners. They asked to know and see the company's business processes are environmentally friendly.

b#

<Internals\\Resp.CB7> - § 1 reference coded [8.31% Coverage]

Reference 1 - 8.31% Coverage

Due to product **quality standards have regulated by WHO,** we compete in terms of environmentally friendly products **from upstream to**

---

**downstream**, starting with our vendors be selected through their license notable as green business. This is a marketing strategy to expand through local community.

<Internals\\Rep.CA3> - § 1 reference coded [6.05% Coverage]

Reference 1 - 6.05% Coverage

We got somehow to **be profitable company before so many competitors** came such as from national cibinong cement in west Java, tonasa cement in Celebes, sriwijaya cement in Sumatera, also from multinational corporation such as Holcim.

b#

<Internals\\Resp.CB10> - § 1 reference coded [3.75% Coverage]

Reference 1 - 3.75% Coverage

**Bio secure is our key in competition** with other companies in Indonesia and the world. We campaign our success in the competition Koi fish in Singapore to be one part of an image capture of our products are used to make the koi fish of high value, because viruses and fungi that have been the main enemy of the color, growth and health of the fish be successfully treated using the vaccine our products.

SST32: Environmental Improvement & Friendly Products

<Internals\\Resp.CB11> - § 1 reference coded [4.31% Coverage]

Reference 1 - 4.31% Coverage

Company has a competitive advantage after employ higher environment standard. **Company Profit & Loss Reports Increased year by year ranked in harmony with environmental-compliance.**

a√

<Internals\\Resp.CB7> - § 1 reference coded [6.50% Coverage]

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Reference 1 - 6.50% Coverage

Due to product quality standards have regulated by WHO, we compete in terms of environmentally friendly products from upstream to downstream, starting with our vendors be selected through their license notable as green business

**ST5:  
ENVIRONMENTAL  
MANAGEMENT  
PRACTICES**

<Internals\\Rep.CA3> - § 1 reference coded [7.13% Coverage]

b#

Reference 1 - 7.13% Coverage

**Physical information pursued by Environment Development Bureau (Biro Bina Lingkungan),** such as level of emission, waste, conservation needs. Criteria absolute emission reductions derived from the calculation of the comparison between the proceeds with production in tons.



<Internals\\Rep.CA5> - § 2 references coded [14.31% Coverage]

**SST53: Compliance  
with Regulatory Laws**

Reference 1 - 10.00% Coverage

c ll

We have been trying **to follow every regulation from The Republic of Indonesia laws**, but its number will increase every year. For example for **CSR reporting**, we follow from GRI G-3 then in 2014 changed to GRI G-4. Then the Environmental Ministry increases its requirement about counting and reporting quality of conservation activities such as has to fill the emission form, reduction, prevention of environmental impact form in every week.

Reference 2 - 4.31% Coverage

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There is not standards, assumption yet about environmental accounting. **We follow the regulatory from government** and attempt our consultant for setting accounting procedure for it purposes.

<Internals\\Resp. CA1> - § 2 references coded [14.82% Coverage]

Reference 1 - 8.09% Coverage

**Regulation from government and policy from Board of Directors (BOD) so far is inline.** But about accounting for social and environment, we have difficulties to follow. We learn from Japan but it's not 100% adopt from Japan because it quite different approach. We have to follow Indonesian GAAP (Indonesian Financial Accounting Standard).

Reference 2 - 6.73% Coverage

Even though, company status is state-owned, it has to **follow public sector and private sector regulation also.** Such as for listing company stock market, we have to follow the same regulation with private company. Company management systems occupy all requirement on regulations.

<Internals\\Resp.CB10> - § 1 reference coded [1.91% Coverage]

Reference 1 - 1.91% Coverage

Company got an award from Environmental Ministry about Gold level which **put company in compliance Excellency.** Means, company reached more than requirements from regulator. Then in 2014, it got Gold award.

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<Internals\\Resp.CB6> - § 1 reference coded [3.66% Coverage]

Reference 1 - 3.66% Coverage

**Company started to follow regulations and policy** from Environmental Ministry. Every year of 4 years from 2011-2014, company got an award about Green Level.

<Internals\\Resp.CB7> - § 1 reference coded [3.13% Coverage]

Reference 1 - 3.13% Coverage

We have been trying to follow the regulation which has the number of requirements increasing year by year.



<Internals\\Resp. CA1> - § 1 reference coded [3.54% Coverage]

Reference 1 - 3.54% Coverage

Noise pollution has been reduced while we change our machine with less noise. **Emission is always monitored** suppose below of the maximum standard.

<Internals\\Resp. CA2> - § 2 references coded [8.08% Coverage]

**SST5 4: Improved Standard of Operations**

Reference 1 - 5.05% Coverage

b#

**Our production and control of it happened in 24 hours as computerized.** We use special tool design for production operating. We can control every minute, total unit of raw materials needs and total unit output can be monitored also

Reference 2 - 3.03% Coverage

Yes, as matter of our production process **using real time monitoring.** Everything

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wrong happened in our production process can be detected.

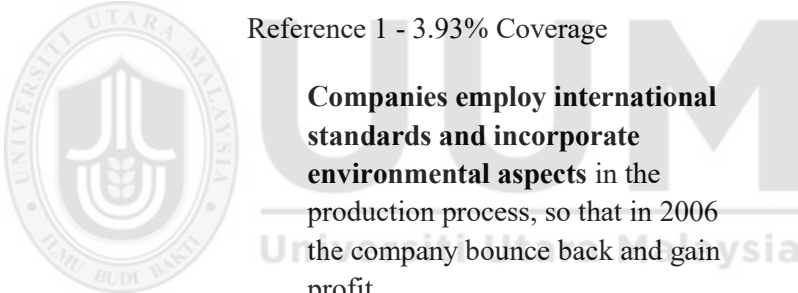
<Internals\\Resp.CB10> - § 1 reference coded [2.81% Coverage]

Reference 1 - 2.81% Coverage

Linkages production of polio vaccine is used all the media in the form of a liquid. So that is the main **wastewater generated**. We have ponds to extract water from inorganic materials. We monitor the results of waste once a month with a filter that has been accredited in accordance with the requirements.

<Internals\\Resp.CB11> - § 1 reference coded [3.93% Coverage]

Reference 1 - 3.93% Coverage



**Companies employ international standards and incorporate environmental aspects** in the production process, so that in 2006 the company bounce back and gain profit.

<Internals\\Resp.CB6> - § 1 reference coded [5.83% Coverage]

Reference 1 - 5.83% Coverage

As in **geophysical activities**, company could reduce

1. 1,700 tonnage CO<sub>2</sub>/year or made electrical efficiency usage  
2,616,442 kilowatt/ hour/year
2. Recycle of 7,76 tonnage of used motor oil became oil-base for co-processing
3. Free from litter

<Internals\\Resp.CB9> - § 1 reference coded [41.85% Coverage]

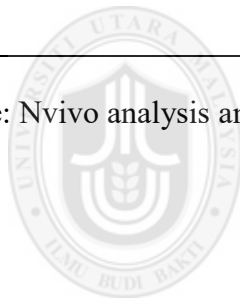
Reference 1 - 41.85% Coverage

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Commitment to energy efficiency is consistently implemented not only in production activities but also operational activities, which begin with energy-efficient office design. Air conditioning in production areas (clean room) and storage space sterilizing systems should not be interrupted for 24 (twenty four) hours and be optimized using inverter technology that can adjust to the most efficient power consumption, especially at night. Indoor lighting uses energy efficient LED lights and solar power for basement lighting. Various green activities are also conducted in the Company's environment such as making bio-pore holes for water catchment and vehicle emission tests every 6 (six) months.

