

# **APPRENTICESHIP REPORT**

**ENERGY ABSOLUTE PUBLIC COMPANY LIMITED  
(MARKETING RESEARCH)**

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**APPLIED BACHELOR DEGREE STUDY PROGRAM OF  
INTERNATIONAL BUSINESS ADMINISTRATION  
BUSINESS ADMINISTRATION DEPARTMENT  
STATE POLYTECHNIC OF BENGKALIS  
2023**

**APPROVAL SHEET**

**ENERGY ABSOLUTE PUBLIC COMPANY LIMITED  
(MARKETING RESEARCH)**

Written is one of the conditions for completing Apprenticeship

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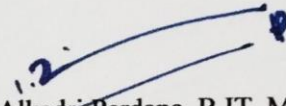
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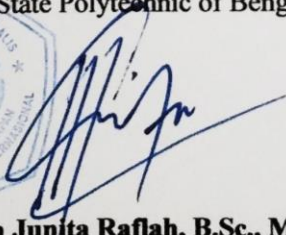
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Bengkalis, March 31<sup>st</sup>, 2023

Shinta Karunia

## TABLE OF CONTENTS

<b>COVER</b> .....	<b>i</b>
<b>APPROVAL SHEET</b> .....	<b>ii</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>iii</b>
<b>TABLE OF CONTENTS</b> .....	<b>v</b>
<b>LIST OF FIGURE</b> .....	<b>vii</b>
<b>LIST OF TABLE</b> .....	<b>viii</b>
<b>LIST OF APPENDICES</b> .....	<b>ix</b>
<b>CHAPTER I INTRODUCTION</b> .....	<b>1</b>
1.1 Background of the Apprenticeship .....	1
1.2 Purpose of the Apprenticeship.....	2
1.3 Significances of the Apprenticeship .....	2
<b>CHAPTER II GENERAL DESCRIPTION OF THE COMPANY</b> .....	<b>4</b>
2.1 Company Profile.....	4
2.2 Vision and Mission.....	9
2.1.1 Vision.....	9
2.1.2 Mission .....	9
2.3 Kind of Business.....	10
2.4 Organization Structure.....	13
2.5 The Working Process.....	14
2.6 Document Used for Activity.....	17
<b>CHAPTER III SCOPE OF APPRENTICESHIP</b> .....	<b>20</b>
3.1 Job Description .....	20
3.2 System and Peocedure .....	22
3.2.1 System.....	22
3.2.2 Procedure .....	22
3.3 Place and Time of Apprenticeship.....	24
3.4 Kind and Description of the Activity .....	24

3.5 Obstacle and Solution .....	28
<b>CHAPTER IV CONCLUSION AND SUGGESTION .....</b>	<b>29</b>
4.1 Conclusion .....	29
4.2 Suggestion .....	29
<b>REFERENCES .....</b>	<b>45</b>
<b>APPENDICES .....</b>	<b>46</b>

## LIST OF FIGURES

Figure 2.1	Energy Absolute Public Company Limited .....	5
Figure 2.2	Organization Structure .....	13
Figure 2.3	The Working Process of Sales and Marketing Department .....	14
Figure 2.4	Microsoft Excel .....	18
Figure 2.5	Company's Annual Report .....	18
Figure 2.6	Microsoft Power Point .....	18
Figure 3.1	Working Process of Sales Performance Management .....	20
Figure 3.2	Working process of Research Market .....	21
Figure 3.3	Working Process of Research New Product .....	21
Figure 3.4	Flowchart of Attending Meetings .....	23

## LIST OF TABLES

Table 2.1	Business Being Promoted .....	12
Table 3.1	List of Working Schedule of Energy Absolute PCL .....	24
Table 3.2	Daily Activities in February 06 <sup>th</sup> , 2023 to February 10 <sup>th</sup> , 2023 .....	24
Table 3.3	Daily Activities in February 13 <sup>th</sup> , 2023 to February 17 <sup>th</sup> , 2023 .....	25
Table 3.4	Daily Activities in February 20 <sup>th</sup> , 2023 to February 24 <sup>th</sup> , 2023 .....	25
Table 3.5	Daily Activities in February 27 <sup>th</sup> , 2023 to March 03 <sup>th</sup> , 2023 .....	26
Table 3.6	Daily Activities in March 06 <sup>th</sup> , 2023 to March 10 <sup>th</sup> , 2023 .....	26
Table 3.7	Daily Activities in March 13 <sup>th</sup> , 2023 to March 17 <sup>th</sup> , 2023 .....	27
Table 3.8	Daily Activities in March 20 <sup>th</sup> , 2023 to March 24 <sup>th</sup> , 2023 .....	27
Table 3.9	Daily Activities in March 27 <sup>th</sup> , 2023 to March 31 <sup>th</sup> , 2023 .....	28



## LIST OF APPENDICES

Appendix 1	Application Letter for Apprenticeship .....	30
Appendix 2	Apprenticeship Site and Placement Detail .....	32
Appendix 3	Company Statement Letter .....	33
Appendix 4	List of Attendance .....	34
Appendix 5	Apprenticeship Assessment.....	42
Appendix 6	Apprenticeship Certificate.....	43
Appendix 7	Organization Structure .....	44
Appendix 8	Daily Activities on the Apprenticeship .....	45

# CHAPTER I

## INTRODUCTION

### 1.1 Background of Apprenticeship

The development of science and technology in Indonesia cannot be separated from the quality profile. That's because this technical development requires not only money, but also support depending on the talents and knowledge of potential people. Therefore, for further development in this modern era of development, of course, the problem of education cannot be ignored.

In today's competitive world of work, scientists are worth waiting for IT support offers all the necessary aspects. Contribution of practical thoughts and actions in the development of the state and nation. In this case, professional life requires access to quality HR services. It is very important to have an edge and stay ahead of the competition in a competitive business world. A workforce with highly professional management skills. Global development and competition today and tomorrow.

State Polytechnic of Bengkalis understands the interrelationships between the campus world and professional life in various fields. It is a series of intertwined ropes. Apprenticeship to complete the course is a model for approaching links and similarities between classroom knowledge and workplace requirements. Apprenticeship is an alternative and implementing the national curriculum as a graduate in a special field. The field trip process cycle is a lecture format through work activities working immediately.

Energy Absolute Public Company Limited is one of the largest companies providing renewable energy services, producing and marketing crude palm oil, biodiesel and glycerol products, using renewable power generation, and developing and manufacturing and electric battery distribution. And when competing with other renewable energy wholesalers , the organization must have specialized market management skills .

The author realize that can gain broader perspectives through internship programs overseas that may not be available in your own country. For instance, political laws, commercial customs, and legal rules that could have an impact on that nation's commerce. Many corporations in this era of globalization do business with foreign firms. As a result, they also require personnel who can function in a global setting and who can acclimate to many cultures. Having international internship experience will undoubtedly increase your worth. Employers will believe you are more accepting of other viewpoints and know how to interact with individuals from all backgrounds and cultures if you have experience working overseas.

## **1.2 Purpose of the Apprenticeship**

The following goals are achieved by the students apprenticeship assignments for their International Business Administration study program, at State Polytechnic of Bengkalis:

1. To explain the job description while performing actual tasks.
2. To find out procedures and systems of apprenticeship program.
3. To find out the place and time of apprenticeship program.
4. To describe kind and description of apprenticeship.
5. To obstacles and solution during apprenticeship.

## **1.3 Significances of the Apprenticeship**

The apprenticeship done is advantageous for several parties, including students, businesses, and State Polytechnic of Bengkalis:

1. For Students

Students get the chance to use the concepts and information they learned in theory during lectures in the workplace.

2. For Businesses

In order for academics and businesses to find alternative prospects for workers who are renowned for their quality, devotion, and credibility, there is collaboration between the worlds of education and industry.

3. For State Polytechnic of Bengkalis

To increase the caliber of its graduates via practical job experience, State Polytechnic of Bengkalis receives input from businesses on curriculum development and learning procedures for students who participate in apprenticeship.

## **CHAPTER II**

### **GENERAL DESCRIPTION OF THE COMPANY**

#### **2.1 Company Profile**

Energy Absolute Public Company Limited (“**the Company**” or “**EA**”) was first incorporated on 6 March 2006 in original name Suntech Palm Oil Company Limited, with registered capital of THB 50 million. In 2008, the Company was converted into a public company limited and renamed as Energy Absolute Public Company Limited. The registered capital was increased from THB 50 to 250 million. In 2009, registered capital increased to THB 360 million. After that, in 2012, the registered capital decreased to THB 305 million by share amount reduction from deducting of the unpaid shares, then increase the capital to THB 373 million by issuing new ordinary share of 680 million shares with a par value of THB 0.10 per share in order to initial public offering with the number of IPO 560 million shares at a IPO price of THB 5.50 per share and offer to the existing shareholders in proportion to their shareholding amount to 120 million shares at a price of THB 1.50 per share during 21-23 January 2013. As a result, the Company’s registered and paid-up capital was increased to THB 373 million.

In 2013, the Company registered 3,730 million shares, at the par value of Baht 0.10 per share, total value of Baht 373 million to the “Market for Alternative Investment (mai) and since 6 January 2017 onwards, the Company submitted a request to the Stock Exchange of Thailand to approve the trading of EA’s securities in the Stock Exchange of Thailand (SET) (from mai to SET). The ordinary shares were allocated in the Resources category, Energy and Utilities section. The abbreviation for securities trading remained “EA” as before since 6 January 2017 onwards. In this connection, on 9 February 2022, the Company’s registered capital was increased by THB 29 million, from THB 373 million to THB 402 million in accommodation of the convertible debentures.



**Figure 2.1 Energy Absolute Public Company Limited**

*Source: Annual Report Energy Absolute PCL*

Development and Significant Changes during the past 3 years can be seen as following:

#### 2.1.1 Biodiesel Business in 2020

The developments experienced by biodiesel business during 2020 are as follows:

1. Developed B100 production according to “the notification of the nature and quality of biodiesel type of fatty acid methyl esters 2019” to increase the production from 650,000 Liter per day to 800,000 Liter per day as well as investment in production process of biodiesel from byproducts (Palm Fatty Acid Distillate) to reduce production cost and increase the competitiveness.
2. The Company operates new product research and development under the biodiesel business to innovate the product using crude palm oil (CPO) as a substrate which has been patented already by EA Bio Innovation Co., Ltd. To operate manufacturing and distributing such products, consisting of Green Diesel (GD) or Bio Hydrogenated Diesel (BHD) products as a mixture of diesel fuel to help increase performance and cleanliness of engines and PCM (Phase Change Material) to be used in temperature control, such as construction materials components, fibers, etc. to help in absorbing, storing,

controlling and releasing heat to maintain temperature. PCM is popular and in high demand in weather variability countries.

The Green Diesel and PCM plant located at Rayong province which now successfully completed machinery installation and commissioning testing. The 1st phase commercial operation has been started mainly for PCM products and it will gradually increase production capacity to the fullest of 65 tons per day and then the next phase of 65 tons per day will start later on. In the meantime, the Company research and develop continuously to expand the market opportunity to use PCM in other industries to further expand added value. On the other hand, there are a number development of Renewable Power Plant Business:

1. Solar Power Plant (Project 1, 2, 3) maintained the certification for reducing the amount of greenhouse gases for the fourth year in a row by TGO. The amount of greenhouse gases reduced during January 2019 to December 2019 is 344,922 tons of carbon dioxide equivalent (tCO<sub>2</sub>e).
2. Wind Power Plant (Hadjkanghan Project 1-3) maintained the certification for reducing the amount of greenhouse gases for the third year in a row by TGO. The amount of greenhouse gases reduced during January 2019 to December 2019 is 164,873 tons of carbon dioxide equivalents (tCO<sub>2</sub>e).
3. Wind Power Plant (Hanuman Project 1, 5, 8, 9, 10) received a certificate for reducing the amount of greenhouse gases for the first year by TGO. The amount of greenhouse gases reduced during February 2019 to December 2019 is 263,871 tons of carbon dioxide equivalent (tCO<sub>2</sub>e).
4. Solar Power Plant and Wind Power Plant are in the certification process during January 2020 to December 2020 the Company has been submitted the reduced amount of greenhouse gases 758,292 tons of carbon dioxide equivalent (tCO<sub>2</sub>e).
5. The investment of affiliated companies  
ERH invested in Subyai Wind Farm(1) Co., Ltd. (“SWF”). The purpose is to increase the competitiveness in Manufacturing and distributing

electricity from wind power. ERH invested in TF Tech Holding Co., Ltd. (“TFTH”). The purpose is to produce electricity generated from floating and rooftop solar power.

