

Sustainability Report FY2018



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Board Statement

We are pleased to present our second Sustainability Report for FY2018 that shows our approach towards sustainability as well as our practices and performance around relevant material topics.

Advanced Systems Automation Limited ("ASA", and together with its subsidiaries, the "Group") is the world's first total backend inline equipment solution which is used by semiconductor assembly processes around the world. As we grow and expand our competency and skillset in the business, we commit ourselves to good sustainability practices to continue to remain successful. Strategic considerations and actions around sustainability increases resilience in our business. We remain committed to the health & safety and welfare of our employees. We ensure that we are in adherence to global and industrial standards and guidelines while providing safe and positive working environment to our employees.

We are supported by our Sustainability Steering Committee ("SSC") to determine, manage and communicate sustainability risks and opportunities relevant to our business. We also remain responsible for the development and implementation of sustainability strategies and to incorporate sustainability into ASA's policies and practices. We followed a comprehensive materiality assessment exercise last year and reviewed the identified material topics in FY2018 to determine high impact areas to support our business strategy. We concluded that our 9 ESG material topics in FY2018 remained unchanged from last year.

We are committed in communicating and managing sustainability risks and opportunities to stakeholders. Ethical business practices and product excellence serve as basic principles for our reputation, profitability and long-term success.

We look forward to share our sustainability experience in FY2018.

How We Wrote the Report

Our second sustainability report presents ASA's sustainability practices and performances for the period of 1 January 2018 to 31 December 2018 ("FY2018"). ASA manufactures automated front-end and back-end equipment for semiconductor companies. Based in Singapore, the Group has 2 research and development centres and 8 factories. Our operations are located in Southeast Asia, Greater China, the United States of America and the United Kingdom. We selected the scope of this report to cover Microfits' business operations in Singapore, as it is currently the most material area of our business.

ASA publishes a sustainability report on an annual basis. This report is in compliance with the requirements of SGX-ST Catalist Rules 711A and 711B and references the Global Reporting Initiative (GRI) Standards (2016). This report references the following topic-specific disclosures:



- Disclosure 205-3 from GRI 205: Anti-corruption 2016
- Disclosures 302-1 and 302-3 from GRI 302: Energy 2016
- Disclosures 305-1 and 305-4 from GRI 305: Emissions 2016
- Disclosures 306-2 and 306-4 from GRI 306: Effluents and Waste 2016
- Disclosure 307-1 from GRI 307: Environmental Compliance 2016
- Disclosures 401-1 and 401-2 from GRI 401: Employment 2016
- Disclosure 403-2 from GRI 403: Occupational Health and Safety 2016
- Disclosure 404-2 from GRI 404: Training and Education 2016
- Disclosure 414-1 from GRI 414: Supplier Social Assessment 2016
- Disclosure 417-2 from GRI 417: Marketing and Labelling 2016
- Disclosure 419-1 from GRI 419: Socioeconomic Compliance 2016

We welcome any enquires, comments or feedback on how our sustainability practices can be improved. Please send your comments and suggestions to enquiries@asa.com.sg.

Sustainability Governance

Our sustainability strategy is in its second year and is headed by our Sustainability Steering Committee (SSC). SSC provides strong direction coupled with an effective sustainability governance framework to identify, assess and manage the environmental, social and governance ("ESG") issues that are important to us and our stakeholders. In consultation with our Board of Directors, the SSC oversees the development of the sustainability strategy, sustainability performance and monitoring, as well as the production of this sustainability report.

Sustainability Steering Committee (SSC)

SSC is represented by senior members of the Administration, Finance, Human Resources and Information Technology divisions at ASA. SSC provides advice and assistance to the Board in ensuring that policies and procedures in relation to ESG issues are aligned with ASA's business strategy. The SSC is supported by a Sustainability Task Force ("STF") comprising of employees from Microfits Pte Ltd, which is responsible for driving sustainability initiatives and programmes across ASA.

Monitoring and Benchmarking

We monitor and evaluate our sustainability performance against our peer companies in order to improve our own performance and to identify areas of improvement. We conduct a review of our approach to sustainability from the identified gaps as compared to our peer groups so that we are in a better position to execute targeted actions to address the gaps.



Stakeholder Engagement

We have identified key stakeholder groups that are instrumental to the Group's success. Through regular meetings with stakeholders, we better understand the ESG issues that may be of most concern to them and align the needs of these stakeholders in our business decisions.