Source: Nvivo analysis and verbal analysis

01/03/2016 12:02



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Source Summary

## Environmental Accounting

01/03/2016 12:02

Total Words in Source	Total Paragraphs in Source	Number of Nodes Coding Source	Coded Percentage of Source	Number of Text References	Number of Audio Video References	Number of Image Referenc
<b>Document</b>						
<b>Internals\\Rep.CA3</b>						
557	30	16	0.8100	41	0	0
<b>Internals\\Rep.CA5</b>						
669	37	17	0.7972	47	0	0



**Internals\\Resp. CA1**

623	30	18	0.7685	63	0	0
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**Internals\\Resp. CA2**

726	25	12	0.5101	49	0	0
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**Internals\\Resp.CA4**

182	25	6	0.6620	8	0	0
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**Internals\\Resp.CB10**

1703	105	17	0.4837	82	0	0
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**Internals\\Resp.CB11**

621	39	10	0.3031	23	0	0
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**Internals\\Resp.CB6**

663	41	11	0.4513	25	0	0
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**Internals\\Resp.CB7**

522	35	14	0.5358	39	0	0
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Reports\\Source Summary Report

Page 1 of 2

01/03/2016 12:02

Total Words in Source	Total Paragraphs in Source	Number of Nodes Coding Source	Coded Percentage of Source	Number of Text References	Number of Audio Video References	Number of Image Referenc
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**Internals\\Resp.CB8**

115	13	4	0.4499	5	0	0
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**Internals\\Resp.CB9**

241	15	3	0.7498	13	0	0
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**Internals\\Resp.R12**

4663	240	23	0.6074	210	0	0
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**Internals\\Resp.R13**

3706	183	20	0.7209	229	0	0
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**Internals\\Resp.R14**

518	43	9	0.6219	35	0	0
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**Internals\\Resp.R15**

2332	133	18	0.8016	147	0	0
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**Internals\\Resp.R16**

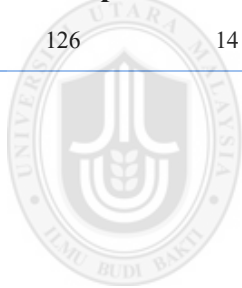
4290	217	19	0.7424	279	0	0
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**Internals\\Resp.R17**

2787	126	14	0.8345	204	0	0
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## Appendix E

### Synchronic pattern

#### Based on the finding

Pattern sequences	Regulator categories	Explanation	Internal management	Explanation	Similarity-Correspondence Pattern
1	Use of organizational standards	<p><b>As long as the goals are the same<sup>a</sup>, the environmental conservation activities</b>  <sup>b</sup> outlined in these guidelines include the pollution prevention activities defined by the ISO 14001. Indonesia adopted ISO 14001 and ISO 14004 to become SNI-19-14001-2005. Pollution prevention is followed to Environmental Aspects which defined by organisation or company (ER.14, interview</p>	Improved standard operation	<p><b><u>Commitment to energy efficiency is consistently implemented<sup>a</sup> not only in production activities but also operational activities<sup>b</sup></u></b>, which begin with energy-efficient office design. Air conditioning in production areas (clean room) and storage space sterilizing systems should not be interrupted for 24 (twenty four) hours and be optimized using inverter technology that can adjust to the most efficient</p>	<p>a) goal are same = commitment is consistently</p> <p>b) the environmental conservation activities = not only in production activities but also operational activities</p>

data, May 4, 2014)

power consumption, especially at night. Indoor lighting uses energy efficient LED lights and solar power for basement lighting. Various green activities are also conducted in the Company's environment such as making bio-pore holes for water catchment and vehicle emission tests every 6 (six) months.” (CB.1, interview data, 2014)

2	Enforcement of environmental laws	Generally, <b>Indonesian environmental law regulates about what environmental in business,</b> how to measure environmental impact, who have responsibility	Compliance to regulatory laws	<b>We have been trying to follow every regulation</b> from The Republic of Indonesia laws, but its number will increase every year. For example for CSR reporting, we follow from	c) Indonesian environmental law regulates = We have been trying to follow every regulation
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y to report”  
(ER.15  
interview  
data, 2015).

GRI G-3 then  
in 2014  
changed to  
GRI G-4.  
Then the  
Environmental  
Ministry  
increases its  
requirement  
about  
counting and  
reporting  
quality of  
conservation  
activities such  
as has to fill  
the emission  
form,  
reduction,  
prevention of  
environmental  
impact form in  
every week.

3	Management of organisational system and activities	It is the <b>framework for integrating the accounting concepts of both <u>physical units and monetary</u></b> values and addresses the issue of cost performance. Also, in order to calculate the economic benefits of environment	Environmental improvement and friendly products	<b>Due to product quality standards</b> have regulated by WHO, we compete in terms of environmentally friendly products <b>from <u>upstream to downstream</u></b> , starting with our vendors be selected through their license notable as	d) Framework for= due to quality standards e) of both physical units and monetary=from upstream to downstream
---	--	--	---	--	--

		al conservation activities in monetary terms, specific calculation methods are described (cost versus benefit).		green business	
4	Management of organisation system and activities	<p>“It is the framework for <b><u>integrating the accounting concepts<sup>a</sup></u></b> of both <b><u>physical units and monetary values<sup>b</sup></u></b> and addresses the issue of cost performance. Also, in order to calculate the economic benefits of environmental conservation activities in monetary terms, specific calculation methods are described (cost versus benefit).”</p>	Improved standard operation	<p>It was learned that <b><u>accounting system for the environmental protection<sup>a</sup></u></b> is very <b><u>important and useful<sup>b</sup></u></b>. As Japan’s requirement want to start on 2012, a year before complete equipment from Japan is installed in company sites on 2013</p>	<p>f) Integrating the accounting concepts=accounting system</p> <p>g) Values=very important and useful</p>
5	Reporting	<p><b><u>Through the reporting</u></b> of its</p>	Growth and sustainability	<p><b><u>The CSR report is important for foreign</u></b></p>	<p>h) Through the reporting = the CSR report</p>

		environmental accounting results, a company <b><u>promotes environmental communication</u></b>		<b><u>parties who become business partners.</u></b> They asked to know and see the company's business processes are environmentally friendly.	i) Promotes communication = become business partners
6	Evaluation of environmental accounting	When <b>companies select their appropriate indicators</b> , they can refer not only the environmental performance indicators presented by the Ministry of the Environment but also the information about environmental accounting provided by other companies in a similar industrial field.	Growth and sustainability	"The CSR report is important for foreign parties who become business partners. <b>They asked to know and see the company's business processes are environmentally friendly</b>	j) Companies select = they (foreign parties) asked
7	Sustainability	when environmentally conscious materials or parts are procured at a lower	Growth and sustainability	The CSR report is important for foreign parties who become business partners.	k) This indicates = to know and see l) Activities have become a fully integrated = business

price than conventional material or parts, **this indicates that environmental conservation activities have become a fully integrated** part of the company's goods or services

They asked **to know and see the company's business processes are environmentally friendly**

processes are environmentally friendly

NVIVO supported

Pattern sequences	Theme one	Explanation	Theme two	Explanation	pattern
1	Use of organizational standards	As long as <b><u>the goals are the same<sup>a</sup>, the environmental conservation activities<sup>b</sup></u></b> outlined in these guidelines include the pollution prevention activities defined by the ISO 14001. Indonesia adopted ISO 14001 and ISO 14004 to	Improved standard operation	<b><u>Commitment to energy efficiency is consistently implemented<sup>a</sup> not only in production activities but also operational activities<sup>b</sup></u></b> , which begin with energy-efficient office design. Air conditioning in production areas (clean room) and storage	a) goal are same = commitment is consistently  b) the environmental conservation activities = not only in production activities but also operational activities



become  
SNI-19-  
14001-  
2005.  
Pollution  
prevention  
is followed  
to  
Environmen-  
tal Aspects  
which  
defined by  
organisation  
or company  
(ER.14,  
interview  
data, May 4,  
2014)

space  
sterilizing  
systems  
should not  
be  
interrupted  
for 24  
(twenty  
four) hours  
and be  
optimized  
using  
inverter  
technology  
that can  
adjust to the  
most  
efficient  
power  
consumption  
, especially  
at night.  
Indoor  
lighting uses  
energy  
efficient  
LED lights  
and solar  
power for  
basement  
lighting.  
Various  
green  
activities are  
also  
conducted in  
the  
Company's  
environment  
such as  
making bio-  
pore holes  
for water  
catchment  
and vehicle  
emission  
tests every 6  
(six)