#### 2.1.2 Biodiesel Business in 2021

The developments experienced by biodiesel business during 2021 are as follows:

1. Bio Diesel Plant has improved energy efficiency by using waste energy from production process to heat incoming raw materials. Furthermore we have used waste from distillation (distillated residue) to burn as fuel. This has contributed to cut down production cost and increase competitiveness. The initiative has awarded Thailand Energy Award 2021 and Asean Energy Awards 2021.
2. After the company has manufactured and sold PCM and Green Diesel (BHD) into the market we have increased company competitiveness through international sustainable certification and Carbon Credit Certification such as ISCC(International Sustainability and Carbon Certification), RSPO(Roundtable on Sustainable Palm Oil) and Carbon Footprint of products. These certifications would help us to access and sell for export markets. In addition, there are several development of Renewable Power Plant Business in 2021:
  - a. Solar Power Plant of the subsidiaries at Nakhonsawan, Lampang and Phitsanulok provinces maintained the certification for reducing the amount of greenhouse gases by the Thailand Greenhouse Gas Management Organization (“TGO”) the amount of greenhouse gases reduced during January 2020 to December 2020 is 341,115 tons of carbon dioxide equivalent (tCO<sub>2</sub>e).
  - b. Wind Power Plant of the subsidiaries of Hadkanghan Projects at Songkhla and Nakhon Si Thammarat provinces and Wind Power Plant of Hanuman projects at Chaiyaphum province maintained the certification for reducing the amount of greenhouse gases by the Thailand Greenhouse Gas Management Organization (“TGO”) the



amount of greenhouse gases reduced during January 2020 to December 2020 is 417,177 tons of carbon dioxide equivalent (tCO<sub>2</sub>e).

c. The Company established new subsidiaries (indirect).

In 2021, not only biodiesel, but Electric Vehicle Business has several developments as follow:

1. The Company established Absolute Assembly Co., Ltd. (AAB) to manufacture electric buses and commercial electric vehicles of all types with a production capacity of 3,000 units per year to accommodate various types of electric vehicles designed and produced locally. In 2021, over 100 electric buses were assembled and delivered for actual use on more than 10 routes.
2. In 2021, the Company delivered over 20 units of MINE Smart Ferry and provided ferry travel service on the route from Phra Nangklao Bridge Pier to Sathorn Pier in response to the demand for pollution-free and eco-friendly marine travel on the Chao Phraya River to mitigate pollution problems.
3. MINE Smart Ferry is connected with Bangkok Sky Train via City Line (Green Line), Metro Line (Blue Line) and Urban Line (Purple Line) as a link between marine transport and public land transport. This provides the general public with marine travel alternative for convenient and safe travel using pollution-free and eco-friendly electric vehicle.

### 2.1.3 Biodiesel Business in 2022

The developments experienced by biodiesel business during 2022 are as follows:

1. Green Diesel and PCM business obtained Silver Award of 2022 Eco Factory + SV as an industry that drives the economy through innovation and technology. Promote safety and responsibility to the community to create a low carbon society and raise the level to increase competitiveness, create jobs, create careers, and increase income for the people according to the Bio-economy development

policy, Circular economy, Green economy (Bio Circular Green Economy: BCG Model) which in line with the national strategy.

2. Successful in research development to bring alternative feed stocks to be used in the production of Hydrotreated Vegetable Oil (HVO), such as Palm Fatty Acid (PFAD), Used Cooking Oil, Animal Fat (Tallow), etc. The Company uses these sustainable raw materials to produce low-carbon HVO fuel products that are distributed oversea.
3. The Company has signed a research cooperation agreement with the Program Management Unit for Competitiveness (PMUC) to research and develop modern environmentally friendly technologies and innovations which focus on Oleochemicals produced from "Palm Oil" which is an economic plant according to the Bio Circular Green Economy: BCG Model.
4. EA Palm Network Co., Ltd. ("EPN"), a subsidiary of the Company, invested in Agro Clean Co., Ltd. The total investment value of Baht 2 million, representing 49.99 percent of the issued and paid-up ordinary shares.

## **2.2 Vision and Mission of Company**

Every company must have a vision and mission in order to realize its goals and as a driving force to carry out their respective programs, as well as Energy Absolute Public Company Limited. The following is the vision and mission of Energy Absolute Public Company Limited:

### **2.2.1 Vision**

A Leader in alternative energy business using modern, up-to-date and environmentally friendly technology for benefit and fairness to consumers, shareholders, partners, and employees.

### **2.2.2 Mission**

- a. Promote the utilization of modern technology to increase production efficiency.

- b. Promote the utilization of energy crops and natural energy to reduce environmental pollution .
- c. Support the Government policy for energy security of country
- d. Operate on the basis of fairness, trustfulness with partners and all shareholders.
- e. Foundation human resources to grow steadily and sustainably.

### **2.3 Kind of Business**

The Company operates a business of producing and distributing of biodiesel (“B100”), pure glycerin and by-products and has been grant license of Oil Trader under Section 7 of the Fuel Trade Act B.E. 2543 from the Ministry of Energy (Oil Trader under Section 7 as aforesaid means oil trader with a trading volume of each type of fuel or trading volume of all type equal or more than 100,000 metric tons or about 120 million liters per year). Besides the above, the Company further research and develop the raw palm to create value to based product and obtained a new product as Phase Change Material (PCM) produced by the Company’s subsidiary, i.e. EA Bio Innovation Co., Ltd. Many countries that approach saving energy and utilizing for the most efficiency energy are currently interested in PCM. Therefore, PCM is the products which will create the high demand of market and will enhance the stabilization the raw palm prices and palm farmers.

Biodiesel (B100) is a natural diesel alternative fuel, produced from vegetable oils and animal fats. Most of biodiesel is produced from palm products, such as Crude Palm Oil (CPO), Refined Bleached Deodorized Palm Oil (RBD) and Stearine and be taken into the Trans Esterification process (Transesterification Process) to react with an alcohol (Ethanol or Methanol) and base as the catalysts, such as sodium hydroxide (NaOH) in order to form the Ester which is catalyst by type of alcohol used for reaction. This biodiesel ester’s properties are almost the same as diesel fuel. As such, biodiesel performs well in engine. If biodiesel is consumed purely, it will be called B100. However, if biodiesel is blended with the high speed diesel, it will be called according to the blending proportion, such as,

B7 is high-speed diesel fuel that contains 7% biodiesel (B100) by volume or B10 is high-speed diesel fuel that contains 10% biodiesel (B100) by volume. Green Diesel / Hydrogenated Vegetable Oil (HVO) Green Diesel / Hydrogenated Vegetable Oil (HVO) could be produced from palm oil or waste materials such as; used cooking oil and tallow. EA Bio Innovation has converted these raw materials to Green Diesel by Hydrogenation process. Green Diesel has very similar properties as diesel from petroleum base so blending ration could be varied greatly to meet the market requirement. Furthermore Green Diesel has superior Cetane number then blending into petroleum base diesel could improve the performance of blended diesel.

#### Purified glycerin

Purified glycerin is a transparent, colorless, scentless, sweet-tasting liquid, and well-soluble in alcohol and water but not in fats. Since glycerin has various chemical properties, it can be used as a substrate to synthesize with other chemical substances. It is widely used in food, medicine, cosmetics, and soap industries. Purified glycerin is made by refining raw glycerin from biodiesel production process through the glycerin refining process. Purified glycerin is one of the Company's products which has demand both in domestic and foreign for using as an ingredient in many types of products such as cosmetics, medicine and consumer daily products such as toothpaste. The production capacity for glycerin is at 80 tons per day.

#### Byproducts

In addition to the above-mentioned products, there are byproducts generated from the production process of biodiesel which include raw glycerin which is the orange liquid soluble in alcohol and water, free fatty acid (FFA) - the fat dark color liquid used as a mixture in feed meals industry and others. The byproducts result from the palm oil extraction includes Palm Fatty Acid Distillate: PFAD which become solid at the room temperature, similar to a candle.

#### Phase Change Material: PCM

PCM are substances that absorb and release thermal energy during the process of melting and freezing. When a PCM freezes, it releases a large amount

of energy in the form of latent heat at a relatively constant temperature. Conversely, when such material melts, it absorbs a large amount of heat from the environment. PCMs recharge as ambient temperatures fluctuate, making them ideal for a variety of everyday applications that require temperature control such as wall, House, Clothes, Parcel. In addition, PCM benefits in term of energy saving. For the industries, PCM was used in the buildings and construction, transportation, cooling industry, clothes and others in order to maintain temperatures. Furthermore, some PCM has bio base which friendly to environment, using PCM for heat storage option are particularly attractive because they offer high-density energy storage.

The Company has been granted promotion privileges from the Board of Investment (BOI) according to the Investment Promotion Act, as follows:

**Table 1.1 Business Being Promoted**

<b>Type of the Business Being Promoted</b>	<b>Promotion Card No.</b>	<b>Capacity per year being promoted</b>
1. Pure glycerin production (99.5%)	1657(2)/2551 2037(2)/2554/1	2037(2)/2554/1 19,200 tons/year
2. Biodiesel production	2182(9)/2551	292 million liters/year
3. Refined Bleached Deodorized Palm Oil production (RBD)	1889(2)/2554	178,200 tons/year
4. Production of fuel from agricultural produce and production of eco-friendly chemicals or polymers or products derived from continuous forming process of polymers that are environmentally friendly (Phase Change Material (PCM))	63-0529-1-18-1-0	39,420 tons/year

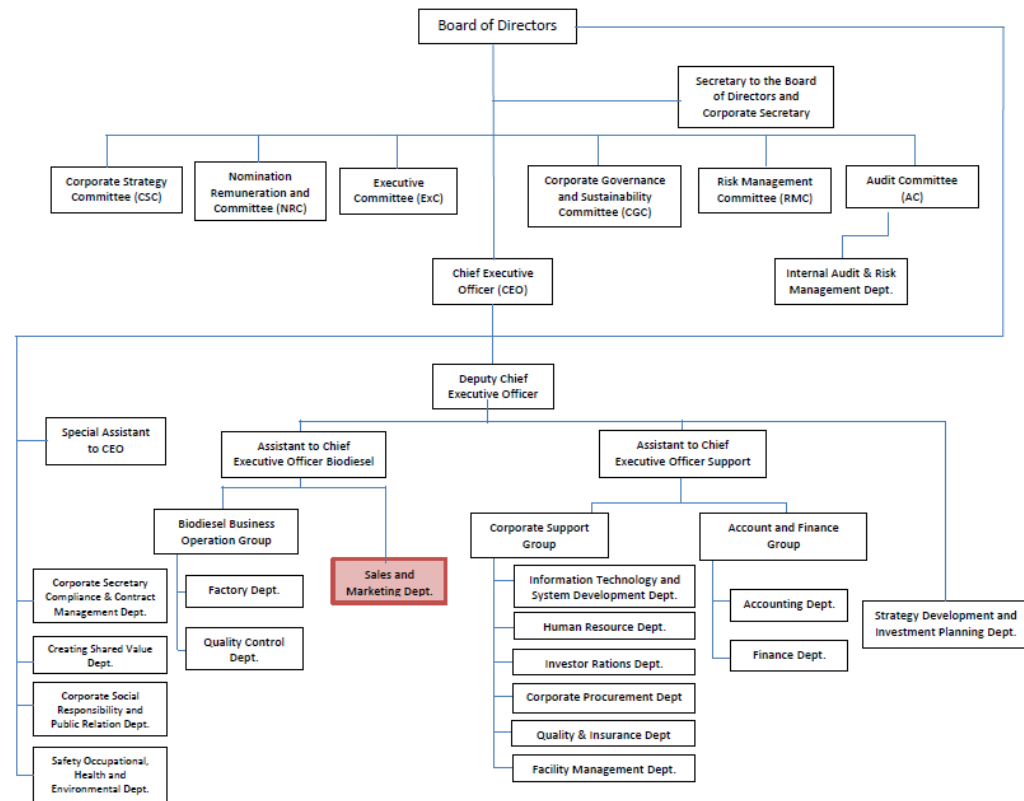
*Source: Annual Report Energy Absolute PCL*

Furthermore, the Company is certified for Quality Management Systems ISO 9001: 2015, Roundtable on Sustainable Palm Oil: RSPO, Kosher standard, Environmental Management Systems ISO 14001: 2015, Occupational Health and Safety Management Systems (OHSAS) ISO 45001:2018, and the Green Industry Level 3 (GI3) Systematic Environmental Management. The Company strives to improve management into a systematic approach, to conform to the requirement and law, to create a good working environment where employees performing work with safety which will reflect the endeavor of the Company on social

responsibility, environmental responsibility that covering inside and out of the organization, creating a positive image for the organization.

## 2.4 Organization Structure

As of December 31, 2022 the management structure of Energy Absolute Public Company Limited comprises of the Board of Directors and 6 Sub-Committees as follow:



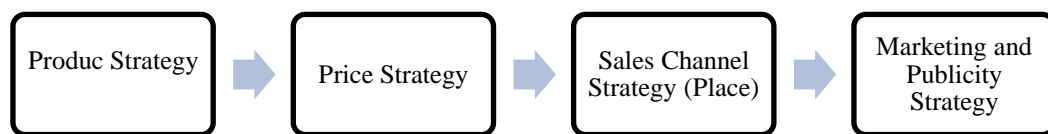
**Figure 2.2 Organization Structure**  
 Source: Annual Report Energy Absolute PCL

As of December 31, 2022, the Board of Directors consisted of 11 directors including 9 non-executive directors and 2 executive directors, namely Chief Executive Officer and Deputy Chief Executive Officer which 6 of whom are independent directors. The composition above is in line with the Company's Articles of Association, which prescribes that the Board of Directors shall comprise of at least 5 but not exceeding 15 directors and not less than half of

whom must reside in Thailand. The Author did apprenticeship for 2 months in Sales and Marketing Department.