Each stakeholder contributes to our success and it is important for us to identify and assess how we can better address the key issues and provide the needs of our stakeholders. Our approach to stakeholder engagement, which includes information on our key stakeholders and ways we engage with them is presented as follows:

Key Stakeholders	Key Topics of Concern	Modes of Engagement	Frequency of Engagement
			and FY2018 Highlights
Investors and Shareholders	 Business financial performance Operational efficiency Sustainable value of shareholding Return on investments 	 Media releases Corporate announcements and circulars Shareholders' meetings Annual reports Website at https://www.asa.co m.sg/ 	 Ad-hoc media releases Quarterly results announcement Annual AGM Annual report
Employees	 Career development Teambuilding activities Training opportunities Develop an open workforce to engage staff Provide a safe and conducive environment 	 Company handbook New employee orientation Whistle blowing policy Annual performance appraisal 	 All staff were formally appraised during the year on their work performance Whistle-blowing hotline is available at all times throughout the year and identities of the whistle blowers will be kept confidential
Customers	 Quality products Value for money Good service 	 Customer visits Participate in trade shows Customers' material safety compliance requirements Customer satisfaction survey Factory visits by customers 	 Communications with customers through meetings A satisfaction survey would be filled up by each customer Factory visits are available to customers who request prior to visiting our premises



Key Stakeholders	Key Topics of Concern	Modes of Engagement	Frequency of Engagement and FY2018 Highlights
Suppliers	 Tender shortlisting and award criteria Business financial performance 	 Supplier selection process Supplier assessment Meetings with suppliers 	 Ad-hoc tender selection process Regular calls/meetings throughout the year

Materiality Assessment

In order for us to accurately assess the Environmental, Social and Governance ("ESG") factors that are material for the continuity of the Company's business, we have engaged our various stakeholders and evaluated their importance to our business operations. The assessment involved members of the senior management team from ASA and took into account research conducted on global and local trends in our industry, material topics identified by our peers and industry best practices. In FY2018, we reviewed the materiality assessment process and concluded that the 10 material topics identified in the previous year are still reflective of our business direction and continue to remain relevant this year.

This year, we have mapped our material ESG factors to the UN Sustainable Development Goals (SDGs). The SDGs were developed as guide for stakeholders around the world to align their efforts to achieve progress in some of the most pressing global sustainability related issues. By mapping our ESG factors to these we are hoping to demonstrate our contribution to this progress.

We are committed to managing, measuring and reporting on issues that are material to us and our stakeholders. The issues that are material to the Group in FY2018, which have been prioritised and validated by the Board of Directors, are presented as follows:



ASA Sustainability Framework Pillars	Material Factors	Materiality to ASA	Corresponding Topic-specific GRI Standards	Relevant SDGs
Economic	Economic Performance	The economic landscape is changing, and any changes may affect the economic performance which will directly impact the sustainability of our business.	GRI 201: Economic Performance 2016	9 NORTH MANUAL NEW PARTY NORTH AND REPORT NORTH AND REPOR
Our Environment	Energy and Emissions	We recognise that being in the manufacturing industry, it is important for us to reduce the impact that manufacturing has on energy consumption and emissions in order to build a sustainable business.	GRI 302: Energy 2016 GRI 305: Emissions 2016	7 GIANNENT 9 ROUSIN MONITOR NO PAGE 11 AND COMMUNITES 11 AND COMMU
	Waste	Having a proper waste management system is important for us as we acknowledge our responsibility and the need to comply with strict NEA regulations.	GRI 306: Effluents and Waste 2016	6 AGRAMATION 12 ESPUISABLE CARRIERTON AGRICOLOGICO AGRIC
Our People	Talent Attraction and Retention	Attracting and retaining the right talent will ensure that we have the right people to drive the business according to our beliefs and values.	GRI 401: Employment 2016	8 ISSUM HOW AND ISSUED
	Occupational Health and Safety	The safety of our staff and visitors is our top priority, as we understand that our working environment may be vulnerable to health and safety incidents.	GRI 403: Occupational Health and Safety 2016	3 GOOD SEALING AND WRITE STRING ————————————————————————————————————



