

**Comparative Analysis of Quality and Environmental Management Strategic
Implementation in Cement Industry
(Study Case: PT Indocement Tunggal Prakarsa Tbk., PT Holcim Indonesia Tbk.,
And PT Semen Baturaja Tbk in Indonesia)**

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ABSTRACT

The cement industry's activities have an impact on health and the environment, therefore a solution is needed to deal with the negative impacts of the cement industry operations. The cement industry undertaken various strategies in dealing with the negative impacts that occur to remain trusted by buyers. The strategy carried out by the cement industry is not only according to national standards but also international standards. ISO is one of the international standards in operational activities. The cement industry strives to obtain ISO 9001: 2015 certification regarding quality management which ensures the quality of cement products is in accordance with international standards and ISO 14001:2015 certification regarding environmental management which ensures that the industrial strategy implemented by the industry is in accordance with international standards. Three cement industries in Indonesia that have been certified ISO 9001: 2015 and ISO 14001: 2015 are PT Indocement Tunggal Prakarsa Tbk., PT Holcim Indonesia Tbk., And PT Semen Baturaja Tbk. The author will analyze the comparison of strategies implemented by the three cement industries in implementing ISO 9001: 2015 and ISO 14001: 2015. The method used in this research is descriptive exploratory. The collection of data and information is carried out through several references from related companies.

Keyword

cement industry,
environmental
management
industry,
quality management
strategy,
ISO 9001:2015,
ISO 14001:2015.

INTRODUCTION

Global competition is something that cannot be denied in this globalization era, one of them is competition between industries. Every industry competes to be the best and the foremost in order not to lose competitiveness in the international market. One of the steps that is applied to become the best industry is to get an ISO certificate. ISO (International Organization for standardization) is the largest developer and publisher of International Standards in the

world. ISO was founded in 1947, and since then has issued 22528 International Standards and related documents covering almost all industries, from food security, technology, to services health and agriculture. International standards provide world-class specifications for services, products and systems, to ensure safety, efficiency and quality ^[1]. ISO certification is an independent third party recognition that guarantees that the company or organization has implemented ISO standards properly and correctly. ISO

certification is given by a certification body in the form of a certificate, for example, SGS which certifies ISO 9001: 2015 to PT Holcim Indonesia Tbk.

From many standards that have been published by ISO, in this study two standards will be discussed, namely ISO 9001:2015 concerning quality management and ISO 14001:2015 concerning environmental management. In this study, the industry to be discussed is the cement industry. In the process of cement production, it has the potential to cause pollution to the environment. The cement industry strives to obtain ISO 9001:2015 certification and ISO 14001:2015 to ensure the quality and trust of customers with cement products produced by the cement industry by ensuring that the production process carried out by the cement industry has good environmental management. The cement industry that will be discussed in this study are three cement industries which have received both ISO 9001: 2015 and ISO 14001: 2015 certifications, namely PT Indocement Tunggal Prakarsa Tbk., PT Holcim Indonesia Tbk., And PT Semen Baturaja Tbk.

ISO 14001:2015 is a globally concurred standard that sets out the prerequisites for an environmental management system ^[2]. ISO 14001 was first validated in 1996 to complete the ISO 9001 that was there first. ISO 14001 is aimed at responding to the latest trends and ensuring that they are compatible with other management system standards, as a result, ISO 14001 has been changed several times to follow evolving environmental issues. ISO 14001: 2015 is the most recent version so that every company that has applied the previous version of ISO 14001 is required to upgrade ISO.^[2] The International ISO 14001:2015 was published in September 2015. It enables associates to improve their environmental execution through proficient utilization of assets and decrease of waste, picking up the upper hand and the trust of partners.

