



Energy Absolute Public Company Limited

Management Discussion and Analysis

For Operating Results

of the Second quarter and Six-month period ended 30 June 2023



Energy Absolute Public Company Limited

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No. EA6608/001LT

11 August 2023

Subject Management Discussion and Analysis of Financial Statements operating results of the Second quarter and Six-month period ended 30 June 2023

To The President of the Stock Exchange of Thailand

We, Energy Absolute Public Company Limited (“EA”) would like to report the operating results of EA and its subsidiaries (all together as the “Company”) for the Second quarter ended 30 June 2023 which has been approved by the Board of Directors Meeting No. 3/2023 held on 11 August 2023.

The details are as follows:

Overview of operating results of the Second quarter and Six-month period ended 30 June 2023

Operating Results	Second quarter				Six-month period			
	2023 Baht Million	2022 Baht Million	Increase (Decrease)		2023 Baht Million	2022 Baht Million	Increase (Decrease)	
			Baht Million	%			Baht Million	%
Revenue from sales and services	7,880.59	5,395.98	2,484.61	46.05	16,775.27	10,136.40	6,638.87	65.50
Other Income	75.67	58.09	17.58	30.26	85.15	134.23	(49.08)	(36.56)
Total Revenue	7,956.26	5,454.07	2,502.19	45.88	16,860.42	10,270.63	6,589.79	64.16
Profit attributable to Owners of the parent	2,160.26	1,095.43	1,064.83	97.21	4,480.02	2,461.74	2,018.28	81.99
Basic earnings per Share (Baht per share)	0.58	0.29	0.29	100.00	1.20	0.66	0.54	81.82

Net Profit

For the second quarter ended 30 June 2023, the Company and its subsidiaries earned the net profit by 2,160.26 million baht, increased by 1,064.83 million baht or 97.21% as compared to the same period of last year which incurred the net profit by 1,095.43 million baht. For the six-month period ended 30 June 2023, the Company earned the net profit by 4,480.02 million baht, increased by 2,018.28 million baht or 81.99% as compared to the same period of last year which incurred the net profit by 2,461.74 million. These were mainly from the better operating results of electric bus and commercial vehicle business and the renewable power plant business.

Revenue

For the second quarter ended 30 June 2023, the Company and its subsidiaries earned the total revenue by 7,956.26 million baht, increased by 2,502.19 million baht or 45.88% as compared to the same period of last year which incurred the total revenue by 5,454.07 million baht. For the six-month period ended 30 June 2023, the Company and its subsidiaries earned the total revenue by 16,860.42 million baht, increased by 6,589.79 million baht or 64.16% as compared to the same period of last year which incurred the total revenue by 10,270.63 million baht, as summarized below.

Total Revenue	Second quarter				Six-month period			
	2023 Baht Million	2022 Baht Million	Increase (Decrease)		2023 Baht Million	2022 Baht Million	Increase (Decrease)	
			Baht Million	%			Baht Million	%
Biodiesel Business	1,180.60	2,269.15	(1,088.55)	(47.97)	2,606.64	4,296.81	(1,690.17)	(39.34)
Renewable Power Plant Business	3,175.32	2,860.60	314.72	11.00	6,678.06	5,482.60	1,195.46	21.80
Electric Bus and Commercial Vehicle Business	3,499.68	33.15	3,466.53	10,457.10	7,500.30	172.66	7,327.64	4,243.97
Lithium-ion Battery Business	1,598.22	214.82	1,383.40	643.98	2,964.63	299.81	2,664.82	888.84
Other Businesses	186.42	83.26	103.16	123.90	294.59	127.38	167.21	131.27
Less: Inter-segment revenue	(1,759.65)	(65.00)	(1,694.65)	2,607.15	(3,268.95)	(242.86)	(3,026.09)	1,246.02
Revenue from Operations	7,880.59	5,395.98	2,484.61	46.05	16,775.27	10,136.40	6,638.87	65.50
Other Income/Accounting gain	75.67	58.09	17.58	30.26	85.15	134.23	(49.08)	(36.56)
Total Revenue	7,956.26	5,454.07	2,502.19	45.88	16,860.42	10,270.63	6,589.79	64.16

