GAP ANALYSIS OF GREEN SUPPLY CHAIN MANAGEMENT USING GREEN SUPPLY CHAIN OPERATION REFERENCE METHOD IN THE GARMENT INDUSTRY

UNDERGRADUATE THESIS

Submitted to the International Undergraduate Program in Industrial Engineering in Partial Fulfilment of Requirement for the Degree of Sarjana Teknik at the Faculty of Industrial Technology
Universitas Islam Indonesia

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UNDERGRADUATE PROGRAM IN INDUSTRIAL ENGINEERING
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YOGYAKARTA
2024

AUTHENTICITY STATEMENT

For the sake of Allah SWT, I admit this work is the result of my own work, except for the excerpts and summaries from which I have explained the source. If in the future, it turns out that my confession is proven to be untrue and violates the legal regulations in the paper and intellectual property rights. In that case, I am willing to get a diploma that I have received to be withdrawn by Universitas Islam Indonesia

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DEDICATION PAGE

I sincerely say thank you to my parent who is always there to aid me in my time of need anytime anywhere whether they are busy or not by providing me with moral, spiritual, and financial support for me to be able to continue living my life by giving me the essential needs for me to survive in this world and also my caring younger and older sister to aid by giving your moral support.

I am very proud of myself for being able to fight all of the obstacles that are coming to me and withstand the physical and mental strain to reach this point. After finishing my studies at this university, I have to be much more ready for after this I will be going to the world of work where I have to endure much more than what I have gone through.

For all the lecturers at this university, I am grateful for the knowledge and practical skills that are being taught here, which will be useful later down the road. And lastly, I want to thank all my friends in my class, and then Rafly, Kevin, Rizky. Faiq, as WOYO squad, and then is my best friend Ilham Zaidan, and last is my beloved girlfriend Aqila Ais for helping me throughout this university; I am very grateful for that.

PREFACE

Assalamualaikum Wr. Wb.

Alhamdulillahirabbil'alamiin. With praise and gratitude, the writer conveys the presence of Allah SWT, who has bestowed his grace and guidance so that the author can complete the undergraduate thesis at PT. Sandang Asia Maju Abadi and completed the report without any problem. Shalawat and greetings, may it always be devoted to our Great Prophet Muhammad, who brought and illuminated our conscience and became a light for all noble deeds. And God willing, we all include the people of Prophet Muhammad SAW until the end of time.

This undergraduate thesis is evidence of the implementation of the company workflow and fulfilling one of the requirements to achieve a bachelor's degree in the Department of Industrial Engineering, Universitas Islam Indonesia.

The author is fully aware that in the preparation of this undergraduate thesis report, there are difficulties and obstacles experienced by the author, both in terms of content, writing, and words that are not well structured, but thanks to the help and guidance of various parties, finally this undergraduate thesis can be completed. Sincerely, the author would like to express his gratitude and gratitude and appreciation to:

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Hopefully, this thesis report can be useful for readers in general and companies in particular. The researcher realizes that this Undergraduate Thesis report still has many shortcomings so the researcher expects constructive criticism and suggestions from all readers for further research.

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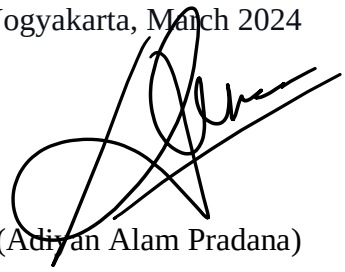
Yogyakarta, March 2024



(Adiyan Alam Pradana)

MOTTO

"Allah will exalt those who believe among you and those who are given knowledge by several degrees."
-Q.S. Mujadalah [58]: 11

"Allah does not burden any of His servants except according to his ability"
-Q.S. Al-Baqarah [1]: 286

"And be patient. Verily Allah is with those who are patient."
-Q.S. Anfaal [8]: 46

"Never regret what you have chosen"
-Alam Pradana

"The most important thing you must have is patience"
-Jac Ma

"Skills are better than diplomas and degrees"
-Elon Musk

ABSTRACT

The garment industry, a fashion sector business, produces large quantities of ready-to-wear clothing. Indonesia's growth aligns with community needs and population growth, resulting in promising profits. The industry has expanded internationally and is based on creativity. Quality control is crucial for obtaining goods that meet desired standards. The goal is to satisfy the target market, return investments, and benefit the company in the long term. To maintain the pace of the industry, superior and skilled human resources are employed to ensure continuous improvement and meet the needs of the local and international markets. PT. Sandang Asia Maju Abadi is one of many garment companies that run the cloth production business that is located in Tugu Wijaya Kusuma Industrial Estate, Jalan Tugu Industri I/8, Randugarut Village, Tugu District, Semarang, Indonesia. These studies aim to determine the performance score of the Green Supply Chain Management and give recommendations on the problem that has been identified. Sustainable Supply Chain Operations are used to identify the Key Performance Indicator and measure the performance score of the indicator. It is found the existence of 6 indicators, in which 3 indicators have reached the target value and the other 3 have not reached the target. It was found that the Green Supply Chain Management performance score is 50% which is categorized as bad.

Keywords: Green Supply Chain Management, Sustainable Supply Chain Operations Reference, Performance Score, Key Performance Indicator

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CHAPTER I

INTRODUCTION

1.1 Study Background

The garment industry is a form of business in the fashion sector that produces large quantities of ready-to-wear clothing. The garment industry in Indonesia continues to develop in line with the needs of the community and a fairly large population, so the profits obtained are very promising, and there is intense competition in the garment industry. The garment industry, apart from meeting the needs of the local market, has now reached the international market. Basically, the world of the garment industry is an industry based on creativity. Along with the increasing number of garment industries, the quality of garments is not only measured by the originality and creativity of a person in displaying designs and product results but also must pay attention to quality control. The goal is to obtain goods that comply with the desired quality standards continuously and to be able to control, select, and assess quality so that the target market is satisfied, the investment can return, and the company benefits in the long term. Efforts are made to maintain the pace of the garment industry, namely by having superior and skilled human resources.

On the other hand, it also focuses on sustainability which involves the principle of the triple bottom line (TBL): environmental, economic, and social dimensions (Roy, 2015). Of the three (3) principles, green supply chain management (GSCM) focuses on the environmental and economic performance of the supply chain (Garguri, 2015). Emphasizing 'green', GSCM is sustainable to improve efficiency which also refers to cost-cutting methods. This is a practice that will minimize or dispose of waste along the supply chain. With the adverse environmental effects of the garment industry, GSCM has appealed to garment companies to reduce the occurrence of such problems. So that companies can gain profits and compete competitively and still pay attention to environmental factors, it is important to do one of them by developing the concept of green supply chain management in the business processes that are carried out.

Supply Chain is a network of people, activities, information, and resources involved in making products or services to customers (Kozlenkova et al., 2015). Supply chain activities involve receiving resources, processing them, and delivering them to customers (Kozlenkova et al., 2015). The field of supply chain management itself has many scopes, one of which is Green Supply Chain Management which deals with environmental issues in a supply chain. Green Supply Chain Management, commonly abbreviated GSCM is the practice of encouraging improvements in supply chain environmental practices (Vachon & Klassen, 2016). The scope of GSCM starts from environmental management monitoring to the practice of implementing Reduce, Reuse, Rework, Refurbish, Reclaim, Recycle, Remanufacture, and Reverse Logistics (Srivastava, 2017). To determine the greenness of a particular supply chain, we need to use performance measurement using the main performance indicator, namely the Green SCOR indicator.

PT. Sandang Asia Maju Abadi is a private limited liability company established in 1997, based in Semarang, Central Java, Indonesia. The Company was established by deed of Limited Liability Company by Notary H.M Afdal Ghazali, S.H. 546 dated September 25 based on Decree No. C-165858.HT.01.04.TH.99 and received approval from the Ministry of Justice of the Republic of Indonesia, the Directorate General of Law and Legislation. The company, which is located at Tugu Wijaya Kusuma Industrial Estate, Jalan Tugu Industri I/8, Randugarut Village, Tugu District, Semarang, Indonesia, is an apparel industry company, with export-scale products to five continents in the world. Many activities can harm the environment. For example, the chemical spray process in the laundry section that occurs can cause damage to the surrounding environment if the waste from the process is not treated and is directly dumped into rivers or land. Therefore, it is necessary to research measuring GSCM performance at PT. Sandang Asia Maju Abadi so that the garment industry can continue to develop its business well.

The purpose of this study was to obtain the performance value of Green Supply Chain Management at PT. Sandang Asia Maju Abadi and provide recommendations for improvement based on the results of performance measurements that have been carried out. The approach method used to measure

performance uses Green Supply Chain Operation References (Green SCOR). By using this method, it can be seen the relationship between the company's goals and supply chain management in all existing manufacturing activities by evaluating the performance of Green Supply Chain Management. First of all, will do Performance measurement. Performance measurement is the process of analyzing information from a particular system (Behn, 2013). By measuring performance, we can define what is happening in a system. One method of measuring performance is a key performance indicator. Key Performance Indicators in short KPI are one of two methods of measuring performance that evaluate the success of an activity (Weilkiens et al., 2016). The success of a KPI is determined if an activity has achieved its strategic goals (Reh, 2020). In this case, the success of the KPI is determined if one of the Green SCOR indicators when evaluated, has achieved certain goals in the Green SCOR model. Green SCOR or Green Supply Chain Operations Reference is a way to measure supply chain performance by using five performance attributes which include reliability, responsiveness, flexibility, cost, and asset management (UNEP, 2013). In Green SCOR, we try to identify certain processes that can affect the environment, namely the planning, procurement, manufacture, delivery, and return processes (UNEP, 2013). By using the Green SCOR model, we can create measurable environmental performance indicators that can be further developed for a better model.

By using all these techniques in the garment industry, PT. Sandang Asia Maju Abadi, its supply chain can be improved, and the environment can be kept healthy. Later, it can improve employee’s performance.

1.2 Problem Formulation

The problem formulation according to the study background of this research is as follows:

1. What is the green supply chain management score of PT. Sandang Asia Maju Abadi as Garment Industry?
2. What are the recommendations that can improve their green supply chain management performance score by using Green SCOR?

1.3 Research Objective

The objectives of this research according to the study background are as follows:

1. To formulate PT. Sandang Asia Maju Abadi green supply chain management performance score by using Sustainable SCOR.
2. To formulate recommendations using Green SCOR based on PT. Sandang Asia Maju Abadi garment industry green supply chain management performance score.

1.4 Research Benefit

The benefits of this research for other people are as follows:

1. Generating a recommended performance evaluation model of a garment industry that garment industry owners can use this model on their industry to evaluate their green supply chain management performance.
2. Creating a recommended performance evaluation model of a garment industry that can be used as a foundation for the researcher to improve on.
3. Providing knowledge to the reader of this report on how to evaluate the green supply chain management performance of the garment industry.

1.5 Systematics Writing

The systematic writing of this report is needed for more structured writing for the benefit of the author as well as the reader of this report, as follows:

CHAPTER I INTRODUCTION

This chapter contains the study background of this research based on the researcher's observation of the topic situation and addresses the problem formulation that the researcher found as well as the objective and benefit of this research.

CHAPTER II LITERATURE REVIEW

This chapter contains the inductive study that the researcher used to gain more knowledge of the problem and find the tool to solve the problem and the deductive study that the researcher used as a theoretical foundation to write this report.

CHAPTER III RESEARCH METHODOLOGY

This chapter contains the research object of this report, what data are being used, the tools to process those data, and a detailed flowchart that explains the flow of this research.

CHAPTER IV DATA COLLECTION AND PROCESSING

This chapter contains the collected data that the research has collected and displayed using figures and tables and the detailed processing of the data to get the output.

CHAPTER V RESULT AND DISCUSSION

This chapter contains the result from the data processing of the previous chapter and the discussion of that result to find the conclusion as well as the suggestion.

CHAPTER VI CONCLUSION AND SUGGESTION

This chapter contains the conclusion that has been discussed as well as the suggestion of recommendations from the data that have been analyzed that can be implemented in the garment industry.

REFERENCE This chapter contains the reference used for this research to help the researcher expand its research knowledge by quoting other people quote that can be use in this research.

ATTACHMENT This chapter contains the attachments that are used for this research either diagram or table attachment.

CHAPTER II

LITERATURE REVIEW

2.1 Inductive Study

Inductive study is used as base theory of this research from someone else perspective. Inductive study is used to see other researchers' problems and how they solve them which can be used as a comparison with my research. This inductive study covers the research topic of Green Supply Chain Management.

Table 1. Past Research

No	Title	Researcher (Year)	Method	Result
1	Barriers Analysis for Green Supply Chain Management Implementation in Indian Industries Using Analytical Hierarchy Process	Govindan et al. (2013)	Green Supply Chain Management, Analytical Hierarchy Process, Sensitivity Analysis	Many manufacturing industries are trying to apply green concepts in their supply chain management to focus on environmental issues. Many are still struggling to identify the barriers to implement into their supply chains. The researcher found that there was a total of 47

				obstacles found and only 26 barriers were used using the analytical hierarchy process and sensitivity analysis which were the main obstacles in the application of GSCM. They found the next best to focus on were outsourcing, financial matters, and environmental knowledge.
2	Pressure Analysis for Green Supply Chain Management Implementation in Indian Industries Using Analytical Hierarchy Process	Mathiyazhagan et al. (2014)	Green Supply Chain Management, Pressure Analysis, Analytical Hierarchy Process	Companies need to do something about their environmental practices. There is a growing emphasis on ecological impact and issues. Industry is still struggling to

				identify these environmental pressures. The researcher focused on identifying these pressures and found that there were 6 categories of pressure and there were 65 pressures and found but only 35 which were the main problems by using a questionnaire survey and found that most of the pressures came from production and operational factors.
3	*Penerapan Model Green SCOR untuk Pengukuran Kinerja Green Supply Cain*	Natlia & Astuario (2015)	Green Supply Chain Management, Green Schain Operation Reference, Key Performance	Increasing human awareness of the environment makes it necessary for businesses to apply environmental

			Indicator, Analytical Hierarchy Process	concepts to their supply chains. Researchers measure the company's green supply chain management performance by using a design performance measurement model and performance weighting by scoring. They identified there were 16 key performance indicators identified and found that the plan had 68, source 66.54, made 58.89, deliverables 32.80, and returns 56.85 with an overall score of 60.13 which is sufficient, but

				delivery needs to be improved again so that get even better results in GSCM development.
4	Performance Evaluation and Measurement of SMEs King of Honey Using the Green SCOR Method	Fitriana et al. (2022)	Green Supply Chain Management, Green Supply Chain Operation Reference, Analytical Hierarchy Process, Importance Performance Analysis, Snorm de Bour	It is important to assess the application of green supply chain management in business due to the current environmental concerns. The researcher focuses on assessing the performance of green supply chain management with the help of green supply chain operations references in 6 processes, namely planning, sourcing, manufacturing,

				delivery, returns and waste. Using many methods, the researcher found that the GSCM performance value in September was 86.03 and in November was 86.48. 3 indicators that still need to be improved are defective products that can be recycled, the percentage of recycled solid waste, and the percentage of wastewater.
5	Green Supply Chain Performance Measurement Using Green SCOR Model in Agriculture Industry: A Case Study	Arjuna et al. (2022)	Green Supply Chain Management, Green Supply Chain Operation, Performance Measurement,	The agricultural industry has increased its environmental footprint. Many concepts have been developed to be integrated in

			Key Performance Indicator, Objective Matrix	the ecological aspects of the supply chain. This study uses a green supply chain operation reference to measure the environmental aspects of the supply chain. The researcher found that there were 15 main performance indicators in the agricultural industry and found that in the objective matrix there were 6 main performance indicators green, 7 yellow, and 3 red with an average green SCOR value of 63.57. From these results it can be concluded that the

				application is still in the bad category and needs to be improved.
6	*Penerapan Model* Green SCOR *Untuk Pengukuran Kinerja* Green Supply Chain Management *Pada Perusahaan Baja Hilir*	Febrianti et al. (2018)	Green Supply Chain Operation Reference, Analytical Hierarchy Process, Green Supply Chain Management, Supply Chain Performance, Snorm de Bour	Currently, business have been competitive more and more. To be more distinguished from other is by increasing their product quality. One of the aspects that is improved is in their greenness of the supply chain. To do this the researcher use Green SCOR to find out indicator that need to be improved on garment company. The researcher found out there are 31 key performance indicators that are

				in the garment company. By using analytical hierarchy process method, the researcher found that the performance score of PT. XYZ is 67,69 which is average.
7	Green Supply Chain Operations Reference (G-SCOR): An Application for Small Garment Manufacturer in the Philippines	Cruz et al. (2021)	Green Supply Chain Management, Green SCOR	In Philippines, the common supply chain design there has not incorporate the practice of green to resolve the environmental issue even though green supply chain management of companies around the world have appealed GSCM to reduce environment issue. The researcher

				evaluates a supply chain on a small garment manufacturing using Green SCOR Model and found based on 15 indicators with 6 attributes that among the indicators CO2 emission are a strong influence on GSCM on a garment industry. To improve their supply chain, it is recommended to start managing their waste and implement green practice to reduce harm on the environment.
8	*Penerapan Green Supply Chain Management Untuk Peningkatan Kinerja Keuangan Perusahaan*	Daniel Alfa Puryono, Mustafid, Ferry Jie (2017)	SCOR, AHP, Du Point Ratio Analysis	The result of this study is a decision-making information system that is able to link the performance of

				an environmentally friendly supply chain with performance company finances.
9	Analysis of Green Supply Chain Management Practices in Automotive Industry Based on Green SCOR Model	Imane & Fouad (2021)	Green SCOR, Green Supply Chain Management	Automotive industry has been highly competitive because of the changing nature of products and demands. Environmental challenge has been intertwined with all areas of economic productivity and environment protection which have been receiving many attentions. Incorporating green practices is a must to achieve economic, environment, and

				social performance. The researcher tries to study green supply chain management practices to automotive industries using green SCOR model. They find that there are three level which include 9 GSCM practices and 5 processes are proposed. By applying those proposed model, the companies can accomplish profit and market share goals by decreasing environmental harm and increase green efficiency.
10	*Penerapan Model Green SCOR Untuk Pengukuran*	Chistine Natalie, Robertus	Green Supply Chain Management,	This study aims to measure the performance of

	Kinerja Green Supply Chain Management (GSCM)	Astuario (2015)	Key Performance Indicator, Green SCOR	green supply chain management in a manufacturing company.