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2	Enforcement of environmental laws	Generally, <b>Indonesian environmental law regulates about what environmental in business, how to measure environmental impact, who have responsibility to report</b> ” (ER.15 interview data, 2015).	Compliance to regulatory laws	months.” (CB.1, interview data, 2014) <b>We have been trying to follow every regulation</b> from The Republic of Indonesia laws, but its number will increase every year. For example for CSR reporting, we follow from GRI G-3 then in 2014 changed to GRI G-4. Then the Environmental Ministry increases its requirement about counting and reporting quality of conservation activities such as has to fill the emission form, reduction, prevention of environmental impact form in every week.	c) Indonesian environmental law regulates = We have been trying to follow every regulation
---	-----------------------------------	---	-------------------------------	---	--



UUM  
Universiti Utara Malaysia

3	Management of organisati on system and activities	It is the <b>framework for integrating the accounting concepts of both <u>physical units and monetary values</u></b> and addresses the issue of cost performanc e. Also, in order to calculate the economic benefits of environmen tal conservatio n activities in monetary terms, specific calculation methods are described (cost versus benefit).	Environme ntal improvem ent and friendly products	<b>Due to product quality standards</b> have regulated by WHO, we compete in terms of environment ally friendly products <b>from upstream to downstream</b> , starting with our vendors be selected through their license notable as green business	d) Framework for= due to quality standards e) of both physical units and monetary=from upstream to downstream
4	Management of organisati on system and activities	“It is the framework for <b>integrating the accounting concepts<sup>a</sup> of both physical units and monetary values<sup>b</sup></b> and addresses the issue of	Improved standard operation	It was learned that <b>accounting system for the environmen tal protection<sup>a</sup> is very important and useful<sup>b</sup></b> . As Japan’s requirement want to start	f) Integrating the accounting concepts=accou nting system g) Values=very important and useful

cost performance. Also, in order to calculate the economic benefits of environmental conservation activities in monetary terms, specific calculation methods are described (cost versus benefit).”

on 2012, a year before complete equipment from Japan is installed in company sites on 2013

5	Reporting	<p><b><u>Through the reporting</u></b> of its environmental accounting results, a company <b><u>promotes environmental communication</u></b></p>	Growth and sustainability	<p><b><u>The CSR report is important for foreign parties who become business partners.</u></b> They asked to know and see the company's business processes are environmentally friendly.</p>	<p><i>h)</i> Through the reporting = the CSR report</p> <p><i>i)</i> Promotes communication = become business partners</p>
6	Evaluation of environmental accounting	<p>When <b><u>companies select their appropriate indicators,</u></b> they can refer not only the environmental</p>	Growth and sustainability	<p>“The CSR report is important for foreign parties who become business partners. <b><u>They asked to know and see the</u></b></p>	<p><i>j)</i> Companies select = they (foreign parties) asked</p>

performance indicators presented by the Ministry of the Environment but also the information about environmental accounting provided by other companies in a similar industrial field.

**company's business processes are environmentally friendly**

7



Sustainability

when environmentally conscious materials or parts are procured at a lower price than conventional material or parts, **this indicates that environmental conservation activities have become a fully integrated part of the company's goods or services**

Growth and sustainability

The CSR report is important for foreign parties who become business partners. They asked **to know and see** the company's **business processes are environmentally friendly**

k) This indicates = to know and see

l) Activities have become a fully integrated = business processes are environmentally friendly

## Appendix F

### Financial Data in Million IDR the Company A and Company B

Notasi on	Descriptio n	first	second	third	Compa ny
Y	CoGM in efficiency cost (absorptio n)	10,316,11 6,762,000	13,462,110. 967	15,174,43 2.874	A
		546.316	600.870	731.059	B
X1	Efficiency cost	n/d	n/d	300,000	A
		n/d	n/d	n/d	B
X2	Investmen t on the Environm ent	3883.664 429	3,687.24349 7	9,000+5,1 81.196639	A
		2.695	1.632	6.984	B
X3	Financing Activities	12.097	8.760	9.827	A
					B
X4	Contingen t Asset	2.695	1.632	89.216346 6.984	A
					B
X5	Contingen t Liabilities				A
		n/d	n/d	n/d	B

To find out at which stage the achievements of the company to invest on the environment conservation activities. Calculations using the  $y = f(x) + \epsilon$  by assuming that both are already in the stage of company's latest investment in accordance with the conditions that have entered the stage of sustainability investment.

It just needs to be understood is that every company provides the data recorded on the annual report containing the sustainability report and financial report. As revealed by

Burrit et.al (20012) that is a mature investment that has been reported in a sustainable environment activities in an annual report.

$$y = f(x) + \dot{\epsilon}$$

(Y) is the expected output in the form of cost efficient production, ekselerasi sales after efficiency, and other comprehensive income after the efficiency of a number of factors (x) is the efficiency of cost, investment on the environment, financing activities in the environment, contingent asset, contingent liability ,

$$Y=f(Ix)+E; (x,y)=I..... (1)$$

To simplify the result in monetary to Cartesian coordinates. It should be LENT (Ln) as notation

$$\ln Y = \ln(Ix+E)..... (2)$$

$$Y = e^{\ln(Ix+E)}$$

As follows the notation 2 to examine the investment benefit on efficiency activity on cost of production on the Company A and B cases.

**The Company A's case**

The first year  $10,316,116,762,000=(3,883,664,429)x$

$$X=2,656.28428 \approx 2,656.3 \quad (1)$$

$$y = e^{\ln(3,883,664,429 * 2,656.3)}$$

$$y = 29.96472852 \approx 30 \quad (2)$$

The second year  $13,462,110,967,000=(3,687,243,497)x$

$$x = 3,650.99592 \approx 3,651 \quad (1)$$

$$y = e^{\ln(3,687,243,497 * 3,651)}$$

$$y = 30.23090026 \approx 30.2 \quad (2)$$

The third year  $15,174,432,874,000 = (9,000,000,000 + 5,181,196,639)x$

$$x = 15,174,432,874,000 / 14,181,196,639$$

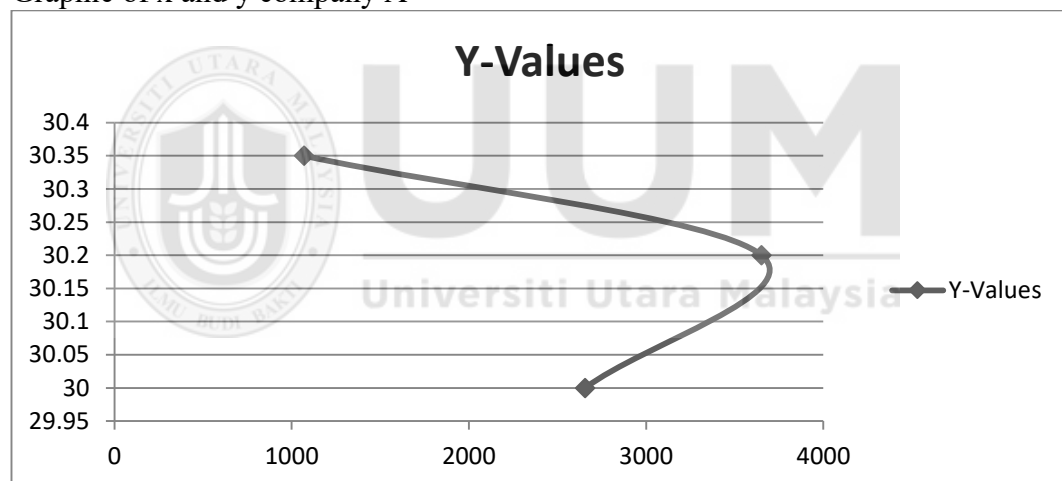
$$x = 1,070.03896 \approx 1,070 \quad (1)$$