In this regard, the revenue from operations for the second quarter ended 30 June 2023 was 7,880.59 million baht, increased by 2,484.61 million baht or 46.05% from 2022. For the six-month period ended 30 June 2023 was 16,775.27 million baht, increased by 6,638.87 million baht or 65.50% from 2022. This is mainly due to the growth in the electric bus and commercial vehicle business, lithium-ion battery business and renewable power plant business which are summarized as follows:

1. Revenue from Biodiesel Business:

For the second quarter ended 30 June 2023, the revenue from Biodiesel business decreased by 1,088.55 million baht or 47.97%. For the six-month period ended 30 June 2023, the revenue from Biodiesel business decreased by 1,690.17 million baht or 39.34% as compared to the same period of last year, due to the following.

1.1 Manufacturing and distributing Biodiesel fuel Products: For the second quarter ended 30 June 2023, the revenue decreased by 435.79 million baht or 39.70%. For the six-month period ended 30 June 2023, the revenue decreased by 1,180.90 million baht or 44.97%. As a resulting from the Crude palm oil (CPO) prices in 2023 in the world market and the domestic market were decreased for 40% as compared to the same period of 2022. However, the National Energy Policy Council (NEPC) announced of biodiesel mandatory in high speed diesel fuel B7 until 30 September 2023. So, the demands for Biodiesel fuel (B100) were similar to that in 2022.

Descriptions	Second quarter				Six-month period			
	2023 Baht Million	2022 Baht Million	Increase (Decrease)		2023 Baht Million	2022 Baht Million	Increase (Decrease)	
			Baht Million	%			Baht Million	%
Revenue from Biodiesel fuel (B100)	661.90	1,097.69	(435.79)	(39.70)	1,445.03	2,625.93	(1,180.90)	(44.97)
- Sales volume (Million liter)	20.59	21.24	(0.65)	(3.06)	46.73	52.44	(5.71)	(10.89)
- Average Selling Price (Baht/liter)	32.15	51.68	(19.53)	(37.79)	30.92	50.07	(19.15)	(38.25)
- Biodiesel Mandates	B7	B5			B7	B5		

1.2 Manufacturing and distributing Pure Glycerin Product: For the second quarter ended 30 June 2023, the revenue was decreased by 47.54 million baht or 59.00%. For the six-month period ended 30 June 2023, the revenue was decreased by 160.48 million baht or 67.42%. Mainly, it was because the glycerin price in the world market and the domestic market were decreased. This was consistent with the decreased selling price of the biodiesel, since glycerin is a by-product of biodiesel fuel production.

Descriptions	Second quarter				Six-month period			
	2023 Baht Million	2022 Baht Million	Increase (Decrease)		2023 Baht Million	2022 Baht Million	Increase (Decrease)	
			Baht Million	%			Baht Million	%
Revenue from Pure Glycerin	33.03	80.57	(47.54)	(59.00)	77.56	238.04	(160.48)	(67.42)
- Sales volume (Million Kg)	1.80	1.50	0.30	20.00	3.85	4.62	(0.77)	(16.67)
- Average Selling Price (Baht/Kg)	18.35	53.71	(35.36)	(65.84)	20.15	51.52	(31.37)	(60.89)

1.3 Manufacturing and distributing Crude Palm Oil (CPO) Product: For the second quarter ended 30 June 2023, the revenue was decreased by 636.03 million baht or 68.76%. For the six-month period ended 30 June 2023, the revenue was decreased by 370.52 million baht or 31.71%. This was because of the decreased sales volume in the second quarter ended of 2023 due to the decreased domestic demands for foods industry and biodiesel (referred to the Department of Internal Trade). The crude palm oil prices in the second quarter and the six-month period ended of 2023 were decreased because the SPOT price of Malaysia was lower than that of the refineries price in the south of Thailand. Therefore, the refineries cannot export crude palm oil. Consequently, the exporters compete for sales domestically. As aforementioned, the crude palm oil (CPO) price in the country was decreased.