2.2 Deductive Study

2.2.1 Supply Chain Management

According to Russell (2012), the supply chain is a process that is interconnected and forms and delivers products or services from a company to the final consumer. The supply chain is a combination of a network of companies that work together to create and transport products to consumers (APIC, 2016). To put it simply, a supply chain is a related flow between organizations that produce a product or service for the final consumer.

The definition of Supply Chain Management is the process of distributing goods to consumers starting from raw materials, and semi-finished goods to finished goods (Heizer & B.Render, 2014). Supply Chain Management is the management of the flow of goods that is integrated with information and money from upstream to downstream involving suppliers, factories, distribution networks, and logistics service parties (Sadeghi et al., 2016). Management of information and products from initial suppliers to final consumers is the goal of using an integrated system approach by the supply chain (Said, 2016). So that Supply Chain Management is an integrated network to distribute goods or services accompanied by information and money contained therein from producers to consumers.

The mission of the supply chain is to survive in the competition that exists in the era of globalization so supply chain management must be able to provide high quality, inexpensive, varied, and timely products (Sadeghi et al., 2016). The benefits of SCM include increased income and work productivity, cost, and operational savings, reduced lead time, and the safety stock system in inventory (Hendricks, 2017).

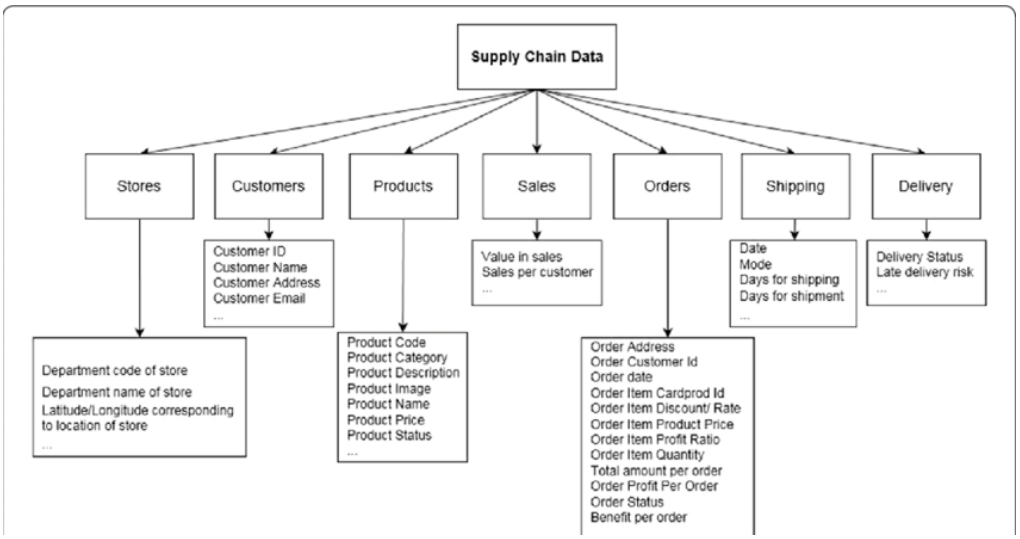

Figure 1. Mahya Seyedan (2020) Supply Chain Data

2.2.2 Green Supply Chain Management (GSCM)

Green Supply Chain Management is a process of integrating supply chain management with environmental concepts which includes product design, material supply and selection, manufacturing processes, distribution processes to consumers, and product management after the period of use (Srivastava, 2017). According to Dheeraj (2012), Green Supply Chain Management is an innovative supply chain application that is integrated with the environmental context including the activities of reducing, recycling, reusing, and replacing the materials used. According to Ninlawan (2010), GSCM can also be defined as environmentally friendly procurement activities (Green procurement), environmentally friendly manufacturing activities (Green manufacturing), distribution activities that are also environmentally friendly (Green distribution), and reverse logistics.

There are several operational functions and activities in GSCM which are described by Ninlawan (2010) and Toke (2010), such as:

1. Green Procurement

Green procurement is an activity that is a solution for the environment and a conservative business economy and can be a concept for obtaining a choice of products and services that can reduce environmental impacts. Green procurement is related to the state of the purchasing environment which includes involvement in purchasing reduction activities, recycling processes, and material reuse in purchasing activities.

2. Green Manufacturing

   Green manufacturing is a production process using inputs that with a low environmental impact, are efficient, and produce little waste or pollution. The benefits of green manufacturing can lower raw material costs, increase production efficiency and improve company image.

3. Green Distribution

   Green distribution has activities in it such as:

   - Green packaging, which includes saving packaging, using environmentally friendly materials, making collaborations with vendors to standardize packaging, minimizing the use of materials and time to unpack, and also promoting recycling activities.
   - Green logistics includes delivery activities directly to users, using vehicles with alternative fuels, and distributing products with large accumulations.

4. Reverse Logistic

   Reverse logistics is the process of retrieving products from final consumers with the aim of increasing value and proper disposal. There are activities in reverse logistics, namely collection, selection/sorting, recovery, redistribution, and disposal.

Salam (2018) explained that there are several benefits of implementing GSCM including:

- Improving the economy through increased efficiency.
- Many advantages of competing through various innovations.
- Improving product quality.
- Consistency towards the environment is maintained.
- Improving corporate image.

- Nature conservation.
- Waste reduction.
- Saving costs.
- Reducing levels of use of hazardous substances or materials

GSCM plays an important role in minimizing negative impacts on the environment. Environmentally conscious supply chain management aims to consider the environmental impacts of all supply chain products and processes in order to protect the natural environment (Beamon, 2015).

2.2.3 Performance Measurement

Performance measurement is the process of evaluating organizations on how well they manage the value of their delivery to customers (Moullin, 2012). Therefore, with the work measurement, it can be seen which evaluations are good and which ones' are still lacking. Performance measurement is a compilation of the process of collecting, analyzing, and reporting information about the performance of a group, individual, or system (Behn, 2013). Performance measurement is the process of quantifying the efficiency or effectiveness of certain past actions (Neely et al., 2012). Medori and Steelle (2010), proposed a framework that designs and audits performance measurement systems. This framework operates as a system by superseding the requirements of the structural framework. They also designed a procedural framework for the performance measurement system in six stages, namely:

1. Determine the manufacturing strategy and the required strategy.
2. The strategies needed are prioritized.
3. The steps in the strategy are selected from a list of performance measurements with complete descriptions and calculation methods.
4. Audit the list of existing measures and compare them with the new measures.
5. Carry out measurements.
6. Conduct periodic maintenance reviews of the company's performance measurement system.

2.2.4 Key Performance Indicator (KPI)

Key Performance Indicator or KPI is one type of performance measurement (Fitz-Gibbon, 1990). The main performance indicators are used to evaluate the success of an activity carried out (Weilkiens, 2016). It is an iterative process of periodic attainment of operational goals in terms of progress towards strategic goals (Reh, 2020). Key performance indicators depend on an individual's good understanding of what is important to the organization (White Paper, 2015). The importance of performance indicators is needed in the decision-making process where when decision-makers have many choices, they need to use appropriate analysis to predict the outcome of their actions. Therefore, performance indicators need proper preparation to minimize errors (Dolence & Norris, 1994).

The company's performance must be improved if it wants to survive a much tougher competition (Dipura, 2020). Therefore, the development of a company's performance must also be measured and evaluated (Bayhaqi, 2020). According to Hidayat (2017), there are goals regarding performance measurement, namely the level of achieving organizational goals, increasing performance in the next period, and employee motivation. Key Performance Indicator (KPI) is an assessment analysis based on providing monitoring, controlling, and validating an event to achieve the required company performance (Putri et al., 2012). Then, the determination of KPIs is based on SMART rules (Specific, Measurable, Achievable, Reasonable, Time-bound) (Rokhim, 2017). In the key performance indicator, there are 6 measurement points which are elements in an activity, which are:

- Input is the input needed by an activity to produce an output.
- Output is the result of an activity.
- Activity is the transformation of production.
- Mechanisms are activities of work performed by humans or systems.
- Control is an object that controls an activity.
- Time is a temporary element of an activity.

2.2.5 Sustainable Supply Chain Operation References (Sustainable SCOR)

By the requirements, a process called Sustainable Supply Chain Operation Reference, or the old name Green Supply Chain Operation References (GSCOR) is

used which is used to measure the impact on the environment (Arjuna, 2020). The concept of “hijab supply chain management” intersects environmental considerations into all aspects of troop chain management, which involves product design, procurement and selection of raw materials, manufacturing procedures, product delivery, and even product flow management (Natalia & Asturio, 2015). Supply chain management is also environmentally responsible which aims to protect the environment by considering past and present environmental impacts (Febrianti et al., 2018).

According to UNEP (2003), in the green SCOR, there are 5 environmental indicators that need to be identified that have an impact on the supply chain, which include:

- Plans, such as energy consumption, and hazardous materials.
- Sources, such as supplier environmental records, material environmental content, packaging, and transportation.
- Shipping, such as packaging materials, and delivery of fuel consumption.

Returns, such as transportation fuel consumption, hazardous material spills, and damaged products.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Object

The object of this research is a garment company named PT. Sandang Asia Maju Abadi is located on Tugu Wijaya Kusuma Industrial Estate, Jl. Tugu Industri I No. 8, Randu Garut, Kec. Tugu, Semarang City, Central Java (50153). PT. Clothing Asia Maju Abadi, focuses on the production of garment pants, jackets, and various kinds of clothing. This research itself focuses on evaluating the performance score of PT. Sandang Asia Maju Abadi Green Supply Chain Management and also to seek recommendations to improve its performance by using Sustainable SCOR.

3.2 Data Collection

The scope of the research is made with the aim of not deviating when conducting research from the subject and object that has been determined. Therefore, the scope of this research is:

1. The research data was taken from the garment company PT. Sandang Asia Maju Abadi, Semarang, Central Java.
2. The focused data is garment production.
3. Data measurement is internal supply chain management.
4. The Sustainable SCOR model used is the model issued by The Supply Chain Council, which is version 12.0.
5. The data variables used in this process are plan, source, make, deliver, and return.

3.3 Data Processing

Data processing is carried out after all data is collected. The steps for data processing are as follows:

1. Calculation of key performance indicators.
   Performance scores will be calculated using data collected during field observations and interviews with company workers.
2. Calculate the gap between the actual and target value of key performance indicators.
   Calculating the gap between the actual and target value of an indicator to determine if the indicator needs to be fixed or not.
3. Selection of performance indicators to improve.
   The selection is made to improve performance indicators that are still poor and what causes the problem indicators to solve the problem.
4. Provide performance proposals.
   After finding the answers to these problems, suggestions are made to improve the indicator problems that exist in the company PT. Sandang Asia Maju Abadi at that time and for the future.

3.1 Research Flowchart

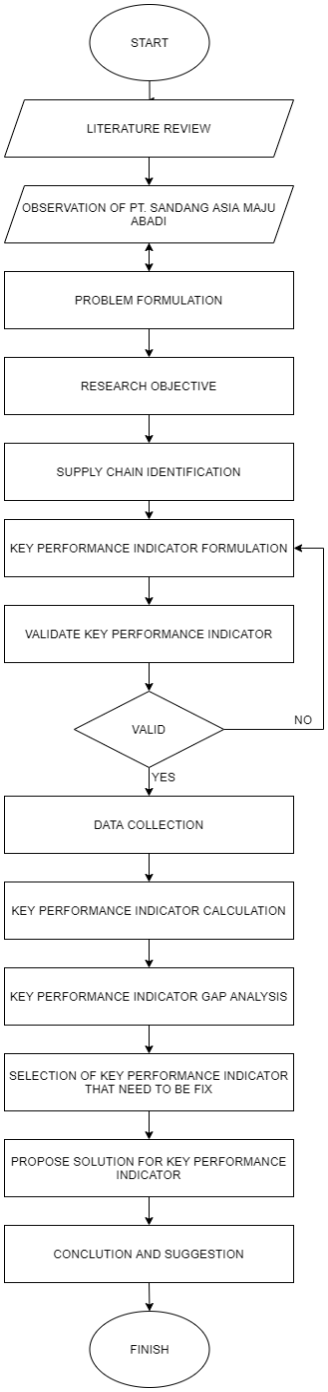

Figure 2. Research Flow Chart

1. Observation of PT. Sandang Asia Maju Abadi and Literature Review

   The researcher goes to the location of PT. Sandang Asia Maju Abadi to observe the condition of the supply chain on how it operates and study the literature review regarding past research and theory to better understand the scope of the research.

2. Problem Formulation

   The researcher formulates the problem regarding PT. Sandang Asia Maju Abadi supply chain condition based on the observation has been done and reviews the literature.

3. Research Objectives

   The researcher determines the objective of the research after formulating the problem as a milestone of the research.

4. Supply Chain Identification

   The researcher identifies parts of PT. Sandang Asia Maju Abadi supply chain and its activities will be used later to determine the key performance indicator of PT. Sandang Asia Maju Abadi supply chain.

5. Key Performance Indicator Formulation

   The researcher formulates the key performance indicator based on PT. Sandang Asia Maju Abadi supply chain, which is the key performance indicator, based on Sustainable SCOR version 12 from APICS 2017.

6. Validate Key Performance Indicator

   After the researcher formulating the key performance indicator, the researcher validates each key performance indicator with the owner of PT. Sandang Asia Maju Abadi to determine if it is suitable to be used by considering if the key performance indicator data are available. If the key performance indicator is valid, I can then go to the next step; if it is not, the key performance indicator needs to be assessed.

7. Data Collection

The researcher collects data on each key performance indicator by asking the data from the owner of PT. Sandang Asia Maju Abadi.

8. Key Performance Indicator Calculation

   The researcher calculates the data of each key performance indicator using a formula that I based on Sustainable SCOR version 12 from APICS 2017, which will determine the 6-month worth of actual value and target value.

9. Key Performance Indicator Gap Analysis

   The researcher calculates and analyzes the gap between the actual value and target value of each key performance indicator and determines which key performance indicator needs to be fixed and which not need to be fixed.

10. Selection of the Key Performance Indicators That Need to Be Fix

    The researcher selects key performance indicator that needs to be fixed based on the result of gap analysis and green supply chain management performance score.

11. Propose Solutions for Key Performance Indicators

    The researcher proposes solutions by proposing appropriate methods that can be used to fix the problem of the key performance indicator.

12. Conclusion and Suggestion

    The researcher writes the solutions and suggestions based on the research report that has been written.

CHAPTER IV

DATA COLLECTION AND PROCESSING

4.1 Data Collection

4.1.1 Business Process

PT. Sandang Asia Maju Abadi is a private limited company founded in 1997, based in Semarang, Central Java, Indonesia. The company was established with a Limited Liability Company validated by Notary H.M Afdal Ghazali, S.H. No. 546 dated September 25 based on Decision No. C-165858.HT.01.04.TH.99 and approved by the Ministry of Justice of the Republic of Indonesia, Directorate General of Law and Legislation. The company is located at the Tugu Wijaya Kusuma Industrial Estate, Jalan Tugu Industri I / 8, Randugarut Village, Tugu District, Semarang, Indonesia. It is an apparel industry company, with products that are exported to five continents worldwide.

Figure 3. Outside View PT. Sandang Asia Maju Abadi

The company is run by a strong management team of local and foreign professionals in the apparel manufacturing industry, who have a wide range of experience at various stages in the manufacturing process. This enables companies to qualify in analyzing and forecasting potential problems, planning, controlling, and resolving them. A reliable workforce can produce promising achievements, especially by upholding the company's commitment to serving prestigious clients.

The company has modern facilities that can produce high-quality products from international class brands. The products of this company are not limited to gender and age group. To that end, the Company produces superior denim products for men and women of all genders and age groups. With the support of around 2,425 skilled workforces, the Company can produce an average of around 400,000 garments in a month. The process of making clothes itself starts from the design process and sampling development for printing, cutting, sewing, embroidery, printing, sanding, washing, and finishing as well as packing and QA audits.

Supply chain at PT. Sandang Asia Maju Abadi begins with "Planning" the order from the Buyer to PT. Sandang Asia Maju Abadi, where there are planning activities carried out on several main activities; First, is planning for the number of products to be made (for example trousers); This activity begins with an order request made by the Brand Owner to PT. Sandang Asia Maju Abadi based on requests to make its products. Once confirmed, the next step is to make the agreed payment and then the buyer will send raw materials (such as rolls of fabric, accessories, sizes, etc.). After the materials are received by PT. Sandang Asia Maju Abadi, the next step is to store the materials and continue with making samples of finished goods that are adjusted to the buyer's requirements and sizes. Apart from planning the materials needed, other plannings are related to the manpower requirements that will be used to carry out the work. The next process is that when the goods come in, they must check the roll of fabric and accessories needed to complete the clothes to be made. After checking the goods, the pattern will be cut in the cutting section. After the pattern has been cut and formed, it will proceed to the sewing department, where the materials will be sewn following the pattern and samples that have been formed during the initial planning process. The next step is to carry out quality control for the materials that have been sewn before going to the finishing section, to see if there are any imperfect results. If so, it will be returned to the sewing section to be repaired. After that, continue with the finishing process such as removing the remaining thread making button holes, and attaching buttons. And also carry out the ironing process in preparation for packaging. Then, at the end of the finishing process, another quality control will also be carried out

so that each process is selected properly to avoid defects in the product sent. The final part of finishing is putting the goods into polybags, and they are ready to be continued by the packing department for packaging. Then the goods will be stored in the warehouse, waiting for the delivery schedule to the buyer again. After the product arrives in the hands of the buyer, the buyer will check the condition of the product to see whether it meets the conditions desired by the buyer; If the product does not fulfil the buyer's order, the buyer can return the product and then PT. Sandang Asia Maju Abadi will fix or cut the price of damaged goods, and send the product back according to the buyer's needs. But PT. Sandang Asia Maju Abadi maximizes the process to avoid future returned goods, so there are no double shipping costs which affect the company's monthly income and company reputation.