ISO 14001 is reasonable for associations of numerous kinds and sizes, be they private, not-for-benefit or governmental. It necessitates that an association considers every single environmental issue applicable to

its tasks, for example, air contamination, water and sewage issues, squander the board, soil defilement, environmental change alleviation and adjustment, and asset use and proficiency ^[3]. ^{custo}Like all ISO, ISO 14001 incorporates the requirement for persistent improvement of an association's frameworks and way to deal with natural concerns. The standard has as of late been modified, with key upgrades, for example, the expanded noticeable quality of natural administration inside the association's vital arranging forms, more prominent contribution from authority and a more grounded promise to proactive activities that help ecological execution.^[3] The making of an ISO standard from the ISO 14001 arrangement spoke to another component, yet one not without contention, given that for the first time reference was being made to issues of a political and social nature angles about which for some the International Standardization Organization had neither authenticity nor expert.^[4]

ISO 9001:2015 contains quality management criteria that can be used in various organizations. Based on International Standard Organization data, there are more than 1 million companies and organizations from 170 countries that were certified for ISO 9001. ^[5] This standard is based on quality management principles consisting of customer focus, management implications, process approaches, and continuous improvement.

Quality management practices that are mostly practiced are top management commitments which show that top management is actively involved in quality management and provides clear and consistent leadership. For example, the strategy in quality management in the cement industry is Benchmarking, where the industry implements two methods, namely the first comparing specific numerical or statistical measures of return on assets used and the market share. The second is a non-competitive benchmarking, which is a measure against the best companies in the world. After comparing with the best companies, then they will study the company and imitate their best strategy. ^[6]

Cement production processes have the potential to cause environmental pollution.

According to the Bogor Regional Government (2000) that the existence of PT Indocement Tbk has an important impact on the surrounding life. Because of these problems, PT Indocement Tbk has conducted an AMDAL study and implemented ISO 14001 which is an environmental management system. Management of air quality for dust, emissions and ambient is quite effective. But controlling noise around the company is still not effective.^[7]

The purpose of this study are to find out and compare the strategic implementation of ISO 9001:2015 and ISO 14001:2015 from several cement companies. These companies include PT Indocement Tunggul Prakarsa Tbk., PT Holcim Indonesia Tbk., and PT Semen Baturaja Tbk.

METHODS

Research Design

This study was conducted on three industries with the same business type. These companies have gone through the initial stages to the process of achieving certification of ISO 9001:2015 and ISO 14001:2015. The author's focus on the three companies is the comparison of quality and environmental management strategy of each company. The companies have implemented the ISO 9001:2015 and ISO 14001:2015 requirements that lead to the ideal system. They are in type of cement industry.

Research Method

The research method in this study are literature review, using descriptive and explorative methods. Descriptive methods are research methods that produce images systematically, actual, and accurately through sample or population data^[8]. This can be interpreted as a descriptive method based on events that occur at this time or during this research. Because the symptoms and events occur, the researcher only describes them without variable manipulation.

While explorative methods used to carry out to find something (science) that is new in a particular field^[9]. In this study, it can be said that explorative methods are used to deepen knowledge about ISO 9001:2015

and ISO 14001:2015 implementation in the cement industry.

RESULT AND DISCUSSION

Company Profile

1. PT Indocement Tunggul Prakarsa Tbk.

PT Indocement was established since 4 August 1975^[8]. The first factory was founded by PT Distinct Indonesia Cement Enterprise (DICE) with an annual production capacity of 500000 tons. After 10 years of the first factory operating, the company was established 7 additional factories so that the annual production capacity increased into 7.7 tons. The company's development continued with the establishment of PT Indocement Tunggul Prakarsa Tbk on July 16, 1985.

Many awards that have been received by PT Indocement Tunggul Prakarsa Tbk. One of the awards was the Top Brand Awards 2017 (*Semen Tiga Roda, Semen Putih Tiga Roda, Acian Mortar*)^[10]. This shows that the company still maintains the quality of the products it produces.

In addition, in terms of environmental responsibility, PT Indocement Tunggul Prakarsa Tbk. has received several awards. One of them is the Green Industry Level 5 2017. This award is for three factories that located in Citeureup, Palimanan, and Tarjun.

The awards that have been achieved by PT Indocement Tunggul Prakarsa Tbk. also prove that the company has carried out an implementation in environmental responsibility. In addition, this implementation is also carried out in anticipation of increasingly market growth. So that it is necessary to increase the capacity and quality of production^[11].