## 2.5 The Working Process

The Company has no direct competitors in term of marketing due to all the productions are distributed to the state authorities which are the Electricity Generating Authority of Thailand (EGAT) and Provincial Electricity Authority (PEA), based on the sale contracts (PPA). The Company has a strong determination to become a leading producer of alternative energy by using cutting-edge technology, choosing quality equipment from reliable manufacturers to ensure the smooth and stable performance of the power plants. In addition, the Company and the Company Group take into account the influence of teamwork which is an essential part of workflow. Through operation of the Company group, we employ personnel with experience and skills especially, civil work, to design and maintain the solar power plants. The work process of the sales and marketing department can be seen in Figure below as follows:



**Figure 2.3 The Working Process of Sales and Marketing Department**

*Source: Annual Report Energy Absolute PCL*

### 2.5.1 Product Strategy

The quality of B100 biodiesel meets quality standards as announced by the Department of Energy Business, the Ministry of Energy. The Company concentrates on continual development production technology including the research and development (R&D) in order to seek for new material with lower price for production of quality biodiesel. All these comprise to the creation of competitive performance and adding value to the products in long run as well as product development that create added value to the products. The Company examined raw materials by collecting samples from all production tanks for the quality control where any materials

which is not in line with the standard will reprocess. All products stored in the ready-made product tanks must pass quality control. The Company also created labs to perform quality testing by random selecting products to ensure product quality.

#### 2.5.2 Price Strategy

The prices strategy of the products by Energy Absolute PCL are stipulated as follows:

##### a. Biodiesel (B100)

The price of B100 biodiesel is based on the price announced by the Energy Policy and Planning Office (announced price) on weekly basis, and is also depended on the demand and supply of the particular period of time where the Company has no control over the selling price. However, the Company set the selling price of biodiesel at the rate higher than the announced price, deducted with the discount which is varied depending on a particular period of time. The Company will offer the bidding price which is lower than the announced price to huge customers whose sale contract made with the Company shall come into expiration soon, in order to support customer's decision for contract renewal. However, any selling prices cannot be made at a lower rate than the announced price without approval from the Executive Committee's meeting.

##### a. Purified glycerin

The selling price of purified glycerin is based on the ICIS pricing which is a standard price for chemical supplies and energy in the world market. The Company has set the policy of purified glycerin selling price at the rate not lower than ICIS price, deducted by the discount as stipulated by the Company. However, any selling prices cannot be made at a lower rate than the announced price without the approval from Executive Committee meeting.



b. By Product

Byproduct from production, the Company has set the sales policy of byproducts to meet the reasonable market price and quality.

2.5.3 Sales channel strategy (Place)

The Company sells biodiesel fuel directly to the large oil distributor by directly coordinated and communicated through Sales and Marketing department. One of the marketing tactics is to offer more discount to the major customers to increase sale volume while lessening the cost of production per unit (economies of scale). For purified glycerin selling, the Company distributed to domestic and oversea customers which using glycerin as a raw material or customer which produce and distribute chemical supplies or consumer goods etc. In addition, the purified glycerin is distributed to oversee market to reduce risk from dependent on local market.

2.5.4 Marketing and publicity strategy (Promotion)

The Company operates marketing and publicity strategy by maintaining production quality that meets the standard, building a good relationship with customers to retain existing customer base, including continuing the operation development, and obtaining industrial certification to build confidence in the Company's business. Meanwhile, the Company also expands the customer base regularly. In regard to service, the Company and customers plan together about the details of transport and deliver i.e. product quantity and time to ensure that our service is performed to meet customers' requirements and meet the effectiveness of production and procurement plan.

The Thailand Power Development Plan 2018-2037 (PDP2018) was endorsed by the National Energy Policy Council (NEPC) and acknowledged by the Cabinet, in accordance with the government policy which focusing on 3 parts as follows:

1. Energy Security

The security of power supply, transmission system and distribution system in response to the demand of electricity to support economic and social development plan including consider the power plant in order to sustain energy security.

2. Economy

It is vital to consider the optimized energy costs and promote low cost production while not causing obstacles to economic and social development including the readiness preparation for electrical system in order to the competition in electricity production to increase the efficiency of Electricity production in overall.

3. Ecology

To reduce the impacts on the environment by supporting the production of electric power generated from renewable energy and increasing the efficiency of electrical system both electricity production and electric energy consumption by developing smart Grid. The Government is taking steps to increase renewable energy to correspondence with the outstanding renewable energy and support electricity consumption behavior including Disruptive Technology and in line with the conference of the parties (COP21) which consists of biomass, biogas, solar energy, Hydro Floating Solar Hybrid Power plant and other renewable energies. The purpose of purchasing power of renewable energy is to maintain the pricing fluctuation and comply with the government policy which targeting the production capacity as of 2037 amount to 16,243 megawatts.

## **2.6 Document Used of Activity**

In carrying out its operational activities, there are several documents used by Energy Absolute Public Company Limited, especially in Sales and Marketing Department including the following:

1. Microsoft Excel

The Microsoft Excel is a manifestation of the company's concern for the sales performance management. The document can be seen in Figure below as follows:

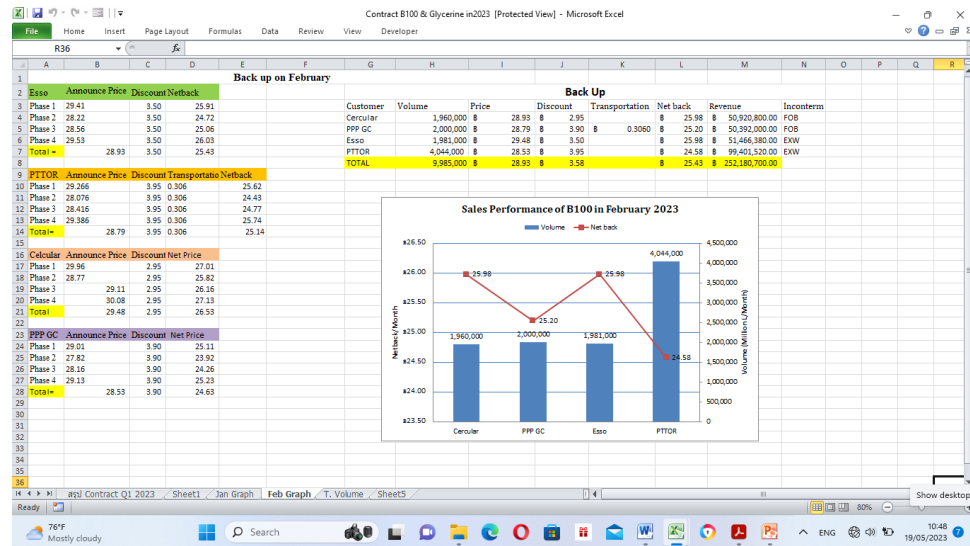


Figure 2.4 Microsoft Excel  
Source: Energy Absolute PCL

2. Annual Report

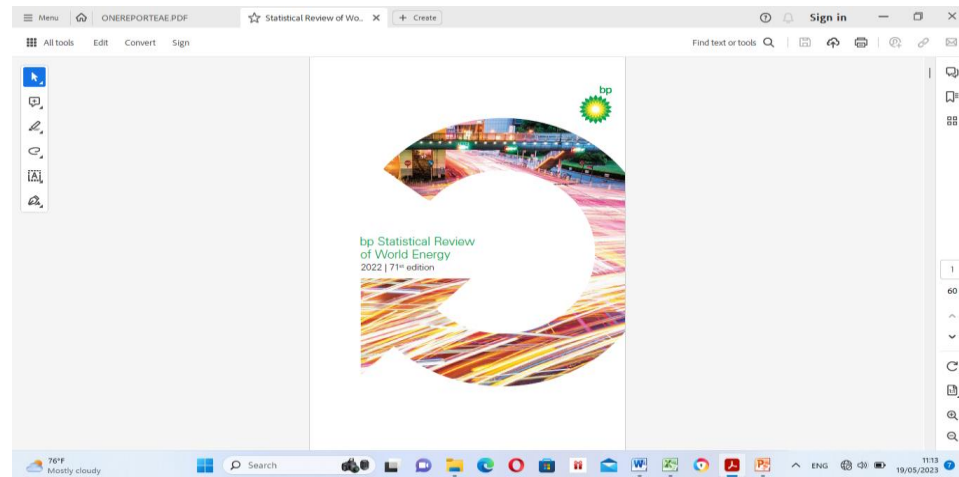
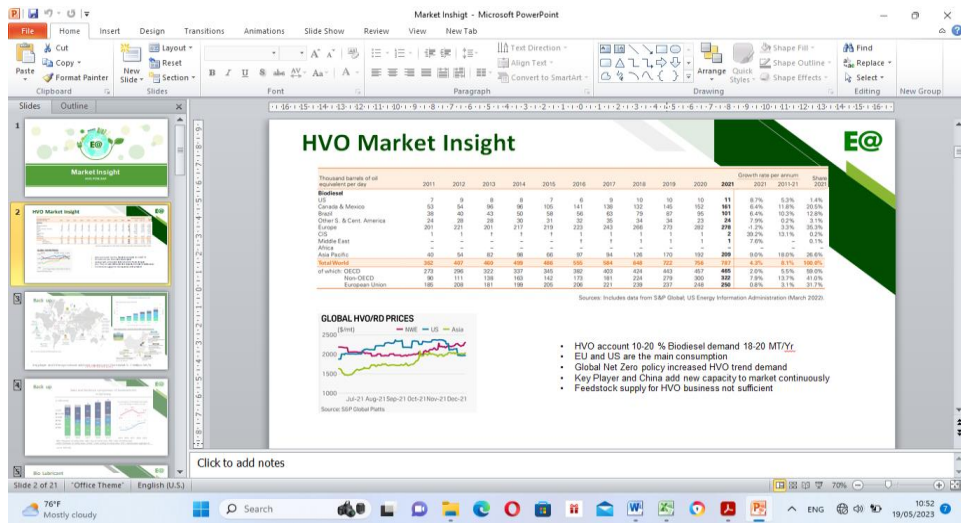


Figure 2.5 Company's Annual Report  
Source: Energy Absolute PCL

Annual reports are used to find various information and data needed as a benchmark for sales and company development for the present and the future.

### 3. Microsoft Power point



**Figure 2.6 Microsoft Power Point**

*Source: Energy Absolute PCL*

All information and data that has been examined is compiled into Microsoft power point as presentation material which will be submitted to the Vice President of Sales and Marketing Department to be presented at the weekly meeting.

## CHAPTER III

### SCOPE OF THE APPRENTICESHIP

#### 3.1 Job Description

This apprenticeship program is carried out at Energy Absolute Public Company Limited for two months, starting from February 06, 2023 to March 31, 2023. During the internship period, intern participants are placed in the Sales and Marketing Department as Marketing Research. There are several tasks during the APPRENTICESHIP in the Sales and Marketing Department at Energy Absolute Public Company Limited as follows:

1. Sales Performance Management

Manage the sales performance of biodiesel product, start from price given by Thailand Government, customer discounts and netback for every month.

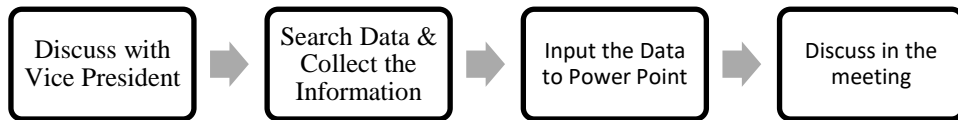


**Figure 3.1 Working Process of Sales Performance Management**  
*Source: Processed Data 2023*

The data needed to monitor sales performance every month is obtained after the supervisor gets the price rate announced by the government. At the beginning of every week the author asks for data from the supervisor. Then proceed with processing the existing data. Data is processed using Microsoft Excel and looking for other sources of information if needed. The resulting data will be entered into Microsoft Power Point, as a reference material in meetings. then discuss the data generated as evaluation material in sales and marketing.

2. Research Market

Research global market to product development, conduct product value chain, product benefits, market size, and research application of the product.



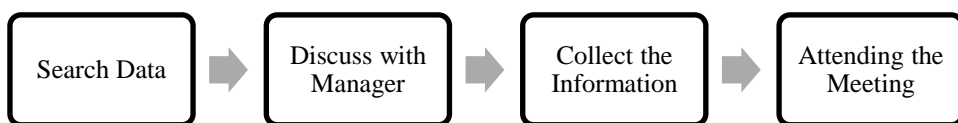
**Figure 3.2 Working Process of Research Market**

*Source: Processed Data 2023*

When the top managements meeting is over. There will be a meeting with the vice president in sales and marketing to research the company's market share. then, the author seeks data and information from various public sources, such as sending messages for product market samples to market research experts, or seeking information from trusted websites to research annual reports of related products globally.

3. Research on the Possibility of Other Products

Research market trend, key player, market insight, main consumption and feedstock supplier. Assess the Impact of Trade Economic Factors on the Business.



**Figure 3.3 Working Process of Research New Product**

*Source: Processed Data 2023*

The author seeks data and information from various public sources, such as sending messages for product samples to market research experts, or seeking information from trusted websites to research annual reports of related products globally. this is done to find out product demand, potential suppliers of raw materials, production and operational costs to product prices in the global market.