$$y = e^{\ln(14,181,196,639 * 1,070)}$$

$$y = 30.3563308 \quad (2)$$

year	1	2	3
Y	30	30.2	30.35
X	2,656.3	3,651	1,070

Graphic of x and y company A



Graphic movement is to corrective phase

### The company B's case

$$\text{The first year } 546,316,000,000 = (9,827,000,000 + 6,984,000,000)x$$

$$X = 546,316,000,000 / 16,811,000,000$$

$$X = 32.4975314 \approx 32.50 \quad (1)$$

$$y = e^{\ln(16,811,000,000 * 32.50)}$$

$$y = 13.2110 \quad (2)$$

$$\text{The second year } 600,870,000,000 = (12,097,000,000 + 2,695,000,000)x$$



$$X = 600,870,000,000/14,792,000,000$$

$$x = 40.621281 \approx 32.62 \quad (1)$$

$$y = e^{\ln(14,792,000,000 * 32.62)}$$

$$y = 13.306 \quad (2)$$

The third year  $731,059,000,000 = (8,760,000,000 + 1,632,000,000)x$

$$x = 731,059,000,000/10,392,000,000$$

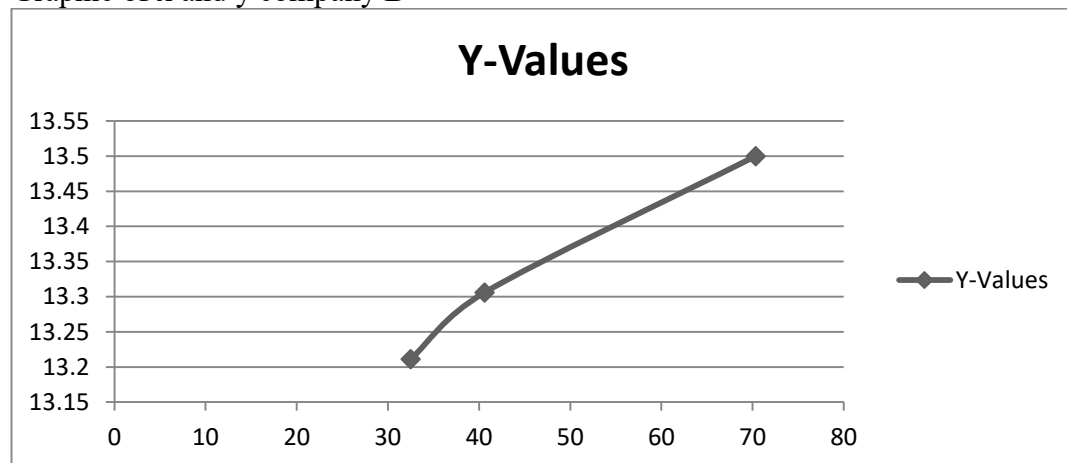
$$x = 70.3482 \approx 70.35 \quad (1)$$

$$y = e^{\ln(10,392,000,000 * 70.35)}$$

$$y = 13.50227 \quad (2)$$

year	1	2	3
Y	13.2110	13.306	13.50
X	32.50	40.62	70.35

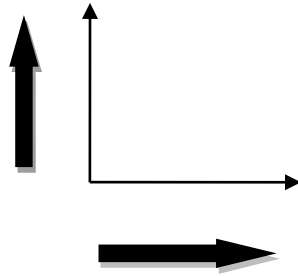
Graphic of x and y company B



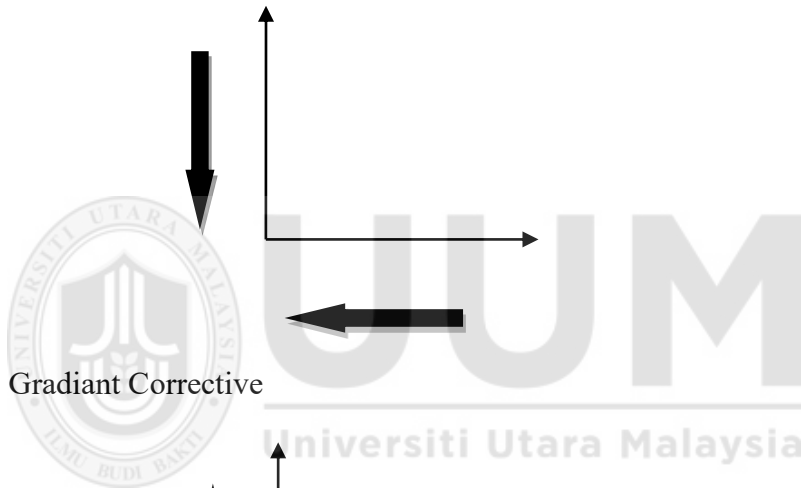
Graphic movement is to growth phase

Figure of Environmental investment and environmental impact shifted

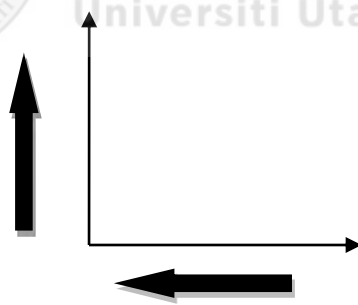
1. Gradient Growth



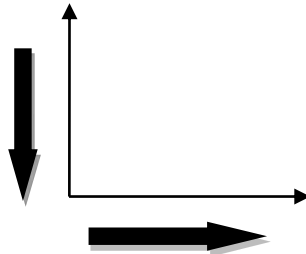
2. Gradient Green wash



3. Gradient Corrective



4. Gradient Sustainable



## Appendix G

### Calculation Example for EcP on EP

Using equation on Table 5.2 to find the economic benefit value as follow:

$$\frac{\text{Total efficiency (y)}}{\text{Net value of comprehensive P/L (a)}} = (\text{EcP}) \quad \text{-----(1)}$$

Using notation of UNCTAD (2003, p.127) adapted by Biobebe et al (2013):

$$\text{Added Value (AV)} = \frac{\text{Environmental performance (EP)}}{\text{Financial performance (EcP)}} \quad \text{-----(2)}$$

Case in Company A ----- (third year)

Cost efficiency= IDR300,000,000,000 ;

VA= IDR11,598,604,085,000;

Net value of comprehensive P/L= IDR5,587,345,791,000

Financial performance based on environmental benefit (EcP);

$$\text{EcP}; \frac{300,000,000,000}{5,587,345,791,000} \times 100\% = 5.369\% \quad \text{-----(1)}$$

$$(\text{Sales} - \text{CoGS}) = \text{EP} / (\text{EcP}) \quad \text{-----(2)}$$

$$11,598,604,085,000 = \text{EP} / 5.369\%$$

$$\text{EP} = \text{IDR } 622,729,053,323.65$$

Contribution of EP to economic growth of the end of third year is IDR 622,729,053,323.65 or the benefit is 2.07 times than cost (622,729,053,323.65/300,000,000,000)

Case in Company B ----- (third year)

Cost efficiency= IDR2,167,990,302.4\* ; Cost efficiency=2,435,944.16 kwh X  
IDR890 (electrical fares)\*=IDR2,167,990,302.4

VA= IDR1,853,682,000,000;

Financial performance based on environmental benefit (EcP)

Net value of comprehensive P/L= IDR572,468,000,000

$$\text{EcP; } \frac{\text{IDR } 2,167,990,302.4 \times 100\%}{572,468,000,000} = 0.3787\% \text{ -----(1)}$$

$$(\text{Sales} - \text{CoGS}) = \text{EP} / (\text{efficiency}) \text{ -----(2)}$$

$$1,853,682,000,000 = \text{EP} / 0.3787\%$$

$$\text{EP} = \text{IDR } 7,020,068,544.85$$

Contribution of EP to economic growth of the end of third year is IDR  
7,020,068,544.85 or the benefit is 3.2 times than cost (7,020,068,544.85  
/2,167,990,302.4)

## Appendix H

### Annual Report Analysis

#### Company A

##### Cost structure

###### ENVIRONMENTAL COSTS AND PURPOSE

Komponen   Component	Besar Biaya   Cost Value
Pengelolaan Limbah   Waste Management	21,600,000
Pengelolaan Emisi   Emissions Management	473,025,000
Penggunaan Jasa Pihak External   External Services for Environmental Management	745,720,000
<b>Jumlah   Total</b>	<b>1,240,345,000</b>

Keterangan | Notes : Dalam Rupiah | In IDR

Source: Sustainability Report Company A (2013, p.88)

#### ENVIRONMENTAL COSTS

Semen Indonesia's commitment to preserving the environment, is also manifested in the form of environmental investment. During 2013 the Company has purchased specialized equipment to support green mining activities.