2. PT Semen Baturaja Tbk.

PT Semen Baturaja Tbk. was established on 14 November 1974, it was started with the name of PT Semen Baturaja (Persero) with a 45 percent shareholding owned by PT Semen Gresik and PT Semen Padang^[12]. Five years later, the company changed its status from domestic investment (PMDN) to Persero on 9 November 1979, with a composition of 88 percent shares owned by the Government of the Republic of

Indonesia, PT Semen Padang is 7% and PT Semen Gresik is 5%. Several years later, in 1991, the Republic of Indonesia's government fully took over the shares of the company.

The raw material for the cement products of the company is in the form of calcareous and clay from the calcareous and clay mining sites of the company located approximately 1.2 km from the Baturaja factory. Other supporting materials, such as silica sand, are obtained from partners in the Baturaja area; iron sand is obtained from partners in the Lampung province; Gypsum is obtained from Geriik Petro Kimia and imports from Thailand; while cement bags are obtained from manufacturers of finished bags sold domestically.

On May 10, 2016, the company was certified by ISO 9001: 2015 and ISO 14001: 2015 ^[13]. This is one of evidences that the company has achieved success in increasing customer satisfaction and has been applied environmental management.

3. PT Holcim Indonesia Tbk.

PT Holcim Indonesia Tbk ("Holcim" or "The Company") was established 15 June 1971 is a private cement company with a majority of shares namely 80.65% owned and managed by LafargeHolcim Group. PT Holcim Indonesia TBK is the largest cement company in the world based in Switzerland, with more than 81,000 employees and has been operating in more than 80 countries. The company operated commercially in 1975, where its products were marketed both at home and abroad. As one of the largest cement companies in Indonesia, Holcim operates a network of domestic building material supplies that include distributors, retailers, masons and value-added solutions. The Company also has an integrated business for cement, concrete ready-to-use, aggregate and waste management by Geocycle. In 2016, Holcim completed strategic integration which strengthened its position as part of the global LafargeHolcim Group. ^[14]

The Company is domiciled in Jakarta and has four factories in Narogong (NAR) in West Java, Cilacap (CIL) provinces in Central Java, Tuban (TUB) in East Java and Lhoknga

(LHO) in Aceh Province (through the operations of its subsidiaries, PT Lafarge Cement Indonesia). The total plant capacity reaches 15 million tons of cement.

The company also has two cement milling centers (in Ciwandan (CWD) in West Java Province and in Kuala Indah in North Sumatra Province and Holcim Beton (HB), a subsidiary that operates some of the largest aggregate mines in Indonesia and a batching plant center for concrete. ^[14]

Implementation of Quality Management ISO 9001:2015

1. PT Indocement Tunggal Prakarsa Tbk.

In the industrial field, it cannot be separated from customers. Likewise, PT Indocement Tbk with its customers, so there is a need for services that purposes to improve the quality of production and customer satisfaction. PT Indocement Tunggal Prakarsa Tbk. conducts strategies in order to maintain product quality and ensure customer satisfaction in implementing ISO 9001:2015, these steps include: ^[11]

a. Q-Care Team Monitoring and Supplying Customer Needs

Quality Care Process Team (Q-Care Team) is formed to maintain product quality and ensure satisfaction of PT Indocement Tunggal Prakarsa Tbk. customers. This team consists of several company divisions, they are sales and marketing, logistic, quality assurance and research, paper bag and dispatch, and also finance. The responsibility of this team is evaluating the quality of service to customers, such as product quality, packaging, availability, shipping, handling complaints, customer communication, and others. In addition, the team is also responsible for the preparation of new plans to increase customer satisfaction.

b. Expansion of Communication Networks with Customers

Digital technology is growing so fast. This is the reason PT Indocement Tunggal Prakarsa Tbk. uses digital media as a means of customer communication.

Communication facilities are very important to maintain the relationship between the company and the customers.

c. Quality Improvement and Cooperation with Masonries through the Community of Masonries Community (MUTU)

Foremen and masonries are also determinants of the quality of a building. Since 2015, PT Indocement Tunggul Prakarsa Tbk. has conducted training for masonries in Indonesia through SETARA in collaboration with the Ministry of Public Works and Public Housing. MUTU program conducts a sustainability program from SETARA, this program provides updates on insights and knowledge to masonries.

d. Increasing the Cheerfulness of End Users

The main consumers of PT Indocement Tunggul Prakarsa Tbk. are owners and masonries. Things that become a problem when development can be due to time, cost, or conditions during the development process. Because of these problems, PT Indocement Tunggul Prakarsa Tbk. presents cheerfulness by holding some activities or with promos that can satisfy customers.