## **3.2 System and Procedure**

There are systems and procedures in place for operating the company during apprenticeship in Energy Absolute Public Company Limited

### **3.2.1 System**

The Board of Directors, Audit Committee and Management place a great emphasis on the internal control system by evaluating the effectiveness and adequacy of the system. In doing this, the Company has applied international standard frameworks of COSO (The Committee of Sponsoring Organizations of the Treadway Commission), Good Corporate Governance according to the Stock Exchange of Thailand (SET)'s practices and Risk Management on a regular basis. The assessment is conducted to ensure that the Company's internal control and risk management systems are appropriate and effective with good corporate governance. The accounting system and financial reports are accurate and reliable including the compliance with relevant laws and regulations related to the business operation. The Audit Committee assesses the adequacy and effectiveness of the internal control system using the assessment form provided by the Office of the Securities and Exchange Commission of Thailand (SEC) and report to the Board of Directors at least once a year. The components of the framework of COSO for assessment are as follows:

- a. Control Environment
- b. Risk Assessment
- c. Control Activities
- d. Information and Communication
- e. Monitoring Activities

### **3.2.2 Procedure**

The Company has established a policy of supervision of the Company's operations in which the Company holds shares (subsidiaries, associates) closely to maintain the interests of the Company's investments continuously, as well as to create added value and confidence for the Company's stakeholders, executives or

controlling authorities in subsidiaries and associates, at least in proportion to the shareholding. To ensure that, the subsidiaries and associates have complete and accurate regulations regarding connected transactions, acquisition or disposition of properties or any other important transaction.

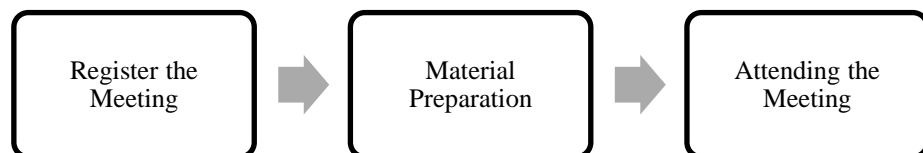
The description of the procedures carried out while carrying out apprenticeship activities in Sales and Marketing Department of Energy Absolute Public Company Limited as follows:

a. Research Data

The Company has measures to prevent the unlawful use of internal information by directors, executives and employees in the department related to the information, including purchase and sale. During apprenticeship at Energy Absolute Public Company Limited, data research was carried out by collecting data from internal information, product sales reports from supervisors in sales and marketing department. In addition, to obtain data to predict new product markets, data from global information is needed, such as product material samples, market insights, and product production cost estimates.

b. Represent Meetings

Energy Absolute Public Company Limited is a large company in the industrial sector and has collaborated with its subsidiaries, several agencies and institutions. It is important for companies to hold meetings for the development and progress of the company. These meetings and usually discuss industrial relations with government, and regional activities involving companies and others. The steps in conducting a meeting can be seen in Figure 3.1 as follows:



**Figure 3.4 Flowchart of Attending Meetings**  
*Source: Processed Data 2023*



Based on the flowchart above, the first step in attending a meeting is starting from register to scheduling the meeting. Usually this register is done by sending an Email. Furthermore, the team sales and marketing department prepared materials for the meeting. Then do the meeting, but usually before the meeting do follow-up by line application.

### 3.3 Place of Apprenticeship

This Apprenticeship activity was carried out at Energy Absolute Public Company Limited which is located at 89, 16<sup>th</sup> Floor, AIA Capital Center Build, Ratchadapisek Rd., Din Daeng, Bangkok 10400, Thailand. During apprenticeship the author is placed in the Sales and Marketing Department as Marketing Researcher. The company's provisions regarding the schedule or time for the implementation of apprenticeship are as follows:

**Table 3.1 The Working schedule of Energy Absolute Public Company Limited**

No	Day	Working Hours	Break
1	Monday to Friday	08.00 - 17.00 WIB or 09.00 – 18.00 WIB	12.00 - 13.00 WIB
3	Saturday to Sunday	Holiday	Holiday

Source: Processed Data 2023

### 3.4 Kind and Description of the Activity

The activities carried out during apprenticeship can be seen in the following table:

**Table 3.2 Daily Activities in February 06<sup>th</sup>, 2023 to February 10<sup>th</sup>, 2023**

NO.	DATE	ACTIVITY
1.	Monday, February 6 <sup>th</sup> , 2023	Orientation date
2.	Tuesday, February 7 2023	Researching company profile and products
3.	Wednesday, February 8 2023	Discuss about Monitor sales performance in the company
4.	Thursday, February 9 2023	Researching market for HVO, PCM, SAF
5.	Friday, February 10 2023	Researching market insight for HVO, PCM, SAF

Source: Processed Data 2023

The agenda of activities or work that has been carried out by the author during the implementation of the Apprenticeship at Energy Absolute Public Company Limited in the Sales and Marketing Department February 13, 2023 to February 17, 2023 can be seen in the table below as follows:

**Table 3.3 Daily Activities in February 13<sup>th</sup>, 2023 to February 17<sup>th</sup>, 2023**

NO.	DATE	ACTIVITY
1.	Monday, February 13 2023	Deliver some result, learning some documents and tools in marketing with sales supervisor in marketing and sales.
2.	Tuesday, February 14 2023	Collect data of sales product for sales performance monitoring
3.	Wednesday, February 15 2023	Monitoring sales performance
4.	Thursday, February 16 2023	Monitoring attend and absence with person in charge
5.	Friday, February 17 2023	Mapping job and report

Source: Processed Data 2023

The agenda of activities or work that has been carried out by the author during the implementation of the Apprenticeship at Energy Absolute Public Company Limited in the Sales and Marketing Department February 20, 2023 to February 24, 2023 can be seen in the table below as follows:

**Table 3.4 Daily Activities in February 20<sup>th</sup>, 2023 to February 24<sup>th</sup>, 2023**

NO.	DATE	ACTIVITY
1.	Monday, February 20 2023	Crosscheck netback of customer for B100 in January
2.	Tuesday, February 21 2023	Crosscheck netback of customer for B100 in February
3.	Wednesday, February 22 2023	Collect some data from sales supervisor in marketing
4.	Thursday, February 23 2023	Making sales volume analysis of the business plan and actual plan of B100 from January to February
5.	Friday, February 24 2023	Deliver the result and monitoring

Source: Processed Data 2023

The agenda of activities or work that has been carried out by the author during the implementation of the Apprenticeship at Energy Absolute Public Company Limited in the Sales and Marketing Department February 27, 2023 to March 02, 2023 can be seen in the table below as follows:

**Table 3.5 Daily Activities in February 27<sup>th</sup>, 2023 to March 03<sup>th</sup>, 2023**

NO.	DATE	ACTIVITY
1.	Monday, February 27 2023	Monitoring last sales review
2.	Tuesday, February 28 2023	Drop document of report sales in January
3.	Wednesday, March 01 2023	Researching demand of used cooking oil
4.	Thursday, March 02 2023	Researching planned and announced SAF production capacity
5.	Friday, March 03 2023	Researching sustainable aviation fuel blend by region

*Source: Processed Data 2023*

The agenda of activities or work that has been carried out by the author during the implementation of the Apprenticeship at Energy Absolute Public Company Limited in the Sales and Marketing Department March 06, 2023 to March 10, 2023 can be seen in the table below as follows:

**Table 3.6 Daily Activities in March 06<sup>th</sup>, 2023 to March 10<sup>th</sup>, 2023**

NO.	DATE	ACTIVITY
1.	Monday, March 06 2023	Researching projected biofuel in the forecast
2.	Tuesday, March 07 2023	Researching biofuel consumption volume worldwide
3.	Wednesday, March 08 2023	Researching market value of biofuels worldwide
4.	Thursday, March 09 2023	Researching major feedstock in the production of SAF
5.	Friday, March 10 2023	Researching the increasing application of PCM

*Source: Processed Data 2023*

The agenda of activities or work that has been carried out by the author during the implementation of the Apprenticeship at Energy Absolute Public Company Limited in the Sales and Marketing Department March 13, 2023 to March 17, 2023 can be seen in the table below as follows:

**Table 3.7 Daily Activities in March 13<sup>th</sup>, 2023 to March 17<sup>th</sup>, 2023**

<b>NO.</b>	<b>DATE</b>	<b>ACTIVITY</b>
1.	Monday, March 13 2023	Researching new market strategy
2.	Tuesday, March 14 2023	Researching market segmentation
3.	Wednesday, March 15 2023	Researching new potential product
4.	Thursday, March 16 2023	Researching market by region
5.	Friday, March 17 2023	Discuss project of glycerin

*Source: Processed Data 2023*

The agenda of activities or work that has been carried out by the author during the implementation of the Apprenticeship at Energy Absolute Public Company Limited in the Sales and Marketing Department March 20<sup>th</sup>, 2023 to March 24<sup>th</sup>, 2023 can be seen in the table below as follows:

**Table 3.8 Daily Activities in March 20<sup>th</sup>, 2023 to March 24<sup>th</sup>, 2023**

<b>NO.</b>	<b>DATE</b>	<b>ACTIVITY</b>
1.	Monday, March 20 2023	Review sales of PCM in last 3 years
2.	Tuesday, March 21 2023	Researching Glycerin Market Insight
3.	Wednesday, March 22 2023	Researching market competitive of PCM
4.	Thursday, March 23 2023	Researching potential price of glycerin feedstock and supplier
5.	Friday, March 24 2023	Researching production cost of glycerin

*Source: Processed Data 2023*

The agenda of activities or work that has been carried out by the author during the implementation of the Apprenticeship at Energy Absolute Public

Company Limited in the Sales and Marketing Department March 27<sup>th</sup>, 2023 to March 31<sup>st</sup>, 2023 can be seen in the table below as follows:

**Table 3.9 Daily Activities in March 27<sup>th</sup>, 2023 to March 31<sup>th</sup>, 2023**

NO.	DATE	ACTIVITY
1.	Monday, March 27 2023	Researching key players of PCM in globe
2.	Tuesday, March 28 2023	Attending webinar Asia-Pacific Climate Tech Showcase
3.	Wednesday, March 29 2023	Making some resume
4.	Thursday, March 30 2023	Farewell meeting and last interview in company
5.	Friday, March 31 2023	Knowledge sharing even in Thammasat University

Source: Processed Data 2023

### **3.5 Constraints and Solution of Apprenticeship Implementation**

The obstacles encountered during apprenticeship in Sales and Marketing Department at Energy Absolute Public Company Limited, the author has several obstacles as follows:

1. Difficult to adapt with partner work in office for the first week, mostly people don't speak English.
2. Some documents in the Thailand language.
3. Differences in terms and work materials between what is done by the company and what is studied on campus.

Based on the constraints during the implementing process of the product, there are solutions that can be done, including:

1. The author tried to learn Thailand words for daily conversation and always keep talking with them despite it being hard. The author treat people there to be friend. We use google translate when needed.
2. The author scan the document and translate it. On the other hand, the author use a company laptop to learn how to type Thai word.
3. The author learn everything that needed from the company's website, and the annual report as well.

## **CHAPTER IV**

### **CONCLUSION AND SUGGESTION**

#### **4.1 Conclusion**

After doing apprenticeship at Energy Absolute Public Company Limited, the following conclusions can be drawn:

1. There are several types of work during the internship program, namely:
  - a. Sales performance management
  - b. Research market
  - c. Research on the possibility of other project
2. The apprenticeship program was carried out at Energy Absolute Public Company Limited in Sales and Marketing Department. The program is carried out for 2 (months) starting from February 6<sup>th</sup>, to March 31<sup>st</sup> 2023.
3. Work systems and procedures in the sales and marketing department use The Board of Directors, Audit Committee and Management place a great emphasis on the internal control system, the Company has applied international standard frameworks of COSO, Good Corporate Governance according to the SET's practices and Risk Management on a regular basis.
4. During the implementation of apprenticeship program there are several obstacles, namely the limitations in speaking and document in Thai, and the data provided is unclear and incomplete.

#### **4.2 Suggestion**

After doing apprenticeship at Energy Absolute Public Company Limited, the author expect next batch that they provide multinational companies that have English documents. It will be helpful for an international student to support the company. The author suppose that on orientation, the company give student knows the rules about the company and get discuss their plan and specific project during doing internship program. This program can be developed further to get maximum results, therefore an in-depth evaluation is needed.

## REFERENCES

Admin Polbeng. (2017). Sejarah Politeknik Negeri Bengkalis. Available on <http://www.polbeng.ac.id/official/jurusan-administrasi-niaga>. Accessed on June 26<sup>th</sup>, 2023.

Energy Absolute Public Company Limited. 2022. *Annual Report (56-1 One Report)*. Assembly CO., LTD. Bangkok, Thailand.

## APPENDICES

### Appendix 1: Application Letter for Apprenticeship



List of Internship grantees for the  
USAID ENHANCING EQUALITY IN ENERGY FOR SOUTHEAST ASIA (E4SEA)  
REGIONAL ENERGY INTERNSHIP PROGRAM

.....

The following is a list of 11 interns who have been selected under the ENHANCING EQUALITY IN ENERGY FOR SOUTHEAST ASIA (E4SEA) REGIONAL ENERGY INTERNSHIP PROGRAM.