Descriptions	Second quarter				Six-month period			
	2023 Baht Million	2022 Baht Million	Increase (Decrease)		2023 Baht Million	2022 Baht Million	Increase (Decrease)	
			Baht Million	%			Baht Million	%
Revenue from crude palm oil (CPO)	288.99	925.02	(636.03)	(68.76)	798.01	1,168.53	(370.52)	(31.71)
- Sales volume (Million Kg)	8.81	17.30	(8.49)	(49.08)	25.96	22.11	3.85	17.41
- Average Selling Price (Baht/Kg)	32.80	53.47	(20.67)	(38.66)	30.74	52.85	(22.11)	(41.84)

1.4 Manufacturing and distributing PCM Product: For the second quarter ended 30 June 2023, the revenue was decreased by 38.85 million baht or 77.07%. For the six-month period ended 30 June 2023, the revenue was decreased by 36.97 million baht or 60.28%. Mainly, it was because the decreased sales volumes in the second quarter and the six-month period of 2023 due to the demands of the main customers in Japan and Korea were decreased from the economic slowdown. However, the Company still maintain the selling price similarly to that in the last year.

Descriptions	Second quarter				Six-month period			
	2023 Baht Million	2022 Baht Million	Increase (Decrease)		2023 Baht Million	2022 Baht Million	Increase (Decrease)	
			Baht Million	%			Baht Million	%
Revenue from PCM	11.56	50.41	(38.85)	(77.07)	24.36	61.33	(36.97)	(60.28)
- Sales volume (Million Kg)	0.11	0.48	(0.37)	(77.08)	0.23	0.58	(0.35)	(60.34)
- Average Selling Price (Baht/Kg)	105.09	105.02	0.07	0.07	105.91	105.74	0.17	0.16

1.5 Manufacturing and distributing Green Diesel Product: The Company has manufacturing and distribution of Green Diesel (GD) or Bio Hydrogenated Diesel (BHD) and earned the total revenue by 134.70 million baht in the second quarter ended 30 June 2023. It was due to the demands of the European countries (The Company started selling the green diesel for the first time in the fourth quarter of 2022).

Descriptions	Second quarter				Six-month period			
	2023 Baht Million	2022 Baht Million	Increase (Decrease)		2023 Baht Million	2022 Baht Million	Increase (Decrease)	
			Baht Million	%			Baht Million	%
Revenue from Green Diesel (GD)	134.70	0.00	134.70	100.00	134.70	0.00	134.70	100.00
- Sales volume (Million Kg)	2.20	0.00	2.20	100.00	2.20	0.00	2.20	100.00
- Average Selling Price (Baht/Kg)	61.23	0.00	61.23	100.00	61.23	0.00	61.23	100.00

1.6 Byproducts: For the second quarter ended 30 June 2023, the revenue was decreased by 65.04 million baht or 56.33%. For six-month period ended 30 June 2023 was decreased by 76.00 million baht or 37.44%. The main factors were decreased of palm kernel selling prices it was consistent with a decreased of crude palm oil (CPO) selling prices. (the palm kernel is byproducts of crude palm oil production)

Descriptions	Second quarter				Six-month period			
	2023 Baht Million	2022 Baht Million	Increase (Decrease)		2023 Baht Million	2022 Baht Million	Increase (Decrease)	
			Baht Million	%			Baht Million	%
Revenue from byproducts	50.42	115.46	(65.04)	(56.33)	126.98	202.98	(76.00)	(37.44)