ASA Sustainability Framework Pillars	Material Factors	Materiality to ASA	Corresponding Topic-specific GRI Standards	Relevant SDGs
Our Value Chain	Supplier Assessment	Where we source our materials from affects our reputation and our contribution to being a sustainable organisation.	GRI 414: Supplier Social Assessment 2016	12 SEGNOSTIC SOMPTION AND PRODUCTION
	Marketing and Labelling	Our marketing and labelling will reflect the materials that we use, and the impact/benefits to our environment.	GRI 417: Marketing and Labelling 2016	12 EUROSAIL AND PROJECTION AND PROJECTION
Our Governance	Compliance with Laws and Regulations	We will comply with any local and global laws and regulations as required.	GRI 419: Socioeconomic Compliance 2016	17 PATITISSINES FOR THE GOLDS
	Environmental Compliance	We will comply with all environmental guidelines that is applicable to our business.	GRI 307: Environmental Compliance 2016	17 PARTINISATION OF THE PROJECT OF T
	Anti- Corruption	In ASA, we adopt a no tolerance stance towards corruption for the better of our society and future.	GRI 205: Anti- corruption 2016	17 PATITIONOMPS



Economic

Economic Performance

We carry out our operations in a responsible manner, so as to create value for all our stakeholders, particularly our shareholders. In order to deliver value to all our stakeholders, our focus is to maintain a strong financial position by building resilience throughout our business operations for long-term sustainable growth for our shareholders.

Our financial performance for FY2018 can be found in the Financial Highlights section (page 9) and Appendix 2 - Audited Financial Statements (pages 8 to 64) of the Annual Report 2018 to be released and our Full Year Financial Results announcement which was released on 31 March 2019.

Our Fnvironment

Energy and Emissions

Performance in FY2018

- Electricity consumption: 212,209 KWh
- Electricity intensity: 137 kWh/m²
- Greenhouse gas (GHG) emissions from electricity use: 89 tCO₂e
- GHG emissions intensity from electricity use: 0.06 tCO₂e/m²

Targets for FY2019

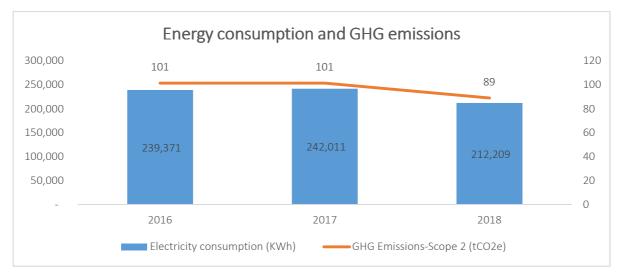
- Maintain energy (electricity) intensity within 10% of FY2017's levels
- Enhance research and development in production line energy efficiency

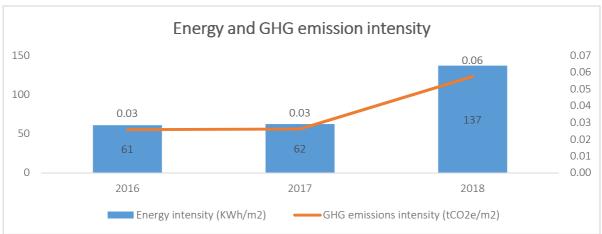
Our large portion of operations costs is attributed to electricity usage in the manufacturing process which results in indirect greenhouse gas (GHG) emissions. With implementation of carbon tax in Singapore from 2019, where tax will be levied on direct emitters mainly power plants, it will result in an increase in energy costs. In such changing scenario and increasing climate risks, we are committed to reducing energy consumption and indirect GHG emissions as we improve our efficiencies and reduce costs.

ASA recognises our responsibility to reduce environmental impacts of our business operations. As our environmental impacts are mainly from our energy consumption which results in indirect GHG emissions, we commit to minimise our environmental footprint through sustainable practices and initiatives. We plan to further improve our electricity-saving efforts through continuous education of employees to increase awareness of the importance of environmental sustainability.



At ASA, we conduct regular monitoring of our energy consumption in equipment manufacturing, heating, ventilation and air conditioning by implementing a robust monitoring system. With implementation of energy monitoring initiatives our operational costs have been reduced.