No.	Names	Study Level	Placement	Department / Position
1	Ton Nu Tam Hieu	Bachelor's degree	B. Grimm Power PCL, Thailand	Innovation
2	Pyae Pyae Kyaw Zaw	Master's degree	B. Grimm Power PCL, Thailand	People partnership
3	HTUT NAY AUNG	Master's degree	Energy Absolute PCL, Thailand	Business Development Officer
4	Arada Hmeekong	Master's degree	Energy Absolute PCL, Thailand	Safety & Environment Officer
5	Shinta Karunia	Vocational	Energy Absolute PCL, Thailand	Marketing Researcher
6	Pattranis Lhaomana	Master's degree	Energy Absolute PCL, Thailand	Accounting Officer
7	Virakroth Ong	Bachelor's degree	Energy Absolute PCL, Thailand	Finance Officer
8	Zalida	Vocational	Energy Absolute PCL, Thailand	Marketing Researcher
9	Fanrui Liu	Bachelor's degree	EVLomo Technilogies, Thailand	Junior Accountant
10	Laurence Lingat	Bachelor's degree	EVLomo Technilogies, Thailand	Customer Service
11	Anindhia Pratiwi	Vocational	First Gen Corporation, The Philippines	Microfinancing solutions Research



The internship grantees must comply with the following conditions:

- 1) Internship grantee must attend orientation.  
Register at this link: <https://forms.gle/7JCocg4bFKyPvOpp8>
- 2) Internship grantee must enter into a scholarship contract.
- 3) Internship grantee must be under the supervision of the affiliated company/organization where she/he worked and which shall report the performance record to E4SEA at the end of the internship.

Announced on January 13, 2023



(Associate Professor Surat Teerakapibal, Ph. D)  
Vice Rector for Administration (Tha Prachan) and International Affairs,  
Thammasat University  
Chair, Committee of E4SEA & TU Regional Energy Internship Program

## Appendix 2: Apprenticeship Site and Placement Detail

### Internship Program: Energy Absolute Public Company Limited

No.	Address of Internship Site	Responsibilities and Accountabilities	Working hours/days	Intern Placement	Location
1	Green Technology Research Pu Chao Saming Phrai, SamutPrakan	- Conduct research on commercial possibilities and markets for Products from the company's research.	5 days	HTUT NAY AUNG	281/1 Poochaosamingprai Rd 12, Bang YaPhraek, Phra Pradaeng District, Samut Prakan 10130
2	Green Technology Research Pu Chao Saming Phrai, SamutPrakan	- Conduct research and a report on the safety of the company's laboratories and hazardous material storage facilities.	5 days	Arada Hmeekong	<a href="https://goo.gl/maps/gwsUX7tjiVH96mGk6">https://goo.gl/maps/gwsUX7tjiVH96mGk6</a>
3	Energy Absolute Public Company Limited: EA AIA Capital Center building	- Conduct research on the possibility of other businesses or products related to the current and assess the impact of trade- economic factors on the business.	6 days	Shinta Karunia	89, 16th Floor, AIA Capital Center Buidg, Ratchadaphisek Rd., Din Daeng, Bangkok 10400 <a href="https://goo.gl/maps/ps2QGK7uEUXTH34N8">https://goo.gl/maps/ps2QGK7uEUXTH34N8</a>
4	Energy Absolute Public Company Limited: EA AIA Capital Center building	- Assist in Accounting Department	5 days	Pattranis Lhaomana	
5	Energy Absolute Public Company Limited: EA AIA Capital Center building	- Assist in Finance Department	5 days	Virakroth Ong	
6	Energy Absolute Public Company Limited: EA AIA Capital Center building	- Assist in Sale & Marketing	5 days	Zalida	

### Appendix 3: Statement Letter



บริษัท พลังงานบริสุทธิ์ จำกัด (มหาชน)

Energy Absolute Public Company Limited

89 อาคารเอไอเอ แคปปิตอลเซ็นเตอร์ ชั้น16 ถนนรัชดาภิเษก แขวงดินแดง เขตดินแดง กรุงเทพฯ 10400  
โทรศัพท์ 02-248-2488-92 แฟกซ์ 02-248-2493 ทะเบียนเลขที่ 0107551000061

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REF.HRD.NO. 079/2023

March 28, 2023

#### To whom it may concern

This certification proves that **MISS. SHINTA KARUNIA** has completed the internship program at Energy Absolute Public Company Limited in Sale & Marketing Researcher **MISS. SHINTA KARUNIA** started joining the program from February 6, 2023 until March 31, 2023

Yours sincerely,

Mrs. Porntip Sangchan  
Vice President – Human Resources Department  
Energy Absolute Public Company Limited

## Appendix 4: List of Attendances

### APPRENTICESHIP REPORT ENERGY ABSOLUTE PUBLIC COMPANY LIMITED PRACTICE IMPLEMENTATION MONITORING

Name : Shinta Karunia  
Agency : State Polytechnic of Bengkalis  
Study Program : International Business Administration  
Date of Practice : 06 February 2023 to 31 March 2023

NO.	DATE	ACTIVITY
1.	Monday, February 6 2023	Orientation date
2.	Tuesday, February 7 2023	Researching company profile and products
3.	Wednesday, February 8 2023	Discuss about Monitor sales performance in the company
4.	Thursday, February 9 2023	Researching market for HVO, PCM, SAF
5.	Friday, February 10 2023	Researching market insight for HVO, PCM, SAF

Signature

Ms. Sapawan Porntapaprasit  
Person in Charge

Signature

Mr. Voradech Nithettham  
Supervisor

**APPRENTICESHIP REPORT  
ENERGY ABSOLUTE PCL  
PRACTICE IMPLEMENTATION MONITORING**

Name : Shinta Karunia  
 Agency : State Polytechnic of Bengkalis  
 Study Program : International Business Administration  
 Date of Practice : 06 February 2023 to 31 March 2023

NO.	DATE	ACTIVITY
1.	Monday, February 13 2023	Deliver some result, learning some documents and tools in marketing with sales supervisor in marketing and sales.
2.	Tuesday, February 14 2023	Collect data of sales product for sales performance monitoring
3.	Wednesday, February 15 2023	Monitoring sales performance
4.	Thursday, February 16 2023	Monitoring attend and absence with person in charge
5.	Friday, February 17 2023	Mapping job and report

Signature

*S. Pmt.*

Ms. Sapawan Pomtapaprasit  
Person in Charge

Signature

*Voradech N.*

Mr. Voradech Nithettham  
Supervisor

**APPRENTICESHIP REPORT  
ENERGY ABSOLUTE PCL  
PRACTICE IMPLEMENTATION MONITORING**

Name : Shinta Karunia  
Agency : State Polytechnic of Bengkalis  
Study Program : International Business Administration  
Date of Practice : 06 February 2023 to 31 March 2023

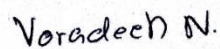
NO.	DATE	ACTIVITY
1.	Monday, February 20 2023	Crosscheck netback of customer for B100 in January
2.	Tuesday, February 21 2023	Crosscheck netback of customer for B100 in February
3.	Wednesday, February 22 2023	Collect some data from sales supervisor in marketing
4.	Thursday, February 23 2023	Making sales volume analysis of the business plan and actual plan of B100 from January to February
5.	Friday, February 24 2023	Deliver the result and monitoring

Signature



Ms. Sapawan Pomtapaprasit  
Person in Charge

Signature



Mr. Voradech Nithettham  
Supervisor

**APPRENTICESHIP REPORT  
ENERGY ABSOLUTE PCL  
PRACTICE IMPLEMENTATION MONITORING**

Name : Shinta Karunia  
Agency : State Polytechnic of Bengkalis  
Study Program : International Business Administration  
Date of Practice : 06 February 2023 to 31 March 2023

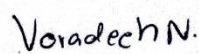
NO.	DATE	ACTIVITY
1.	Monday, February 27 2023	Monitoring last sales review
2.	Tuesday, February 28 2023	Drop document of report sales in January
3.	Wednesday, March 1 2023	Researching demand of used cooking oil
4.	Thursday, March 2 2023	Researching planned and announced SAF production capacity
5.	Friday, March 3 2023	Researching sustainable aviation fuel blend by region

Signature



Ms. Sapawan Pornpaprasit  
Person in Charge

Signature



Mr. Voradech Nithettham  
Supervisor

**APPRENTICESHIP REPORT  
ENERGY ABSOLUTE PCL  
PRACTICE IMPLEMENTATION MONITORING**

Name : Shinta Karunia  
 Agency : State Polytechnic of Bengkalis  
 Study Program : International Business Administration  
 Date of Practice : 06 February 2023 to 31 March 2023

NO.	DATE	ACTIVITY
1.	Monday, March 6 2023	<i>Public Holiday</i>
2.	Tuesday, March 7 2023	Researching biofuel consumption volume worldwide
3.	Wednesday, March 8 2023	Researching market value of biofuels worldwide
4.	Thursday, March 9 2023	Researching major feedstock in the production of SAF
5.	Friday, March 10 2023	Researching the increasing application of PCM

Signature



Ms. Sapawan Porntapaprasit  
Person in Charge

Signature



Mr. Voradech Nithettham  
Supervisor



**APPRENTICESHIP REPORT  
ENERGY ABSOLUTE PCL  
PRACTICE IMPLEMENTATION MONITORING**

Name : Shinta Karunia  
Agency : State Polytechnic of Bengkalis  
Study Program : International Business Administration  
Date of Practice : 06 February 2023 to 31 March 2023

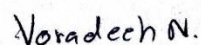
NO.	DATE	ACTIVITY
1.	Monday, March 13 2023	Researching new market strategy
2.	Tuesday, March 14 2023	Researching market segmentation
3.	Wednesday, March 15 2023	Researching new potential product
4.	Thursday, March 16 2023	Researching market by region
5.	Friday, March 17 2023	Discuss project of glycerin

Signature



Ms. Sapawan Porntapaprasit  
Person in Charge

Signature



Mr. Voradech Nithettham  
Supervisor

**APPRENTICESHIP REPORT  
ENERGY ABSOLUTE PCL  
PRACTICE IMPLEMENTATION MONITORING**

Name : Shinta Karunia  
 Agency : State Polytechnic of Bengkalis  
 Study Program : International Business Administration  
 Date of Practice : 06 February 2023 to 31 March 2023

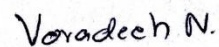
NO.	DATE	ACTIVITY
1.	Monday, March 20 2023	Review sales of PCM in last 3 years
2.	Tuesday, March 21 2023	Researching Glycerin Market Insight
3.	Wednesday, March 22 2023	Researching market competitive of PCM
4.	Thursday, March 23 2023	Researching potential price of glycerin feedstock and supplier
5.	Friday, March 24 2023	Researching production cost of glycerin

Signature



Ms. Sapawan Porntapaprasit  
Person in Charge

Signature



Mr. Voradech Nithettham  
Supervisor

**APPRENTICESHIP REPORT  
ENERGY ABSOLUTE PCL  
PRACTICE IMPLEMENTATION MONITORING**

Name : Shinta Karunia  
Agency : State Polytechnic of Bengkalis  
Study Program : International Business Administration  
Date of Practice : 06 February 2023 to 31 March 2023

NO.	DATE	ACTIVITY
1.	Monday, March 27 2023	Researching key players of PCM in globe
2.	Tuesday, March 28 2023	Attending webinar Asia-Pacific Climate Tech Showcase
3.	Wednesday, March 29 2023	Making some resume
4.	Thursday, March 30 2023	Farewell meeting and last interview in company
5.	Friday, March 31 2023	Knowledge sharing even in Thammasat University

Signature



Ms. Sapawan Porntapaprasit  
Person in Charge

Signature



Mr. Voradech Nithettham  
Supervisor

## Appendix 5: Apprenticeship Assessment

**EVALUATION RESULTS FORM JOB TRAINING  
COMPANY APPRAISAL  
ENERGY ABSOLUTE PUBLIC COMPANY LIMITED**

Name : Shinta Karunia  
 Student's Identity No. : 5404191203  
 Study Program : International Business Administration  
 Collage : State Polytechnic of Bengkalis

No.	Assessment Aspect	Percentage	Scores
1.	Discipline	20%	100
2.	Responsibility	25%	100
3.	Adjustment/Adaptation	10%	95
4.	Work Result	30%	100
5.	Behavior in General	15%	100
	Total ( 1+2+3+4+5 )	100%	99

Explanation :

**Score : Criteria**  
 81 – 100 : Excellence  
 71 – 80 : Very Good  
 66 – 70 : Good  
 61 – 65 : Good Enough  
 56 – 60 : Enough

Notes :

.....  
 .....  
 .....  
 .....

