



**5E RESOURCES LIMITED**  
(Company Registration Number: 202136285K)  
(Incorporated in Singapore)

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**RESPONSE TO QUERIES FROM THE SECURITIES INVESTORS ASSOCIATION (SINGAPORE)**

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The Board of Directors (the “**Board**”) of 5E Resources Limited (the “**Company**” or “**5E Resources**” and together with its subsidiaries, the “**Group**”) would like to provide its responses to the queries received from the Securities Investors Association (Singapore) (“**SIAS**”) in relation to the Company’s annual report for the financial year ended 31 December 2022 (“**FY2022**”) prior to the upcoming annual general meeting for FY2022 to be held on 20 April 2023 at 10.00 a.m. (the “**AGM**”).

The Company did not receive any questions from shareholders as at the deadline stated in the Notice of AGM dated 5 April 2023.

**Question 1**

The company was successfully listed on the Catalist Board of the Singapore Exchange Securities Trading Limited (“**SGX-ST**”) on 12 May 2022. The group is Malaysia’s fifth-largest scheduled waste management services provider. It offers regular and project-based services to collect and treat scheduled waste in Johor. The group also sells recovered and recycled products and operates a chemical trading business under one of its subsidiaries. The group aims to provide tailored solutions to minimise waste disposal and maximise resource recovery.

Despite facing challenges such as geopolitical tensions, rising energy costs, inflation, and financial restrictions, the company experienced growth due to the easing of COVID-19 restrictions in Malaysia. The increasing demand for scheduled waste management services generated MYR53.3 million in revenue, a 14.6% increase from the previous year. Revenue from the chemical trading business also saw a 14.3% year-on-year increase, bringing in MYR1.6 million. Revenue from sales of recovered and recycled products remained stable.

The net profit after tax rose 32.5% to MYR12.3 million due to revenue growth, which increased by 12.1% to MYR65.0 million, an improvement over the previous financial year while net profit after tax and revenue were MYR9.3 million and MYR58.0 million, respectively. The group commenced commercial operations at the PLO 83 Plant and PLO 317 Plant with 12 Waste Codes, mainly serving customers in the electronics industry in Johor, Malaysia. Today, the group has a third plant (Plant 738) and has 34 out of 77 Waste Codes.

- (i) For shareholders’ benefit, could management provide additional details regarding the capabilities and capacities of the three plants?

Company’s response

The capacity of the plants is based on the licenses issued by the Department of Environment Malaysia.

The annual waste quota of PLO 738 plant is as below:

Waste Codes	Quota (MT)
SW104	12,000
SW110	2,400

SW202	12,000
SW204	6,000
SW206	24,000
SW301	6,000
SW307	24,000
SW308	24,000
SW309	18,000
SW310	9,600
SW311	9,600
SW313	3,600
SW314	9,600
SW321	6,000
SW322	12,000
SW325	2,400
SW327	6,000
SW401	6,000
SW402	6,000
SW408	3,600
SW409	5,400
SW410	2,400
SW411	2,400
SW416	12,000
SW417	6,000
SW418	6,000
SW422	2,400
SW427	2,400

The annual waste quota of PLO 83 plant and PLO 317 plant are as below:

Waste Codes	Quota (MT)
SW202	2,400
SW204	3,600
SW206	3,120
SW303	600
SW305	6,240
SW306	1,560
SW307	6,204
SW309	6,000
SW312	1,560
SW322	1,356
SW323	1,356
SW401	1,800
SW409	8,986
SW410	1,872

SW416	1,140
SW417	1,140
SW418	1,140

**(ii) What were the utilisation rates in 2022?**

Company's response

The overall average utilization rates of waste codes in 2022 were approximately 74.4%.

**(iii) To what extent does the group rely on manpower for its operations? Are skilled manpower required, and how does management ensure that environmental and safety guidelines are being followed?**

Company's response

Our labour costs made up approximately 15% to 17% of our operating costs. As our machines are semi-automatic, we still require human operators to load and unload materials, start and stop the machines and monitor the operations of the machines. We also require skilled manpower when the waste treatment processes involve complex operations that require specialized knowledge, technical skills, training and experience in order to carry out tasks with efficiency.

5E Resources recognises that a safety-first culture is an indispensable component of our business strategy. We have established clear policies and procedures to ensure adherence to national safety regulations and alignment of our processes to industry standards. Our commitment to safety is buttressed by our compliance with ISO14001:2015 and ISO 45001:2018 standards. We employ rigorous safety measures to ensure workplace health and safety for all employees. Specifically, regular safety trainings (including the proper use of equipment, scheduled waste management, handling of hazardous materials, firefighting and emergency response protocols) and protective equipment are provided to staff, and equipment is maintained regularly to prevent malfunctions. Machine operation manuals are also established and made available to all workers.