2. Revenue from Renewable Power Plant Business:

For the second quarter ended 30 June 2023, the revenue of 3,175.32 million baht, increased by 314.72 million baht or 11.00% as compared to the same period of last year which incurred the revenue 2,860.60 million baht. For the six-month period ended 30 June 2023 the Company earned the total revenue of 6,678.06 million baht, increased 1,195.46 million or 21.80% as compared to the same period of last year which incurred the revenue 5,482.60 million baht. The reasons are summarized as follows:

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Descriptions	Second quarter				Six-month period			
	2023 Baht Million	2022 Baht Million	Increase (Decrease)		2023 Baht Million	2022 Baht Million	Increase (Decrease)	
			Baht Million	%			Baht Million	%
Revenue from Solar power plants	1,940.49	1,757.04	183.45	10.44	3,825.32	3,461.19	364.13	10.52
- Sales volume (Million KWh)	181.05	177.02	4.03	2.28	349.51	347.33	2.18	0.63
- Average Selling Price (Baht/Unit)	10.72	9.93	0.79	7.96	10.94	9.97	0.97	9.73
Describes below:								
For the second quarter and six-month period of 2023 the revenue was increased from the solar panel replacement in the power plant projects. It was to help increasing of the electricity generating efficiency as compared to same period of last year. While the average selling price was increased following the FT price that increased.								
Revenue from Wind power plants	1,232.72	1,099.91	132.81	12.07	2,844.33	2,014.33	830.00	41.20
- Sales volume (Million KWh)	168.53	169.73	(1.20)	(0.71)	377.05	315.08	61.97	19.67
- Average Selling Price (Baht/Unit)	7.31	6.48	0.83	12.81	7.54	6.39	1.15	18.00
Describes below:								
For the second quarter and six-month period of 2023 the revenue was increased due to increased speed of wind during the first quarter of 2023 from the Hanuman power plant at the Chaiyaphum province. While the average selling price was increased following the FT price that increased.								
Hanuman wind power 260-MW Project								
- Sales volume (Million KWh)	121.54	124.74	(3.20)	(2.57)	265.71	200.21	65.50	32.72
- Average Selling Price (Baht/Unit)	7.32	6.46	0.86	13.31	7.51	6.35	1.16	18.27
Hadkanghan wind power 126-MW Project								
- Sales volume (Million KWh)	46.99	44.99	2.00	4.45	111.34	114.87	(3.53)	(3.07)
- Average Selling Price (Baht/Unit)	7.30	6.54	0.76	11.62	7.63	6.48	1.15	17.75
Revenue from Biogas power	2.11	3.65	(1.54)	(42.19)	8.41	7.08	1.33	18.79
- Sales volume (Million KWh)	0.50	0.95	(0.45)	(47.37)	1.44	1.78	(0.34)	(19.10)
- Average Selling Price (Baht/Unit)	4.22	3.84	0.38	9.90	5.84	3.98	1.86	46.73

3. Revenue from Electric Bus and Commercial Vehicle Business:

For the second quarter ended 30 June 2023, the revenue was reported at 3,499.68 million baht, increased by 3,466.53 million baht as compared to the same period of last year which incurred the revenue 33.15 million baht. For the six-month period ended 30 June 2023 revenue was

7,500.30 million baht, increased by 7,327.64 million baht as compared to the same period of last year which incurred the revenue 172.66 million baht (The Company has been manufacturing and distributing the electric vehicle during the third and fourth quarter of 2022). For the six-month period of 2023. The Company was sales of electric bus and commercial vehicles by a total amount of 1,445 units.

4. Revenue from Lithium-ion Battery Business:

For the second quarter ended 30 June 2023, the revenue was reported at 1,598.22 million baht, increased by 1,383.40 million baht as compared to the same period of last year which incurred the revenue 214.82 million baht. For the six-month period ended 30 June 2023 revenue was 2,964.63 million baht, increased by 2,664.82 million baht as compared to the same period of last year which incurred the revenue 299.81 million baht. Due to increase of lithium-ion battery sale volume (Amita Technology (Thailand) Co., Ltd. has been commercializing operates to manufacturing and distributing the lithium-ion battery for electric bus and commercial vehicle assembly in the second quarter of year 2022). Currently, the electric bus and commercial vehicle is produced at full capacity to support future expansion.