The activities carried out by the company to satisfy customers in the context of ISO 9001:2015 realization include:

a. Customer Service

PT Indocement Tunggul Prakarsa Tbk. offers various cement products for residential and construction work projects (individual / corporate). The company provides information of a concise, condensed and clear explanation of product features in order to enable customers to use it for their specific projects.

In order to meet market requirements, the company also includes product features on the packaging. In addition, the company supplies retail products weighing 40 kg and 50 kg in selected material packaging that is hardly torn / broken when moved for customer safety

consideration. Cement bag weighing 40 kg and 50 kg is in accordance with human maximum weight limits. For each product it produces and sells to customers, which is listed on the external packaging, the company provides information on the quality and other specifications: 1. Logo of Indocement; 2. Name of the product; 3. Number and product registration number (NRP) of the national industry standard (SNI); 4. Package weight; 5. Cement type; 6. Use instructions; 7. Number of customer service complaints.

b. Complaint Service

PT Indocement Tunggul Prakarsa Tbk. strives to resolve complaints from all customers and is committed to improving the quality of its service and product. The company has opened customer complaint services via several channels, through telephone, mail, e-mail and SMS to end users, stores and distributors. The company handles all complaints from customers by:^[11]

- All incoming customer complaints are received, recorded and immediately answered.
- Coordination with visiting technical service teams and clarification with the customers concerned.
- If necessary, carry out test samples by the technical service team in the field.
- Issuance of Customer Complaint Reports (CCR), which should be followed up immediately by related units according to a predetermined time.
- A thorough evaluation of all complaints submitted and coordination with the relevant parties to prevent similar complaints from reoccurring.
- Formation of a Quality Care Process Team to monitor customer satisfaction indicators and complaints and proactive measures.
- Conducting regular visits to cement and ready - mix customers by the Technical Services team, as well as project customers to present product

knowledge, assistance in cement processes for advanced products and quality testing of building material components such as cement, sand and used water.

c. Customer Satisfaction Survey

Every year, the company also carries out customers satisfaction surveys through face-to-face interviews with selected respondents using a simple random sampling method. The value of customer satisfaction is measured by evaluating 16 attributes, including product, price, distribution and promotion.

d. Commitment to Quality

PT Indocement Tunggal Prakarsa Tbk. ensures that the products produced are in accordance with the specifications. To realize this goal, the quality development division and quality assurance division monitor to ensure the consistency of product quality.

Quality is a top priority for internal and external customer satisfaction for the company and covers all activities of the company, ranging from research and development, production and marketing. Quality is determined primarily by human factors through planning, implementation and effective and efficient controls. The education and training of employees therefore continues to be developed.

PT Indocement Tunggal Prakarsa Tbk. is a pioneer in the cement industry, where cement manufacturers use state-of-art technology to produce high quality, strong and environmentally friendly cement and actively participate in various activities and organizations with the same mission, including the Green Product Council Indonesia (GPCI).

Green Product Council Indonesia (GPCI)

Construction is a dominant aspect of human life because nearly 80 percent of human activities take place in buildings. Therefore, the use of products that pay close

attention to the environment in the building process has become very important. This fact encouraged the cement industry's only Indocement and 18 other manufacturers of building materials^[11]. The GPCI was created to encourage producers to pay attention to the environmental aspects. GPCI will issue green labels for products that meet the required criteria through green product rating tools developed with professional experts. Consumers will also be encouraged to select products with a green label as their primary choice. Each product will compete for the green criteria.

2. PT Semen Baturaja Tbk.

In accordance with the Consumer Protection Act No 8 1999, the company carries out its corporate social responsibility to consumers by providing a quality cement product, providing information media on the quality of products and products and customer service. Implementation of activities in consumer responsibility by maintaining the quality of the products, both process and transport. In addition, the Company strives to prevent the counterfeiting of the products for the packaging, including the use of codes and color codes stamped on the cement bags produced on the basis of the date, month, year and distribution area at the time of the issuance of cement for easy identification of products when the product is default.