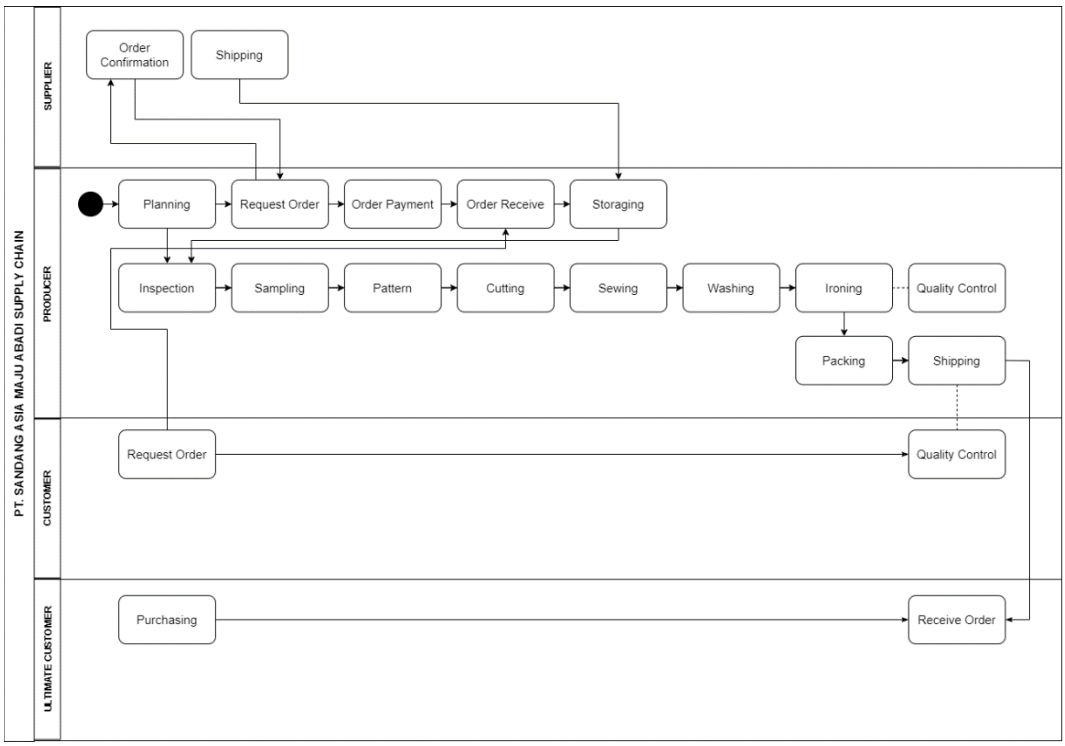

Figure 4. PT. Sandang Asia Maju Abadi Supply Chain

4.1.2 Identifying and Validating Key Performance Indicators

From Figure 1, several key performance indicators can be identified from these activities. Key performance indicators are based on APICS 2017 books regarding the SCOR 12 version of Sustainable SCOR. Chosen key performance indicators are needed to have data and are validated by the head of the production department PT. Sandang Asia Maju Abadi is to be picked for this research and has a targeted value based on the company's key performance indicator standard. Below are the key performance indicator metrics level 1 and level 2 that are chosen for this research according to APICS (2017).

Table 2. Key Performance Indicator of Metric Level 1 & 2

Metric Level 1	**Metric Level 2**	**Definition**	**Characteristic**	**Formula**
SS.1.001 Total Supply Chain Materials Used	SS.2.003 Make Materials Used	The total amount of materials used in Make process	Lower is better	$Make\ Materials\ Used = Sum\ of\ Plan\ Materials\ Used$
SS.1.007 Total Supply Chain Energy Consumed	SS.2.020 Make Energy Consumed	The total energy consumed in Make process	Lower is better	$Make\ Energy\ Consumed = Sum\ of\ Energy\ Consumed$

Metric Level 1	Metric Level 2	Definition	Characteristic	Formula
SS.1.008 Total Supply Chain Non-Renewable Energy Consumed	SS.2.025 Make Non-Renewable Energy Consumed	The total non-renewable energy consumed in Deliver process	Lower is better	$Make\ Non\ Renewable\ Energy\ Consumed = Sum\ of\ Make\ Non\ Renewable\ Energy\ Consumed$
SS.1.012 Total Supply Chain Water Withdrawn	SS.2.035 Make Water Withdrawn	The total water withdrawn in Make process	Lower is better	$Make\ Water\ Withdrawn = Sum\ of\ Make\ Water\ Withd$
SS.1.013 Total Supply Chain Water Reused or Recycled	SS.2.040 Make Water Reused or Recycled		Higher is better	*Make Water Reused or Recycled = Sum of Make Water Reused or Recycled*

Metric Level 1	Metric Level 2	Definition	Characteristic	Formula
SS.1.024 Total Supply Chain Water Discharge	SS.2.070 Make Water Discharge		Lower is better	$Make\ Water\ Discharge = Sum\ of\ Make\ Water\ Discharge$

From the above Table 1 & 2, it can be seen that there are 6 metric level 1 indicator and 8 metric level 2 indicators. Those chosen indicators are obtained by observing the supply chain of the Garment Industry and validating if it is possible to be measured and approved by the head of production of PT. Sandang Asia Maju Abadi for this research.

4.2 Data Processing

4.2.1 Measuring Key Performance Indicator

Measuring the key performance indicator, in this case, is based on data that are obtained by interviewing the head of production of the PT. Sandang Asia Maju Abadi Garment Industry. Data that are used are 6-month data, spanned from January to June. Key performance indicator measurement results will then be compared with the actual company standard of the key performance indicators. The target values of max and min are according to the owner's perspective, which is the target max performance score is 100%, and the target of min performance score is the minimum score in the previous 6 months of data that have been reached.

4.2.1.1 SS.1.001 Total Supply Chain Materials Used

This indicator discusses the total amount of materials used in the supply chain. There is 1 level of 2 metric key performance indicators, only Make process. This indicator will use the 6-month worth of data. Below is the formula used for this indicator that is referred from APICS (2017).

In the Make-materials-used indicator, this indicator discusses the total amount of materials used in the Make process. Materials, in this case, is the amount of fabric roll that is measured in Kg. The company has determined the targeted materials used in the Make process is 200.000 Kg per month. Below, it is shown the formula used for this indicator is referred to APICS (2017).

$$Make\ Materials\ Used = Sum\ of\ Plan\ Materials\ Used$$

Table 3. SS.2.003 Make Materials Used

Month	**Actual Make Materials Used (Kg)**	**Target Make Materials Used (Kg)**
1	176.540	200.000
2	274.260	200.000
3	192.190	200.000
4	793.380	200.000
5	271.110	200.000
6	125.930	200.000
Total	1.833.410	1.200.000

From the above table, it can be seen that for the 6-month worth of data, the total materials used in the Make process is 1.833.410 Kg, and the company key performance indicators target materials used in the Make process is 1.200.000 Kg.

4.2.1.4 SS.1.007 Total Supply Chain Energy Consumed

This indicator discusses the total amount of energy consumed in the supply chain. There is 1 level 2 metric key performance indicator, included in this indicator, which is Make process. This indicator is the total sum of all energy consumed at the level 2 metric indicators will be compared with the company-targeted key performance indicator value. This indicator will use the 6-month worth of data. Below, it is shown the formula used for this indicator is referred to APICS (2017).

$$Total\ Supply\ Chain\ Energy\ Consumed = Make\ Energy\ Consumed$$

In Make energy consumed, this indicator discusses the total amount of energy consumed in the Make process. Energy, in this case, is the amount of electricity that is measured in kWh. The company has determined the targeted energy consumed in the Make process is 370 kWh per month. Below is the formula used for this indicator that is referred to APICS (2017).

$$Make\ Energy\ Consumed = Sum\ of\ Energy\ Consumed$$

Table 4. SS.2.020 Make Energy Consumed

Month	Actual Make Energy Consumed (kWh)	Target Make Energy Consumed (kWh)
1	268.800	250.000
2	156.000	250.000
3	299.070	250.000
4	298.440	250.000
5	265.260	250.000
6	314.520	250.000
Total	1.602.090	1.500.000

From the above table, it can be seen that for the 6-month worth of data, the total energy consumed in the Make process is 1.602.090 kWh, and the company key performance indicators target material used in the Make process is 1.500.000 kWh.

After measuring all required processes for the Total Supply Chain Energy Consumed, we are now able to determine the total supply chain energy consumed. It is found that the actual energy consumed is a sum of the Make process is 1.602.090 kWh, and the target energy consumed is a sum of the Make process is 1.500.000 kWh.

4.2.1.5 SS.1.008 Total Supply Chain Non-Renewable Energy Consumed

This indicator discusses the total amount of non-renewable energy consumed in the supply chain. There is 1 level 2 metric key performance indicator, which is in this

indicator only Make process. This indicator is the total sum of all non-renewable energy consumed in the level 2 metric indicators and will be compared with the company-targeted key performance indicator value. This indicator will use 6-month worth of data. Below is the formula used for this indicator is referred to APICS (2017).

$$Total\ Supply\ Chain\ Non\ Renewable\ Energy\ Consumed = Deliver\ Non\ Renewable\ Energy\ Consumed + Return\ Non\ Renewable\ Energy\ Consumed$$

In the Make non-renewable energy consumed indicator, this indicator discusses the total amount of non-renewable energy consumed in the Make process. Non-renewable energy in this case is the amount of coal used that is measured in Kilogram. The company has determined the targeted non-renewable energy consumed in the Make process is 1.800.000 Kilogram per month. Below is the formula used for this indicator, which is referred to APICS (2017).

$$Deliver\ Non\ Renewable\ Energy\ Consumed = Sum\ of\ Deliver\ Non\ Renewable\ Energy\ Consumed$$

Table 5. SS.2.025 Make Non-Renewable Energy Consumed

Month	**Actual Make Non-Renewable Energy Consumed (Kilogram)**	**Target Make Non-Renewable Energy Consumed (Kilogram)**
1	310.520	300.000
2	181.160	300.000
3	271.950	300.000
4	284.900	300.000
5	302.060	300.000
6	306.140	300.000
Total	1.656.730	1.800.000

From the above table it can be seen that for the 6-month worth of data, the total non-renewable energy consumed in the Make process is 1.656.730 Kilograms

and the company key performance indicators target non-renewable energy consumed in the Make process is 1.800.000 Kilograms.

4.2.1.6 SS.1.012 Total Supply Chain Water Withdrawn

This indicator discusses the total amount of water withdrawn in the supply chain. There is 1 level 2 metric key performance indicator, in which the Make process. This indicator is the total sum of all water withdrawn in the level 2 metric indicators and will be compared with the company-targeted key performance indicator value. This indicator will use 6-month worth of data. Below is the formula used for this indicator that is referred to APICS (2017).

$$Total\ Supply\ Chain\ Water\ Withdrawn = Make\ Water\ Withdrawn$$

In Make water withdrawn, this indicator discusses the total amount of water withdrawn for the Make process. Water withdrawn in this case, is defined as the amount of water withdrawn for various activities in the Make process, measured in Liter. The company has determined the targeted water withdrawn in the Make process is XXX Liter per month. Below, it is shown the formula used for this indicator, referred to APICS (2017).

$$Make\ Water\ Withdrawn = Sum\ of\ Make\ Water\ Withdrawn$$

Table 6. SS.2.035 Make Water Withdrawn

Month	Actual Make Water Withdrawn (Liter)	Target Make Water Withdrawn (Liter)
1	33.468.000	30.000.000
2	16.725.000	30.000.000
3	31.392.000	30.000.000
4	30.447.000	30.000.000
5	30.593.000	30.000.000
6	32.099.000	30.000.000
Total	174.724.000	180.000.000

From the above table, it can be seen that for 6 months ' worth of data, the total water withdrawn in the Make process is 174.724.000 Liter and the company key performance indicators target material used in the Make process is 180.000.000 Liter.

After measuring all required processes for the Total Supply Chain Water Withdrawn, we are now able to determine the total supply of water withdrawn. It was found out that the actual water withdrawn is a sum of the Make process is 174.724.000 Liter and the water withdrawn is a sum of the Make process is 180.000.000 Liter.

4.2.1.7 SS.1.013 Total Supply Chain Water Reused or Recycled

This indicator discusses the total amount of reused or recycled water in the supply chain. The term reused is selected because the company reuses the water. There is 1 level 2 metric key performance indicator, which is Make process. This indicator is the total sum of all reused water in the level 2 metric indicators and will be compared with the company-targeted key performance indicator value. This indicator will use 6-month worth of data. Below, it is shown the formula used for this indicator as referred to APICS (2017).

$$Make\ Water\ Reused = Sum\ of\ Make\ Water\ Reused$$

Table 7. SS.2.040 Make Water Reused or Recycled

Month	Actual Make Water Reused (Liter)	Target Make Water Reused (Liter)
1	16.100.000	10.000.000
2	8.810.000	10.000.000
3	15.610.000	10.000.000
4	16.530.000	10.000.000
5	15.510.000	10.000.000
6	17.240.000	10.000.000
Total	89.800.000	60.000.000

From the above table, it can be seen that for 6 months' worth of data, the total water Reused in the Make process is 89.800.000 Liter, and the company key performance indicators target material used in the Make process is 60.000.000 Liter.

After measuring all required processes for Total Supply Chain Reused Water, we are now able to determine the total supply of water withdrawn. It was found out that the actual water withdrawn is a sum of the Make process is 89.800.000 Liter and the water withdrawn is a sum of the Make process is 60.000.000 Liter.

4.2.1.8 SS.1.024 Total Supply Chain Water Discharge

This indicator discusses the total amount of water discharge in the supply chain. There is 1 level 2 metric key performance indicator, which is the Make process. This indicator is the total sum of all water discharge in the level 2 metric indicators and will be compared with the company-targeted key performance indicator value. This indicator will use 6-month worth of data. Below, it is shown the formula used for this indicator that is referred from APICS (2017).

$$Make\ Water\ Discharge = Sum\ of\ Make\ Water\ Discharge$$

Table 8. SS.2.070 Make Water Discharge

Month	Actual Make Water Discharge (Liter)	Target Make Water Discharge (Liter)
1	18.330.000	5.000.000
2	9.128.000	5.000.000
3	25.531.000	5.000.000
4	10.857.000	5.000.000
5	4.366.000	5.000.000
6	4.699.000	5.000.000
Total	72.911.000	30.000.000

From the above table, it can be seen that for 6 months' worth of data, the total water Discharge in the Make process is 72.911.000 Liter, and the company

key performance indicators target material used in the Make process is 30.000.000 Liter.

After measuring all required processes for Total Supply Chain Water Discharge, the total supply water Discharge can be determined. It was found that the actual water withdrawn is a sum of the Make process is 72.911.000 Liter and the water withdrawn is a sum of the Make process is 30.000.000 Liter.

4.2.2 Key Performance Indicator Gap Calculation

After the measurement is completed on the metric level 1 key performance indicator, now a gap analysis on the measurement result of the indicators can be performed and the company targeted value of each key performance indicator to find the gap between the actual data and the targeted one. For this case both actual and target data will use 6-month of data. The gap analysis formula for each key performance indicator is shown, as follows.

$$Gap = Target\ Score - Actual\ Score$$

Table 9. Key Performance Indicators Gap Calculation

Level 1 Metric	Level 2 Metric	Actual Score	Target Score	Gap
SS.1.001 Total Supply Chain Materials Used	SS.2.003 Make Materials Used	1.833.410 Kg	1.200.000 Kg	633.410 Kg
SS.1.007 Total Supply Chain Energy Consumed	SS.2.020 Make Energy Consumed	1.602.090 kWh	1.500.000 kWh	102.090 kWh
SS.1.008 Total Supply Chain Non-	SS.2.025 Make Non-	1.656.730 Kg	1.800.000 Kg	143.270 Kg

Renewable Energy Consumed	Renewable Energy Consumed			
SS.1.012 Total Supply Chain Water Withdrawn	SS.2.035 Make Water Withdrawn	175.724.000 Liter	180.000.000 Liter	4.276.000 Liter
SS.1.013 Total Supply Chain Water Reused or Recycled	SS.2.040 Make Water Reused or Recycled	89.800.000 Liter	60.000.000 Liter	29.800.000 Liter
SS.1.024 Total Supply Chain Water Discharge	SS.2.070 Make Water Discharge	72.911.000 Liter	30.000.000 Liter	42.911.000 Liter

After calculating the gap analysis, it can be seen that some indicators cannot meet the expected KPI, and some are exceeding it. The indicators that have not met the target of the KPI are highlighted with red color and need to be fixed, but those that have already met or exceeded the target are highlighted with green and are considered unnecessary to be fixed.

CHAPTER V

RESULT AND DISCUSSION

5.1 Result

After data processing is treated using Sustainable SCOR to find out the green supply chain management performance score, it is found that the green supply chain management performance score is 50 % in which, according to Trienekens & Hvolby (2019), 50 % performance score is considered in below 60 range which is categorized as bad. Because green supply chain management is categorized as bad, it is recommended for PT. Sandang Asia Maju Abadi to immediately fix its supply chain to improve its performance score and reduce environmental impact by fixing the key performance indicator.

To easily identify and choose which key performance indicator needs to be fixed, this research will use the traffic light system. The traffic light system will use 2 different color indicators, which are green and red, which are based if the indicator has reached the KPI targets or not. The green indicator is given to the key performance indicator with the performance score that has no gap of value and KPI target or has exceeded the target value. The red indicator is set to the key performance indicator with a lower score than the target value. This indicator has been given the respective color and can be seen in Table 9.

