CHANG HUA
CONSTRUCTION PTE LTD

Global Reporting Initiative (GRI) / Sustainability Report 2022

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CORPORATE PROFILE

Chang Hua Construction is a major contractor of Architectural and Structural Engineering works. Its vast portfolio includes various kinds of building works such as private houses, government housings, factories, hotels, dormitories, offices, show flats, and private high-rise condominium etc.

Chang Hua Construction is moving away from traditional construction methods and looking into new ways to enhance on-site construction productivity. We're planning to raise Chang Hua Construction's productivity by adopting new construction technologies and developing our workforce.

The company's direct management team ensures a consistently high standard of workmanship and ensures timely delivery of projects. Delivering and completing the assignments within schedule had been a prime consideration and important factor by our regular clients.

Chang Hua is able to procure, import and install a special material that meets the particular requirement of unique and special designed projects thus increasing our competitiveness in project bidding. Chang Hua aims and is well prepared to go regional and is taking an important step forward in expanding major business division to foreign countries with potential business growth opportunities such as Myanmar, China, Maldives, etc. The company seeks to consistently achieve perfect workmanship. This acts as a guarantee of our confidence which will benefit our pool of existing and potential client.

Accreditations

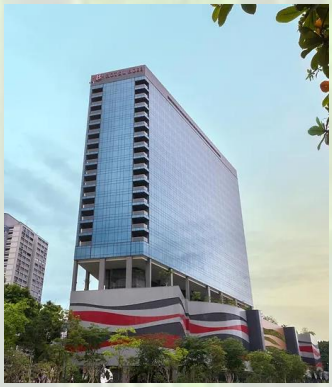
- Quality Management System ISO 9001:2015
- Environmental Management System ISO 14001:2015
- Occupational Health and Safety Management System ISO 45001:2018

SC2 ISO 9001: 2015 SAC Accredited Certification Body QS-2011-17

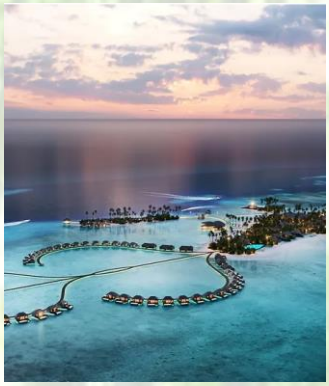
SC2 ISO 14001: 2015 SAC Accredited Certification Body ES-2020-10

SC2 ISO 45001: 2018 SAC Accredited Certification Body OSH-2008-02

Company past years project (Singapore):

Projects	
	
Mactaggart Foodlink – 5 Storey Multi-user Light Industrial Building (B1) For Food Factory	St George's Tower – HDB BTO Building Works at Kallang Whampoa
	
Dnata Airport Cargo – Design & Build of Vehicle Maintenance Workshop	Hotel Boss – 19-Storey Hotel Comprising Guestrooms, Restaurant, Food Court, Shops, Gym & Swimming pool
	
M-Space Industrial – 10-Storey Ramp up Multiple-user General Industrial Development	Ferrell Residence – 24-Storey Condominium at Bukit Timah Road

Company past years project (Oversea):

Projects	
	
Radisson Blu Resort – Design & Build of Radisson Blu Resort Maldives	Dharumavantha Hospital – Design & Build of a 25-Storey Dharumavantha Hospital at Male, Maldives

Company on-going project (Singapore):

Projects	
	
Tanjong Tree Residences @ Hougang – 4 Blocks of 9-12 Storey HDB BTO Building Works	Hougang Olive – 4 Blocks of 12-Storey HDB BTO Building Works

STAKEHOLDERS ENGAGEMENT

We value inputs from all our stakeholders from different groups and we use a variety of channels to engage with them as well as receiving their feedback. We identify and spilt the stakeholders into groups that have an impact, or have the potential to be impacted by our business, as well as those external organisations that have expertise in aspects that we consider material. The feedback we receive from out stakeholders help us to determine our material topics and identify our focus area.