In ISO 9001:2015 Implementation, PT Semen Baturaja Tbk. focus on customer complaints.^[13] The company provides service when the customers. Customer complaints will be started by verification / inspection at the place where the complaints occurred, and an investigation will be carried out to determine whether there is a discrepancy in the quality / quantity that the customers complained about and the root of the problems.

The results of the investigation are submitted to the relevant work units and correction and prevention is carried out in order to avoid recurrence of complaints from customers. The incoming complaints data will be the material for the analysis of the causes of the problems and an input for continuous

improvement. Complaints received will be used to assess the company in order to continuously improve the quality of service and improve customer satisfaction and loyalty. The number of incoming customer complaints fell from 36 in 2015 to 23 in 2016 in the last two (two) years.

3. PT Holcim Indonesia Tbk.

PT Holcim Indonesia Tbk. got ISO 9001: 2015 certificate in 2016. PT Holcim Indonesia Tbk. conducts strategies in order to maintain product quality and ensure customer satisfaction. To get the ISO 9001: 2015 certificate, PT Holcim Indonesia Tbk. implement the strategy as follows:

a. *Customer Focus*

Holcim's good relationships with customers are always developed to ensure customer satisfaction, as well as a comprehensive service solution for customers. Holcim realizes that it is important for the company to be able to understand and meet the needs of its customers, especially related to product quality and proper product socialization to the community. Holcim also runs various customer service and appreciation programs which include delivering information, handling customer complaints. Throughout 2017, Holcim Indonesia has organized a number of agendas involving partners, such as:^[14]

1) *Travel to South Korea*

In March, Holcim invited 650 retailers and their partners to visit tourist destinations in South Korea, such as Seoul, Nami Island, and Mount Soerak to appreciate those who successfully met the Holcim target in the April-December 2016. This is expected to motivate retailers to maintain and improve its performance in the future.

2) *Geocycle Customer Gathering*

Geocycle customer gathering is an activity that is carried out by collaborating with clients to discuss the challenges of waste problems faced and find solutions to solve these

problems so it's make customer have trust to Holcim.

3) *Estafet Program*

Estafet program is a program that aims to better engage Holcim Indonesia's main distributors and bridge the first and second generation of the distributor's family to ensure the sustainability of the business. This program is expected to be able to build awareness of the next generation to continue the business.

4) *Prime Builder application*

Holcim creates a prime builder application that can be installed on mobile phones that can be used to communicate directly with partners and customers. In addition to these activities, in partnering with customers to realize different and innovative solutions. Another approach that has been implemented at Holcim is the presence of call center services, conducting customer satisfaction surveys, making media and public relations. This promotion is expected to be able to find effective and efficient products and innovations that must be done.

b. *Leadership*

Holcim has a clear leadership structure that can be seen from an organizational structure with directed responsibilities and job desks. Starting from top management to the lowest management has been well organized. The leaders work together to make Holcim the leading cement industry. Top management is responsible for directing to strategically develop and coordinate all functions to maintain and enhance long-term market leadership, while achieving annual targets. Ensuring Holcim's values are well-maintained and carried out through ongoing contributions to local economic development, environmental management and social responsibility. Every different position has different responsibilities but continues to work

together for the development of the Holcim cement industry.

c. Engagement of people

Holcim involves various groups in industrial activities. Holcim engages the community, engages employees, and engages other stakeholders.

1) Community Engagement

Holcim strives to be a trusted and responsible industry to the community around the Company. Holcim does this by contributing through investment and involvement, and build relationships on the basis of mutual respect and trust with all stakeholders in the community. Holcim continues to strive to respect all people and the earth, and asks employees to see the short and long-term impacts on society and the environment when making business decisions. Holcim conduct a series of long-term community engagement activities and high-impact CSR programs. The example of CSR that Holcim has done is:^[14]

– *Posdaya*

Posdaya is a program carried out in a village or a smaller area by paying attention to the education section by providing scholarships, early education, training and welding qualifications and English for fun. In the economic sector by providing training and support to start a local product business. In the environment by inviting people to grow medicinal plants and handling organic waste. In the health department by holding Posyandu, health seminars, and pregnancy education seminars.