Source: Sustainability Report Company A (2013, p.88)

**Fundamental Financial Analysis using IRR and elaboration calculation captured the unappropriate investment of environmental aspect. However, company A is still continuing the program. It is a part of commitment.**

Biaya proyek : 25 Milyar	IRR : 7,57 %	NPV: - 4,8 Milyar
--------------------------	--------------	-------------------

Secara ekonomis proyek tersebut **TIDAK LAYAK** (IRR = 7,57%; NPV = -4,8 M), namun karena tingginya komitmen manajemen terhadap lingkungan, proyek tersebut dijalankan dengan mempertimbangkan penurunan Gas Rumah Kaca dan pertumbuhan ekonomi masyarakat. *Proyek ini didaftarkan sebagai proyek CDM.*

Proyek tersebut dikembangkan di unit Tuban 1 pada tahun 2011 dengan investasi sebesar 34 Milyar; IRR : 4,19%; NPV : - 11,2 Milyar dan telah beroperasi mulai Januari 2012.

Source: DRKPL 2013, p.8.

Tabel 1

*An example of overall analysis of performance based of monetary value*

Company	Fundamental financial analysis	EP and EcP Ratios	Gradient performance to cost efficiency
A	NPV= IDR -4.8 billions	EP 2.07 times than EcP	Corrective Gradient

## Company B

### Cost Structure

#### a. Investasi Berdasarkan Penggunaannya

#### a. Investment by According to Usage

Realisasi Investasi Berdasarkan Penggunaannya | Investment Realization According to Usage

Delam Juta Rupiah | In Million Rupiah

Kelompok Investasi	2009	2010	2011	2012	2013	TOTAL	Kerakany Penurunan Increase/ Decrease (%)	Investment Group
	1	2	3	4	5	6	5/4	
<b>RUTIN   ROUTINE</b>								
Penilaian WHO & GMP	3.810	41.085	136.242	39.428	50.654	271.219	28,47	Assessment WHO & GMP
Penggantian	45.586	25.734	18.464	18.592	44.814	153.190	141,04	Replacement
IPALCI/Lingkungan	526	3.372	6.964	2.695	1.632	15.209	(39,44)	IPALCI/Environment

#### The purpose of Commitments:

During 2013 Bio Farma performed material commitments for capital investment with several partners with the objective of procurement related to the WHO & GMP assessment, replacement, WWTP(OHS)/ Environment, capacity enhancement, research and development and new products.

Realization of investment in 2013 amounted to Rp248.28 billion, or 52.48% of the budget, an increase of 40.97% compared to the realization in 2012. See the discussion of the "Capital Investment" in Financial Review (Point V Realization of Capital Investment in Last Financial Year) "...

Source: Annual Report 2013, p.81

Allocation investment account for waste management and business lisencc (certification)

Realisasi Kinerja Tahun 2013 Dibanding dengan RJPP Tahun 2013-2015 dan RKAP Tahun 2013  
 2013 Performance Realization Compared to 2013-2015 RJPP and 2013 RKAP

Dalam Juta Rupiah | In Million Rupiah

Uraian	RJPP 2013-2015 Untuk / For 2013	RKAP 2013	Realisasi 2013 (Rakib)	Kenaikan/Penurunan Increase/Decrease (%)		Deskripsi
	1	2	3	3/2	3/1	
Perjanjian Barah	1.759.285	1.635.785	1.853.682	14,03	5,37	Net Sales
Debit Polisi Perjanjian & Jasa	794.694	698.291	723.598	8,11	(4,12)	Cost of Goods in Services Sold
Debit Perusahaan	1.189.281	1.096.715	1.192.575	0,44	(0,96)	Company's Expense
Investasi	789.194	47.8074	248.378	(47,92)	(58,93)	Investment
Labu Sebelum Debit Pajak	531.621	532.017	570.509	46,68	46,48	Income Before Tax Expense
Labu Bersih	392.975	392.582	572.489	45,00	46,42	Net Income
Total Aset	2.899.407	2.420.613	2.700.070	11,67	(5,77)	Total Assets
Modal Kerja	806.602	922.507	1.942.901	87,28	91,20	Working Capital

Dalam Juta Rupiah | In Million Rupiah

	Laba Tahun Buku 2009 Net Income for the Fiscal Year 2009	Laba Tahun Buku 2010 Net Income for the Fiscal Year 2010	Laba Tahun Buku 2011 Net Income for the Fiscal Year 2011		Laba Tahun Buku 2012 Net Income for the Fiscal Year 2012		
			Jumlah Total	Presentase Percentage	Jumlah Total	Presentase Percentage	
Cadangan	189.383	211.278	244.959	81,00	271.279	77,56	Reserve
Dividen	21.768	24.567	45.363	15,00	105.178	20,00	Dividend
Kemitraan	4.354	4.913	6.048	2,00	1.930	0,50	Partnership Program
Bina Lingkungan	2.177	4.913	6.048	2,00	6.830	1,77	Community Development
Tanbem	-	-	-	-	675	-	Tanbem
<b>Jumlah Labu Bersih</b>	<b>217.682</b>	<b>245.673</b>	<b>302.419</b>	<b>100%</b>	<b>385.892</b>	<b>99,83</b>	<b>Total net Income</b>

Source: Annual Report 2013, p.147

Allocation P/L comprehensive to CSR (Partnership Program and Community Development)

### Fundamental Financial Analysis using IRR and elaboration calculation

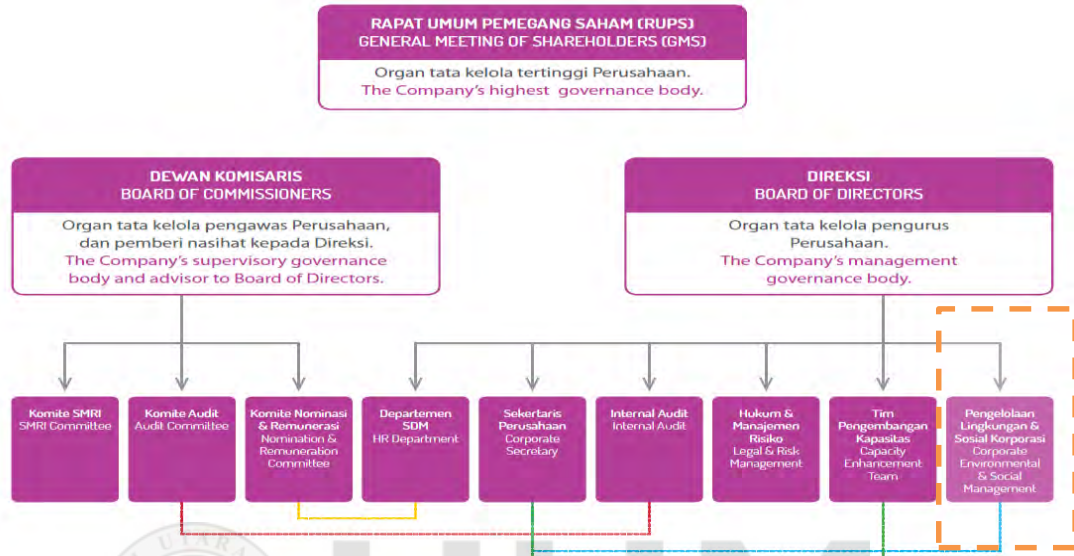
Company A did not publish the financial analysis on it investment on environmental aspect.

Company	Fundamental financial analysis	EP and EcP Ratios	Gradient performance to cost efficiency
B	NPV= IDR billions (not available)	EP is 3.238 times than EcP	Growth Gradient