In addition, the management regularly conducts audits and inspections to ensure that environmental and safety guidelines are being followed. The performance of the Group in relation to environmental and safety guidelines is measured and tracked against the targets that the management has established, such as number of workplace facilities and injuries, number of lost days, average training hours, waste generated and intensity. This will help to ensure the environmental and safety guidelines are followed and allow corrective actions to be taken on a timely basis in case of any deviations from the established targets.

**(iv) Can management provide an estimate of the total capital expenditure required for the expansion of waste treatment facilities, as well as the building of a centralised logistic hub and a warehouse for recycled and recovered products?**

Company's response

The total capital expenditure required for the expansion of the waste treatment facilities, as well as the building of a warehouse and a centralized logistic hub is estimated to be between RM70 million to RM80 million.

**(v) In addition to pursuing organic growth, the group has expressed its openness to exploring options that would provide access to new markets, customers, and complementary businesses. What are the key factors under consideration as the group evaluates expansion opportunities, and has management considered potential acquisition targets?**

Company's response

The key factors that the Group has taken into consideration when we evaluate the expansion opportunities including but not limited to:

- 1) Geographic coverage: Outside of our established base in Southern Peninsular Malaysia, we intend to further strengthen our geographical coverage in Central Peninsular Malaysia as our Directors believe that there are ample business opportunities in this part of Malaysia.
- 2) Underserved small and medium sized waste generators: We intend to set up an off-site storage plant that is situated in Central Peninsular Malaysia with a view to target the underserved small quantity waste generators in the area.
- 3) Going green awareness: We intend to attract new customers that are interested in achieving eco-friendly corporate profiles by investing in waste treatment facilities that convert waste into alternative raw materials for the cement industry.
- 4) Market demand: 5E Resources plans to enhance capacity to treat high organic content waste considering that there is a growing demand for high organic content waste treatment in Malaysia.

The management has considered potential acquisition targets and we are still in ongoing discussions with potential partners in the region while at the same time, exploring possible sites for the off-site storage facility. As we operate in a highly regulated industry, the due diligence process and regulatory approvals will take time. We will update shareholders when there are any material developments.

- (vi) **As the group executes its expansion plans, which new business areas and waste groups (SW1-SW5), such as hazardous waste, ferrous and non-ferrous metals, and dross, are being prioritised by management?**

Company's response

The management does not place priority on a specific type of waste group.

As the Group executes the expansion plans, it is one of our plans to invest in waste treatment facilities that can further treat our waste residues to produce reusable materials for the cement industry. This endeavor that promotes cradle-to-cradle concept is in line with our Group's strong commitment to supporting long term Environmental, Social, and Governance ("ESG") aspirations.

**Question 2**

**The industry is highly regulated and complying with applicable laws and regulations is a top priority for the group. Some of the environmental related laws and regulations that the group needs to comply with and adhere to are:**

- Environment Quality Act, 1974, Act 127
- Environment Quality (Scheduled Waste) Regulations 2005

- (i) **To help shareholders better understand the industry, can management explain what Waste Codes are?**

Company's response

The term "waste code" is used to identify specific types of waste materials that are regulated under the Scheduled Waste category in the First Schedule of the Environmental Quality (Scheduled Wastes) Regulations.

Each type of waste material is assigned a unique waste code that corresponds to its specific physical and chemical properties, as well as its potential environmental and health risks. These codes are used to facilitate the proper identification, management, and disposal of different types of scheduled waste.

It is important to correctly identify the waste code for any scheduled waste generated and to comply with the relevant regulations for proper management and disposal.

- (ii) What are the 34 Waste Codes that the group has out of the 77 Waste Codes, and how many more will the group be applying for? As disclosed in the IPO offer document, the group is able to process nine out of the ten largest categories of scheduled waste generated in terms of volume, with the exception of gypsum.

#	Type of schedule waste	Waste code**	Volume generated in 2019 (tonnes)	%
1	Dross/slag/clinker/ash	SW 104*	1,634,987.6	40.7
2	Spent lubricating oil	SW 305*	382,519.8	9.5
3	Gypsum	SW 205	370,537.9	9.2
4	Heavy metal sludges	SW 204*	331,072.5	8.2
5	Rubber/latex waste containing heavy metal	SW 321*	199,065.7	5.0
6	Mixture of schedule waste & non-scheduled waste	SW 422*	105,610.6	2.6
7	Sludge containing fluoride	SW 207*	96,338.5	2.4
8	Waste oil/oily sludges	SW 311*	92,733.2	2.3
9	E-waste	SW 110*	89,956.3	2.2
10	Waste of non halogenated solvent	SW 322*	73,866.9	1.8
	Subtotal		3,376,689.0	84.1
	Others		636,500.0	15.9
	Total		4,013,189.0	100.0