We consumed 212,209 KWh of electricity for our operations in FY2018, representing a decrease of 12.3%, which was mainly due to a reduction in office space. Our electricity intensity increased by 121% from 62 kWh/m² in FY2017 to 137 kWh/m² in FY2018. Therefore, we did not achieve the target set for FY2018 to maintain our energy intensity within 3-5% of FY2017's levels. Although we had reduced the overall usage of electricity with the releasing of some office space, however in the remaining space which houses our operations, we have been carrying out extensive testing of a new machine under Equipment business segment. This new machine with a new design will improve our operations moving forward.

As our major source of energy consumption is attributed to electricity which has resulted in $89 \text{ tCO}_2\text{e}$ of indirect emissions. While there was a decrease of electricity consumption in our operations, our GHG emissions intensity increased, in line with the electricity intensity, from $0.03 \text{ tCO}_2\text{e}/\text{m}^2$ in FY2017 to $0.06 \text{ tCO}_2\text{e}/\text{m}^2$ in FY2018.



Waste

Performance in FY2018

 Zero incidents of non-compliance with laws and regulations concerning waste management/disposal

Target for FY2019

 Achieve zero incidents of non-compliance with laws and regulations concerning waste management/disposal

In the manufacturing industry, the challenge of waste reduction is to identify and take action on all waste areas. At ASA, we consider waste management a key issue mainly because our stakeholders and the communities have a great interest on how we manage waste generated from our business operations. Improper waste disposal can cause pollution, posing a threat to the environment and to human health.

We comply with all environmental regulations, and we go beyond legal statues to manage hazardous and non-hazardous waste. We have also put in place an ISO14001-certified environmental management system for all our operations. We conduct regular, systematic waste reduction audits to identify all potential areas of waste reduction. We have measures in place to monitor the life cycle of raw materials. We ensure that our generated waste is processed through incineration, landfill or other disposal methods that adhere to local rules and regulations, such as the Environmental Public Health (Toxic Industrial Waste) Regulations 1988 in Singapore. In FY2018, there were zero incidents of non-compliance with laws and regulations concerning waste management/disposal reported. We met our target set for FY2018 to achieve zero incidents of non-compliance with relevant laws and regulations.

A total of 296 tonnes of non-hazardous waste generated was incinerated at an off-site waste management facility during FY2018. This is a little higher than last year's 168 tonnes due to changes in business activities.

At ASA, we have prohibition on burning of waste within our premises. All general waste and toxic industrial waste are segregated and disposed of accordingly. We strive to recycle and possibly reuse most of the general waste generated. We ensure collection and storage of all waste oils in secured and labelled drums at designated areas to prevent any leaks or spills. All our waste oils and solid waste are sent to licensed third party contractors for safe disposal.



Our People

Talent Attraction and Retention

At ASA, we value and respect each individual in the organisation and ensure that all of our employees feel they are a part of the organisation. We are committed to provide equal and fair employment opportunities as we believe in employing diverse talent which is required for growth and innovation in our business.

As at 31 December 2018, we have 32 employees² based in Singapore, and 41% of them were within the 30-to-50-year age group. Male and female employees accounted for 78% and 22% of ASA's workforce respectively. In FY2018, our average monthly turnover rate was 0.3%. We met our target set for FY2018 - to achieve an employee turnover rate less than or equal to the industry average. There was no turnover of employees at Microfits in FY2018.

We have a robust system to collect, track and monitor our human resources (HR) data including overtime, vacation balances and the number of training days.

We believe in a transparent talent acquisition system. We offer our employees a competitive compensation and a range of other benefits, such as health care coverage, parental leave and retirement plans. We do not discriminate during our recruitment process and ensure to adopt fair practices for all the deserving candidates, including persons with disabilities, by offering remuneration as per market standards.

We ensure that we recruit and retain the best

talent. We also learn from the employees who leave the company through the exit interviews where we gather feedback and comments. It gives us some key insights on the areas for improvement in our recruitment and talent retention system.

Performance in FY2018

New employee hire: 1 (monthly rate:0.3%) and no turnover of employees

Target for FY2019

 Achieve an employee turnover rate that is equal to or less than the industry average of 1.6%¹



² Employee number relates to Microfits only

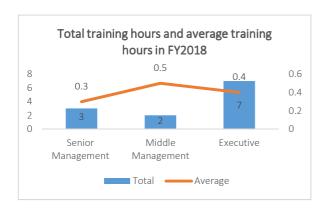
Monthly (manufacturing) industry turnover rate, Ministry of Manpower, 2018



Training and Education

At ASA, we grow with the right pool of talent who work together for the success of the organisation. Our HR department assesses the current and future skills requirements for our business operations and design learning and development programmes to meet these requirements. We tailor these programmes to meet the needs of employees and to enhance their personal and professional development. Each employee is required to complete all mandatory training courses throughout the year.