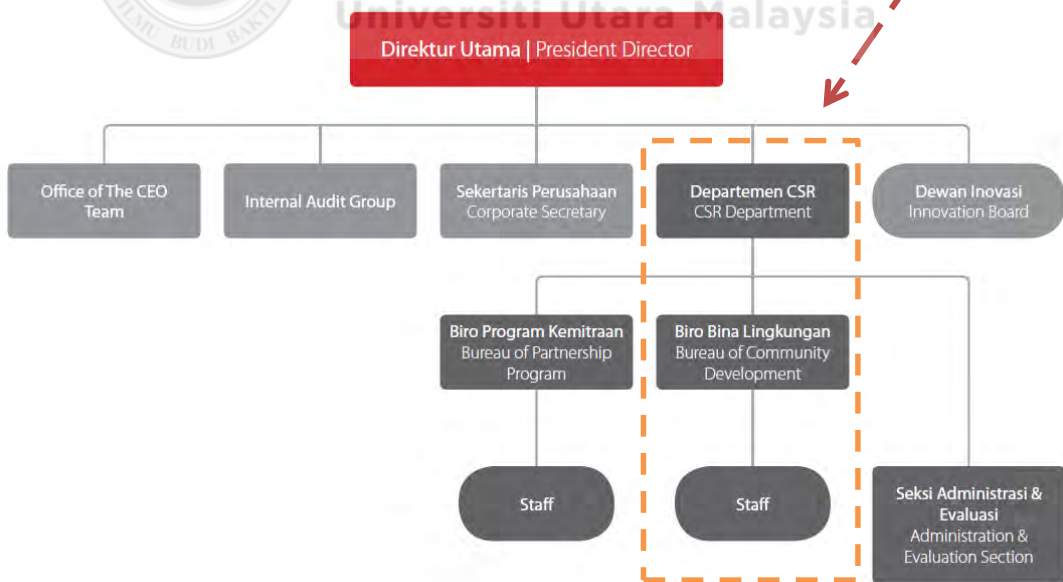
# Appendix I

## Organization Structure

### Company A's Structure After Reorganization



Resource: Sustainability Report 2014, p. 127

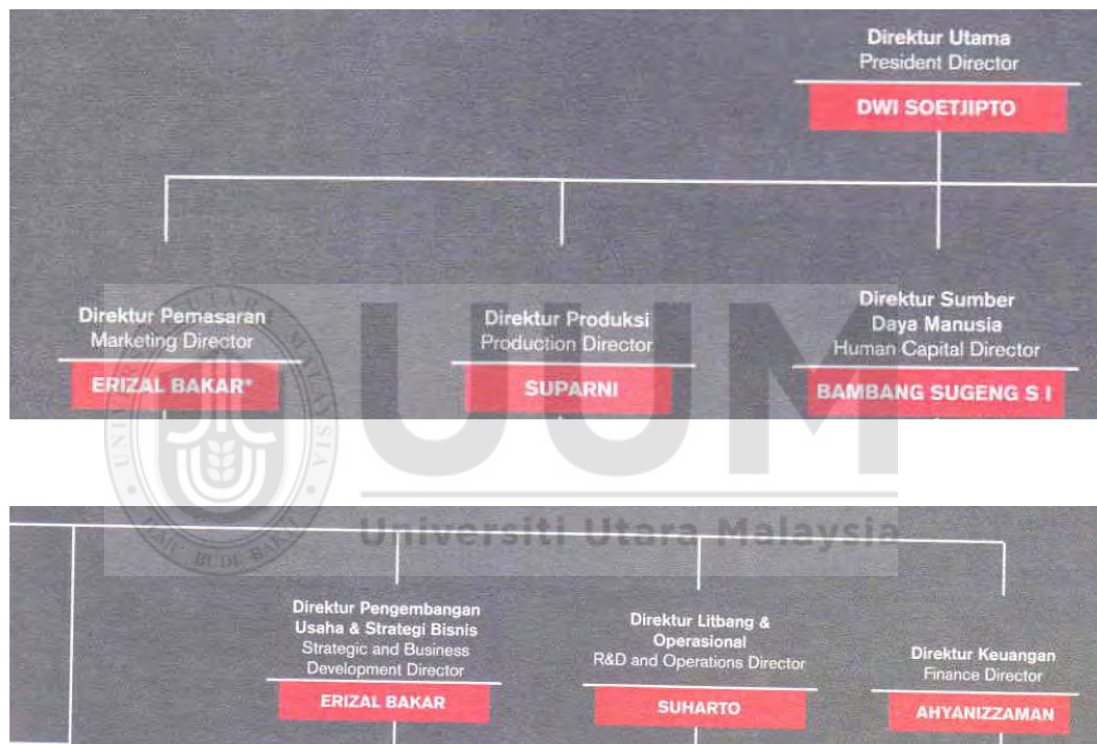


Resource: Sustainability Report 2014, p.89



Notes: 2013 Company A did reorganization. Here, Company separated CSR from externalities aspects (environmental and social related). Set Corporate Environmental and Social Management under BOD and set CSR Department under CEO. Thus, Company A has more complexity functions as the result of externalities-related.

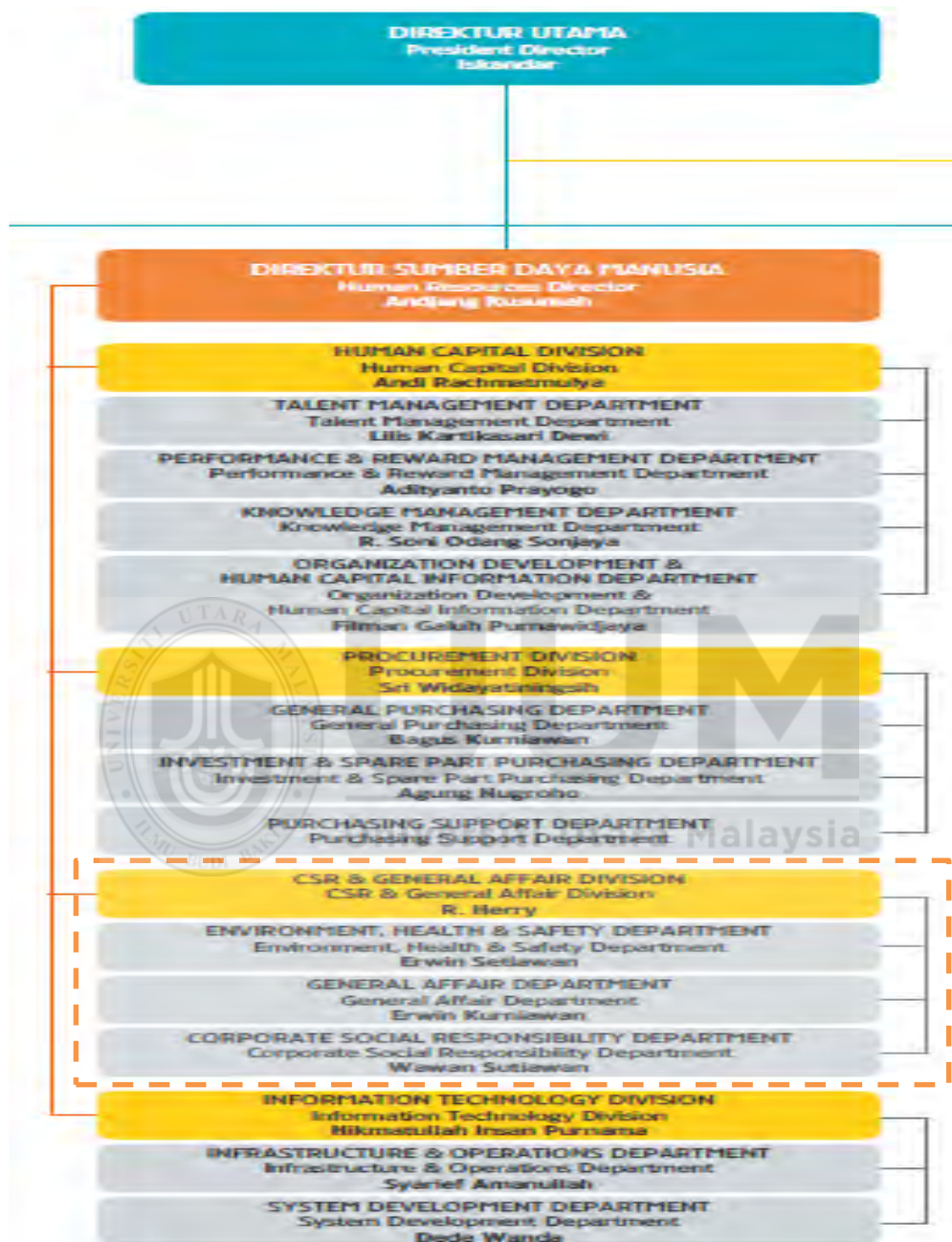
### CompanyA’s Structure Before



Resource: Sustainability Report 2012, page 14-15.