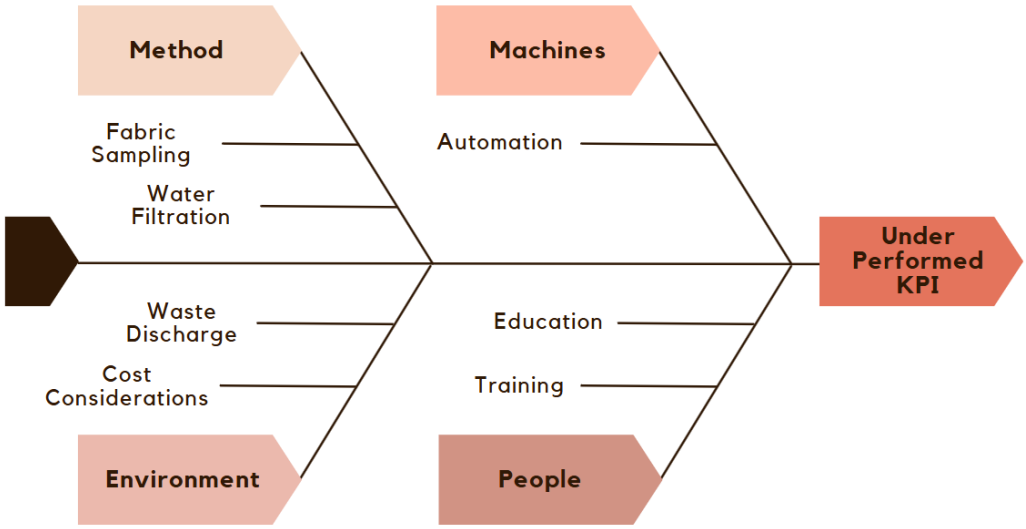

Figure 5. Fishbone Diagram

The fishbone diagram is used to determine the cause and effect of the problematic Key Performance Indicator (KPI) based on Table 9. 4 elements are used to determine the underperformed KPI which are the method, people, machine, and environment. In the people, the main problem is education and training because lack of training causes errors among sewing workers, in which education and training are needed to prevent errors and increase the efficiency of using raw materials. In the machine, the main problem is the lack of energy management which causes energy used when it is not needed that's why the automation of energy management is needed. In the method the main problem is first fabric sampling where inefficiency of fabric sampling can lead to using too much raw material, second is water filtration where an effective filtration method can cause increased water discharge that can potentially harm the environment. Lastly, is an environment in which the first main problem is water discharge which if discharged water without filtration directly can have a negative impact on the environment, the second problem is cost consideration where when doing filtration is costly initially but it can prevent environmental pollution in the long term.

In Table 9, it can be seen that each indicator has been given a color based on its achievement of the KPI target. Out of 6 indicators, 3 indicators are labeled with green color because they have reached or exceeded the KPI target, based on the characteristics of the indicator. On the contrary, 3 indicators have been given red color because they cannot meet the target of KPI, based on the characteristics of the indicator. For those indicators with green color, it is recommended to maintain that performance or even improve it and those indicators with red color require a solution to improve it to reach the target set in the KPI. Proposing a solution to the indicators with the problem will help to improve the KPI to reach its target value and help improve the overall score of the green supply chain management. After identifying which indicator is categorized as bad, the next step is to propose the solution for the problem by suggesting a solution from multiple journals and based on the fishbone diagram cause and effect.

Table 10. Solution Based on Indicators Problem

Indicator	Solution
SS.1.001 Total Supply Chain Material Used	In this process, to avoid using too much raw material, from the beginning the fabric sampling process must be efficient and also avoid errors so as not to use excess material. Likewise, during the production process, educate sewing workers to avoid production errors so that reprocessing does not occur due to these errors. So it affects the use of raw materials.
SS.1.007 Total Supply Chain Energy Consumed	Visual Number Feedback, bring awareness to worker on how much electricity is consumed per day by visually giving feedback to them how much electricity has been used Peterson et al. (2007). Off On Automation, installing an automated sensor electronic such as a light bulb to automatically turn off light if there is no one present.
SS.1.024 Total Supply Chain Water Discharge	The use of activated carbon in filtration is considered effective eliminates odors in laundry wastewater, and it will produce clean water again but not for consumption. However, it can be reused for laundry processes or non-consumptive production processes. Mataram et al. (2023). So, this solution

	able to reduce the water discharge and recycle the water for other process purpose. Choosing a filtration solution may be more expensive than just throwing away the waste directly. Because if we immediately throw it away it will have a bad impact on the environment which will be polluted by waste from the factory.

5.1.1 SS.1.001 Total Supply Chain Materials Used Discussion

This indicator can be seen in Table 9 that shows the absence of a gap between the actual and target value in Make with 1.200.000 Kg and above the target value in Deliver business process with 1.833.410 Kg. This means that this indicator has overreached from targeted KPI. This indicator discusses the materials used in both Make business processes. This Make process is about the fabric materials. Since these KPIs are over from the targeted KPI, it is recommended for them to maintain that production planning performance or even get better by trying to do forecasting in the materials to ensure that the materials used for the present and future have a rough idea of how much it will be used.

5.1.2 SS.1.007 Total Supply Chain Energy Consumed Discussion

For this indicator, it can be seen in Table 9 that this indicator has a gap between the actual value and the target value of about 102.090 kWh. It means that this indicator still unable to fully reach the KPI targets. This indicator discusses the electricity usage of the Garment Industry, and it is found that the consumption of electricity usage is over the target KPI due to a lack of awareness. In the study of Peterson et al. (2007), electricity overconsumption is caused by human lack of awareness, and to reduce electricity overconsumption is through behavior changes. One of the ways to change behavior is by giving real-time feedback on the data. This real-time feedback also needs to be combined with education and incentives interest to

empower the owner to reduce the usage of electricity consumption (Peterson et al., 2007). By implementing digital real-time feedback on the facility, the owner will likely reduce the consumption of electricity by turning off the light or other unused electronic devices, which will lead to lower energy consumption, lower electricity fee, and indirectly help lower carbon emissions to products and the electricity that is used.

5.1.3 SS.1.008 Total Supply Chain Non-Renewable Energy Consumed Discussion

This indicator can be seen in Table 9 is already has a green indicator, which means this indicator has met the targeted KPI. This indicator discusses the coal fuel consumption for heat energy that is used by the company to produce heat energy for the ironing and laundry process. It is found that coal consumption is recorded under the target fuel consumption per month. It is presumed this KPI is proper and unnecessary to be fixed because coal consumption is already efficient.

5.1.4 SS.1.012 Total Supply Chain Water Withdrawn Discussion

This indicator can be seen in Table 9 and is notified with a green indicator, which means this indicator has already reached the targeted KPI. This indicator discusses the water consumption of the Garment Industry. Water consumption is mainly used for making steam for ironing, fabric washing in the laundry section, toilet, and facility cleaning. It is found that the water consumption of this garment company, based on the data collected, uses excessive water for many things, but does not exceed the target consumption per month. It means this indicator is considered good and needs no improvement.

5.1.5 SS.1.013 Total Supply Chain Water Reused or Recycled

This indicator can be seen in Table 9 and is marked with a green indicator, which means this indicator has already reached the targeted KPI. This indicator discusses the water recycling that is used by the company to wash the fabric in the laundry section and other processes that use water except for cleaning and toilet. Because both of them can’t be recycled. So, the company only recycles water that allows it

to be recycled or water that is still clean and can be used again but not for consumption. And it is found that water recycling has already been above the target per month. It means good because the company does not discharge too much water and can save the environment from toxic water. This KPI is considered good and no need to fix, since water recycled is already efficient.

5.1.6 SS.1.024 Total Supply Chain Water Discharge

For this indicator, it can be seen in Table 9 that this indicator has a gap between the actual value and the target value of about 42.911.000 Liter. It means this indicator is unable to fully reach the KPI targets. This indicator discusses the water discharge of the Garment Industry, and it is found that the water discharge is over the target of KPI. Based on Mataram et al (2023), to reduce wastewater a filtration method can be used by employing activated carbon to recycle wastewater from laundry, so that water can be reused for the production process but not for consumption.

CHAPTER VI

CONCLUSION AND SUGGESTION

6.1 Conclusion

Based on the research that has been done, the conclusion can be drawn as follows:

1. Based on the supply chain of PT. Sandang Asia Maju Abadi, the indicators that are used for this research in order to find the performance score of green supply chain management which the indicators are referred to the APICS (2017) books about supply chain management sustainable SCOR are:
    - Total Supply Chain Materials Used in the Make business process discusses how many materials are used, which in this case, fabric rolls as raw material in the supply chain.
    - Total Supply Chain Energy Consumed in the Make business process, which discusses how much energy is consumed, which in this case is electricity in the supply chain.
    - Total Supply Chain Non-Renewable Energy Consumed in the Make business process, which discussed how much non-renewable energy is consumed, which in this case, coal in the supply chain.
    - Total Supply Chain Water Withdrawn in Make business process, which discusses how much water is taken from the environment and used in the supply chain.
    - Total Supply Chain Water Reused or Recycle in Make business process discusses how much water is recycled from the production process in the supply chain.
    - Total Supply Chain Water Discharge in Make business process which discusses how much water was discharged in the production process and other utilities, such as wastewater in the supply chain.
2. Based on the gap analysis of the indicators, it is found that out of 6 level 2 indicators, 3 indicators have reached or exceeded the targeted KPIs, which include:

- Total Supply Chain Non-Renewable Energy Consumed in Make business process.
- Total Supply Chain Water Withdrawn in Make business process.
- Total Supply Chain Water Reused or Recycled in Make business process.

The other 3 out of 6 indicators have not reached the targeted KPIs, which include:

- Total Supply Chain Materials Used in Make business process.
- Total Supply Chain Energy Consumed in the Make business process.
- Total Supply Chain Water Discharge in the Make business process.

3. Based on the discussion, it is found 3 level 1 metric indicators that have not met the targeted KPI. The proposed solutions for those indicators are:
    - In the Total Supply Chain Material Used indicator proposed solution is to make production more effective. By using materials more efficiently. thereby reducing the use of excess materials.
    - In the Total Supply Chain Energy Consumed indicator proposed solution is to install a digital feedback mechanism to deal with the worker's lack of awareness on the usage of the electricity.
    - In the Total Supply Chain Water Discharge indicator proposed solution is to use activated carbon to reprocess the water that has been used, namely by cleaning it again so that it can be used for the production process. So, it will reduce the amount of water wasted. so that it can reduce pollution of the environment.

6.2 Suggestions

Suggestions that the researcher provides for other researchers and the company are:

1. For other researchers who want to do similar research, it is suggested to be carried out in a PT-scale company (Perseroan Terbatas) to have more accurate data, which will generate a more accurate output. Later, all indicators on APICS (2017) Sustainable SCOR indicators can be employed.

2. For the company, to make improvements based on the performance of each indicator in the supply chain for the development of the company.

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APPENDIX

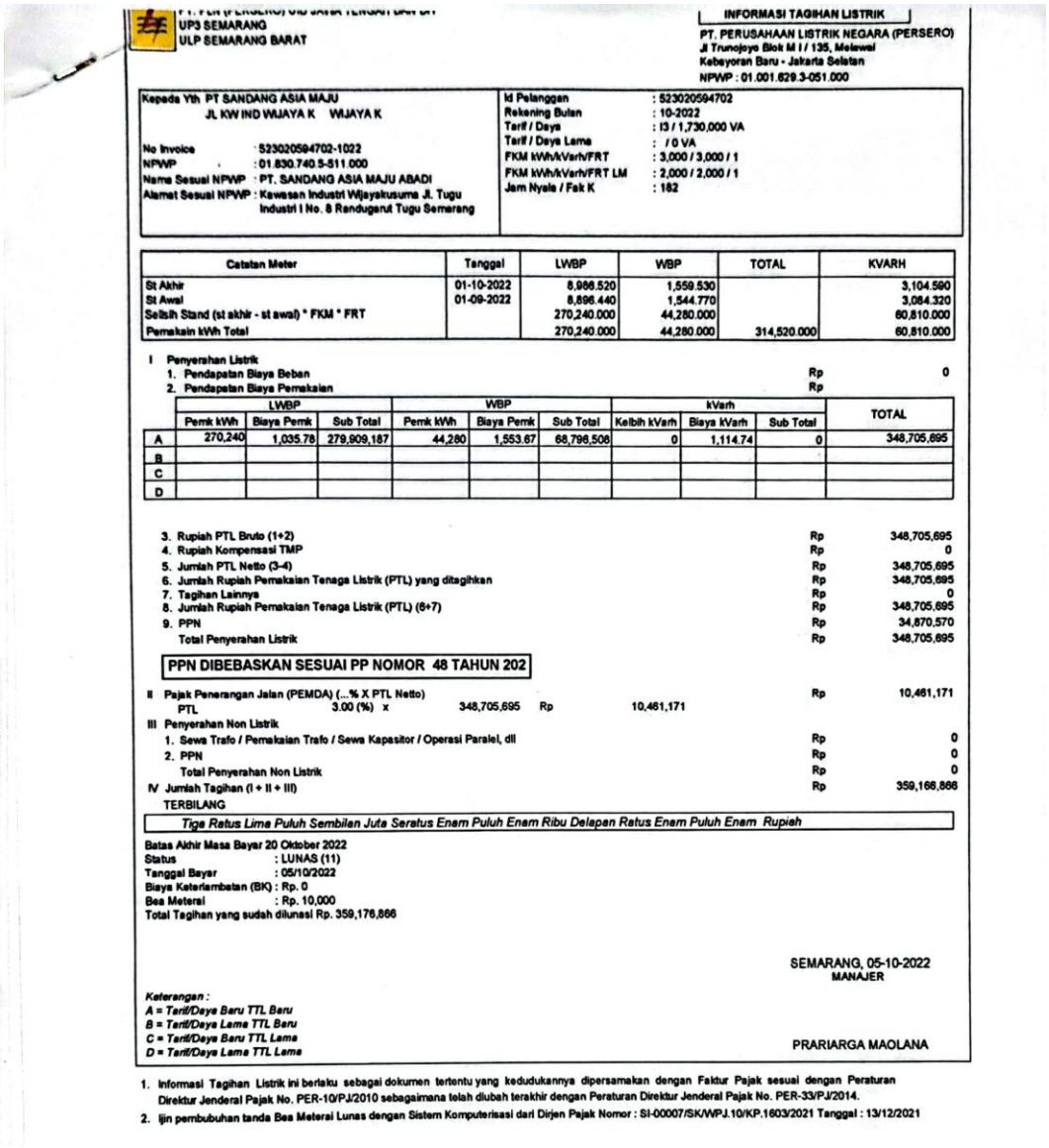
Coal Consumption (kg)

PT. SANDANG ASIA MAJU ABADI

	2022
Month / KG	**kg**
April	310.520
May	181.160
June	271.950
July	284.900
August	302.060
September	306.140
October	
November	
December	
Total KG	**2.579.900**

Amalia 20/-22

Figure 6. Coal Consumption (kg)



UP3 SEMARANG
ULP SEMARANG BARAT

INFORMASI TAGIHAN LISTRIK

PT. PERUSAHAAN LISTRIK NEGARA (PERSERO)
Jl Trunojoyo Blok M I / 135, Melawai
Kebayoran Baru - Jakarta Selatan
NPWP : 01.001.629.3-051.000

Kepada Yth PT SANDANG ASIA MAJU
JL KW IND WIJAYA K WIJAYA K

No Invoice : 523020594702-1022
NPWP : 01.830.740.5-511.000
Nama Sesuai NPWP : PT. SANDANG ASIA MAJU ABADI
Alamat Sesuai NPWP : Kawasan Industri Wijayakusuma Jl. Tugu Industri I No. 8 Randugarut Tugu Semarang

Id Pelanggan : 523020594702
Rekening Bulan : 10-2022
Tarif / Daya : I3 / 1,730,000 VA
Tarif / Daya Lama : / 0 VA
FKM kWh/kVarh/FRT : 3,000 / 3,000 / 1
FKM kWh/kVarh/FRT LM : 2,000 / 2,000 / 1
Jam Nyala / Fak K : 182

Catatan Meter	Tanggal	LWBP	WBP	TOTAL	KVARH
St Akhir	01-10-2022	8,986.520	1,559.530		3,104.590
St Awal	01-09-2022	8,896.440	1,544.770		3,084.320
Selisih Stand (st akhir - st awal) * FKM * FRT		270,240.000	44,280.000		60,810.000
Pemakain kWh Total		270,240.000	44,280.000	314,520.000	60,810.000

I Penyerahan Listrik
1. Pendapatan Biaya Beban — Rp 0
2. Pendapatan Biaya Pemakaian — Rp

	LWBP			WBP			kVarh			TOTAL
	Pemk kWh	Biaya Pemk	Sub Total	Pemk kWh	Biaya Pemk	Sub Total	Kelbih kVarh	Biaya kVarh	Sub Total	
A	270,240	1,035.78	279,909,187	44,280	1,553.67	68,796,508	0	1,114.74	0	348,705,695
B										
C										
D										

3. Rupiah PTL Bruto (1+2)	Rp	348,705,695
4. Rupiah Kompensasi TMP	Rp	0
5. Jumlah PTL Netto (3-4)	Rp	348,705,695
6. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) yang ditagihkan	Rp	348,705,695
7. Tagihan Lainnya	Rp	0
8. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) (6+7)	Rp	348,705,695
9. PPN	Rp	34,870,570
Total Penyerahan Listrik	Rp	348,705,695

PPN DIBEBASKAN SESUAI PP NOMOR 48 TAHUN 202

II Pajak Penerangan Jalan (PEMDA) (...% X PTL Netto)					Rp	10,461,171
PTL	3.00 (%)	x	348,705,695	Rp	10,461,171	
III Penyerahan Non Listrik						
1. Sewa Trafo / Pemakaian Trafo / Sewa Kapasitor / Operasi Paralel, dll					Rp	0
2. PPN					Rp	0
Total Penyerahan Non Listrik					Rp	0
IV Jumlah Tagihan (I + II + III)					Rp	359,166,866

TERBILANG

Tiga Ratus Lima Puluh Sembilan Juta Seratus Enam Puluh Enam Ribu Delapan Ratus Enam Puluh Enam Rupiah

Batas Akhir Masa Bayar 20 Oktober 2022
Status : LUNAS (11)
Tanggal Bayar : 05/10/2022
Biaya Keterlambatan (BK) : Rp. 0
Bea Meterai : Rp. 10,000
Total Tagihan yang sudah dilunasi Rp. 359,176,866