Bangkok, July 24<sup>th</sup> 2023

*Voradech N.*

Voradech Nithettham

## Appendix 6: Certificate of Achievement



**USAID**  
FROM THE AMERICAN PEOPLE

# CERTIFICATE OF ACHIEVEMENT

This certifies that the undersigned successfully completed the  
United States Agency for International Development (USAID) funded  
Enhancing Equality in Energy for Southeast Asia (E4SEA)  
Regional Energy Internship Program in the year 2023

**Shinta Karunia**

Representing the country of Indonesia

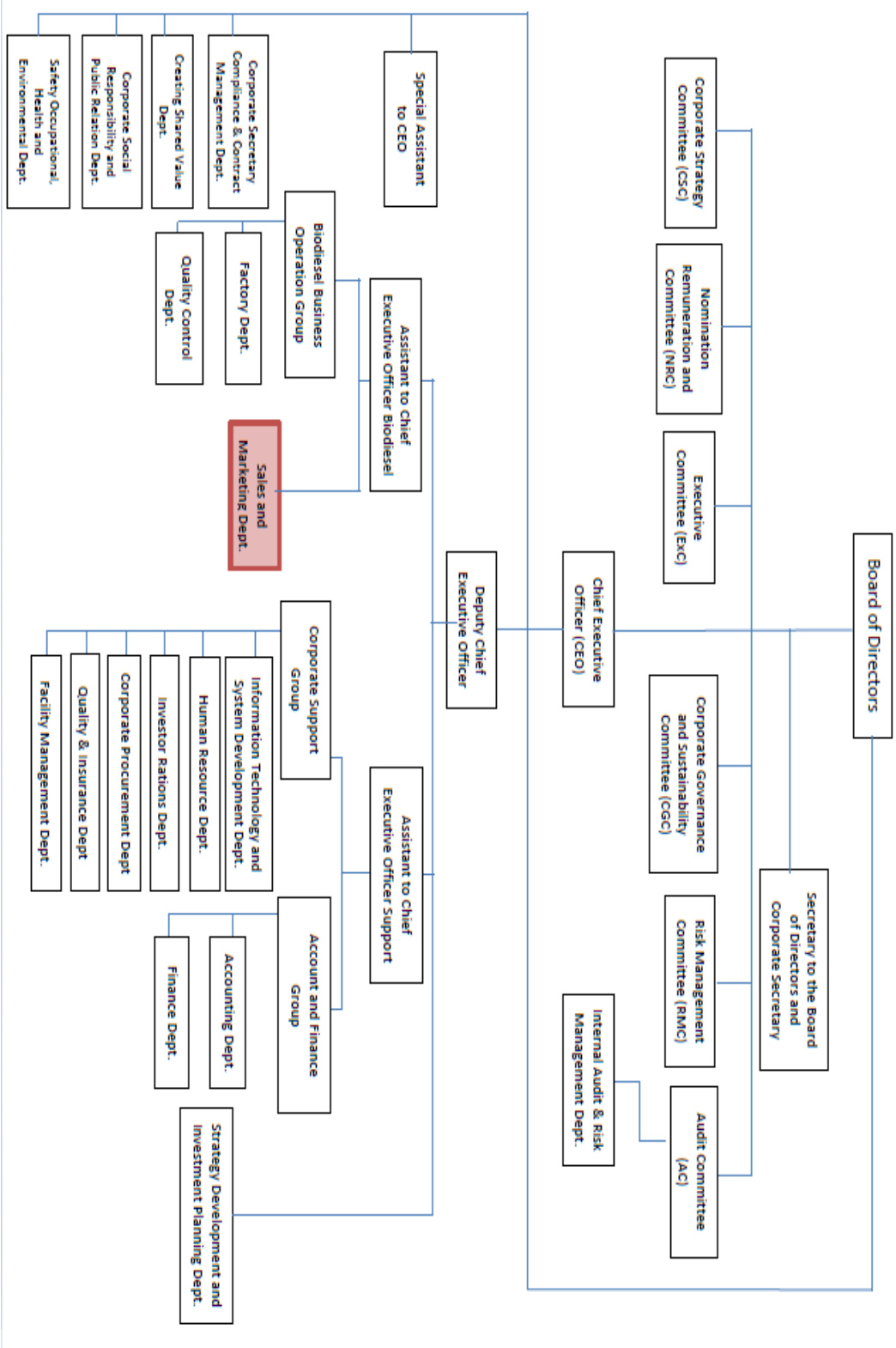
Performing the internship at Energy Absolute PLC in Thailand

July 31, 2023

Mr. Aaron Brownell  
Office Director, USAID Regional Environment Office (REO)  
Regional Development Mission for Asia (RDMA)  
U.S. Agency for International Development

E4SEA is dedicated to supporting the development of an inclusive and diverse clean energy sector in Southeast Asia now and in the years to come

## Appendix 7: Organization Structure





## Appendix 8: Daily Activities of the Apprenticeship

### DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Monday

Date : February 6<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Orientation Date Meeting with HRD staff and one of the top management of Energy Absolute Public Company Limited.	Sapawan Porntapaprasit	

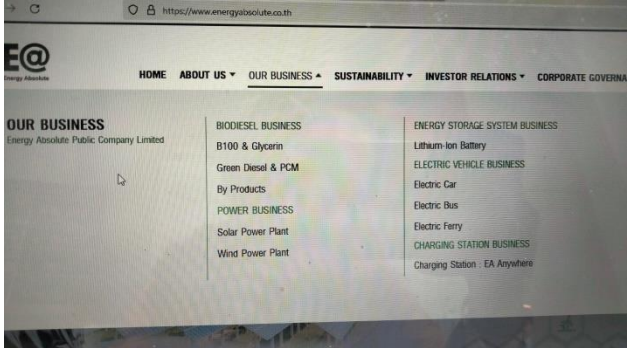
No	WORKING	EXPLANATION
1.		<p>On the first day the author was present at the company, the HRD staff greeted the author at the reception room and took the author to meeting room 2. In that room the HRD staff explained the company profile and an overview of the company's products. There we also get information about company regulations.</p> <p>Furthermore, the author attended a meeting with one of the directors of the company named Mr. Sutham Songsiri. we discussed work and talked about experiences.</p>

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Tuesday

Date : February 7<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching company profile and product	Voradech Nithettham	Voradech N.

No	WORKING	EXPLANATION
1.	 <p>The screenshot shows the 'OUR BUSINESS' section of the Energy Absolute website. It lists various business units and products, including Biodiesel Business (B100 &amp; Glycerin, Green Diesel &amp; PCM, By Products), Power Business (Solar Power Plant, Wind Power Plant), and Electric Vehicle Business (Lithium-Ion Battery, Electric Car, Electric Bus, Electric Ferry, Charging Station Business, Charging Station - EA Anywhere).</p>	Understand the company profile in depth and know the products produced by the parent company and its subsidiaries. Understand the product marketing systems and procedures in the company.



## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Wednesday

Date : February 8<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Discuss about how to monitor sales performance of Energy Absolute PCL	Voradech Nithettham	<i>Voradech N.</i>

No	WORKING	EXPLANATION
1.		Met and got acquainted with the vice president in the sales and marketing department who was the writer's supervisor during his internship at the company. discussing career prospects and discussing ongoing projects at the company at that time.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Thursday

Date : February 9<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Research market of HVO, PCM, SAF	Voradech Nithettham	Voradech N.


No	WORKING	EXPLANATION
1.		<p>Research the market for a number of products, including the market for Hydrotreated Vegetable Oil (HVO), Phase Change Material (PCM), and sustainable aviation fuel (SAF) products in the next 3 to 5 years</p>

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Friday

Date : February 10<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Research market insight for HVO, PCM, SAF	Voradech Nithettham	Voradech N.

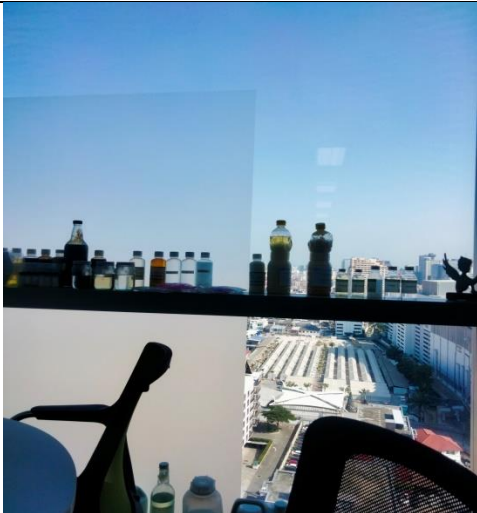
No	WORKING	EXPLANATION
1.		Examine market information for several products, such as product demand, target market, market trend. including the market for Hydrotreated Vegetable Oil (HVO), Phase Change Material (PCM), and sustainable aviation fuel (SAF) products in the next few years.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Monday

Date : February 13<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Deliver some result, learning some documents and tools in marketing with sales supervisor in marketing and sales.	Voradech Nithettham	Voradech N.

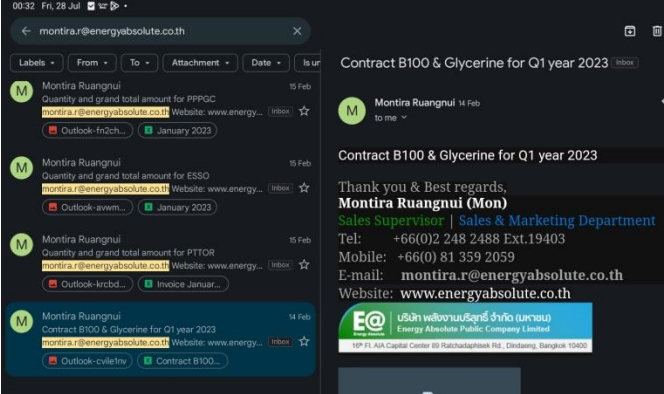
No	WORKING	EXPLANATION
1.		Discussed with the vice president in the sales and marketing department about the results of the previous week's work, and learned new things with some of the material provided. assisting the vice president in preparing presentation material for the company's weekly meeting

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Tuesday

Date : February 14<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Collect data of sales product for sales performance monitoring	Voradech Nithettham	<i>Voradech N.</i>

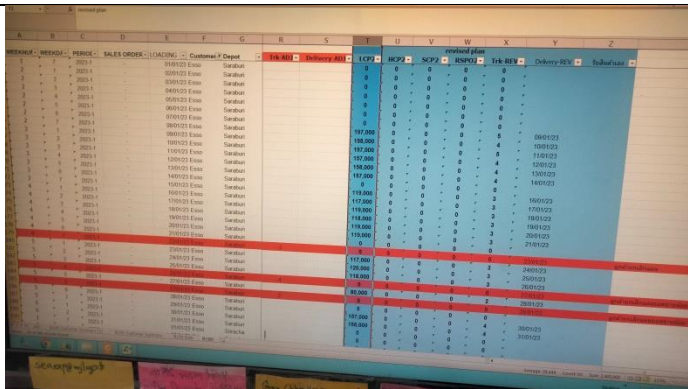
No	WORKING	EXPLANATION
1.		The sales and marketing supervisor sent sales data for B100 and glycerin products in February, then explained the company's cooperation contract with customers for the first quarter in 2023.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Wednesday

Date : February 15<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Monitoring sales performance	Voradech Nitthettham	<i>Voradech N.</i>

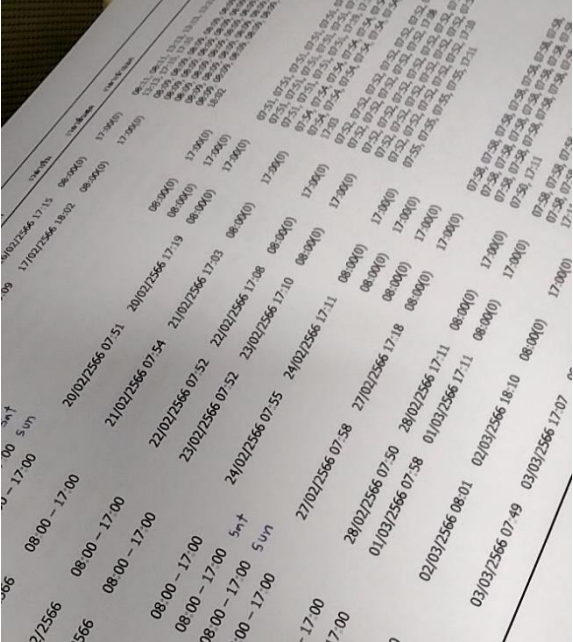
No	WORKING	EXPLANATION
1.		Monitor sales with the data that has been provided by sales and marketing supervisor for B100 and glycerin products in February.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Thursday

Date : February 16<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Monitoring attend and absence with person in charge	Voradech Nithettham	<i>Voradech N.</i>

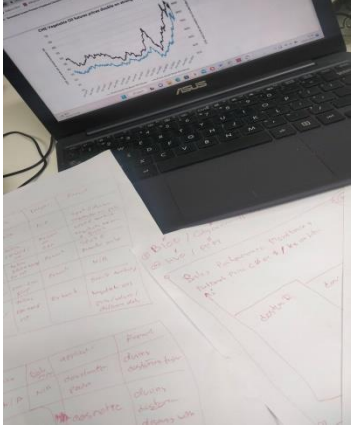
No	WORKING	EXPLANATION
1.		Rearranging the work schedule which initially started at 9 am, the author confirmed to HR to start work at 8 am, then checked the absence records for the first 2 weeks of carrying out work practices for salary management.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Friday

Date : February 17<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Mapping job and report	Voradech Nithettham	Voradech N.

No	WORKING	EXPLANATION
1.		Discussed with the vice president in sales and marketing department about the company's targets in the next few months, drafting the data needed to be discussed for the top management meeting the following week. Map analysis of product sales volume, and netback from customers

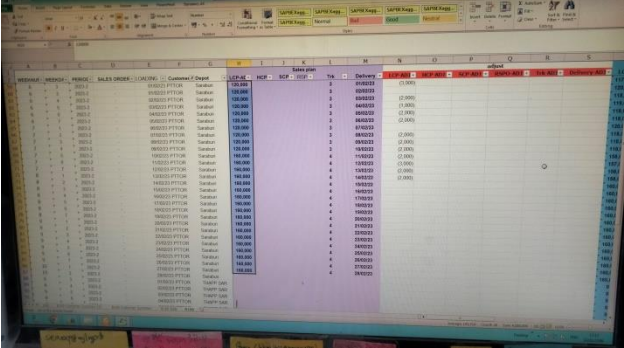


## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Monday

Date : February 20<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Crosscheck netback of customer for B100 in January	Voradech Nithettham	<i>Voradech N.</i>


No	WORKING	EXPLANATION
1.		Evaluating the netback from customers for the b100 biodiesel product in January 2023

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Tuesday

Date : February 21<sup>st</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Crosscheck netback of customer for B100 in February	Voradech Nithettham	Voradech N.