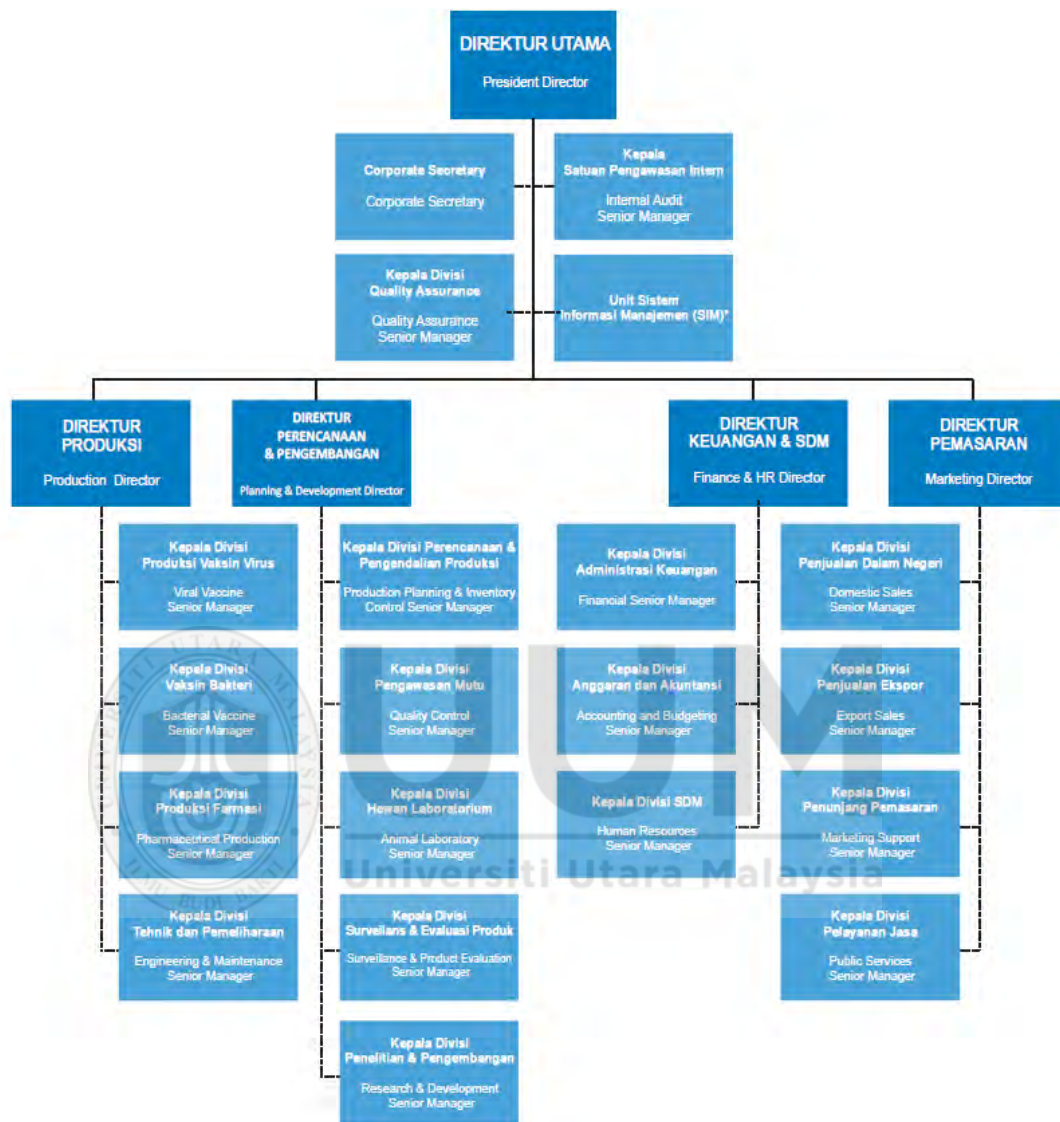
Notes: Company A before reorganization was concerned to conventional daily operational, such as marketing, production, human resources, strategic business, research and development, and finance functions.

## Company B's Structure After Reorganization



Resource: Annual Report 2013, p.31

## Company B's Structur Before Reorganization



Resource: Sustainability Report 2010, page 36.

Notes: Company B's structure after reorganization has a CSR and General Affairs Division under Human Resources Director.

## Appendix J

### Letter Approval for Visiting to Company

  
**INDONESIA PT Semen Indonesia (Persero) Tbk.**

Kepada Yth. : Ka. BIRO BINA LINGKUNGAN  
Perihal : Permohonan Penelitian

Kode Dokumen : R/5005/009  
Revisi : 0  
Tanggal : 02 Januari 2014  
Halaman : 1 dari 1

Tertampir kami sampaikan data mahasiswa permohonan Penelitian dari :  
**Universitas Utara Malaysia**

Nama mahasiswa : Sarah Yuliarini  
Jumlah mahasiswa : 1 (satu) orang  
Dalam rangka : Penelitian  
Jurusan : Bisnis  
Tanggal pengajuan : 09 Maret 2015 s.d. 20 Maret 2015  
Lama Penelitian : 1 (satu) bulan  
Materi Proposal Mahasiswa :

Gresik, 25 Februari 2015  
Hormat Kami  
Ka. Seksi Pelaksanaan Pembelajaran  
Ttd.  
Rahardjo, ST

Mohon konfirmasi atas permohonan kami,  
Mahasiswa tersebut : ( X ) dapat dibantu ( ) tidak dapat dibantu  
Tanggal disetujui Penelitian : 09 Maret 2015 s.d. 20 Maret 2015  
Pembimbing yang ditunjuk :  
Nopegi : 818  
Nama pegawai : Slamet Mursidiarso  
Unit Kerja : Bina Lingkungan  
Jabatan : ( X ) Ka. Biro ( ) Ka. Seksi ( ) Ka. Regu

Gresik, 26 Februari 2015  
  
( Slamet Mursidiarso )

08/03/2015 10:33

se - Gedung Utama SG, Jl. Veteran, Gresik 61122, Indonesia | T +62 31 3981731 | Fax +62 31

## Appendix K

### Validation English Translation

#### Validation on translation of verbatim transcription Company A

The greenhouse effect of PT. SI first become part of environmental pollution in the town of Gresik. Since 2009, environmental improvement requirements of the Ministry of Environment each year increase, but less than many energy-related accounting that have expertise in environmental assessment. Incidentally our current CEO has a background accountant. Very large investment for environmental management. Although many of the workers is a graduate of ITB, ITS (the prominent engineering universities in Indonesia). In 2014 company did not get the gold award, although there is always a improvement in process business. Currently being developed a new energy that does not depend on PLN (the state-owned electricity company). Actually, there is an advantage of the energy from waste recycling.

This translation is true and same as the meaning of the original language.