There are special training programmes for the Senior Management to identify and groom promising individuals as part of our succession planning.



In FY2018, our employees were provided with trainings with an average of 0.4 hour per employee. Approximately 25% of total training hours were recorded by the senior management team, 17% and 58% were recorded by the middle management team and executives, respectively.

Occupational Health and Safety

Performance in FY2018

- Total number of workplace fatalities: 0
- Total number of workplace injuries: 2

Target for FY2019

Achieve zero workplace fatalities and/or injuries

We take pride in our commitment to maintain high level of health and safety standards. We have a workplace health and safety committee to promote health and safety initiatives and programmes. The committee comprises of the management and employee representatives who work together to improve health, safety and working conditions in the workplace, develop and implement corrective and preventive action plan. We also provide daily reminders on best safety practices and put banners in the office and workplace.

We adopt safe work practices, such as implementing standard operating procedures and carrying out emergency response training to ensure that the risk of accidents, injuries and exposure to health hazards for all of our employees and contractors is minimised. Our safety handbook outlines standard safety practices and requirements that our employees and contractors have to adhere to. Appropriate health and safety training is provided to our employees to ensure that they are able to identify and deal with common hazards in the workplace.



We conduct site inspections to ensure that all our equipment in our premises do not pose any risks to the employees' health and safety. We have set measures in place for air, water and noise pollution reduction in and around our manufacturing plants.

We regularly conduct maintenance and inspections of the compressors. In order to reduce noise pollution, compressed air guns in our manufacturing plants are used in short intervals. We also place signs in areas where hearing protection is mandatory so that employees are not exposed to excessive noise.

We seek to identify any potential hazards and to monitor the effectiveness of local risk control measures implemented. We provide signage on emergency plans and procedures in our premises which are easily identifiable by our employees and occupants in each building. Fire drills are conducted twice a year by the property owner in order to ensure that our employees are familiar with emergency procedures during a fire. During our fire drills, all employees and contractors are trained to identify and operate fire extinguishers placed in various locations within our premises. Regular inspections on fire extinguishers are conducted and signed off.

There were zero reported workplace fatalities in FY2018, and we have achieved our target set for zero workplace fatalities. However there were 2 injuries in the workplace caused by a wooden beam and a plastic mallet in FY2018. Corrective action has been taken to prevent occurrence of similar incident.

Our Value Chain

Supplier Assessment

Performance in FY2018

- No new suppliers/vendors were engaged
- All suppliers and vendors met our specification requirements and expectations for quality and delivery

Targets for FY2019

 Ensure all suppliers and vendors meet our specification requirements and expectations for quality and delivery

Our suppliers form an integral part of our value chain as they contribute to our sustainability goals and business success.

We carry out due diligence of all our suppliers based on our strict requirements in terms of sustainable practices, quality and pricing. During our due diligence process, we ensure that our suppliers deliver top-quality raw materials and products. The suppliers who work with us have to abide by our values and standards and conduct their business in an ethical, legal and sustainable manner. Our suppliers are also required to meet the requirements of relevant laws and regulations.



We are committed to source for the best raw material from the range of suppliers to manufacture world-class equipment. In order for us to be able to build a sustainable business, we ensure that we source our materials only from suppliers that provide us quality materials and also operate in a sustainable manner that is consistent with our values and standards.

In addition, we encourage our suppliers to achieve a 100% on time delivery rate. Suppliers that fail to meet our standards will be removed from the list. In FY2018, all our suppliers and vendors met our specification requirements and expectations for quality and delivery.

We continuously monitor and update our supplier selection process and ensure that only the best raw materials are used in the production process. Our current suppliers of raw materials for our production of equipment are monitored on a regular basis based on their performance. Any supplier that fails to meet the expected quality and delivery requirement is removed from the list of raw material suppliers. No new suppliers and vendors were engaged in FY2018.

We require our suppliers to comply with the Restriction of Hazardous Substances (RoHS) Directive, which includes a CE-marking directive³.