(Source: company offer document)

Company's response

The list of the 34 Waste Codes that we are licensed to collect and process is set out below:

No	Waste Code	Description
1	SW 104	Dust, slag, dross or ash containing arsenic, mercury, lead, cadmium, chromium, nickel, copper, vanadium, beryllium, antimony, tellurium, thallium or selenium excluding slag from iron and steel factory
2	SW 110	Waste from electrical and electronic assemblies containing components such as accumulators, mercury-switches, glass from cathode-ray tubes and other activated glass polychlorinated biphenyl-capacitors, or contaminated with cadmium, mercury, lead, nickel, chromium, copper, lithium, silver, manganese or poly-chlorinated biphenyl
3	SW 202	Waste catalysts
4	SW 204	Sludges containing one or several metals including chromium, copper, nickel, zinc, lead, cadmium, aluminium, tin, vanadium and beryllium
5	SW 206	Spent inorganic acids
6	SW 207	Sludge containing fluoride
7	SW 301	Spent organic acids with pH less or equal to 2 which are corrosive or hazardous
8	SW 303	Adhesive or glue waste containing organic solvents excluding solid polymeric materials
9	SW 305	Spent lubricating oil
10	SW 306	Spent hydraulic oil
11	SW 307	Spent mineral oil-water emulsion
12	SW 308	Oil tanker sludge
13	SW 309	Oil tanker sludge oil-water mixture such as ballast water
14	SW 310	Sludge from mineral oil storage tank
15	SW 311	Waste of oil or oily sludge
16	SW 312	Oily residue from automotive workshop, service station oil or grease interceptor
17	SW 313	Oil contaminated earth from re-refining of used lubricating oil
18	SW 314	Oil or sludge from oil refinery plant maintenance operation

19	SW 321	Rubber or latex wastes or sludge containing organic solvents or heavy metals
20	SW 322	Waste of non-halogenated organic solvents
21	SW 323	Waste of halogenated organic solvent
22	SW 325	Uncured resin waste containing organic solvents or heavy metals including epoxy resin and phenolic resin
23	SW 327	Waste of thermal fluids (heat transfer) such as ethylene glycol
24	SW 401	Spent alkalis containing heavy metals
25	SW 402	Spent organic alkalis with pH more or equal to 11.5 which are corrosive or hazardous
26	SW 408	Contaminated soil, debris or matter resulting from cleaning-up of a spill of chemical, mineral oil or scheduled wastes
27	SW 409	Disposed containers, bags or equipment contaminated with chemicals, pesticides, mineral oil or scheduled wastes
28	SW 410	Rags, plastic, papers or filters contaminated with scheduled waste
29	SW 411	Spent activated carbon excluding carbon from the treatment of potable water and processes of the food industry and vitamin production
30	SW 416	Sludge of inks, paints, pigments, lacquer, dye or varnish
31	SW 417	Waste of inks, paints, pigments, lacquer, dye or varnish
32	SW 418	Discarded or off-specification inks, paints, pigments, lacquer, dye or varnish products containing organic solvent
33	SW 422	A mixture of scheduled and non-scheduled wastes
34	SW 427	Mineral sludge including calcium hydroxide sludge, phosphating sludge, calcium sulphite sludge and carbonates sludge

We are in the midst of applying additional 4 Waste Codes for our new plant at Jalan Perak 2 and this application is subject to the approval of the Department of Environment Malaysia.

**(iii) Is gypsum considered a high-value business in the industry?**

Company's response

In terms of the waste management industry, gypsum can be a valuable material for recycling or reuse. Recycled gypsum can be used as a soil amendment, as well as in the manufacturing of new gypsum products such as drywall. Additionally, some industries, such as the cement industry, use gypsum as a raw material in their production process.

However, whether or not gypsum is considered a high-value business in the scheduled waste management industry would depend on a variety of factors, such as the availability and demand for recycled gypsum, the cost of processing and transporting the material, and the regulatory landscape. It is possible that in some regions or markets, there may be a higher demand and greater financial incentive for recycling or reusing gypsum, while in other areas it may be less profitable.

In our case, based on our market knowledge and assessment in the region we operate, most gypsum manufacturers would resort to landfill as their disposal method due to its lower cost, hence, at this moment, it is less economical and profitable for 5E Resources to invest in the facilities to process gypsum waste. However, we will not rule out the possibility of tapping into the waste gypsum segment if suitable opportunities arise.

**(iv) What strategies does the group employ to acquire new customers, or "waste generators"?**

Company's response

As one of the leading services providers in the scheduled waste management industry, 5E Resources is committed to resolve waste challenges in the most environmentally friendly way possible and strives for excellence in scheduled waste management towards environmental conservation.