Stakeholders	Issues of Concern / Potential Risk	Engagement Platform	Responses
 Regulators	▪ Environmental Compliance ▪ Regulatory and Industrial Requirements ▪ Tax Compliance	▪ Site Visit and audit checks by regulatory body. ▪ Direct communication and meeting with regulatory body.	▪ Promote good corporate governance and meet regulatory requirements. ▪ Comply with all relevant laws and regulations.
 Employees	▪ Remuneration and benefits ▪ Training and development ▪ Ethics and conduct ▪ COVID-19 safety measures	▪ Annual performance appraisal system. ▪ Employee Satisfaction Survey. ▪ Training (in-house / external).	▪ Establish a fair and diverse working environment. ▪ Provide a competitive remuneration and employment benefits. ▪ Implement new workplace arrangement to enhance safety and prevent the spread of COVID-19
 Customers  Suppliers	▪ Occupational health and safety ▪ Environmental Compliance ▪ ▪ COVID-19 safety measures	▪ Contractual Agreement. ▪ Regular face-to-face meetings. ▪ Annual Client / Contractor / Supplier Evaluation Survey. ▪ Site Audit.	▪ Sustain good relationship with reliable partners for our client. ▪ Deliver quality services and meet expectation of our client. ▪ Work closely with customer / contractor to ensure that our employees adhere to workplace rules and arrangement when they are on site. ▪ Close collaboration with supplier to achieve a long and sustainable relationship.

STAKEHOLDERS ENGAGEMENT

	▪ Public Safety ▪ Noise Management ▪ Silt Water Management ▪ Vector Controls ▪ Social Development ▪	▪ Community service engagement. ▪ House-to House visiting. ▪ Sending letters / memo to update neighbouring stakeholder on the progress update.	▪ Conduct corporate social responsibilities program to encourage community service engagement.

ETHICS AND INTEGRITY

Ethics and Compliance

Chang Hua places high value and importance over ethics management. In the company's operation, our ethics and compliance play an integral role. We ensure that our employees understand and comply with the applicable laws and policies and adhere to the highest standards of ethics and integrity.

Whistle-blowing Policy

The Company has provided a well-defined and accessible channel where employees and third parties may raise concerns about improper conduct within the Company. No reports were received during the Year 2022.

Anti-corruption

GRI 205-1, 205-2, 205-3

Chang Hua is committed to running the business operation on a foundation of integrity. Transparency and Honesty. The Company will continuously improve on the process to prevent direct or indirect bribery, in order to safeguard and uphold our values.

We have zero-tolerance towards any forms of corruption and bribery in our business. All our employees have to comply with the anti-bribery and anti-corruption legislations / regulations in the countries where we have business activities in.

We have internal reporting structure, procedures and channels that are secure and accessible for our employees to raise concerns and report violations, or suspicious activity observed. The Company will also strive to ensure that our business partners share our zero-tolerance policy against corruption and bribery. The Company will avoid doing business with those known or reasonably suspected to be engaging in corruption and bribery.

There have been no incidents of corruption and no public legal cases brought against the organization or its employees. We currently have no risk of corruption, but we will continue to be vigilant in ensuring our employees conduct themselves with the highest integrity.