5. Revenue from Other Businesses:

For the second quarter ended 30 June 2023, the revenue was reported at 186.42 million baht, increased by 103.16 million baht as compared to the same period of last year which incurred the revenue 83.26 million baht. For the six-month period ended 30 June 2023 revenue was 294.59 million baht, increased by 167.21 million baht as compared to the same period of last year which incurred the revenue 127.38 million baht. The main factors that were the increased of the revenue from charging station business for the electric vehicles.

6. Other incomes:

For the second quarter ended 30 June 2023, the revenue was reported at 75.67 million baht, increased by 17.58 million baht as compared to the same period of last year which incurred the revenue 58.09 million baht. For the six-month period ended 30 June 2023 revenue was 85.15 million baht, decreased by 49.08 million baht as compared to the same period of last year which incurred the revenue 134.23 million baht.

Cost of sales and services

For the second quarter and six-month period ended 30 June 2023, cost of sales was reported at 4,785.31 million baht, increased by 1,076.52 million baht or 29.03% and 10,381.95 million baht, increased by 3,766.74 million baht or 56.94% respectively as compared to the same period of last year.

The reasons are summarized as follows:

- 1. Manufacturing and distributing biodiesel:** For the second quarter and six-month period ended 30 June 2023, the cost of sales decreased by 1,106.59 million baht or 47.41% and decreased by 1,635.96 million baht or 38.16% respectively as compared to the same period of last year. The main factor was the decreased of palm fruit prices this is the main raw material of biodiesel fuel.
- 2. Generating and distributing renewable electricity power:** For the second quarter and six-month period ended 30 June 2023, the cost of sales increased by 60.09 million baht or 8.20% and increased by 32.46 million baht or 2.17% respectively as compared to the same period of last year. This was mainly from increased of depreciation due to replacement of the new solar panels in the Lampang province, Nakhon Sawan province and Phitsanulok province. It was to help increasing of the electricity generating efficiency.
- 3. Manufacturing and distributing electric bus and commercial vehicle:** For the second quarter and six-month period ended 30 June 2023, the cost of sales increased by 2,651.48 million baht and increased by 5,953.44 million baht respectively as compared to the same period of last year. It corresponds the increased of the electric bus and commercial vehicle sales volume.
- 4. Manufacturing and distributing lithium-ion battery:** For the second quarter and six-month period ended 30 June 2023, the cost of sales increased by 995.52 million baht and increased by 2,287.96 million baht respectively as compared to the same period of last year. This was mainly from the increased of the lithium-ion batteries sales volume.
- 5. Other businesses:** For the second quarter and six-month period ended 30 June 2023, the cost of sales increased by 73.41 million baht and increased by 127.89 million baht respectively as compared to the same period of last year. It corresponds the increased of the revenue from charging station business for the electric vehicles.

For the second quarter and six-month period ended 30 June 2023, the Inter-segment cost increased by 1,597.39 million baht and increased by 2,999.05 million baht respectively as compared to the same period last year. The main factors that were the increased from distributing the lithium-ion battery to support electric bus and commercial vehicle Business expansion.

Selling Expense

For the second quarter and six-month period ended 30 June 2023, the selling expense was 20.52 million baht, increased by 3.59 million baht or 21.20% and 34.90 million baht, increased by 7.21 million baht or 26.04% respectively as compared to the same period for last year. The main factor that was the increased of crude palm oil (CPO) transportation as according the increased of sales proportion of Ex-work price.