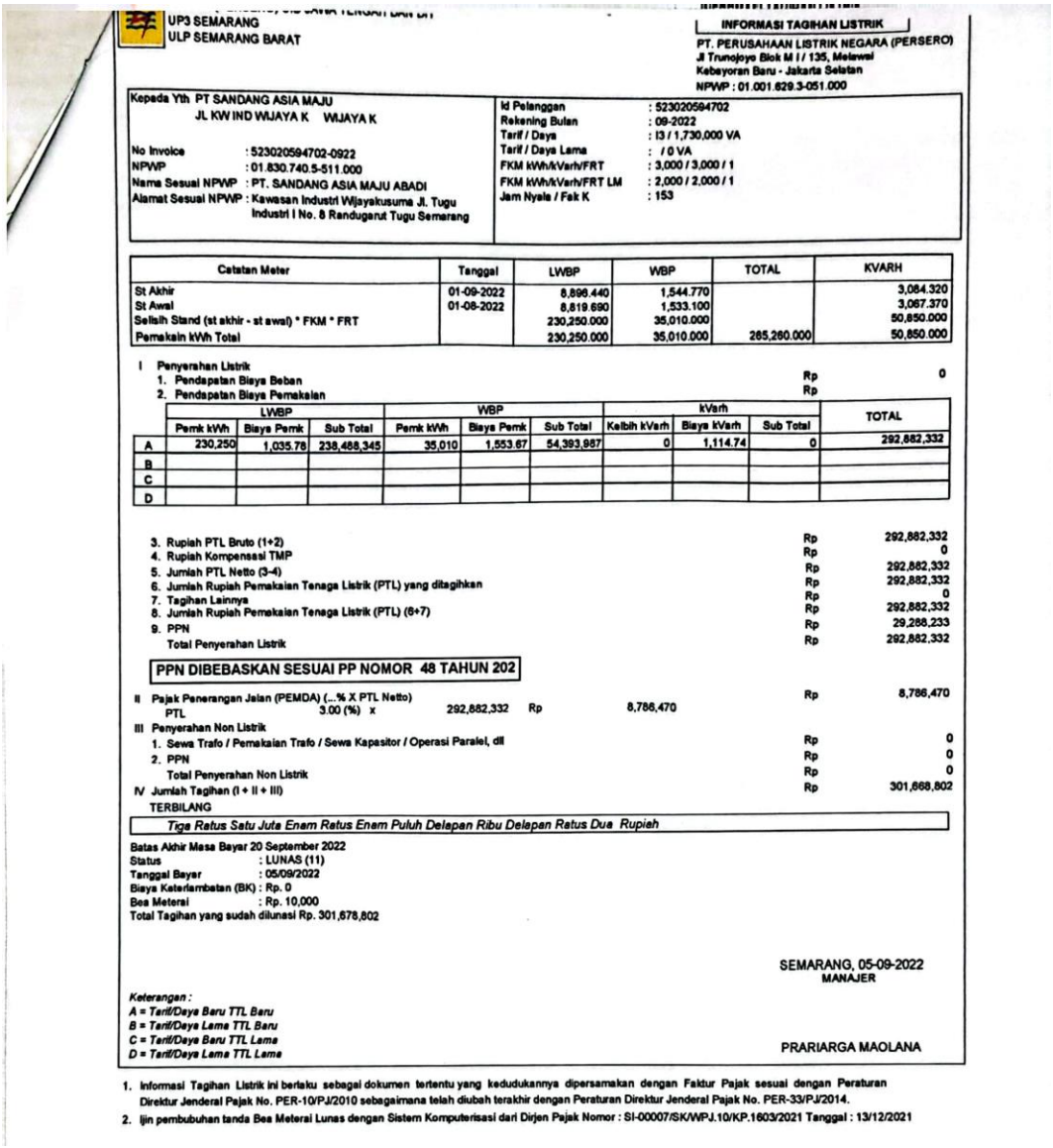
SEMARANG, 05-10-2022
MANAJER

Keterangan :
A = Tarif/Daya Baru TTL Baru
B = Tarif/Daya Lama TTL Baru
C = Tarif/Daya Baru TTL Lama
D = Tarif/Daya Lama TTL Lama

PRARIARGA MAOLANA

1. Informasi Tagihan Listrik ini berlaku sebagai dokumen tertentu yang kedudukannya dipersamakan dengan Faktur Pajak sesuai dengan Peraturan Direktur Jenderal Pajak No. PER-10/PJ/2010 sebagaimana telah diubah terakhir dengan Peraturan Direktur Jenderal Pajak No. PER-33/PJ/2014.
2. Ijin pembubuhan tanda Bea Meterai Lunas dengan Sistem Komputerisasi dari Dirjen Pajak Nomor : SI-00007/SK/WPJ.10/KP.1603/2021 Tanggal : 13/12/2021

Figure 7. Electricity Consumption Report 1



UP3 SEMARANG
ULP SEMARANG BARAT

INFORMASI TAGIHAN LISTRIK

PT. PERUSAHAAN LISTRIK NEGARA (PERSERO)
Jl Trunojoyo Blok M I / 135, Melawai
Kebayoran Baru - Jakarta Selatan
NPWP : 01.001.629.3-051.000

Kepada Yth PT SANDANG ASIA MAJU
JL KW IND WIJAYA K WIJAYA K

No Invoice : 523020594702-0922
NPWP : 01.830.740.5-511.000
Nama Sesuai NPWP : PT. SANDANG ASIA MAJU ABADI
Alamat Sesuai NPWP : Kawasan Industri Wijayakusuma Jl. Tugu Industri I No. 8 Randuganut Tugu Semarang

Id Pelanggan : 523020594702
Rekening Bulan : 09-2022
Tarif / Daya : I3 / 1,730,000 VA
Tarif / Daya Lama : / 0 VA
FKM kWh/kVarh/FRT : 3,000 / 3,000 / 1
FKM kWh/kVarh/FRT LM : 2,000 / 2,000 / 1
Jam Nyala / Fak K : 153

Catatan Meter	Tanggal	LWBP	WBP	TOTAL	KVARH
St Akhir	01-09-2022	8,896.440	1,544.770		3,084.320
St Awal	01-08-2022	8,819.690	1,533.100		3,067.370
Selisih Stand (st akhir - st awal) * FKM * FRT		230,250.000	35,010.000		50,850.000
Pemakain kWh Total		230,250.000	35,010.000	265,260.000	50,850.000

I Penyerahan Listrik
1. Pendapatan Biaya Beban — Rp 0
2. Pendapatan Biaya Pemakaian — Rp

	LWBP			WBP			kVarh			TOTAL
	Pemk kWh	Biaya Pemk	Sub Total	Pemk kWh	Biaya Pemk	Sub Total	Kelbih kVarh	Biaya kVarh	Sub Total	
A	230,250	1,035.78	238,488,345	35,010	1,553.67	54,393,987	0	1,114.74	0	292,882,332
B										
C										
D										

3. Rupiah PTL Bruto (1+2)	Rp	292,882,332
4. Rupiah Kompensasi TMP	Rp	0
5. Jumlah PTL Netto (3-4)	Rp	292,882,332
6. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) yang ditagihkan	Rp	292,882,332
7. Tagihan Lainnya	Rp	0
8. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) (6+7)	Rp	292,882,332
9. PPN	Rp	29,288,233
Total Penyerahan Listrik	Rp	292,882,332

PPN DIBEBASKAN SESUAI PP NOMOR 48 TAHUN 202

II Pajak Penerangan Jalan (PEMDA) (...% X PTL Netto) — Rp 8,786,470
PTL 3.00 (%) x 292,882,332 Rp 8,786,470

III Penyerahan Non Listrik
1. Sewa Trafo / Pemakaian Trafo / Sewa Kapasitor / Operasi Paralel, dll — Rp 0
2. PPN — Rp 0
Total Penyerahan Non Listrik — Rp 0

IV Jumlah Tagihan (I + II + III) — Rp 301,668,802

TERBILANG

Tiga Ratus Satu Juta Enam Ratus Enam Puluh Delapan Ribu Delapan Ratus Dua Rupiah

Batas Akhir Masa Bayar 20 September 2022
Status : LUNAS (11)
Tanggal Bayar : 05/09/2022
Biaya Keterlambatan (BK) : Rp. 0
Bea Meterai : Rp. 10,000
Total Tagihan yang sudah dilunasi Rp. 301,678,802

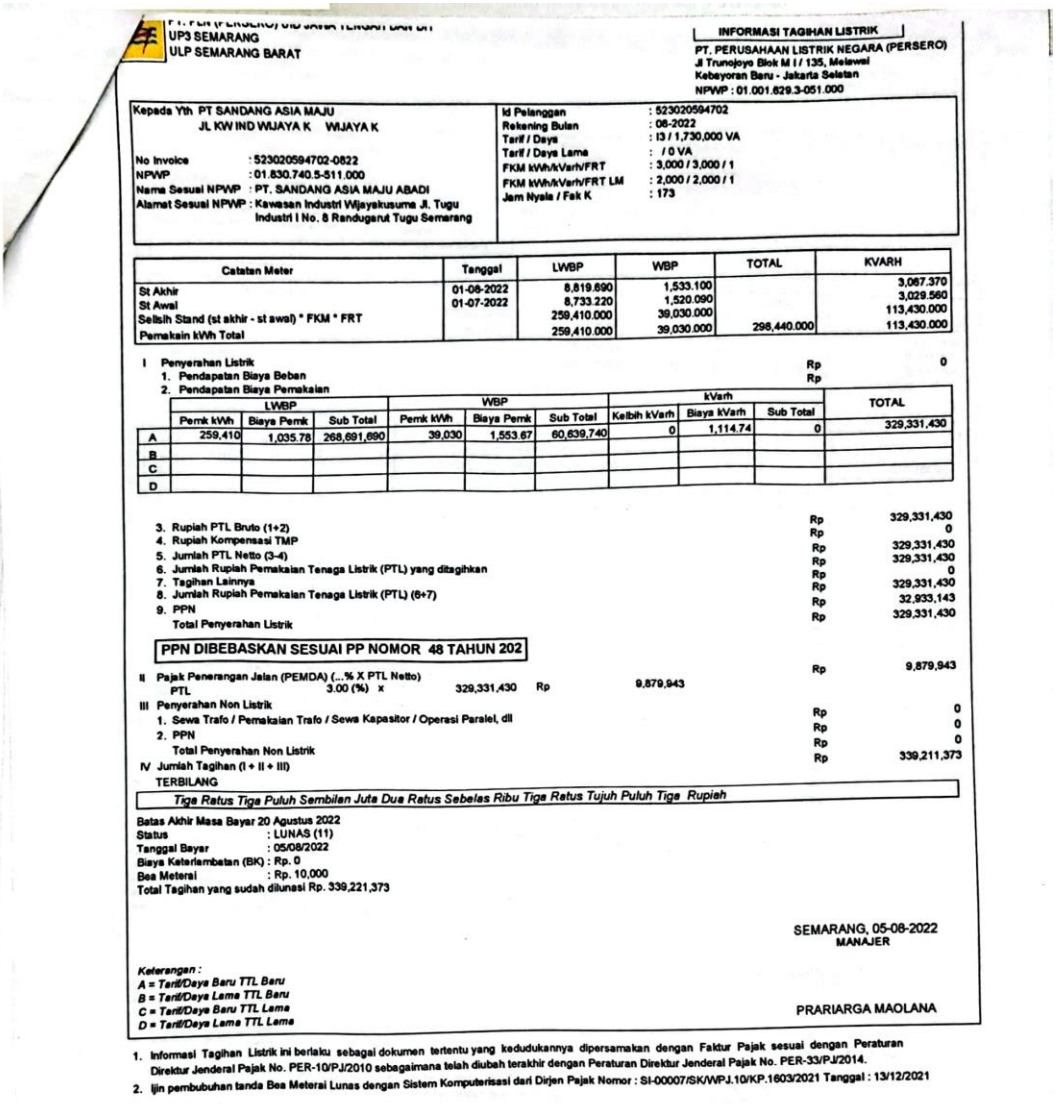
SEMARANG, 05-09-2022
MANAJER

Keterangan :
A = Tarif/Daya Baru TTL Baru
B = Tarif/Daya Lama TTL Baru
C = Tarif/Daya Baru TTL Lama
D = Tarif/Daya Lama TTL Lama

PRARIARGA MAOLANA

1. Informasi Tagihan Listrik ini berlaku sebagai dokumen tertentu yang kedudukannya dipersamakan dengan Faktur Pajak sesuai dengan Peraturan Direktur Jenderal Pajak No. PER-10/PJ/2010 sebagaimana telah diubah terakhir dengan Peraturan Direktur Jenderal Pajak No. PER-33/PJ/2014.
2. Ijin pembubuhan tanda Bea Meterai Lunas dengan Sistem Komputerisasi dari Dirjen Pajak Nomor : SI-00007/SK/WPJ.10/KP.1603/2021 Tanggal : 13/12/2021

Figure 8. Electricity Consumption Report 2



UP3 SEMARANG
ULP SEMARANG BARAT

INFORMASI TAGIHAN LISTRIK

PT. PERUSAHAAN LISTRIK NEGARA (PERSERO)
Jl Trunojoyo Blok M I / 135, Melawai
Kebayoran Baru - Jakarta Selatan
NPWP : 01.001.629.3-051.000

Kepada Yth PT SANDANG ASIA MAJU
JL KW IND WIJAYA K WIJAYA K

No Invoice : 523020594702-0822
NPWP : 01.830.740.5-511.000
Name Sesuai NPWP : PT. SANDANG ASIA MAJU ABADI
Alamat Sesuai NPWP : Kawasan Industri Wijayakusuma Jl. Tugu Industri I No. 8 Randugarut Tugu Semarang

Id Pelanggan : 523020594702
Rekening Bulan : 08-2022
Tarif / Daya : I3 / 1,730,000 VA
Tarif / Daya Lama : / 0 VA
FKM kWh/kVarh/FRT : 3,000 / 3,000 / 1
FKM kWh/kVarh/FRT LM : 2,000 / 2,000 / 1
Jam Nyala / Fak K : 173

Catatan Meter	Tanggal	LWBP	WBP	TOTAL	KVARH
St Akhir	01-08-2022	8,819.890	1,533.100		3,067.370
St Awal	01-07-2022	8,733.220	1,520.090		3,029.560
Selisih Stand (st akhir - st awal) * FKM * FRT		259,410.000	39,030.000		113,430.000
Pemakain kWh Total		259,410.000	39,030.000	298,440.000	113,430.000

I Penyerahan Listrik Rp 0
1. Pendapatan Biaya Beban Rp
2. Pendapatan Biaya Pemakaian

	LWBP			WBP			kVarh			TOTAL
	Pemk kWh	Biaya Pemk	Sub Total	Pemk kWh	Biaya Pemk	Sub Total	Kelbih kVarh	Biaya kVarh	Sub Total	
A	259,410	1,035.78	268,691,690	39,030	1,553.67	60,639,740	0	1,114.74	0	329,331,430
B										
C										
D										

3. Rupiah PTL Bruto (1+2) Rp 329,331,430
4. Rupiah Kompensasi TMP Rp 0
5. Jumlah PTL Netto (3-4) Rp 329,331,430
6. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) yang ditagihkan Rp 329,331,430
7. Tagihan Lainnya Rp 0
8. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) (6+7) Rp 329,331,430
9. PPN Rp 32,933,143
Total Penyerahan Listrik Rp 329,331,430

PPN DIBEBASKAN SESUAI PP NOMOR 48 TAHUN 202

II Pajak Penerangan Jalan (PEMDA) (...% X PTL Netto) Rp 9,879,943
PTL 3.00 (%) x 329,331,430 Rp 9,879,943

III Penyerahan Non Listrik
1. Sewa Trafo / Pemakaian Trafo / Sewa Kapasitor / Operasi Paralel, dll Rp 0
2. PPN Rp 0
Total Penyerahan Non Listrik Rp 0
IV Jumlah Tagihan (I + II + III) Rp 339,211,373
TERBILANG

Tiga Ratus Tiga Puluh Sembilan Juta Dua Ratus Sebelas Ribu Tiga Ratus Tujuh Puluh Tiga Rupiah

Batas Akhir Masa Bayar 20 Agustus 2022
Status : LUNAS (11)
Tanggal Bayar : 05/08/2022
Biaya Keterlambatan (BK) : Rp. 0
Bea Meterai : Rp. 10,000
Total Tagihan yang sudah dilunasi Rp. 339,221,373

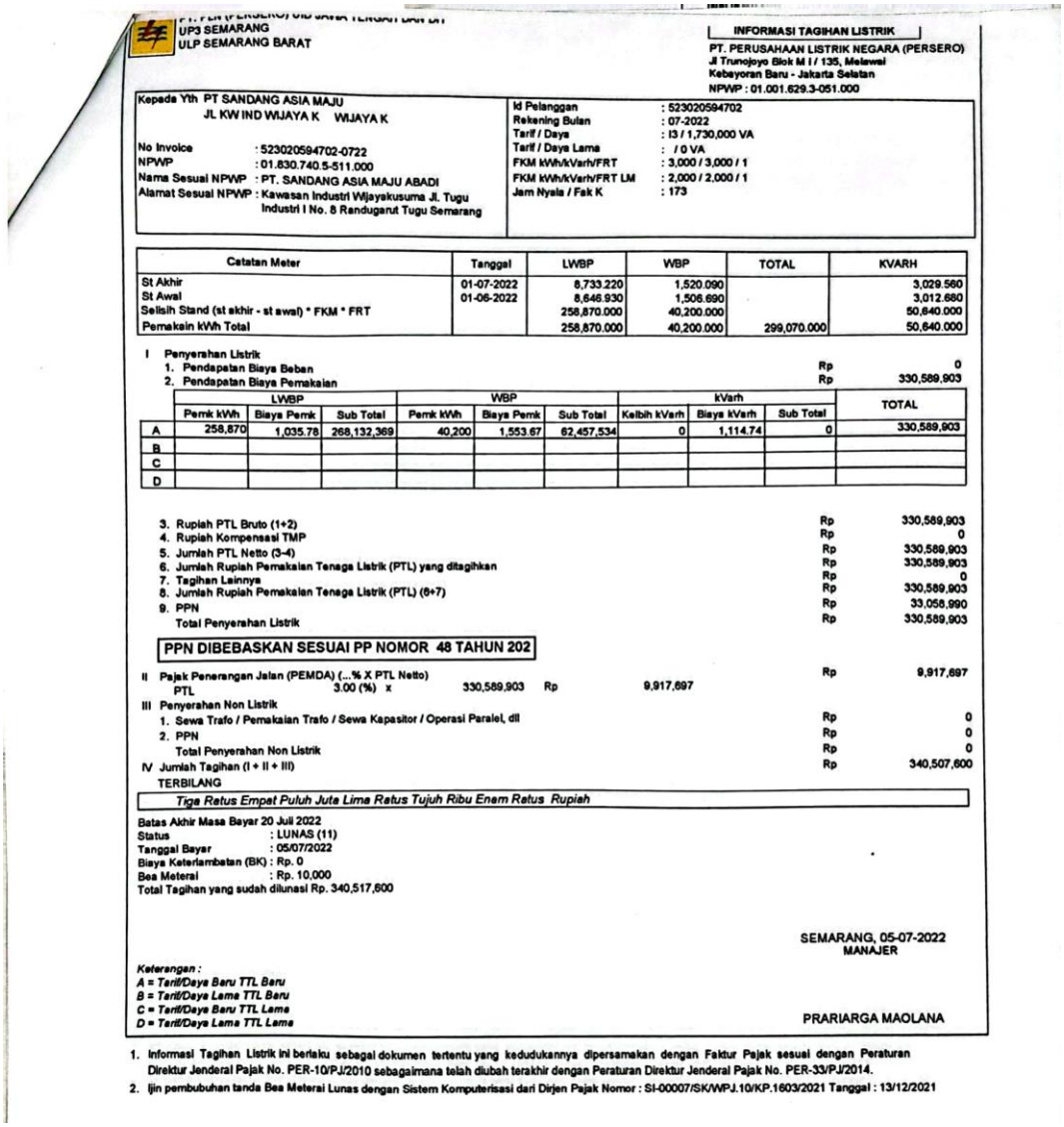
SEMARANG, 05-08-2022
MANAJER

Keterangan :
A = Tarif/Daya Baru TTL Baru
B = Tarif/Daya Lama TTL Baru
C = Tarif/Daya Baru TTL Lama
D = Tarif/Daya Lama TTL Lama