ENERGY, EMISSION AND POLLUTION

GRI 302-1, 302-3, 302-4, 302-5, 305-2, 305-4, 305-5

ELECTRICITY

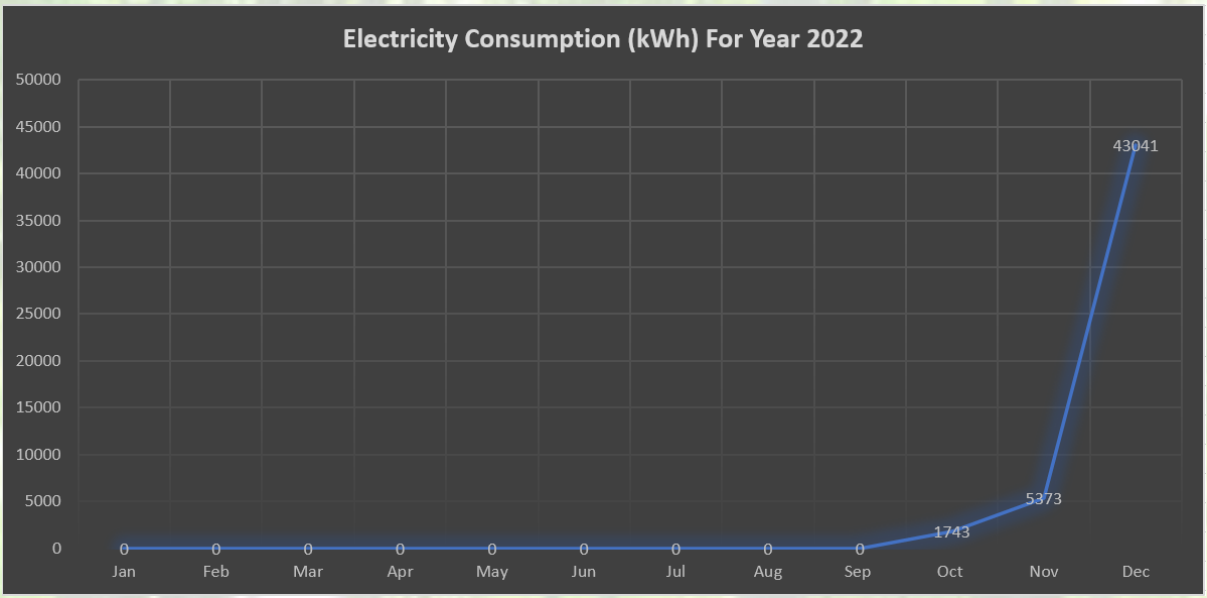


Figure 1 – Graph showing the total electricity consumption on monthly basis by the project sites for the Year 2022.

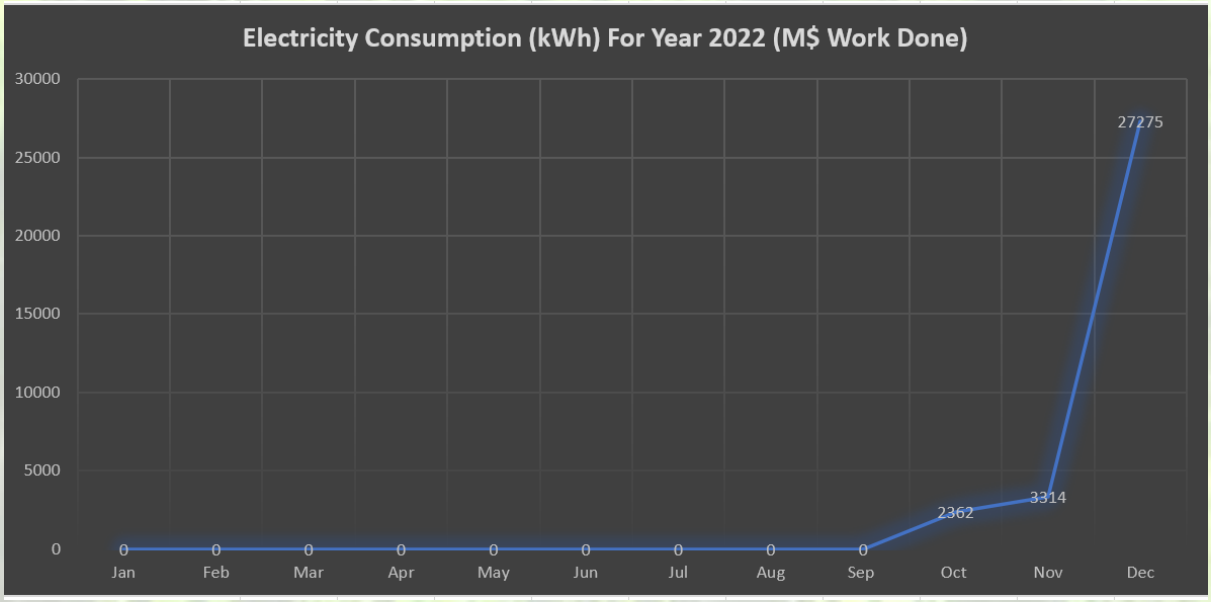
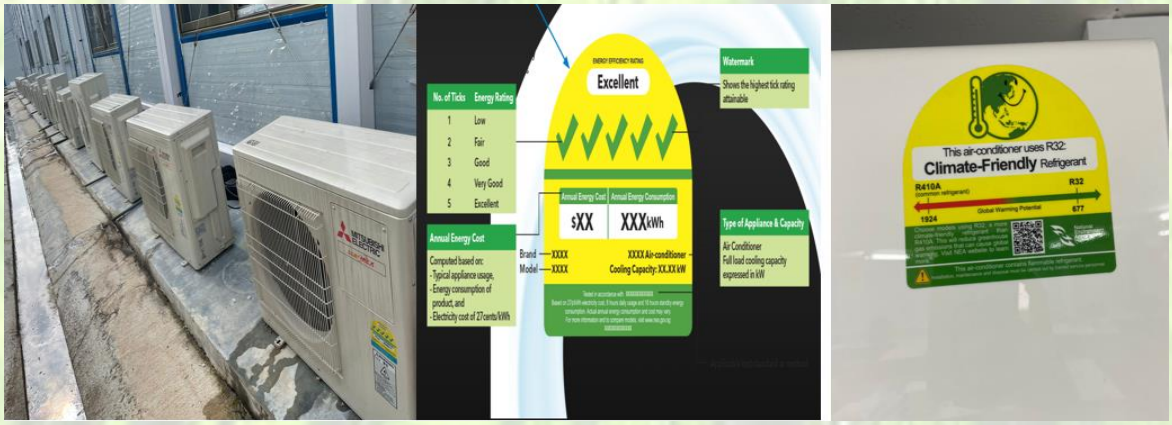