Administrative Expense

For the second quarter and six-month period ended 30 June 2023, the administrative expense was 409.44 million baht, decreased by 24.81 million baht or 5.71% and 763.19 million baht, increased by 19.55 million baht or 2.63% respectively as compared to the same period for last year.

Finance cost

For the second quarter and six-month period ended 30 June 2023, the finance cost was 555.72 million baht, increased by 211.06 million baht or 61.24 and 1,040.42 million baht, increased by 385.50 million baht or 58.86% respectively as compared to the same period for last year. The main factors that were the increased of bonds and increased in average interest rate of the Company Group, as according to the announcement, the increased interest rate of Bank of Thailand.

Financial Status

Total Asset

The total asset of the Company and its subsidiaries as of 30 June 2023 was 115,111.69 million baht, increased by 11,747.35 million baht from the end of 2022. This was mainly from the following determinants:

- Cash and cash equivalents

Cash and cash equivalents as of 30 June 2023 was reported at 2,599.49 million baht, representing a decreased by 611.24 million baht from the end of 2022. Due to the used in operations.

- Trade accounts receivable and other receivable net

Trade accounts receivable and other receivable net as of 30 June 2023 was reported at 19,850.23 million baht, representing an increased by 5,387.89 million baht from the end of 2022. The main factor that was the increased of finance lease receivables from sales electric bus and commercial vehicle.

- Inventory

Inventory as of 30 June 2023 was reported at 7,846.63 million baht, representing an increased by 2,330.21 million baht from the end of 2022, due to the raw materials in preparation for lithium-ion battery production for Amita Technology (Thailand) Co., Ltd. and electric vehicle factory.

- Non-current assets held for sale

Non-current assets held for sale as of 30 June 2023 was reported at 164.56 million baht, decreased by 3,754.09 million baht from the end of 2022. The main factors that were the disposal of the solar panels of the solar power plant, Phitsanulok province and Lampang Province.

- Financial assets measured at amortized cost

Financial assets measured at amortized cost as of 30 June 2023 was increased by 3,500 million baht form investments in government bonds in foreign countries.

- Property, plant and equipment

Property, plant and equipment net as of 30 June 2023 was reported at 58,451.82 million baht, increased by 4,230.43 million baht from the end of 2022. The main factors that were the solar panels replacement to the both location of the solar power plant at Phitsanulok province and Lampang Province. It was to help increasing of the electricity generating efficiency which completed in May 2023.

Total Liabilities

The total liabilities of the company and its subsidiaries as of 30 June 2023 was 70,308.88 million baht. It was increased by 8,248.89 million baht from the end of 2022. Mainly, it was because the short-term loans from financial institutes and newly issued bonds of 7,000 million baht in order to repayment for the bills of exchanged that ware due to gain working capitals for conducting business and expanding the lithium-ion battery factory with the productivity of 1 gigawatts hour per year. The company is increasing the productivity to 2 gigawatts hour per year which expectation that complete within the first quarter of 2024 and expanding to 4 gigawatts hour per year which expectation that complete within the fourth quarter of 2024.

Total Equity

The total equity of the Company and its subsidiaries as of 30 June 2023 were 44,802.81 million baht, representing an increase by 3,498.45 million baht from the end of 2022, due to the net profit for the six-months period ended 30 June 2023

Progress of organizational projects

▪ **Charging station business for electric vehicles: EA Anywhere**

- Energy Mahanakorn company limited (EMN)

The Company has recently installed 495 electric charging stations (DC charger station and AC charger station) with a total of 2,460 chargers. The Company is still committed to improving the performance of the charger and charging station as well as studied the physical characteristics of the installation area to gain the potentiality in supporting the use of a wider variety of electric vehicles. This will help create positive aspect for the Company's revenue stream from rising electricity demand including the capability to provide charging stations for electric vehicles covering all regions of the country, especially the area that is the main route for traveling, transport and logistics system, etc.