Deeply aware of the harmful environmental impacts of waste disposal to landfills and prompted by the related guidelines by the Department of Environment Malaysia, 5E Resources has ever since undertaken

various research and development processes, to reduce waste through circular models by transforming them into alternative raw materials for the cement industry.

With the introduction of this recycling concept that offers a sustainable alternative to the conventional method of managing scheduled waste, our Group strategizes to acquire new customers who are interested in achieving eco-friendly corporate profiles and business opportunities. This strategy is built on the consideration that sustainability has taken an urgent turn in recent years and has been pushed to the forefront with many local businesses embracing the sustainability agenda. We are seeing efforts from many industrial players to embrace the sustainability agenda and find ways to support ESG aspirations in a way that promotes long-term well-being and prosperity for everyone while also focusing on Group's financial performance.

- (v) **Given the highly regulated nature of the industry, what is the group's competitive advantage in the market? Is the industry highly commoditised and dependent on price competition, or are there other factors that give the group a competitive edge?**

Company's response

Our management and Directors believe that our competitive strengths are as follows:

- (a) We are one of the largest scheduled waste management services providers in Malaysia;
- (b) Our ability to meet increasing or changing customers' and regulatory requirements;
- (c) We have established stable and strong customer relationships;
- (d) We have an experienced management team; and
- (e) We have a good working relationship with the local regulatory authorities.

Pricing is one of the factors that can contribute to the competition in the scheduled waste management industry, but it is not the only or necessarily the main factor. Other factors that can also play a significant role in the competition in this industry include:

- (a) Quality of service;
- (b) Technical expertise and R&D capabilities;
- (c) Regulatory compliance; and
- (d) Geographic coverage

We believe that we are well-positioned and have the necessary competitive advantage to ensure our continued success and competitiveness. In terms of technical expertise, strong technical competitiveness and R&D capabilities are key factors that allow us to stay competitive and retain our leading industry position in Malaysia. Initiated by knowledge of the latest market trend and enquiries from customers, our R&D activities include both forefront studies of technologies in newer areas of scheduled waste management and application-focused research on upgrading our existing scheduled waste management solutions to meet the evolving needs of our customers and changes in regulatory requirements in the scheduled waste management industry. For example, in one of our research projects, we studied the effectiveness of certain chemicals in wastewater treatment, which identified a more effective formula to improve discharge quality of our wastewater treatment process. We believe that our R&D efforts, which strive to continuously improve our processing technology and cater for our customers' demands on scheduled waste management, enhance our service offerings and price competitiveness, is a key factor that gives the group a competitive edge.

**Question 3**

**As disclosed in the annual report, the internal audit function was outsourced to Messrs. Baker Tilly TFW LLP, the company's internal auditors (IA). The internal audit function plans its internal audit schedule in consultation with, but independent of the management. The audit & risk committee (ARC) examines the internal audit plan, determines the scope of audit examination and approves the internal audit budget.**

- (i) **Can the ARC confirm that the internal audit function complies with the standards set by nationally or internationally recognised professional bodies, such as the International Standards for the**

**Professional Practice of Internal Auditing (IIA Standards) issued by the Institute of Internal Auditors?**

Company's response

Yes, the ARC has obtained confirmation from internal auditor for their compliance with the International Professional Practices Framework established by the Institute of Internal Auditors.

**(ii) What were the scope, key findings and recommendations by the internal auditor for FY2022?**

Company's response

The scope of the internal audit for FY2022 includes areas material to the Group's operations such as control environment, compliance, health, safety & environmental management. There were no major or adverse findings arising from the internal audit review.

**(iii) What is the level of oversight by the AC on the actions taken by management to follow up on the recommendations?**

Company's response

The ARC monitors management's response to internal control recommendations identified by the internal auditor and provides oversight to ensure management implements appropriate controls to address the recommendations identified by the internal auditor. The ARC also communicates with the Board of Directors on the status of the internal control recommendations and any actions taken by the management to ensure that corrective actions are taken in a timely manner. All the internal control recommendations by the internal auditor for FY2022 for improvements have been implemented by the management.

**BY ORDER OF THE BOARD**

Lim Te Hua

Executive Director and Chief Executive Officer

17 April 2023

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This announcement has been prepared by the Company and its contents have been reviewed by the Company's sponsor, RHT Capital Pte. Ltd. (the "Sponsor") for compliance with the relevant rules of the Singapore Exchange Securities Trading Limited (the "SGX-ST").

This announcement has not been examined or approved by the SGX-ST and the SGX-ST assumes no responsibility for the contents of this announcement, including the correctness of any of the statements or opinions made, or reports contained in this announcement.

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