PRARIARGA MAOLANA

1. Informasi Tagihan Listrik ini berlaku sebagai dokumen tertentu yang kedudukannya dipersamakan dengan Faktur Pajak sesuai dengan Peraturan Direktur Jenderal Pajak No. PER-10/PJ/2010 sebagaimana telah diubah terakhir dengan Peraturan Direktur Jenderal Pajak No. PER-33/PJ/2014.
2. Ijin pembubuhan tanda Bea Meterai Lunas dengan Sistem Komputerisasi dari Dirjen Pajak Nomor : SI-00007/SK/WPJ.10/KP.1603/2021 Tanggal : 13/12/2021

Figure 9. Electricity Consumption Report 3



UP3 SEMARANG
ULP SEMARANG BARAT

INFORMASI TAGIHAN LISTRIK

PT. PERUSAHAAN LISTRIK NEGARA (PERSERO)
Jl Trunojoyo Blok M I / 135, Melawai
Kebayoran Baru - Jakarta Selatan
NPWP : 01.001.629.3-051.000

Kepada Yth PT SANDANG ASIA MAJU
JL KW IND WIJAYA K WIJAYA K

No Invoice : 523020594702-0722
NPWP : 01.830.740.5-511.000
Nama Sesuai NPWP : PT. SANDANG ASIA MAJU ABADI
Alamat Sesuai NPWP : Kawasan Industri Wijayakusuma Jl. Tugu Industri I No. 8 Randugarut Tugu Semarang

Id Pelanggan : 523020594702
Rekening Bulan : 07-2022
Tarif / Daya : I3 / 1,730,000 VA
Tarif / Daya Lama : / 0 VA
FKM kWh/kVarh/FRT : 3,000 / 3,000 / 1
FKM kWh/kVarh/FRT LM : 2,000 / 2,000 / 1
Jam Nyala / Fak K : 173

Catatan Meter	Tanggal	LWBP	WBP	TOTAL	KVARH
St Akhir	01-07-2022	8,733.220	1,520.090		3,029.560
St Awal	01-06-2022	8,646.930	1,506.690		3,012.680
Selisih Stand (st akhir - st awal) * FKM * FRT		258,870.000	40,200.000		50,640.000
Pemakain kWh Total		258,870.000	40,200.000	299,070.000	50,640.000

I Penyerahan Listrik
1. Pendapatan Biaya Beban Rp 0
2. Pendapatan Biaya Pemakaian Rp 330,589,903

	LWBP			WBP			kVarh			TOTAL
	Pemk kWh	Biaya Pemk	Sub Total	Pemk kWh	Biaya Pemk	Sub Total	Kelbih kVarh	Biaya kVarh	Sub Total	
A	258,870	1,035.78	268,132,369	40,200	1,553.67	62,457,534	0	1,114.74	0	330,589,903
B										
C										
D										

3. Rupiah PTL Bruto (1+2) Rp 330,589,903
4. Rupiah Kompensasi TMP Rp 0
5. Jumlah PTL Netto (3-4) Rp 330,589,903
6. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) yang ditagihkan Rp 330,589,903
7. Tagihan Lainnya Rp 0
8. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) (6+7) Rp 330,589,903
9. PPN Rp 33,058,990
Total Penyerahan Listrik Rp 330,589,903

PPN DIBEBASKAN SESUAI PP NOMOR 48 TAHUN 202

II Pajak Penerangan Jalan (PEMDA) (...% X PTL Netto) Rp 9,917,697
PTL 3.00 (%) x 330,589,903 Rp 9,917,697

III Penyerahan Non Listrik
1. Sewa Trafo / Pemakaian Trafo / Sewa Kapasitor / Operasi Paralel, dll Rp 0
2. PPN Rp 0
Total Penyerahan Non Listrik Rp 0

IV Jumlah Tagihan (I + II + III) Rp 340,507,600

TERBILANG

Tiga Ratus Empat Puluh Juta Lima Ratus Tujuh Ribu Enam Ratus Rupiah

Batas Akhir Masa Bayar 20 Juli 2022
Status : LUNAS (11)
Tanggal Bayar : 05/07/2022
Biaya Keterlambatan (BK) : Rp. 0
Bea Meterai : Rp. 10,000
Total Tagihan yang sudah dilunasi Rp. 340,517,600

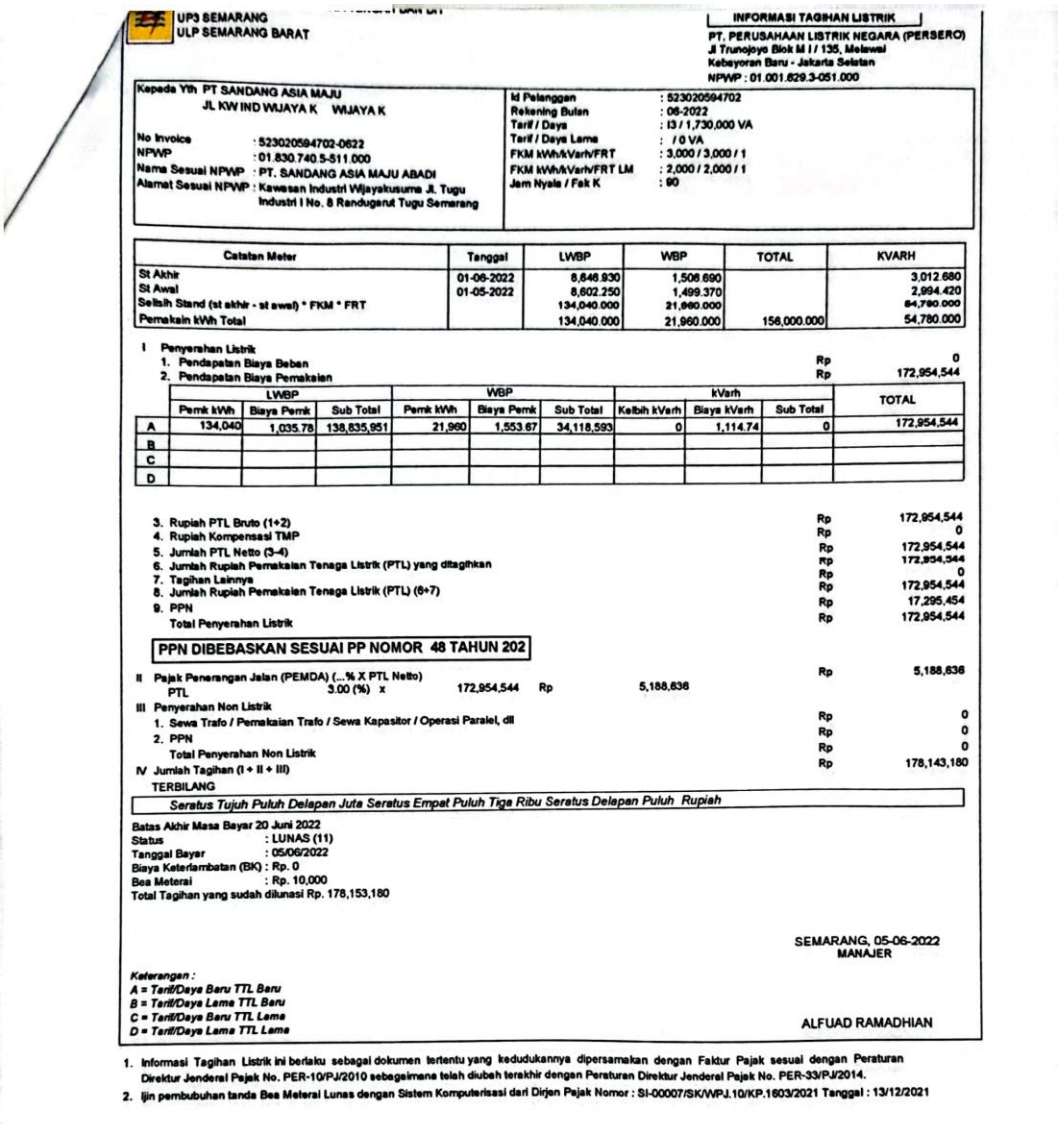
SEMARANG, 05-07-2022
MANAJER

Keterangan :
A = Tarif/Daya Baru TTL Baru
B = Tarif/Daya Lama TTL Baru
C = Tarif/Daya Baru TTL Lama
D = Tarif/Daya Lama TTL Lama

PRARIARGA MAOLANA

1. Informasi Tagihan Listrik ini berlaku sebagai dokumen tertentu yang kedudukannya dipersamakan dengan Faktur Pajak sesuai dengan Peraturan Direktur Jenderal Pajak No. PER-10/PJ/2010 sebagaimana telah diubah terakhir dengan Peraturan Direktur Jenderal Pajak No. PER-33/PJ/2014.
2. Ijin pembubuhan tanda Bea Meterai Lunas dengan Sistem Komputerisasi dari Dirjen Pajak Nomor : SI-00007/SK/WPJ.10/KP.1603/2021 Tanggal : 13/12/2021

Figure 10. Electricity Consumption Report 4



UP3 SEMARANG
ULP SEMARANG BARAT

INFORMASI TAGIHAN LISTRIK

PT. PERUSAHAAN LISTRIK NEGARA (PERSERO)
Jl Trunojoyo Blok M I / 135, Melawai
Kebayoran Baru - Jakarta Selatan
NPWP : 01.001.629.3-051.000

Kepada Yth PT SANDANG ASIA MAJU
JL KW IND WIJAYA K WIJAYA K

No Invoice : 523020594702-0622
NPWP : 01.830.740.5-511.000
Nama Sesuai NPWP : PT. SANDANG ASIA MAJU ABADI
Alamat Sesuai NPWP : Kawasan Industri Wijayakusuma Jl. Tugu Industri I No. 8 Randugarut Tugu Semarang

Id Pelanggan : 523020594702
Rekening Bulan : 06-2022
Tarif / Daya : I3 / 1,730,000 VA
Tarif / Daya Lama : / 0 VA
FKM kWh/kVarh/FRT : 3,000 / 3,000 / 1
FKM kWh/kVarh/FRT LM : 2,000 / 2,000 / 1
Jam Nyala / Fak K : 90

Catatan Meter	Tanggal	LWBP	WBP	TOTAL	KVARH
St Akhir	01-06-2022	8,848,930	1,508,690		3,012,680
St Awal	01-05-2022	8,602,250	1,499,370		2,994,420
Selisih Stand (st akhir - st awal) * FKM * FRT		134,040,000	21,960,000		54,780,000
Pemakain kWh Total		134,040,000	21,960,000	156,000,000	54,780,000

I Penyerahan Listrik
1. Pendapatan Biaya Beban — Rp 0
2. Pendapatan Biaya Pemakaian — Rp 172,954,544

	LWBP			WBP			kVarh			TOTAL
	Pemk kWh	Biaya Pemk	Sub Total	Pemk kWh	Biaya Pemk	Sub Total	Kelbih kVarh	Biaya kVarh	Sub Total	
A	134,040	1,035.78	138,835,951	21,960	1,553.67	34,118,593	0	1,114.74	0	172,954,544
B										
C										
D										

3. Rupiah PTL Bruto (1+2) — Rp 172,954,544
4. Rupiah Kompensasi TMP — Rp 0
5. Jumlah PTL Netto (3-4) — Rp 172,954,544
6. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) yang ditagihkan — Rp 172,954,544
7. Tagihan Lainnya — Rp 0
8. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) (6+7) — Rp 172,954,544
9. PPN — Rp 17,295,454

Total Penyerahan Listrik — Rp 172,954,544

PPN DIBEBASKAN SESUAI PP NOMOR 48 TAHUN 202

II Pajak Penerangan Jalan (PEMDA) (...% X PTL Netto) — Rp 5,188,636
PTL 3.00 (%) x 172,954,544 Rp 5,188,636

III Penyerahan Non Listrik
1. Sewa Trafo / Pemakaian Trafo / Sewa Kapasitor / Operasi Paralel, dll — Rp 0
2. PPN — Rp 0

Total Penyerahan Non Listrik — Rp 0

IV Jumlah Tagihan (I + II + III) — Rp 178,143,180

TERBILANG

Seratus Tujuh Puluh Delapan Juta Seratus Empat Puluh Tiga Ribu Seratus Delapan Puluh Rupiah

Batas Akhir Masa Bayar 20 Juni 2022
Status : LUNAS (11)
Tanggal Bayar : 05/06/2022
Biaya Keterlambatan (BK) : Rp. 0
Bea Meterai : Rp. 10,000
Total Tagihan yang sudah dilunasi Rp. 178,153,180

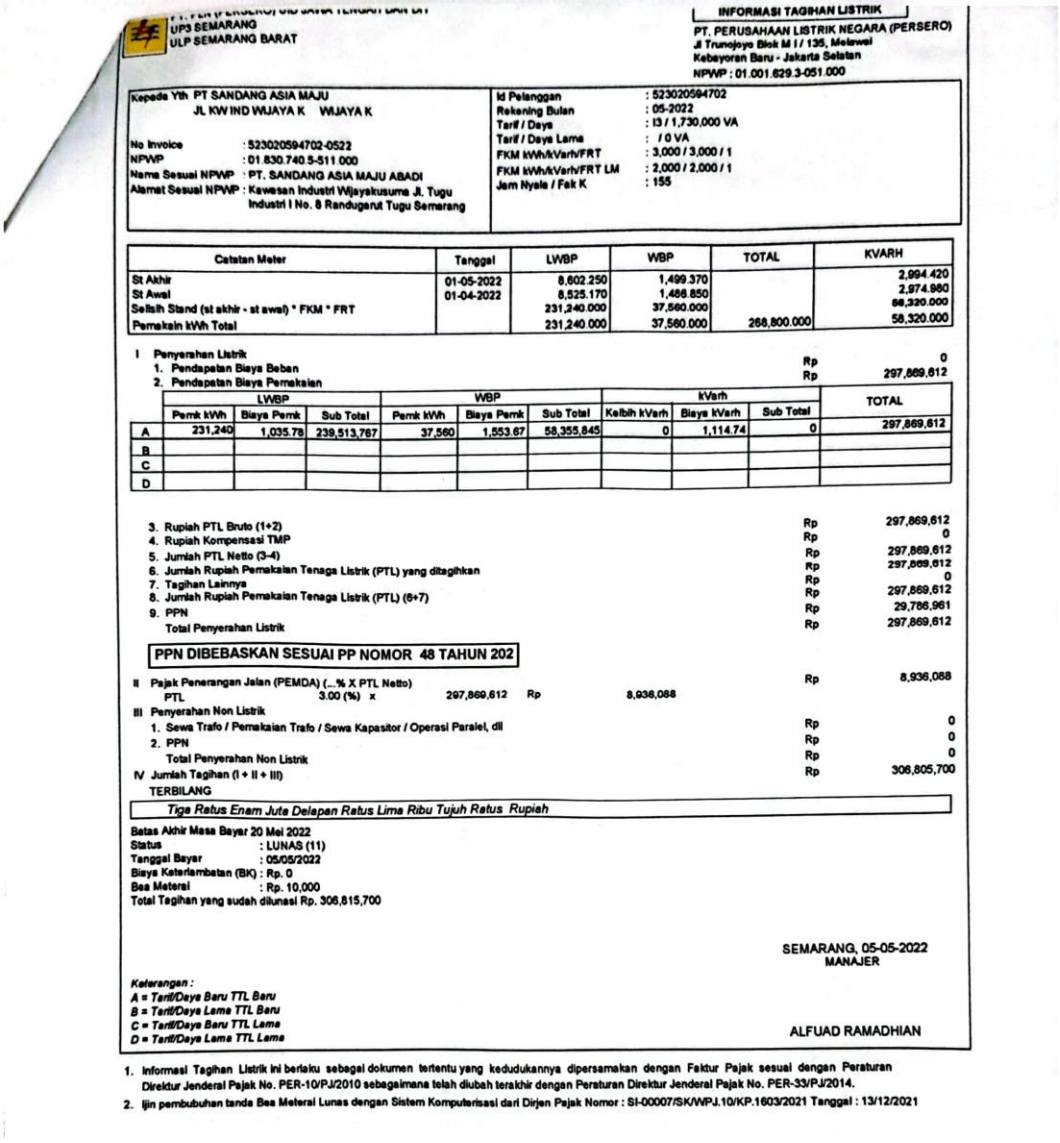
SEMARANG, 05-06-2022
MANAJER

Keterangan :
A = Tarif/Daya Baru TTL Baru
B = Tarif/Daya Lama TTL Baru
C = Tarif/Daya Baru TTL Lama
D = Tarif/Daya Lama TTL Lama