In addition, the Company has also launched the "EV Smart Building" by EA Anywhere on the Ramathibodi-Energy Absolute Parking Building, which is regarded as the first prototype building to install the most electric chargers in ASEAN, totaling 578 units, composing of 576 charging stations for AC Normal Charge with a capacity of 7.3 kW, operating with 100% coverage in all parking spaces in the building and DC Fast Charge 360 kW, 2 units

▪ **Lithium-ion Battery and Energy Storage System Business**

- Amita Technology (Thailand) company limited (Amita-TH)

Amita Technology (Thailand) company limited or Amita-TH has commercially operated and produced lithium-ion batteries for the electric vehicle industry and energy storage system, currently ATT has a capacity of 1 GWh per year and supplies such above products to its subsidiary companies.

Furthermore, Amita-TH is still developing solid-state battery technologies, which is a battery with high safety and has more energy storage efficiency to support the increasing demand from the electric vehicle industry in the future.

Recently, Energy Absolute Pcl has signed Memorandum of Understanding (MOU) with Two major electric vehicle battery manufacturers from China, namely EVE and Sunwoda to Jointly conduct feasibility study and set up at least 6 GWh battery cell production factory in Thailand. It is expected that such study will lead to the establishment of an advanced battery cell factory with competitive costs in the electric vehicle battery industry and energy storage systems to underpin the demand for batteries in the Company's group in Thailand and ASEAN.

▪ Electric Bus and Commercial Electric Vehicles Business

- Absolute Assembly company limited (AAB)

The Company operates the production of commercial electric vehicles with its production capacity up to 9,000 vehicles per year. It can also support the production of many types of vehicles such as buses, trucks, vehicles used in specific purpose, etc. AAB's production process uses machines to control every step of production. AAB's factories are also eligible for tax privileges from the Board of Investment, enhancing its competitive landscape.

During 6M2023, the Company delivered a total of 1,445 electric vehicles, composing of 1,059 buses, 208 tractors and 178 trucks.

- Mine Mobility Corporation company limited (MMC)

Mine Mobility Corporation company limited (MMC) operates a business by producing and assembling electric pickup trucks with modern innovation and technology in the production line by 100% Thai people. It still has registered as the first electric pickup truck in Thailand under named "MINE MT30" used as another option for goods transport of business sectors in reducing energy cost and create added value for businesses to grow in line with taking care of the environment.

Presently, MMC delivers MINE MT30 for customers' trial. Most of them are from transportation sector. Additionally, MINE MT30 received The Best Innovation Award from the Foundation for Thai Society thanks to the success of being Thailand's first electric pickup truck innovation.

- Mine Mobility Research company limited (MMR)

MMR businesses engage in developing and researching electric vehicles. It also cooperated with CRRC Dalian, a major railway manufacturer from China to develop and produce electric locomotives which can drive approximately 300 Kilometers while using Ultra-Fast Charge by EA Anywhere in an hour, saving energy cost by 40% as compared to diesel locomotive.

During 6M2023, MMR and CRRC Dalian under the cooperation with state railway of Thailand (SRT) conducted shunting system testing by the State Railway of Thailand at Krung Thep Aphiwat Central Terminal and test towing passenger cars and freight cargo according to SRT requirements from Lat Krabang 's Inland Container Depot station to Laem Chabang station. At the present, It is in the process of retesting. Such project is an important part to drive the Ministry of Transport's EV on Train policy.

- **Green Diesel Project**

- The Company's group operates bio-diesel business to**

The Company group operates the biodiesel business to develop products using crude palm oil as an initial substance, which has already been patented. EA Group also exports Green Diesel mainly to the European market.

Currently, the Company Group is in the process of developing Isomerization as the production process to help enhance the properties of Green Diesel to have a lower temperature than the present, which will increase the opportunity to sell such fuel during the winter in the European market. Furthermore, such production process can also be used to produce bio jet fuel, creating the flexibility of business operation to supply both inland fuel and aviation fuel for a variety of customer groups in the future.