Figure 2 – Graph showing the average electricity consumption on monthly basis based on Million Dollar work done.

Recognising the growing importance of climate risks to our business, we strive to contribute to climate change mitigation by reducing our greenhouse gas emissions (GHG) through the adoption of renewable energy projects and improvement of our energy efficiency.

Photograph 1 - Use of T5, T8 or LED lights for site offices, dormitories, worker's rest area and perimeter hoarding lighting.



Photograph 2 - Use of 5 ticks rated air-condition (AC) to save energy.

We continue to use various energy friendly initiatives such as the use of battery-operated tools on site, adapt the practice of reduce non-essential use of lighting. Solar energy is deployed on our noise monitoring devices and Total Suspended Solids (TSS) monitoring systems. Beside all these implementations, we also launched new initiatives which requires us to select Energy Label Appliances for new appliances with 5 ticks low electricity consumption for new projects.

Our total electricity consumption was 50,157 kWh (refer to Figure 1) in year 2022 (unable to have full year data as the project only begin in early 2022 and the approval for the usage of SP Power to be used is in October 2022).

There was a hike (increase of 801% as compared to November 2022) in the usage of electricity in December 2022 as the project site commenced the use of the dormitory for workers (with 500pax occupancy load).

2023 Target(s)

Types of Projects	Target
Commercial	< 2200 kWh / M$ Work Done
HDB	< 6000 kWh / M$ Work Done
Private Residential	< 3500 kWh / M$ Work Done
Industrial	< 4800kWh / M$ Work Done
Institutional	< 2300 kWh / M$ Work Done