ALFUAD RAMADHIAN

1. Informasi Tagihan Listrik ini berlaku sebagai dokumen tertentu yang kedudukannya dipersamakan dengan Faktur Pajak sesuai dengan Peraturan Direktur Jenderal Pajak No. PER-10/PJ/2010 sebagaimana telah diubah terakhir dengan Peraturan Direktur Jenderal Pajak No. PER-33/PJ/2014.
2. Ijin pembubuhan tanda Bea Meterai Lunas dengan Sistem Komputerisasi dari Dirjen Pajak Nomor : SI-00007/SK/WPJ.10/KP.1603/2021 Tanggal : 13/12/2021

Figure 11. Electricity Consumption Report 5



INFORMASI TAGIHAN LISTRIK

UP3 SEMARANG
ULP SEMARANG BARAT

PT. PERUSAHAAN LISTRIK NEGARA (PERSERO)
Jl Trunojoyo Blok M I / 135, Melawai
Kebayoran Baru - Jakarta Selatan
NPWP : 01.001.629.3-051.000

Kepada Yth PT SANDANG ASIA MAJU
JL KW IND WIJAYA K WIJAYA K

No Invoice : 523020594702-0522
NPWP : 01.830.740.5-511.000
Nama Sesuai NPWP : PT. SANDANG ASIA MAJU ABADI
Alamat Sesuai NPWP : Kawasan Industri Wijayakusuma Jl. Tugu Industri I No. 8 Randugarut Tugu Semarang

Id Pelanggan : 523020594702
Rekening Bulan : 05-2022
Tarif / Daya : I3 / 1,730,000 VA
Tarif / Daya Lama : / 0 VA
FKM kWh/kVarh/FRT : 3,000 / 3,000 / 1
FKM kWh/kVarh/FRT LM : 2,000 / 2,000 / 1
Jam Nyala / Fak K : 155

Catatan Meter	Tanggal	LWBP	WBP	TOTAL	KVARH
St Akhir	01-05-2022	8,602.250	1,499.370		2,994.420
St Awal	01-04-2022	8,525.170	1,466.850		2,974.980
Selisih Stand (st akhir - st awal) * FKM * FRT		231,240.000	37,560.000		86,320.000
Pemakain kWh Total		231,240.000	37,560.000	268,800.000	58,320.000

I Penyerahan Listrik
1. Pendapatan Biaya Beban — Rp 0
2. Pendapatan Biaya Pemakaian — Rp 297,869,612

	LWBP			WBP			kVarh			TOTAL
	Pemk kWh	Biaya Pemk	Sub Total	Pemk kWh	Biaya Pemk	Sub Total	Kelbih kVarh	Biaya kVarh	Sub Total	
A	231,240	1,035.78	239,513,767	37,560	1,553.67	58,355,845	0	1,114.74	0	297,869,612
B										
C										
D										

3. Rupiah PTL Bruto (1+2) — Rp 297,869,612
4. Rupiah Kompensasi TMP — Rp 0
5. Jumlah PTL Netto (3-4) — Rp 297,869,612
6. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) yang ditagihkan — Rp 297,869,612
7. Tagihan Lainnya — Rp 0
8. Jumlah Rupiah Pemakaian Tenaga Listrik (PTL) (6+7) — Rp 297,869,612
9. PPN — Rp 29,786,961

Total Penyerahan Listrik — Rp 297,869,612

PPN DIBEBASKAN SESUAI PP NOMOR 48 TAHUN 202

II Pajak Penerangan Jalan (PEMDA) (...% X PTL Netto) — Rp 8,936,088
PTL 3.00 (%) x 297,869,612 Rp 8,936,088

III Penyerahan Non Listrik
1. Sewa Trafo / Pemakaian Trafo / Sewa Kapasitor / Operasi Paralel, dll — Rp 0
2. PPN — Rp 0

Total Penyerahan Non Listrik — Rp 0

IV Jumlah Tagihan (I + II + III) — Rp 306,805,700

TERBILANG

Tiga Ratus Enam Juta Delapan Ratus Lima Ribu Tujuh Ratus Rupiah

Batas Akhir Masa Bayar 20 Mei 2022
Status : LUNAS (11)
Tanggal Bayar : 05/05/2022
Biaya Keterlambatan (BK) : Rp. 0
Bea Meterai : Rp. 10,000
Total Tagihan yang sudah dilunasi Rp. 306,815,700

SEMARANG, 05-05-2022
MANAJER

Keterangan :
A = Tarif/Daya Baru TTL Baru
B = Tarif/Daya Lama TTL Baru
C = Tarif/Daya Baru TTL Lama
D = Tarif/Daya Lama TTL Lama

ALFUAD RAMADHIAN

1. Informasi Tagihan Listrik ini berlaku sebagai dokumen tertentu yang kedudukannya dipersamakan dengan Faktur Pajak sesuai dengan Peraturan Direktur Jenderal Pajak No. PER-10/PJ/2010 sebagaimana telah diubah terakhir dengan Peraturan Direktur Jenderal Pajak No. PER-33/PJ/2014.
2. Ijin pembubuhan tanda Bea Meterai Lunas dengan Sistem Komputerisasi dari Dirjen Pajak Nomor : SI-00007/SK/WPJ.10/KP.1603/2021 Tanggal : 13/12/2021

Figure 12. Electricity Consumption Report 6

NO.	SUPPLIER	P.O#	QTY IN ROLL		QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL INHOUSE DATE
						VESSEL ETA DATE	IN HOUSE DATE			
1	UPPER UNIVERSE	2201.0131, 2112.0209 2112.0318, 2203.0107	549	PKGS	61,819.50	5-May-22	17-May-22	FCL 1X40' FCL 1X20'	IMTU-1060422 EISU-2132006	
3	ABLE LEADER	2203.0113	177	ROLL	19,500.00	5-May-22	18-May-22	FCL 1X20'	MAGU-2177514	
4	ABLE LEADER	2112.0454/0456/0458	283	ROLL	26,155.00	5-May-22	18-May-22	FCL 1X20' FCL 1X20'	MAGU-2177514 EITU-0554794	
5	SHAOXING SHANGJIE	2201.0222/0223	63	BALES	6,951.00	14-May-22	20-May-22	LCL		
6	NISHAT LTD	-	37	ROLL	5,500.00	4-May-22	19-May-22	LCL		
7	SUZHOU KAILONG	2204.0068/0073	101	PKGS	14,828.80	9-May-22	19-May-22	LCL		
8	BOSSA TICARET	-	15	PKGS	2,091.00	9-May-22	19-May-22	LCL		
			1,225	ROLL	136,845.30					

NO.	SUPPLIER	P.O#	QTY IN ROLL		QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL INHOUSE DATE
						VESSEL ETA DATE	IN HOUSE DATE			
1	SHAOXING SHANGJIE	2201.0222/0223	63	BALES	6,951.00	22-May-22	25-May-22	LCL		
2	NINGBO XINSHEN	2112.0460	248	ROLL	20,449.20	23-May-22	25-May-22	FCL 1X40'	GLDU-9359287	
3	ZAOZHUANG HIYOUNG	2201.0176	155	PKGS	14,391.80	24-May-22	27-May-22	FCL 1X20'	OCLU-0283309	
4	ABLE LEADER	2112.0241/0454	134	ROLL	13,037.00	25-May-22	25-May-22	FCL 1X20'	GLDU-9530717	
5	ABLE LEADER	2203.0108	127	ROLL	13,060.00	25-May-22	25-May-22	PART OF		
6	MAX HONGKONG	MAX 046-22	100	PKGS	-	25-May-22	27-May-22	LCL		
7	EVEREST TEXTILE	-	35	ROLL	2,973.00	19-May-22	24-May-22	LCL		23-May-22
8	ADVANCE DENIM		398	ROLL		23-May-22	25-May-22	FCL 1X40'	TXGU-5010355	
9	TCE CORPORATION	2204.0213	37	ROLL	3,600.00	19-May-22	24-May-22	LCL		24-May-22
			1,297	ROLL	74,462.00					

Figure 13. Raw Material Usage Report 1

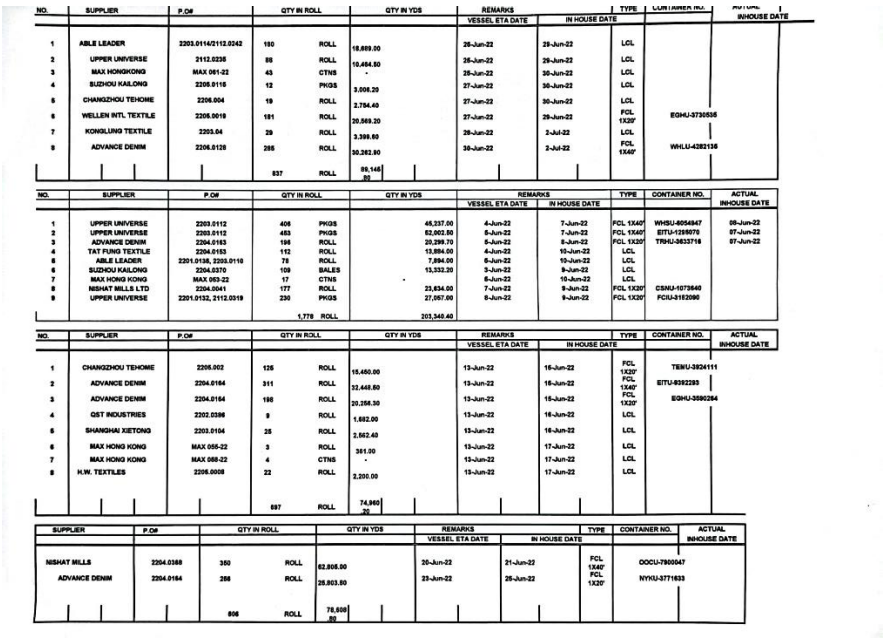


Figure 14. Raw Material Usage Report 2

NO.	SUPPLIER	P.O#	QTY IN ROLL	QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
					VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	UPPER UNIVERSE LTD	2203.0345	76 ROLL	8,796.00	16-Jul-22	20-Jul-22	LCL		
2	SUZHOU KAILONG TEX	2206.0236	23 PKGS	5,257.00	16-Jul-22	20-Jul-22	LCL		
3	MAX HONG KONG	MAX 070-22	45 PKGS	-	16-Jul-22	20-Jul-22	LCL		
4	TAT FUNG TEXTILE	2206.0093	13 ROLL	1,352.00	16-Jul-22	20-Jul-22	LCL		
5	MAX HONG KONG	MAX 072-22	66 PKGS	-	18-Jul-22	22-Jul-22	LCL		
6	CONE DENIM	2206.0259/0435	153 ROLL	23,152.20	21-Jul-22	23-Jul-22	FCL 1X40'	TEMU-6143771	
7	UPPER UNIVERSE LTD	2206.0518	266 ROLL	31,103.00	21-Jul-22	23-Jul-22	FCL 1X40'	WHSU-4058603	
			642 PKGS	69,660.20					

NO.	SUPPLIER	P.O#	QTY IN ROLL	QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
					VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	LAI TAK ENTERPRISES	2205.0091	144 ROLL	21,365.00	28-Jul-22	29-Jul-22	FCL 1X20'	WHSU-2787360	
2	SHANGHAI XIETONG	2205.0014	28 BALES	2,674.60	28-Jul-22	29-Jul-22	LCL		
			172 PKGS	24,039.60					

Figure 15. Raw Material Usage Report 3

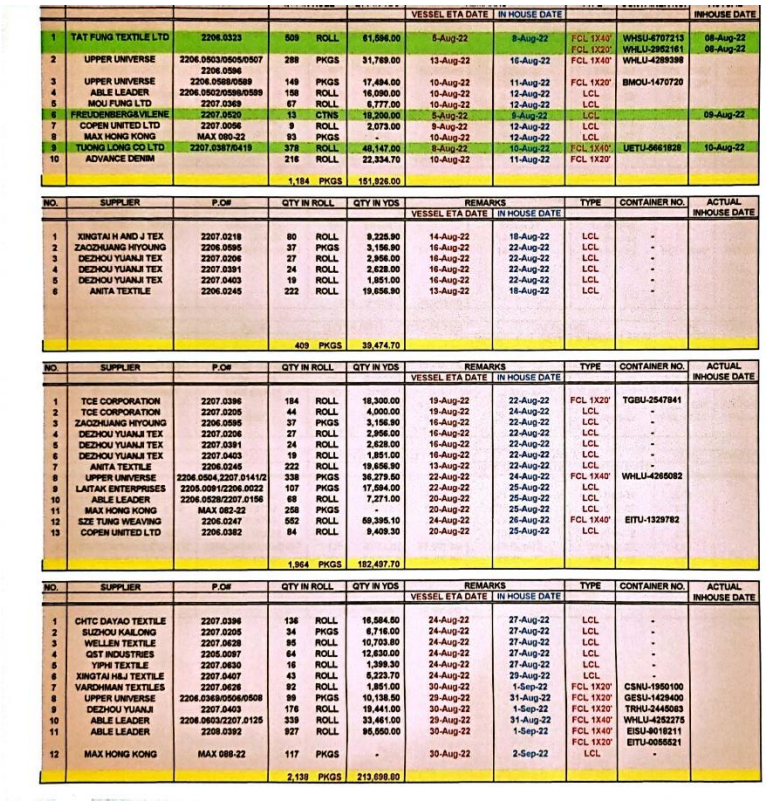
NO.	SUPPLIER	P.O#	QTY IN ROLL	QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
					VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	UPPER UNIVERSE LTD	2206.0600/0688	368 PKGS	41,872.00	30-Jul-22	2-Aug-22	FCL 1X40'	WHLU-4276507	02-Aug-22
2	JOINT OPERATION	2206.0486	16 ROLL	1,755.00	28-Jul-22	2-Aug-22	LCL	-	01-Aug-22
3	EVEREST TEXTILE	2206.0063	17 ROLL	1,427.00	31-Jul-22	3-Aug-22	LCL		03-Aug-22
4	MAX HONG KONG	MAX 074-22	104 PKGS	-	29-Jul-22	3-Aug-22	LCL		03-Aug-22
5	NISHAT MILLS LTD.	2206.0271	168 ROLL	24,556.00	2-Aug-22	4-Aug-22	FCL 1X20'	OOLU-2970623	04-Aug-22
6	TUONG LONG LTD	2207.0042	133 ROLL	16,999.00	29-Jul-22	2-Aug-22	FCL 1X20'	NSJU-0003424	02-Aug-22
7	CONE DENIM LTD	2207.0196	82 ROLL	7,623.00	2-Aug-22	6-Aug-22	LCL		
			856 PKGS	94,132.00					

NO.	SUPPLIER	P.O#	QTY IN ROLL	QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
					VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	TAT FUNG TEXTILE LTD	2206.0323	509 ROLL	61,596.00	8-Aug-22	8-Aug-22	FCL 1X40'	WHSU-6707213	08-Aug-22
							FCL 1X20'	WHLU-2952181	08-Aug-22
2	UPPER UNIVERSE	2206.0503/0505/0507	288 PKGS	31,769.00	13-Aug-22	16-Aug-22	FCL 1X40'	WHLU-4289398	
		2206.0596							
3	UPPER UNIVERSE	2206.0588/0589	149 PKGS	17,494.00	10-Aug-22	11-Aug-22	FCL 1X20'	BMOU-1470720	
4	ABLE LEADER	2206.0502/0598/0599	158 ROLL	16,090.00	10-Aug-22	12-Aug-22	LCL		
5	MOU FUNG LTD	2207.0369	67 ROLL	6,777.00	10-Aug-22	12-Aug-22	LCL		
6	FREUDENBERG&VILENE	2207.0620	13 CTNS	18,200.00	5-Aug-22	9-Aug-22	LCL		09-Aug-22
7	COPEN UNITED LTD	2207.0056	9 ROLL	2,073.00	8-Aug-22	12-Aug-22	LCL		
8	MAX HONG KONG	MAX 080-22	93 PKGS	-	10-Aug-22	12-Aug-22	LCL		
9	TUONG LONG CO LTD	2207.0387/0419	378 ROLL	48,147.00	8-Aug-22	10-Aug-22	FCL 1X40'	UETU-6661828	10-Aug-22
10	ADVANCE DENIM		216 ROLL	22,334.70	10-Aug-22	11-Aug-22	FCL 1X20'		
			1,184 PKGS	151,926.00					

NO.	SUPPLIER	P.O#	QTY IN ROLL	QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
					VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	TCE CORPORATION	2207.0396	184 ROLL	18,300.00	19-Aug-22	22-Aug-22	FCL 1X20'	TGBJ-2547841	
2	TCE CORPORATION	2207.0205	44 ROLL	4,000.00	19-Aug-22	24-Aug-22	LCL	-	
3	ZAOZHUANG HIYOUNG	2206.0595	37 PKGS	3,156.90	16-Aug-22	22-Aug-22	LCL	-	
4	DEZHOU YUANJI TEX	2207.0206	27 ROLL	2,956.00	16-Aug-22	22-Aug-22	LCL	-	
5	DEZHOU YUANJI TEX	2207.0391	24 ROLL	2,628.00	16-Aug-22	22-Aug-22	LCL	-	
6	DEZHOU YUANJI TEX	2207.0403	19 ROLL	1,851.00	16-Aug-22	22-Aug-22	LCL	-	
7	ANITA TEXTILE	2206.0245	222 ROLL	19,656.90	13-Aug-22	22-Aug-22	LCL	-	
8	UPPER UNIVERSE	2206.0604,2207.0141/2	338 PKGS	36,278.60	22-Aug-22	24-Aug-22	FCL 1X40'	WHLU-4265082	
9	LAITAK ENTERPRISES	2205.0091/2206.0022	107 PKGS	17,594.00	22-Aug-22	25-Aug-22	LCL		
10	ABLE LEADER	2206.0528/2207.0156	68 ROLL	7,271.00	20-Aug-22	25-Aug-22	LCL		
11	MAX HONG KONG	MAX 082-22	258 PKGS	-	20-Aug-22	25-Aug-22	LCL		
12	SZE TUNG WEAVING	2206.0247	562 ROLL	59,395.10	24-Aug-22	26-Aug-22	FCL 1X40'	EITU-1329782	
13	COPEN UNITED LTD	2206.0382	84 ROLL	9,409.30	20-Aug-22	25-Aug-22	LCL		
			1,964 PKGS	182,497.70					