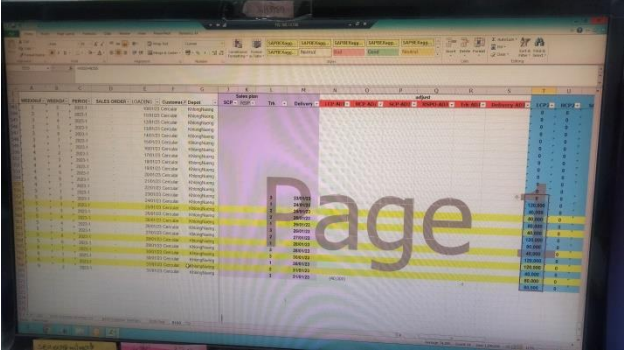
No	WORKING	EXPLANATION
1.		Evaluating the netback from customers for the b100 biodiesel product in January 2023

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Wednesday

Date : February 22<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Collect some data from sales supervisor in marketing	Voradech Nithettham	Voradech N.


No	WORKING	EXPLANATION
1.		Collect data from supervisors in the marketing department to evaluate sales

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Thursday

Date : February 23<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Making sales volume analysis of the business plan and actual plan of B100 from January to February	Voradech Nithettham	<i>Voradech N.</i>

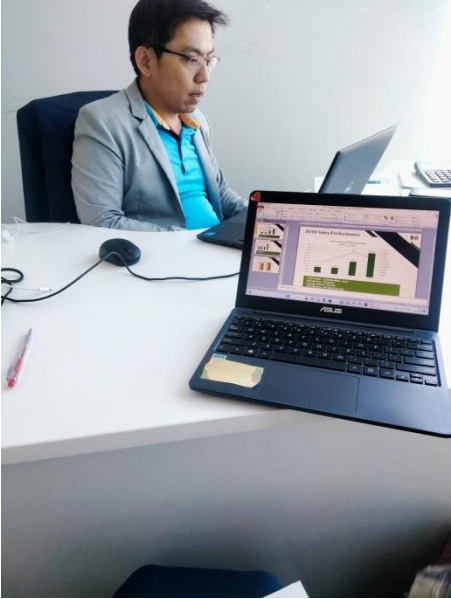
No	WORKING	EXPLANATION
1.		Make sales volume analysis from budgeting sales volume to actual sales volume for B100 products from January to February.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Friday

Date : February 24<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Deliver the result and monitoring	Voradech Nithettham	<i>Voradech N.</i>


No	WORKING	EXPLANATION
1.		Discussion with the vice president in sales and marketing department and make some preparations for the material to be discussed at the top management meeting

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Monday

Date : February 27<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Monitoring last sales review	Voradech Nithettham	Voradech N.


No	WORKING	EXPLANATION
1.		Monitor the latest sales reviews of biodiesel products and monitor the sales contracts of customers.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Tuesday

Date : February 28<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Drop document of report sales in January	Voradech Nithettham	<i>Voradech N.</i>

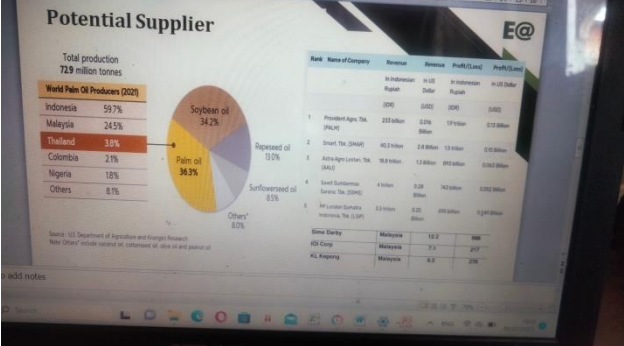
No	WORKING	EXPLANATION
1.		Went to the office of the Minister of Energy Thailand to deliver the sales report of Energy Absolute PCL to the government of Thailand.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Wednesday

Date : March 01<sup>st</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching demand of used cooking oil	Voradech Nithettham	Voradech N.

No	WORKING	EXPLANATION																																																									
1.	 <p>The screenshot shows a presentation slide titled "Potential Supplier" with the following data:</p> <p><b>Total production: 72.9 million tonnes</b></p> <p><b>World Palm Oil Producers (2022)</b></p> <table border="1"> <tr><td>Indonesia</td><td>59.7%</td></tr> <tr><td>Malaysia</td><td>24.5%</td></tr> <tr><td>Thailand</td><td>3.8%</td></tr> <tr><td>Colombia</td><td>2.1%</td></tr> <tr><td>Nigeria</td><td>1.0%</td></tr> <tr><td>Others</td><td>8.1%</td></tr> </table> <p><b>Pie Chart Data:</b></p> <ul style="list-style-type: none"> <li>Soybean oil: 34.2%</li> <li>Palm oil: 38.3%</li> <li>Refined oil: 19.0%</li> <li>Sunflowerseed oil: 8.5%</li> <li>Others: 8.0%</li> </ul> <p><b>Table of Companies:</b></p> <table border="1"> <thead> <tr> <th>Rank</th> <th>Name of Company</th> <th>Revenue</th> <th>Market</th> <th>Profit (USD)</th> <th>Profit (USD)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>PT Sinar Agri Tbk (PALM)</td> <td>222 billion</td> <td>Indonesia</td> <td>1.8 billion</td> <td>1.8 billion</td> </tr> <tr> <td>2</td> <td>PT Sinar Agri Tbk (PALM)</td> <td>40.3 billion</td> <td>Indonesia</td> <td>1.8 billion</td> <td>1.8 billion</td> </tr> <tr> <td>3</td> <td>PT Sinar Agri Tbk (PALM)</td> <td>18.9 billion</td> <td>Indonesia</td> <td>1.8 billion</td> <td>1.8 billion</td> </tr> <tr> <td>4</td> <td>PT Sinar Agri Tbk (PALM)</td> <td>4 billion</td> <td>Indonesia</td> <td>1.8 billion</td> <td>1.8 billion</td> </tr> <tr> <td>5</td> <td>PT Sinar Agri Tbk (PALM)</td> <td>0.5 billion</td> <td>Indonesia</td> <td>1.8 billion</td> <td>1.8 billion</td> </tr> </tbody> </table> <p><b>Other Data:</b></p> <table border="1"> <thead> <tr> <th>State/Region</th> <th>Malaysia</th> <th>Indonesia</th> </tr> </thead> <tbody> <tr> <td>KL Group</td> <td>12.2</td> <td>215</td> </tr> <tr> <td>KL Group</td> <td>8.2</td> <td>215</td> </tr> </tbody> </table>	Indonesia	59.7%	Malaysia	24.5%	Thailand	3.8%	Colombia	2.1%	Nigeria	1.0%	Others	8.1%	Rank	Name of Company	Revenue	Market	Profit (USD)	Profit (USD)	1	PT Sinar Agri Tbk (PALM)	222 billion	Indonesia	1.8 billion	1.8 billion	2	PT Sinar Agri Tbk (PALM)	40.3 billion	Indonesia	1.8 billion	1.8 billion	3	PT Sinar Agri Tbk (PALM)	18.9 billion	Indonesia	1.8 billion	1.8 billion	4	PT Sinar Agri Tbk (PALM)	4 billion	Indonesia	1.8 billion	1.8 billion	5	PT Sinar Agri Tbk (PALM)	0.5 billion	Indonesia	1.8 billion	1.8 billion	State/Region	Malaysia	Indonesia	KL Group	12.2	215	KL Group	8.2	215	Check market demand for used cooking oil which will be used as raw material for products.
Indonesia	59.7%																																																										
Malaysia	24.5%																																																										
Thailand	3.8%																																																										
Colombia	2.1%																																																										
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1	PT Sinar Agri Tbk (PALM)	222 billion	Indonesia	1.8 billion	1.8 billion																																																						
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4	PT Sinar Agri Tbk (PALM)	4 billion	Indonesia	1.8 billion	1.8 billion																																																						
5	PT Sinar Agri Tbk (PALM)	0.5 billion	Indonesia	1.8 billion	1.8 billion																																																						
State/Region	Malaysia	Indonesia																																																									
KL Group	12.2	215																																																									
KL Group	8.2	215																																																									



## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Thursday

Date : March 02<sup>nd</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching planned and announced SAF production capacity	Voradech Nithettham	Voradech N.

No	WORKING	EXPLANATION
1.	<p style="text-align: center;">Upcoming (planned and announced) SAF production capacity by key countries, 2030 (mmgy)</p> <p style="text-align: center;"><small>*Source: Mubram Analytics, GlobalData Oil and Gas, Sustainable Aviation Fuel (SAF) Market Production Capacity Analysis by Region, Refinery Type, Top Countries and Companies, 2020-2030</small></p> <p>Singapore is expected to witness the third highest SAF product capacity additions of 166 mmgy of SAF by 2030. The entire capacity is likely to be added through Pulau Bukom Renewable refinery, which is likely</p>	Reset the production capacity of the planned and announced SAFI products to the public.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Friday

Date : March 03<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching sustainable aviation fuel blend by region	Voradech Nithettham	Voradech N.

No	WORKING	EXPLANATION
1.	<p><b>Sustainable aviation fuel blend by region - Economic Transition Scenario</b></p> <p>SAF share of jet fuel demand</p> <p>10% 8% 6% 4% 2% 0%</p> <p>2020 2022 2024 2026 2028 2030</p> <p>— North America — Europe — Asia Pacific — Middle East — Latin America — Africa — World</p> <p>Source: BloombergNEF</p> <p>Note: Based on BloombergNEF's Economic Transition Scenario, where changes are driven by techno-economic trends and market forces, and assumes no new policies are enacted.</p>	Research sustainable aviation fuel mixes by region as well as supply and demand from past years to the future.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Monday

Date : March 06<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Public Holiday		


No	WORKING	EXPLANATION
1.		

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Tuesday

Date : March 07<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching biofuel consumption volume worldwide	Voradech Nithettham	Voradech N.

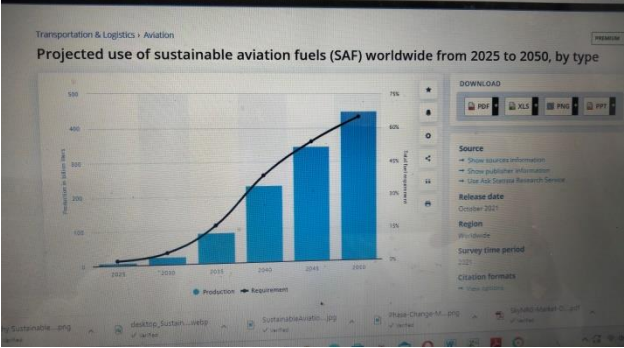
No	WORKING	EXPLANATION
1.		Research on the volume of environmentally friendly fuels consumed by the whole world.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Wednesday

Date : March 08<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching market value of biofuels worldwide	Voradech Nithettham	<i>Voradech N.</i>

No	WORKING	EXPLANATION
1.		Research on the market value of biofuels around the world.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Thursday

Date : March 09<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching major feedstock in the production of SAF	Voradech Nithettham	Voradech N.

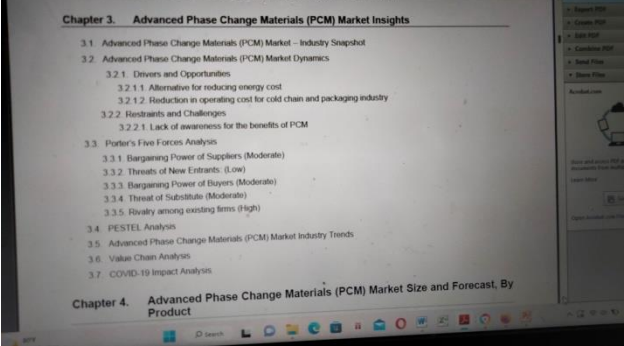
No	WORKING	EXPLANATION
1.		Examine major feedstock for SAFI products and possible suppliers for SAF products.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Friday

Date : March 10<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching the increasing application of PCM	Voradech Nithettham	Voradech N.

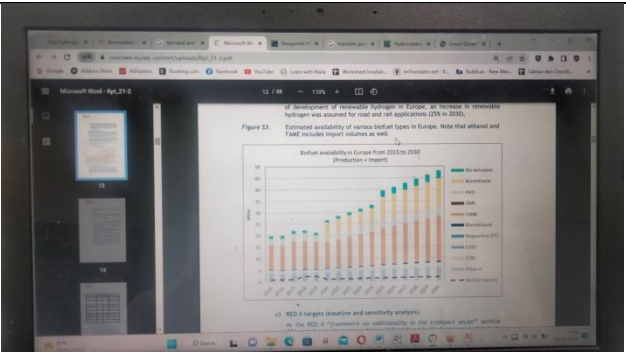
No	WORKING	EXPLANATION
1.		Researching the increasing use of PCM products worldwide and market opportunities for the company.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Monday

Date : March 13<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching new market strategy	Voradech Nithettham	Voradech N.

No	WORKING	EXPLANATION
1.		Researching new market strategies for biodiesel products.



## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Tuesday

Date : March 14<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching market segmentation	Voradech Nithettham	Voradech N.


No	WORKING	EXPLANATION
1.		Examine market segmentation and market strategy for biodiesel products.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Wednesday

Date : March 15<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching new potential product	Voradech Nithettham	Voradech N.