Malang, April 19, 2017

Brawijaya Language Centre  
University of Brawijaya, Indonesia

Head,



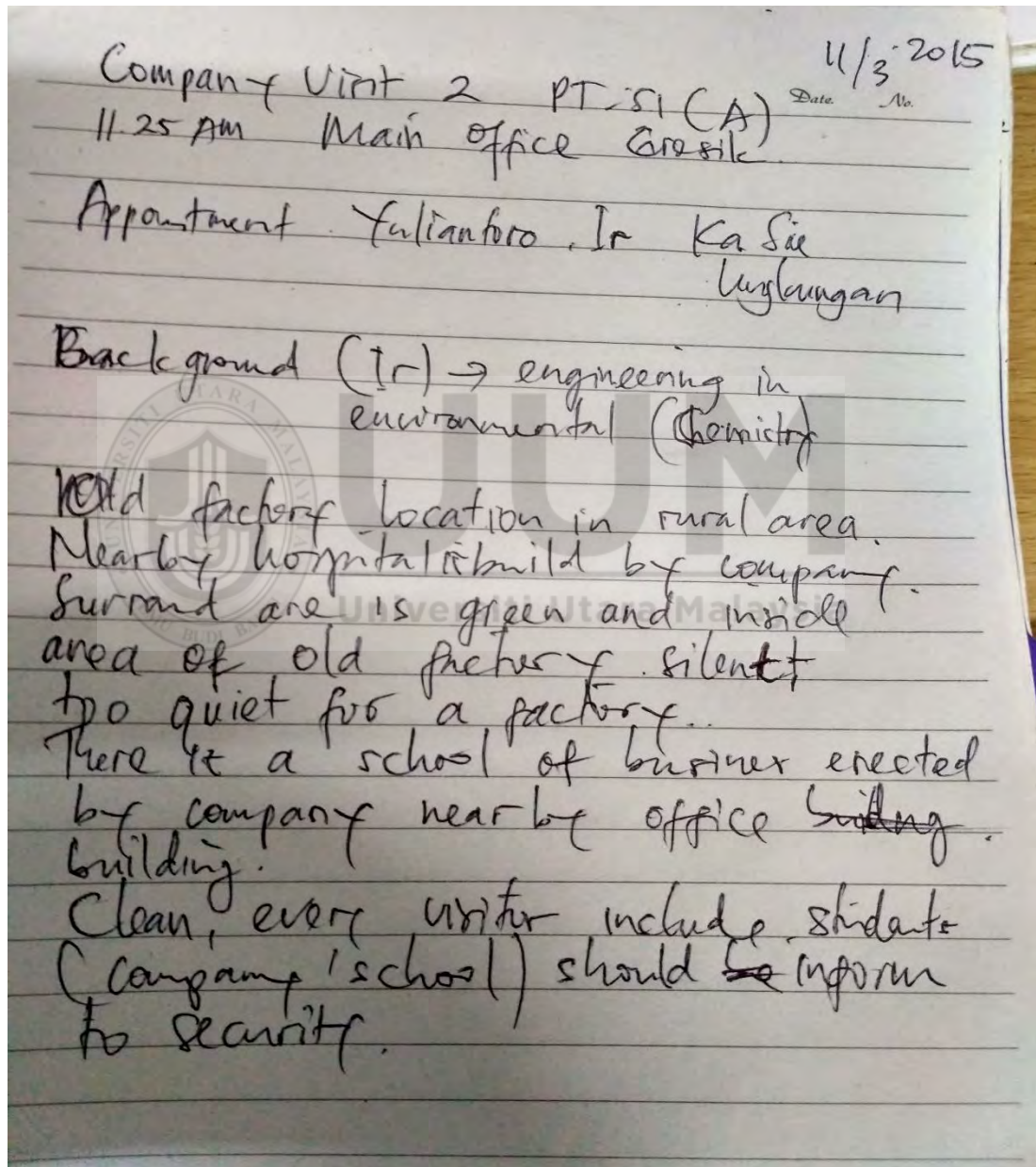
  
Dr. Sugeng Susilo Adi, M.Hum.

**The other validation of English translation on transcription put on each of the end of transcript.**

## Appendix L

### Observational Notes

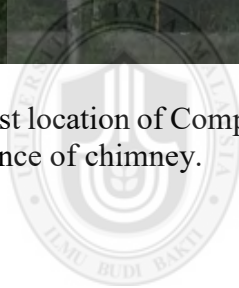
#### Example of Observational Notes before Interview Session



Notes were taken before interview session with CA.4 from Company A. It was supported with photograph of the plant sites.



The first location of Company A is covered by dense trees, however it cannot hide the chimney.



Universiti Utara Malaysia

## Summary of Observational Notes after Interview Sessions

(Triangulation with supporting data)

Num	Institutions or organizations	Time and Date	Interview with following position	Observation' Purposes	Observation' Aims related to company' EA practices	Outcome based on triangulation
1	Otoritas Jasa Keuangan or Indonesia Financial Service Authority	Conducted August 2013 and December 2015	ER.12 as Senior Specialist.	<p>Observation EA disclosure should be integrated with annual report.</p> <p>Meaning of EA accounts, Observation financial institutions through BI Regulation number 7/2/PBI/2005.</p> <p>List of CSR reporting companies "<i>Daftar perusahaan peserta PROPER</i>"</p>	<p>Conformation to CSR dept. on company integration reporting format.</p> <p>EA accounts inside corporate financial statement</p> <p>Environmental aspect for business license</p>	<p>Company A and B do integration reporting by publishing the annual report.</p> <p>Business motive related to EA is different between A and B.</p>



Num	Institutions or organizations	Time and Date	Interview with following position	Observation' Purposes	Observation' Aims related to company' EA practices	Outcome based on triangulation
		Conducted December 2015 and May 2016	ER.13 as Head of Sub-Bureau of Regulation of Non-bank Financing.	<ul style="list-style-type: none"> <li>Observation related to treatment in accounting.</li> <li>Observation Financial institution' role</li> </ul>	Conformation the corporate' legitimacy aspect.	Captured the emerge of EA practices for evaluation
2	Ministry of Environment and Forestry (KLHK)	Conducted January 2013 and March 2015	ER.14 as Head of Energy Division	<ul style="list-style-type: none"> <li>Observation of consistency of government policy related to environmental issues into corporations.</li> <li>Observation of cross-sectional regulation with other ministry,</li> </ul>	Corporation's compliance traces to the executive summary report and sustainability report.	Focus KLHK is PROPER ranking. There are regulations related to environmental aspect but not with accounting standard boards. Corporation is more proactive than preventive in reaction related to regulations

		Conducted March 2015	) ER.15 as Corporate assessment and compliance	Observation on KLHK assessment to corporations. -related is on KLHK only		Government uses the information for “ <i>tata ruang</i> ” or spatial area arrangement. The environmental authority of regulations is under KLHK only.
3	Ikatan Akuntan Indonesia (IAI) or Institute of Indonesia Chartered Accountants	Conducted February 2013 and June 2015	) ER.16 as Head of Accounting Technical	Observation on latest Indonesian GAAP related to EA accounts	) getting internal purposes related to environmental accounts. ) Internal policy in annual report related to environmental accounts	Not specific reporting asked by IAI, thus internal management takes own discretional accounts
		Conducted June 2015	) ER.17 as a senior accountant and a honor member of IAI Surabaya	Observation related to EA principle accounting ) Additional reporting or exceptional of financial statement purposes can	) How corporation follow regulatory laws and Indonesian GAAP at once.	Supporting report for government regulations.

4	Company A	May 2015	CA.1 as Head of CSR	<ul style="list-style-type: none"> <li>  Observation Organization philosophy related to environmental aspects.</li> </ul>	Seeking to whom company most compliance	Company focusing on external stakeholder.
		June 2015	CA.2 as Head of Production	<ul style="list-style-type: none"> <li>  Proseses of production identify of where the environmental aspects are included or happened.</li> <li>  Visit and see inside plant sites to take picture footage.</li> </ul>		Performance measurement approach by each company.
		May 2015	CA.3 as IT staff	Proseses of transfer data from production to accounting and department-related		Internal management for providing data and performance evaluation.
		May 2015	CA.4 as Head of the Environmental monitoring section	Cooperation with third party to support company's plan related with environmental conservation.		Third party engage with company for long-term periode
		June 2015	CA.5 as IT staff	Observation to how standard for general	Refers to information flowing from CSR	EA accounts from each company.

				requirement to incorporate the environmental aspect.	departement to accounting depart and track down from corporate's reporting.	
5	Company B	May 2015	CB.6 as Manager of Public Relation and Internal Policy	Observation to organization philosophy on environmental aspects and incorporated in system.	Seeking which document are most related to environmental aspect	financial system do not fully integrated
		May 2015	CB.7 as Staff of PR	Observation to Policies on report the environmental aspect		Compliance to Ministry of SOE, Ministry of KLHK and local government.
		June 2015	CB.8 as Head of CSR and General Affairs	<ul style="list-style-type: none"> <li>) General policies on environmental-related costs, performance measurement, disclosure policies-related.</li> <li>) General policies on the flow of information related with the environmental aspect.</li> </ul>		Company focusing on social image

May 2015	CB.9 as Head of Bina Lingkungan (Community partnership)	)Observation accounting for CSR )Observation to find another reporting for environmental aspect.		
June 2015	CB.10 as Staff of CSR and General Affairs	) Environmental-related costs, performance measurement, disclosure policies-related. ) The flow of information related with the environmental aspect.		
June 2015	CB.11 as Staff of Bina Lingkungan (Community partnership)	Observation which is more important between social aspect and environmental aspect	Seeking information the most credential for company in reporting	Environmental aspect engages with social aspect.

## Appendix M

### Member Checking

#### An example of member checking as part of validation of evidence

Dear Sarah Yuliarini

Hereby I confirm that that the information appearing in the transcript is true.

Sincerely yours,

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**From:** Sarah Y [mailto:[sarahyuliarini@gmail.com](mailto:sarahyuliarini@gmail.com)]  
**Sent:** 03 September 2016 16:09  
**To:**  
**Subject:** Fwd: File Question and Answer about EA guidelines



Member checking to OJK-RI answered via email and the other participants answered via mobile.