NO.	SUPPLIER	P.O#	QTY IN ROLL	QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
					VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	CHTC DAYAO TEXTILE	2207.0396	136 ROLL	16,684.50	24-Aug-22	27-Aug-22	LCL	-	
2	SUZHOU KAILONG	2207.0206	34 PKGS	6,716.00	24-Aug-22	27-Aug-22	LCL	-	
3	WELLEN TEXTILE	2207.0628	86 ROLL	10,703.80	24-Aug-22	27-Aug-22	LCL	-	
4	QST INDUSTRIES	2205.0097	64 ROLL	12,630.00	24-Aug-22	27-Aug-22	LCL	-	
5	YIPHI TEXTILE	2207.0630	16 ROLL	1,399.30	24-Aug-22	27-Aug-22	LCL	-	
6	XINGTAI H&J TEXTILE	2207.0407	43 ROLL	6,223.70	24-Aug-22	29-Aug-22	LCL	-	
7	VARDHMAN TEXTILES	2207.0626	92 ROLL	1,851.00	30-Aug-22	1-Sep-22	FCL 1X20'	CSNU-1950100	
8	UPPER UNIVERSE	2206.0369/0506/0508	99 PKGS	10,138.50	29-Aug-22	31-Aug-22	FCL 1X20'	GESU-1429400	
9	DEZHOU YUANJI	2207.0403	176 ROLL	19,441.00	30-Aug-22	1-Sep-22	FCL 1X20'	TRHU-2445083	
10	ABLE LEADER	2206.0603/2207.0125	339 ROLL	33,461.00	29-Aug-22	31-Aug-22	FCL 1X40'	WHLU-4252276	
11	ABLE LEADER	2208.0392	927 ROLL	86,650.00	30-Aug-22	1-Sep-22	FCL 1X40'	EISU-9018211	
							FCL 1X20'	EITU-0065521	
12	MAX HONG KONG	MAX 088-22	117 PKGS	-	30-Aug-22	2-Sep-22	LCL	-	
			2,138 PKGS	213,698.80					

Figure 16. Raw Material Usage Report 4



						VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	TAT FUNG TEXTILE LTD	2206.0323	509	ROLL	61,586.00	5-Aug-22	8-Aug-22	FCL 1X40'	WHSU-6707213	08-Aug-22
								FCL 1X20'	WHLU-2952161	08-Aug-22
2	UPPER UNIVERSE	2206.0503/0505/0507 2206.0596	288	PKGS	31,769.00	13-Aug-22	16-Aug-22	FCL 1X40'	WHLU-4289398	
3	UPPER UNIVERSE	2206.0588/0589	149	PKGS	17,494.00	10-Aug-22	11-Aug-22	FCL 1X20'	BMOU-1470720	
4	ABLE LEADER	2206.0502/0598/0589	159	ROLL	16,090.00	10-Aug-22	12-Aug-22	LCL		
5	MOU FUNG LTD	2207.0369	67	ROLL	6,777.00	10-Aug-22	12-Aug-22	LCL		
6	FREUDENBERG&VILENE	2207.0520	13	CTNS	19,200.00	5-Aug-22	8-Aug-22	LCL		08-Aug-22
7	COPEN UNITED LTD	2207.0056	9	ROLL	2,073.00	9-Aug-22	12-Aug-22	LCL		
8	MAX HONG KONG	MAX 080-22	93	PKGS	-	10-Aug-22	12-Aug-22	LCL		
9	TUONG LONG CO LTD	2207.0387/0419	378	ROLL	48,147.00	5-Aug-22	10-Aug-22	FCL 1X40'	UETU-5661828	10-Aug-22
10	ADVANCE DENIM		216	ROLL	22,334.70	10-Aug-22	11-Aug-22	FCL 1X20'		
			1,184	PKGS	151,826.00					

NO.	SUPPLIER	P.O#	QTY IN ROLL		QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
						VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	XINGTAI H AND J TEX	2207.0218	80	ROLL	9,226.90	14-Aug-22	18-Aug-22	LCL	-	
2	ZAOZHUANG HIYOUNG	2206.0595	37	PKGS	3,156.90	16-Aug-22	22-Aug-22	LCL	-	
3	DEZHOU YUANJI TEX	2207.0206	27	ROLL	2,956.00	16-Aug-22	22-Aug-22	LCL	-	
4	DEZHOU YUANJI TEX	2207.0391	24	ROLL	2,628.00	16-Aug-22	22-Aug-22	LCL	-	
5	DEZHOU YUANJI TEX	2207.0403	19	ROLL	1,851.00	16-Aug-22	22-Aug-22	LCL	-	
6	ANITA TEXTILE	2206.0245	222	ROLL	19,656.90	13-Aug-22	18-Aug-22	LCL	-	
			409	PKGS	39,474.70					

NO.	SUPPLIER	P.O#	QTY IN ROLL		QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
						VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	TCE CORPORATION	2207.0396	184	ROLL	18,300.00	19-Aug-22	22-Aug-22	FCL 1X20'	TGBU-2547941	
2	TCE CORPORATION	2207.0205	44	ROLL	4,000.00	19-Aug-22	24-Aug-22	LCL	-	
3	ZAOZHUANG HIYOUNG	2206.0595	37	PKGS	3,156.90	16-Aug-22	22-Aug-22	LCL	-	
4	DEZHOU YUANJI TEX	2207.0206	27	ROLL	2,956.00	16-Aug-22	22-Aug-22	LCL	-	
5	DEZHOU YUANJI TEX	2207.0391	24	ROLL	2,628.00	16-Aug-22	22-Aug-22	LCL	-	
6	DEZHOU YUANJI TEX	2207.0403	19	ROLL	1,851.00	16-Aug-22	22-Aug-22	LCL	-	
7	ANITA TEXTILE	2206.0245	222	ROLL	19,656.90	13-Aug-22	22-Aug-22	LCL	-	
8	UPPER UNIVERSE	2206.0504,2207.0141/2	338	PKGS	36,279.50	22-Aug-22	24-Aug-22	FCL 1X40'	WHLU-4265082	
9	LAITAK ENTERPRISES	2205.0091/2206.0022	107	PKGS	17,594.00	22-Aug-22	25-Aug-22	LCL	-	
10	ABLE LEADER	2206.0528/2207.0156	69	ROLL	7,271.00	20-Aug-22	25-Aug-22	LCL	-	
11	MAX HONG KONG	MAX 082-22	258	PKGS	-	20-Aug-22	25-Aug-22	LCL		
12	SZE TUNG WEAVING	2206.0247	552	ROLL	59,395.10	24-Aug-22	26-Aug-22	FCL 1X40'	EITU-1329782	
13	COPEN UNITED LTD	2206.0382	84	ROLL	9,409.30	20-Aug-22	25-Aug-22	LCL		
			1,964	PKGS	182,497.70					

NO.	SUPPLIER	P.O#	QTY IN ROLL		QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
						VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	CHTC DAYAO TEXTILE	2207.0396	136	ROLL	16,584.60	24-Aug-22	27-Aug-22	LCL	-	
2	SUZHOU KAILONG	2207.0205	34	PKGS	6,716.00	24-Aug-22	27-Aug-22	LCL	-	
3	WELLEN TEXTILE	2207.0628	85	ROLL	10,703.80	24-Aug-22	27-Aug-22	LCL	-	
4	QST INDUSTRIES	2205.0097	64	ROLL	12,630.00	24-Aug-22	27-Aug-22	LCL	-	
5	YPHI TEXTILE	2207.0630	16	ROLL	1,399.30	24-Aug-22	27-Aug-22	LCL	-	
6	XINGTAI H&J TEXTILE	2207.0407	43	ROLL	5,223.70	24-Aug-22	29-Aug-22	LCL	-	
7	VARDHMAN TEXTILES	2207.0626	92	ROLL	1,851.00	30-Aug-22	1-Sep-22	FCL 1X20'	CSNU-1950100	
8	UPPER UNIVERSE	2206.0369/0506/0508	99	PKGS	10,138.50	29-Aug-22	31-Aug-22	FCL 1X20'	GESU-1429400	
9	DEZHOU YUANJI	2207.0403	176	ROLL	19,441.00	30-Aug-22	1-Sep-22	FCL 1X20'	TRHU-2445093	
10	ABLE LEADER	2206.0603/2207.0125	339	ROLL	33,461.00	29-Aug-22	31-Aug-22	FCL 1X40'	WHLU-4252275	
11	ABLE LEADER	2208.0392	927	ROLL	95,550.00	30-Aug-22	1-Sep-22	FCL 1X40'	EISU-9018211	
								FCL 1X20'	EITU-0055521	
12	MAX HONG KONG	MAX 088-22	117	PKGS	-	30-Aug-22	2-Sep-22	LCL	-	
			2,139	PKGS	213,698.80					

Figure 17. Raw Material Usage Report 5

NO.	SUPPLIER	P.O#	QTY IN ROLL		QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
						VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	ABLE LEADER	2208.0392	927	ROLL	95,550.00	2-Sep-22	5-Sep-22	FCL 1X40'	EISU-9018211	05-Sep-22
							3-Sep-22	FCL 1X20'	EITU-0055521	03-Sep-22
2	MAX HONG KONG	MAX 088-22	117	PKGS	-	2-Sep-22	5-Sep-22	LCL	-	05-Sep-22
3	SZE TUNG WEAVING	2206.0334	281	ROLL	31,241.50	6-Sep-22	8-Sep-22	FCL 1X20'	EGHU-3281542	08-Sep-22
4	FREUDENBERG&VILENE	2207.0688	5	BALES	1,000.00	6-Sep-22	9-Sep-22	LCL		
5	RICH TIMES LTD	2207.0138	4	ROLL	792.00	4-Sep-22	7-Sep-22	LCL		07-Sep-22
6	TUONG LONG LTD.	2207.0388	144	ROLL	18,900.00	8-Sep-22	8-Sep-22	FCL 1X20'	KKTU-7799988	
			1,478	PKGS	147,483.50					

NO.	SUPPLIER	P.O#	QTY IN ROLL		QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
						VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	MAX HONG KONG	MAX 091-22	121	PKGS	-	9-Sep-22	13-Sep-22	LCL	-	
2	MAX HONG KONG	MAX 095-22	91	PKGS	-	14-Sep-22	17-Sep-22	LCL	-	
3	UPPER UNIVERSE	2206.0504/0519/0597	274	PKGS	31,305.50	14-Sep-22	16-Sep-22	FCL 1X40'	IMTU-1059340	
4										
5										
6										
			486	PKGS	31,305.50					

NO.	SUPPLIER	P.O#	QTY IN ROLL		QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
						VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	TAT FUNG TEXTILE	2207.0649/0652	265	ROLLS	35,486.00	16-Sep-22	19-Sep-22	FCL 1X40'	TTNU-4880290	19-Sep-22
2	ANITA TEXTILE LTD	2206.0380	256	ROLLS	23,738.80	21-Sep-22	23-Sep-22	FCL 1X20'	TRHU-3859302	
3	MAX HONG KONG	MAX 098-22	93	CTNS	-	20-Sep-22	22-Sep-22	LCL	-	
4	ABLE LEADER		121	ROLLS	12,362.00	20-Sep-22	23-Sep-22	FCL 1X20'	KKTU-8093384	
5	ABLE LEADER	2208.0577	714	ROLLS	74,287.00	20-Sep-22	22-Sep-22	FCL 1X40'	TRHU-8098952	
			1,449	PKGS	145,873.80					

NO.	SUPPLIER	P.O#	QTY IN ROLL		QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL
						VESSEL ETA DATE	IN HOUSE DATE			INHOUSE DATE
1	ZAOZHUANG HIYOUNG	2207.0252	24	ROLLS	2,116.90	23-Sep-22	27-Sep-22	LCL		
2	COPEN UNITED LTD	2206.0710	17	ROLLS	3,347.20	25-Sep-22	28-Sep-22	LCL		
3	MOU FUNG LTD	2209.0093	43	ROLLS	4,452.00	25-Sep-22	28-Sep-22	LCL		
4	MAX HONG KONG	MAX 100-22	84	CTNS	-	25-Sep-22	28-Sep-22	LCL		
5	CHTC DAYAO TEXTILE	2206.0424/0496/0497	139	ROLLS	17,607.40	26-Sep-22	29-Sep-22	LCL		
6	JG GLOBAL LTD	2209.0095	14	PKGS	7,000.00	26-Sep-22	29-Sep-22	LCL		
7	XINGTAI H & J TEXTILE	2207.0408	39	ROLLS	4,562.50	27-Sep-22	30-Sep-22	LCL		
			360	PKGS	39,086.00					

Figure 18. Raw Material Usage Report 6

NO.	SUPPLIER	P.O#	QTY IN ROLL	QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL INHOUSE DATE
					VESSEL ETA DATE	IN HOUSE DATE			
1	XINGTAI H AND J TEXTILE	2207.0408	39 ROLLS	4,562.50	29-Sep-22	5-Oct-22	LCL		
2	JG GLOBAL LTD	2209.0120	10 BALES	5,000.00	30-Sep-22	4-Oct-22	LCL		
3	SUZHOU KAILONG	2208.0306/0651	45 ROLLS	7,619.50	30-Sep-22	4-Oct-22	LCL		
4	TCE CORPORATION	2209.0206	7 ROLLS	800.00	30-Sep-22	5-Oct-22	LCL		
5	ADVANCE DENIM	2207.0429	75 PKGS	7,937.20	4-Oct-22	7-Oct-22	LCL		
			176 PKGS	25,919.20					

NO.	SUPPLIER	P.O#	QTY IN ROLL	QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL INHOUSE DATE
					VESSEL ETA DATE	IN HOUSE DATE			
1	XINGTAI H AND J TEXTILE	2209.0088	357 ROLLS	38,363.20	8-Oct-22	11-Oct-22	FCL 1X40'	BSIU-9456391	
2	TAT FUNG TEXTILE	2207.0676/0651	124 BALES	16,850.00	8-Oct-22	11-Oct-22	FCL 1X20'	EGHU-3303750	
3	ABLE LEADER	2206.0373/0529/0600	106 ROLLS	10,338.00	8-Oct-22	12-Oct-22	LCL	-	
4	UPPER UNIVERSE	2206.0501/0520/0590 2206.0370/2207.0144	306 PKGS	33,881.50	8-Oct-22	11-Oct-22	FCL 1X40'	EMCU-1339341	
5	MAX HONG KONG	MAX 103-22	99 PKGS	-	8-Oct-22	12-Oct-22	LCL	-	
6	ADVANCE DENIM LTD	2209.0203	136 ROLLS	14,096.50	8-Oct-22	12-Oct-22	FCL 1X20'	EGHU-3726129	
7	XINGTAI H AND J TEXTILE	2209.0113	234 ROLLS	26,005.90	11-Oct-22	13-Oct-22	FCL 1X40'	CCLU-7106594	
			1,362 PKGS	139,535.10					

NO.	SUPPLIER	P.O#	QTY IN ROLL	QTY IN YDS	REMARKS		TYPE	CONTAINER NO.	ACTUAL INHOUSE DATE
					VESSEL ETA DATE	IN HOUSE DATE			
1	COPEN UNITED LIMITED	2209.0118	33 ROLLS	7,444.50	14-Oct-22	18-Oct-22	LCL		
2	FREUDENBERG & VILENE	2208.0479	5 BALES	1,000.00	14-Oct-22	18-Oct-22	LCL		
3	KONG LUNG TEXTILES	2207.0702	22 ROLLS	2,394.80	14-Oct-22	18-Oct-22	LCL		
4	SZE TUNG WEAVING	2206.0335	183 ROLLS	20,027.90	17-Oct-22	20-Oct-22	LCL		
5	TAT FUNG TEXTILES	2208.0217	21 ROLLS	2,575.00	17-Oct-22	20-Oct-22	LCL		
6	TUONG LONG LTD	2209.0651	17 ROLLS	2,150.00	18-Oct-22	21-Oct-22	LCL		
7	MAX HONG KONG	MAX 108-22	81 PKGS	-	19-Oct-22	22-Oct-22	LCL		
			362 PKGS	35,592.20					

Figure 19. Raw Material Usage Report 7

PT. SANDANG ASIA MAJU ABADI

Factory Name: PT. Sandang Asia Maju Abadi

Water Balance for the Year 2021~~2~~ 2022

Month of 2022	Water Input in various sources in m3				Wash Process/ Production Water	Utility Water use	Domestic water use (Recycle Water)	Domestic water use (Municipal Zone)	Drinking Water	Total Water use in different areas in m3	Wastewater data in m3				Benchmark data			
	Ground water Withdrawal	Municipal Water Use for Domestic	Recycle water	Total Water Source (m3)							ETP Inlet	ETP Outlet (Industrial discharge)	Domestic Wastewater discharge	Total Wastewater Discharge in m3	Total production data in pcs	Total Water Intensity (Ltr/pcs)	Fresh Water Intensity (Ltr/pcs)	% of recycling
April	14932	2436	16100	33468	24489	3812	2731	2436	32,5	33468	14315	13163	5167	18330	332641	100,61	44,89	108%
May	7425	490	8810	16725	8160	5407	2668	490	19,5	16725	7380	5970	3158	9128	121329	137,85	61,20	119%
June	14846	936	15610	31392	23025	4985	2446	936	19,5	31392	6130	22149	3382	25531	141246	222,25	105,11	105%
July	13587	330	16530	30447	22833	4646	2638	330	32,5	30447	19370	7889	2968	10857	302005	100,82	44,99	122%
August	14751	332	15510	30593	25681	3209	1371	332	32,5	30593	22240	2663	1703	4366	318075	96,18	46,38	105%
September	14524	335	17240	32099	28079	2705	980	335	32,5	32099	20330	3384	1315	4699	265595	120,86	54,68	119%
	122937	8146	136420	267.503	206.969	34.426	17.962	8.146	286	267.503	148.205	65.729	26.108	91.837				
Total	Fresh Water														2170646 Production		60,4 L/Pcs Intensity	
			104% Recycle Rate															

Figure 20. Water Usage Report