Marketing and Labelling

Performance in FY2018

- No incidents of non-compliance with regulations concerning product information and labelling
 Target for FY2019
- Achieve zero incidents of non-compliance with regulations concerning product information and labelling

We understand the importance of clear and accurate labelling to ensure safe and effective use of our machines and equipment. We ensure that all our manufactured machines and equipment are classified and labelled accurately, in compliance with all necessary labelling guidance. Failure to follow the labelling guidance can result in negative consequences such as product recalls and withdrawals.

We have a mechanism and a dedicated team who ensure that labels on our machines and equipment contain the right information and instructions for correct and safe operation. We adhere to Singapore Code of Advertising Practice for all our equipment and machineries. We are always updated on the latest industry trends and developments in order to offer our employees training on relevant guidelines relating to product marketing and labelling.

In FY2018, there were no incidents of non-compliance with regulations concerning product information and labelling reported. We met our target for FY2018 to achieve zero incidents of non-compliance.

³ "CE" is as an abbreviation of Conformité Européenne (European Conformity).



Our Governance

We strongly believe in upholding the highest standards of corporate governance. We strive to ensure that the value of good governance is deeply embedded in our corporate culture and entrenched in our policies and processes.

We have a robust corporate governance structure, sound policies and monitoring system which is reviewed and endorsed by our Board of Directors annually.

Compliance with Laws and Regulations

Performance in FY2018

 Zero incidents of non-compliance with anti-corruption and environmental laws, socioeconomic regulations and regulatory requirements

Target for FY2019

 Achieve zero incidents of noncompliance with anti-corruption and environmental laws, socioeconomic regulations and regulatory requirements We commit to good corporate governance practices and also comply with relevant environmental laws and socioeconomic regulations, by having various procedures and risk management standards in place.

We ensure that all our employees adhere to the company's values so as to act with integrity and conduct business in accordance with the highest ethical standards. We have strict policies on non-

compliance to laws and regulations, where any reported incidents are reported immediately and action is taken against the person found guilty. We successfully met our target to achieve zero incidents of non-compliance related to ESG regulatory requirements.

Environmental Compliance

We are committed to complying with all applicable laws and regulations, and to maintain our licence to operate at all our locations. Our sites in Singapore are subjected to environmental laws and regulations set by the National Environmental Agency (NEA), the Public Utilities Board (PUB) and the Singapore Civil Defence Force (SCDF). We keep ourselves updated with any new regulations on environmental compliance which is applicable to our business, so that we identify and manage our regulatory risks beforehand. We have implemented an Environmental Management System (EMS) to minimise our impacts and ensure that we comply with all relevant environmental legislation.

In FY2018, there were no incidents of non-compliance with environmental laws and regulations.



Anti-Corruption

At ASA, we have zero tolerance towards bribery and corruption which leads to dishonest business practices such as conflict of interests, accepting gifts, insider information etc. All our employees are required to adhere to the Code of Conduct and policies on corruption within the Group. Information on the Code of Conduct, which includes ethical requirements and information on the whistle-blowing policy, is provided to all employees.

During the employees' orientation, all employees go through a mandatory induction programme, where they are briefed on the Code of Conduct, which includes information on workplace ethics and the whistle-blowing policy.

We encourage our employees to raise their concerns regarding suspected fraud, corruption, dishonest practices or other similar matters in a very secured and responsible manner. Any suspicious practices or inappropriate activities in the workplace are reported immediately by our workforce to the Head of Human Resources ("HR") and/or any member of the Executive Committee in a fair, respectful and timely manner. We take disciplinary action on the employee who is found guilty of fraud, dishonesty or criminal conduct.

In FY2018, there were zero incidents of non-compliance with anti-corruption laws and socioeconomic regulations. Information on ASA's corporate governance, compliance and risk management policies and practices can be found in Appendix 1 — Corporate Governance Report (pages 1 to 15) of the Annual Report 2018 to be released.

This sustainability report has been prepared by the Company and its contents have been reviewed by the Company's sponsor, SAC Capital Private Limited ("Sponsor").

This sustainability report has not been examined or approved by the Singapore Exchange Securities Trading Limited ("SGX-ST") and the SGX-ST assumes no responsibility for the contents of this sustainability report, including the correctness of any of the statements or opinions made, or reports contained in this sustainability report.

The contact person for the Sponsor is Ms Tay Sim Yee (Tel: (65) 6232 3210) at 1 Robinson Road, #21-00 AIA Tower, Singapore 048542.