– *Community Activity Centers*

Tuban Community Activity Center is the spearhead of Holcim's CSR development and initiatives in Tuban. PKM Tuban has supported the implementation of various programs and projects that benefit nearly 16,000 people in terms of economic empowerment, health

improvement, and social and educational needs.

2) Employee Engagement

Different commitment exercises directed all through 2017, including quarterly Business Briefing, yearly Sports Fiesta, yearly Employee Performance Evaluation and rivalry, among others. On March 14, 2017 Holcim was awarded the "The Best Partnership Program" because it had committed to improve and support the improvement of human resources so that it received the award from the West Java government.

d. Process Approach

With the job description, it helps each organization structure in Holcim to carry out the tasks that have been given to each organizational structure that has been made. Human resources (HR) and organizations have a strategic role and function to achieve the Company's P100 target. Therefore, Holcim continues to develop HR while enhancing industrial relations with employees. For Holcim employees are the greatest asset with their skills, ideas and encouragement to succeed in making Holcim be able to deliver the best value to clients and shareholders of Holcim consistently.

e. Improvement

As one of the largest industries in Indonesia, Holcim continues to improve both product quality, service, customer relations and environmental improvements so that continuous improvement is needed. Some of the improvements Holcim is doing in the 2017 term are:

– *Health and Safety Improvement*

Holcim conducts a truck feasibility program and prevention of overturned and overturned trucks. From this program, it succeeded in eliminating incidents that occurred where Zero Accident was recorded in 2017. In addition, Holcim created the Main

Equipment Interlock Program to Prevent Serious Accidents or Injuries during Equipment Operation.

- *Community Health Improvement*
Holcim Community Health Improvement Indonesia conducts good collaboration with different partners. For projects that are executed across a large scale, in a huge scale, we guarantee that we can adapt to the legislative bodies and additionally non-administrative associations.

f. Evidence-based decision making

The organizational structure at Holcim shows people who are responsible for making decisions. In this case, top management has full rights in making decisions as mentioned in the job description. Even so, employees and customers also have the right to express opinions which will then be reviewed as input material in final decision making. Leaders are required to make business decisions in the interests of Holcim, not personal.

g. Relationship Management

Holcim always maintains relationships with customers, relationships with employees and relationships with stakeholders. The good relationship between Holcim and customers is always developed to ensure their satisfaction. Holcim Develop employees by developing HR that performs through a diverse work environment. Holcim highly respects employees who work as valuable assets for the company. Holcim also maintains relationships with stakeholders by creating shared values with stakeholders and sustainable solutions for stakeholders.

Implementation of Environmental Management ISO 14001:2015

1. PT Indocement Tunggul Prakarsa Tbk

PT Indocement Tunggul Prakarsa's environmental conservation policies and commitments are regulated in the company's policies signed by Indocement's President

Director. These policies are as follows: 1. Real natural resources conservation efforts; 2. Biodiversity conservation; 3. Conservation of energy; 4. Preventing pollution by continuously improving its activities. PT Indocement Tunggul Prakarsa Tbk. had several environmental goals and plans:^[11]

a. Reducing average emissions of dust from the company

In 2017, Indocement replaced the Electrostatic Precipitator (EP) with a plant 10 bag filter. The replacement was an initiative by Indocement to reduce dust emissions from the factories of the company. This was in line with the principle of reducing its environmental footprint set out in HeidelbergCement Sustainability Commitment 2030.

As a result, EP technology was able to reduce the average emissions of dust by 53.7 mg / Nm³, which is below the emission standards (BME) set out in Appendix 1 PERMENLHK No. P.19 / MENLHK / SETJEN / KUM.1 / 2 / 2017 on standards of quality of emissions in the cement industry and / or 70 mg / Nm³ activities. The company decided, however, to replace the EP with a bag filter with an average emission of 9.3 mg / Nm³ dust.

b. Reducing the noise level caused by the conveyors of the company

The company operates conveyors in the neighborhoods. The company replaced 1,585 belt conveyors with low - noise belt conveyors in 2017. The roller belt conveyor operated by the company previously resulted in an average noise level of 51 dB, well below the standard noise level established by the Ministry of Forestry and the Environment, as set out in Decree No. KEP-48 / MENLH / 11 / 1996 concerning noise standards in housing and residential areas at 55 dB (A) and in industrial areas at 70 dB (A).