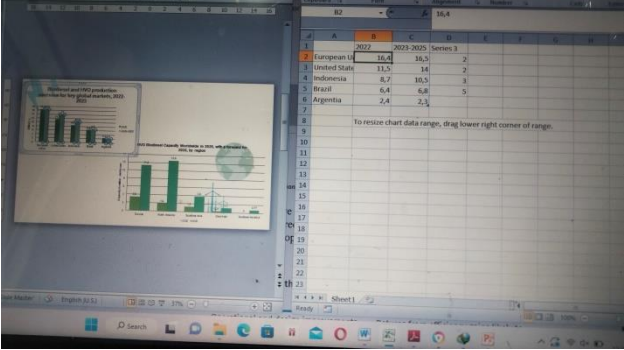
No	WORKING	EXPLANATION
1.		Examine product potentials and market segmentation and market strategy for biodiesel products.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Thursday

Date : March 16<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching market by region	Voradech Nithettham	Voradech N.

No	WORKING	EXPLANATION																		
1.	 <p>The screenshot shows an Excel spreadsheet with a bar chart and a data table. The table has columns for '2022' and '2023' and rows for 'European Union', 'United States', 'Indonesia', 'Brazil', and 'Argentina'. The bar chart displays the data for 2022 and 2023 for each country.</p> <table border="1"> <thead> <tr> <th>Country</th> <th>2022</th> <th>2023</th> </tr> </thead> <tbody> <tr> <td>European Union</td> <td>16.4</td> <td>16.5</td> </tr> <tr> <td>United States</td> <td>11.5</td> <td>14</td> </tr> <tr> <td>Indonesia</td> <td>6.7</td> <td>10.5</td> </tr> <tr> <td>Brazil</td> <td>6.4</td> <td>6.8</td> </tr> <tr> <td>Argentina</td> <td>2.4</td> <td>2.5</td> </tr> </tbody> </table>	Country	2022	2023	European Union	16.4	16.5	United States	11.5	14	Indonesia	6.7	10.5	Brazil	6.4	6.8	Argentina	2.4	2.5	Researching the worldwide market with product potential and market segmentation and market strategy for biodiesel products.
Country	2022	2023																		
European Union	16.4	16.5																		
United States	11.5	14																		
Indonesia	6.7	10.5																		
Brazil	6.4	6.8																		
Argentina	2.4	2.5																		

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Friday

Date : March 17<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Discuss project of glycerin	Voradech Nithettham	<i>Voradech N.</i>

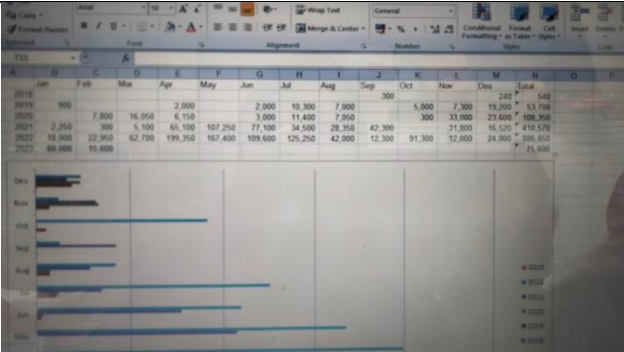
No	WORKING	EXPLANATION
1.		Discuss marketing and sales for glycerin products as well as planning production of new products.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Monday

Date : March 20<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Review sales of PCM in last 3 years	Voradech Nithettham	<i>Voradech N.</i>

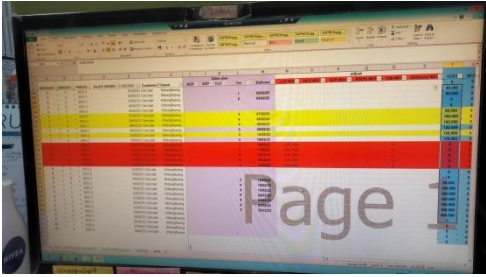
No	WORKING	EXPLANATION
1.		Re-check PCM product sales in the last 3 years as a consideration for launching new products.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Tuesday

Date : March 21<sup>st</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching Glycerin Market Insight	Voradech Nithettham	<i>Voradech N.</i>

No	WORKING	EXPLANATION
1.		Researching market information for glycerin products, ranging from existing products to worldwide market demand.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Wednesday

Date : March 22<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching market competitive of PCM	Voradech Nithettham	<i>Voradech N.</i>

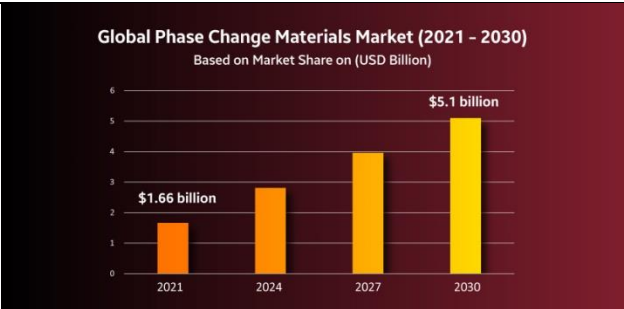
No	WORKING	EXPLANATION																																																																								
1.	<p style="text-align: center;">North America Phase Change Materials Market Size, By Product, 2016 – 2026 (USD Million)</p> <p>The chart displays the market size in USD Million for various PCM products from 2016 to 2026. The categories are Paraffin, Non-paraffin, Salt hydrates, Eutectics, and Others. The market size increases consistently over the period, with Paraffin being the largest segment.</p> <table border="1"> <caption>Estimated Market Size Data (USD Million)</caption> <thead> <tr> <th>Year</th> <th>Paraffin</th> <th>Non-paraffin</th> <th>Salt hydrates</th> <th>Eutectics</th> <th>Others</th> </tr> </thead> <tbody> <tr><td>2016</td><td>1.5</td><td>0.5</td><td>0.2</td><td>0.3</td><td>0.2</td></tr> <tr><td>2017</td><td>1.8</td><td>0.6</td><td>0.3</td><td>0.4</td><td>0.3</td></tr> <tr><td>2018</td><td>2.1</td><td>0.7</td><td>0.4</td><td>0.5</td><td>0.4</td></tr> <tr><td>2019</td><td>2.4</td><td>0.8</td><td>0.5</td><td>0.6</td><td>0.5</td></tr> <tr><td>2020</td><td>2.7</td><td>0.9</td><td>0.6</td><td>0.7</td><td>0.6</td></tr> <tr><td>2021</td><td>3.0</td><td>1.0</td><td>0.7</td><td>0.8</td><td>0.7</td></tr> <tr><td>2022</td><td>3.3</td><td>1.1</td><td>0.8</td><td>0.9</td><td>0.8</td></tr> <tr><td>2023</td><td>3.6</td><td>1.2</td><td>0.9</td><td>1.0</td><td>0.9</td></tr> <tr><td>2024</td><td>3.9</td><td>1.3</td><td>1.0</td><td>1.1</td><td>1.0</td></tr> <tr><td>2025</td><td>4.2</td><td>1.4</td><td>1.1</td><td>1.2</td><td>1.1</td></tr> <tr><td>2026</td><td>4.5</td><td>1.5</td><td>1.2</td><td>1.3</td><td>1.2</td></tr> </tbody> </table>	Year	Paraffin	Non-paraffin	Salt hydrates	Eutectics	Others	2016	1.5	0.5	0.2	0.3	0.2	2017	1.8	0.6	0.3	0.4	0.3	2018	2.1	0.7	0.4	0.5	0.4	2019	2.4	0.8	0.5	0.6	0.5	2020	2.7	0.9	0.6	0.7	0.6	2021	3.0	1.0	0.7	0.8	0.7	2022	3.3	1.1	0.8	0.9	0.8	2023	3.6	1.2	0.9	1.0	0.9	2024	3.9	1.3	1.0	1.1	1.0	2025	4.2	1.4	1.1	1.2	1.1	2026	4.5	1.5	1.2	1.3	1.2	Market competitive research of PCB products for consideration of new product launches.
Year	Paraffin	Non-paraffin	Salt hydrates	Eutectics	Others																																																																					
2016	1.5	0.5	0.2	0.3	0.2																																																																					
2017	1.8	0.6	0.3	0.4	0.3																																																																					
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2020	2.7	0.9	0.6	0.7	0.6																																																																					
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2024	3.9	1.3	1.0	1.1	1.0																																																																					
2025	4.2	1.4	1.1	1.2	1.1																																																																					
2026	4.5	1.5	1.2	1.3	1.2																																																																					

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Thursday

Date : March 23<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching potential price of glycerin feedstock and Researching production cost of glycerin supplier	Voradech Nithettham	<i>Voradech N.</i>

No	WORKING	EXPLANATION										
1.	 <p style="text-align: center;"><b>Global Phase Change Materials Market (2021 - 2030)</b> Based on Market Share on (USD Billion)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Market Share (USD Billion)</th> </tr> </thead> <tbody> <tr> <td>2021</td> <td>\$1.66 billion</td> </tr> <tr> <td>2024</td> <td>~2.8 billion</td> </tr> <tr> <td>2027</td> <td>~4.0 billion</td> </tr> <tr> <td>2030</td> <td>\$5.1 billion</td> </tr> </tbody> </table>	Year	Market Share (USD Billion)	2021	\$1.66 billion	2024	~2.8 billion	2027	~4.0 billion	2030	\$5.1 billion	Examining the price potential of glycerin raw materials and researching the production costs of glycerin suppliers to find potential suppliers for the latest products, either from Indonesia or Malaysia.
Year	Market Share (USD Billion)											
2021	\$1.66 billion											
2024	~2.8 billion											
2027	~4.0 billion											
2030	\$5.1 billion											



## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Friday

Date : March 24<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching production cost of glycerin	Voradech Nithettham	Voradech N.

No	WORKING	EXPLANATION
1.	<p><b>Phase Change Materials Market</b></p> <p>Market Growth Will Accelerate at a CAGR (2021-2030) <b>16.8%</b></p> <p><b>2021 MARKET SIZE</b> \$1,775.5 Million</p> <p><b>2030</b> \$7,206.2 Million</p> <p><b>Europe held Around 40% Share in 2021</b></p> <p><b>GROWTH DRIVERS</b></p> <ul style="list-style-type: none"> <li>Increasing emphasis on green buildings</li> <li>Escalating growth in the construction and packaging industries</li> </ul> <p><small>PRESCIENT &amp; STRATEGIC INTELLIGENCE Where knowledge inspires strategy</small></p>	Examines the production costs of glycerin products and market growth for these products.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Monday

Date : March 27<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Researching key players of PCM in globe	Voradech Nithettham	<i>Voradech N.</i>

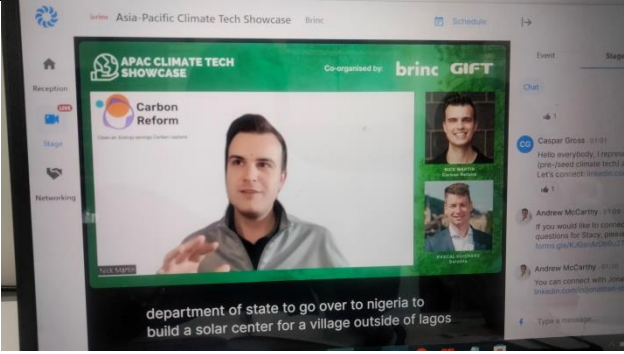
No	WORKING	EXPLANATION
1.		Research key players from worldwide PCM products and potential suppliers.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Tuesday

Date : March 28<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Attending webinar Asia-Pacific Climate Tech Showcase	Voradech Nithettham	Voradech N.

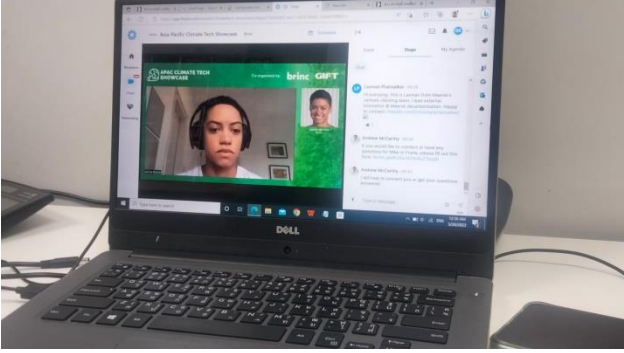
No	WORKING	EXPLANATION
1.		Discuss about insightful and thought-provoking while gaining insight into the latest news and developments from the region's leading Cleaning Tech Companies.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Wednesday

Date : March 29<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Making some resume	Voradech Nithettham	<i>Voradech N.</i>

No	WORKING	EXPLANATION
1.		Re-discussed the Asia Pacific Climate meeting with the supervisor and made some conclusions to plan the next product marketing.

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Thursday

Date : March 30<sup>th</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Farewell meeting and last interview in company	Voradech Nithettham	<i>Voradech N.</i>


No	WORKING	EXPLANATION
1.		We complete all the work and all necessary administration in company. then we evaluate the results of the work. and then have dinner together

## DAILY ACTIVITIES OF THE APPRENTICESHIP

Day : Friday

Date : March 31<sup>st</sup>, 2023

No	DESCRIPTION OF ACTIVITIES	TASK ASSIGNOR	SIGNATURE
1.	Knowledge sharing even in Thammasat University	Voradech Nithettham	<i>Voradech N.</i>

No	WORKING	EXPLANATION
1.		<p>The last day we were invited to Thammasat University to attend a sharing session with all the interns from the E4SEA program. we evaluate all the activities that we have done in the company where each of us works. at that time we also built a relationship to discuss the next career path.</p>