Replacement rollers are used for a length of 4.6 kilometers along the belt conveyor line from quarry D to the factory. The noise levels could be reduced to an

average of only 48 dB after replacing the Low-Noise Rollers Belt Conveyor.

The main material for the Low - Noise Rollers Belt Conveyor has an ultra - high molecular weight that can operate consistently at high temperatures, but has a plastic elasticity that smoothes the friction between the rollers and the conveyor belt.

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c. Eco-Friendly Production Process

PT Indocement Tunggul Prakarsa Tbk. is fully aware that the company's business activities are directly related to the environment. The company pays enormous attention to environmental issues for this purpose. The company believes that one of the main factors supporting the company's business continuity is the environment. The company therefore always ensures that its business activities do not have a negative impact on the environment in all business activities. The company has standardized standards for production processes in relation to production activities, as follows: Using of environmental friendly and recyclable energy and materials, waste management system using 4R principles (Reduce, Reuse, Recycle, Recovery) complaints of environmental problems by the community around the factory.

d. Sustainable Environmental CSR Activity

PT Indocement Tunggul Prakarsa Tbk has some activities related to the environment, including:

- Quarry Life Award to educate about biodiversity to the public
- Eco-Friendly Village to make actions for the protection and management of the environment

- Climate Village Program to prevent drastic impact of climate change.
- Kampung Inspirasi Cilengkrang to educate the local people to care about the environment.

2. PT Semen Baturaja Tbk.

PT. Semen Baturaja has received an ISO 14001: 2015 certificate on May 10, 2016 from TUV NORD Indonesia. The implementation carried out by PT. Semen Baturaja so that industrial operations remain environmentally friendly are:

a. Use of materials and energy that friendly for Environment

PT Semen Baturaja uses biofuel using sawdust and palm shells as fuel.

b. Waste treatment system

The company's waste management system is based on the 2016 K3 and LH Operational Control SOP. PT Semen Baturaja manages solid B3 waste and liquid B3 waste. In addition, PT Semen Baturaja also manages fly ash by carrying fly ash using special and closed cars to be subsequently placed in TPS Fly Ash before being utilized.

c. Complaints about environmental problems

PT. Semen Baturaja has a program for complaints about environmental problems. If there are complaints about environmental problems, the company will look for solutions to deal with these environmental problems.

Commitments for the environment makes PT. Semen Baturaja received various awards such as the Level 5 Green Industry Award^[13]. PT. Semen Baturaja get Green Proper as an environmental management in cement mining sector. Green Proper was given as a form of appreciation for PT. Semen Baturaja as a company that has carried out more than required environmental management including environmental management systems, B3 waste, solid waste, conservation of decreasing water pollution

loads, energy efficiency, and emission reduction.^[16]

3. PT Holcim Indonesia

Holcim Indonesia runs environmentally friendly industrial operations to minimize adverse impacts on biodiversity and the surrounding environment. The two pillars of Strategy 2030, namely climate and nature & water, serve as guides for efforts to preserve and protect the environment.^[14] So far, Holcim has implemented effective management related to a number of environmental aspects that can be monitored and measured, such as CO₂ emissions, air pollution, responsible use of water and energy, waste management, availability of water resources, management of green areas, and biodiversity studies.

As part of the pillars of nature & water. Conservation of biodiversity is one of Holcim's main focuses. Biodiversity is related to the diversity of creatures on earth, as well as interactions between living things and their environment. This is important for Holcim because the Holcim business process is very

dependent on the availability of natural resources. Therefore Holcim is committed to contributing to efforts to conserve nature through a number of programs.^[14]

a. LafargeHolcim Awards

LafargeHolcim awards is a program to give awards to those who channel creative and innovative ideas related to sustainable building construction.

b. Processing Waste into Alternative Fuels

Holcim collaborates with the Government of Cilacap Regency, Central Java, in building waste processing facilities into Refused Derived Fuel (RDF). RDF is able to process 120 tons of domestic waste every day. With this innovation, Holcim can maximize the use of waste into something of value and reduce environmental pollution.

c. Cilacap Water Management

With this program, Holcim's factory in Cilacap has successfully saved water up to 364,569 m³ in 2017.

Table 1. Comparison of Strategies in the Three Cement Industries^[11,13,14]

Company Name	Company Profile	ISO 9001:2015	ISO 14001:2015	PROPER (2018)
PT Indocement Tunggul Prakarsa Tbk.	<ul style="list-style-type: none"> ▪ Established since 4 August 1975 ▪ Located in Citeureup 	<ul style="list-style-type: none"> ▪ Monitoring and Supplying Customer Needs through Quality Care Process Team ▪ Expansion of Communication Networks with Customers ▪ Quality Improvement and Cooperation with Masonries through the Community of Masonries Community (MUTU) ▪ Increasing the Cheerfulness of End Users Activities: Customer Service, complaint service, Customer Satisfaction Survey, Commitment to Quality 	<ul style="list-style-type: none"> ▪ Reducing average emissions of dust from the company ▪ Reducing the noise level caused by the conveyors of the company ▪ Eco-Friendly Production Process ▪ Sustainable Environmental CSR Activity 	Green
PT Semen Baturaja Tbk.	<ul style="list-style-type: none"> ▪ Established on 14 November 1974 ▪ Located in Palembang 	<ul style="list-style-type: none"> ▪ Providing a quality cement product ▪ Providing information media on the quality of products ▪ Products and customer service 	<ul style="list-style-type: none"> ▪ Use of materials and energy that environmental friendly ▪ Waste treatment system ▪ Complaints about environmental problems 	Green

Table 1. (continued)

Company Name	Company Profile	ISO 9001:2015	ISO 14001:2015	PROPER (2018)
PT Holcim Indonesia Tbk.	<ul style="list-style-type: none"> ▪ Established on 14 June 1971 ▪ The Company located in Jakarta and has four factories in Narogong (NAR) in West Java, Cilacap (CIL) provinces in Central Java, Tuban (TUB) in East Java and Lhoknga 	<ul style="list-style-type: none"> ▪ Have implemented customer focus by some program ▪ Implemented clear leadership structure ▪ Build relationship on the basis mutual respect and trust with all stakeholders in the community ▪ Improvement of human resource ▪ Health, safety, and community improvement ▪ Maintain relationship with customers, employees, and stakeholders 	<ul style="list-style-type: none"> ▪ Giving awards for innovative idea related sustainability ▪ Processing waste into alternative fuels ▪ Water management ▪ Biodiversity management ▪ Greening the limestone quarry 	Green

d. Biodiversity Management Plan

Holcim manages biodiversity by visiting caves and springs around the area of plant operations that have or will be included in the Holcim conservation agenda. Regarding conservation of biodiversity and nature, Holcim Indonesia implements study and measurement of biodiversity in the area of the cement plant and aggregate mine in order to develop an action plan that can increase the biodiversity index.^[15]

e. Greening the Limestone Quarry

Holcim Indonesia is committed to preserving the environment and biodiversity. Holcim runs a 3 years education-program that is Enterprise Based Vocational Education or known as EVE, what brings young and potential people from around our Plants to an excellent professional level, which is required for the operation of a modern Company in Cement-business. EVE is part of Community Social Responsibility program with targeted participants' qualified candidates from community surrounding our Plant.^[17] Holcim has a program to plant trees again in the former area of the coking mine with a number of endemic plants. With various programs conducted by Holcim showing Holcim's commitment to the environment, Holcim gets some appreciation and also gets

Green Proper. Green proper that received by PT Holcim Indonesia Tbk demonstrating that Holcim Indonesia has implemented environmental management better than required.^[18]

CONCLUSION

The results concluded that the implementation of ISO 9001:2015 and ISO 14001:2015 from the three companies are slightly different in strategies. Indocement focus on customer services, Baturaja is more focus on quality product, whereas Holcim implemented the strategy in customer satisfaction and maintain relationship with customer, employees, also stakeholders. Indocement reduced dust and noise emission, Baturaja did the environmental prevention start from using materials that environmental friendly. Holcim give awards to anyone who has the innovative ideas for environmental sustainability.

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