DIESEL

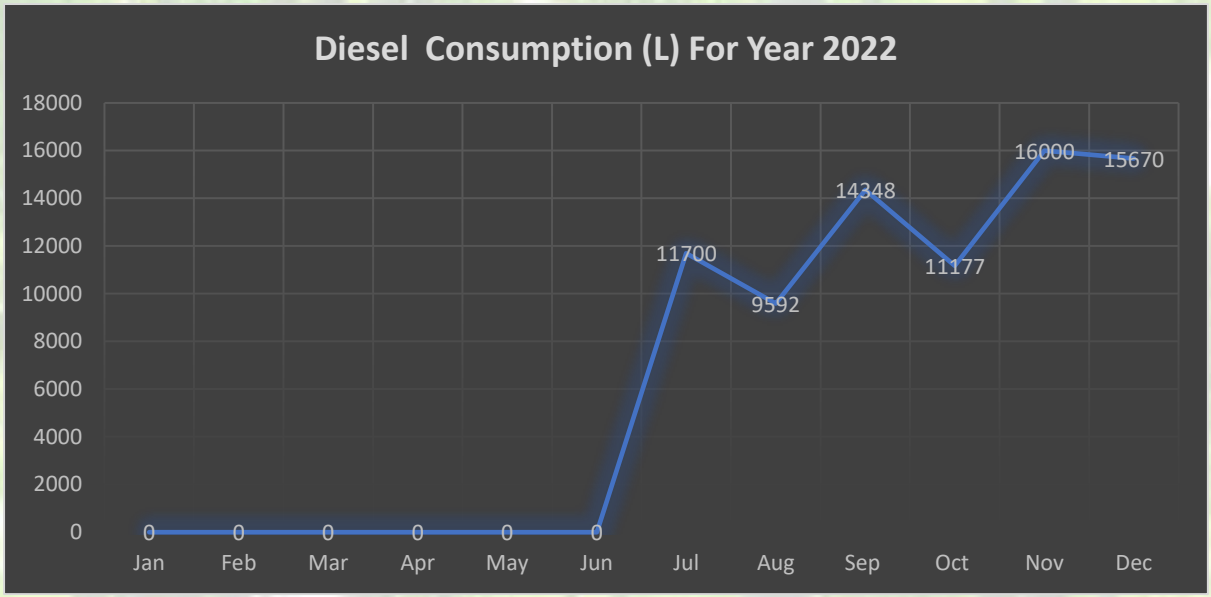


Figure 3 – Graph showing the total diesel consumption on monthly basis by the project sites for the Year 2022.

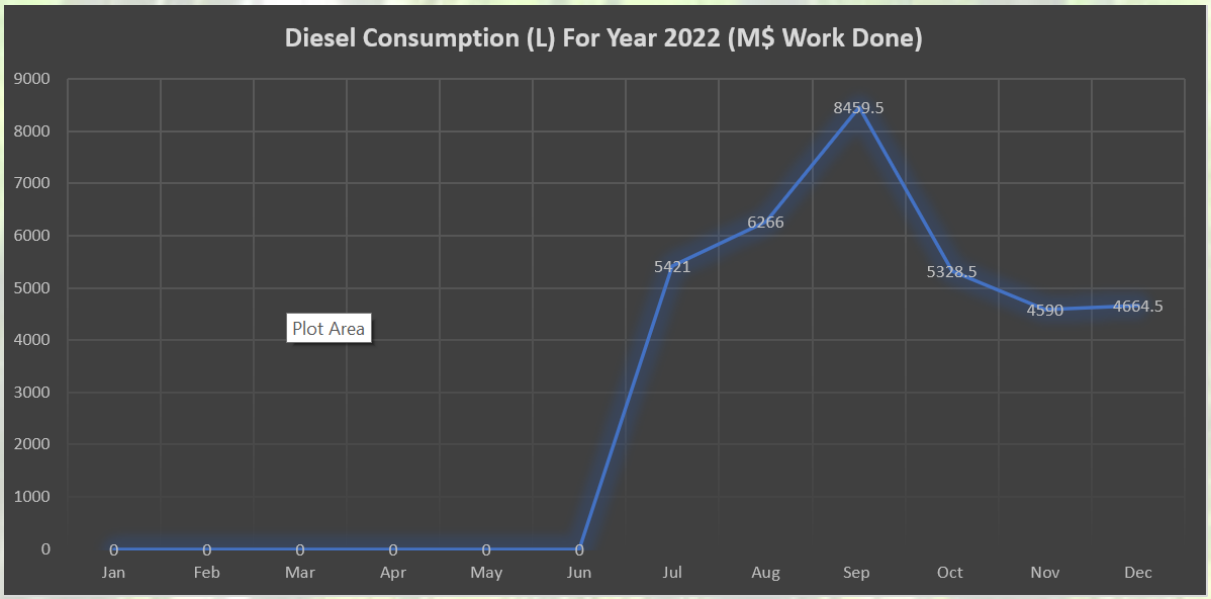


Figure 4 – Graph showing the average diesel consumption on monthly basis based on Million Dollar work done.

Singapore launched the Climate Action Plan in July 2016 which details strategies to adapt to the impact of climate change, such as implementing coastal and infrastructure protection measures. The Plan also explained the approach to reduce carbon emissions up to 2030, which includes: (i) improving energy efficiency; (ii) reducing carbon emissions from power generation; (iii) developing cutting-edge low-carbon technologies; (iv) responding through the collective action government agencies, individual, businesses, and community. It targeted to reduce the emissions intensity by 36% from 2005 level by 2030.

ENERGY, EMISSION AND POLLUTION

Globally, the primary sources of greenhouse gas emissions are electricity and heat (31%), agriculture (11%), transportation (15%), forestry (6%) and manufacturing (12%).

The total diesel consumption for the Year 2022 was 78,487 litres. The increased in diesel consumption is mainly due to project using diesel generator to generate electricity for site offices / dormitory and an increase in construction activities using machineries depending on the phase of construction.

2023 Target(s)

Types of Projects	Target
Commercial	< 1400 L / M$ Work Done
HDB	< 2500 L / M$ Work Done
Private Residential	< 2500 L / M$ Work Done
Industrial	< 3000 L / M$ Work Done
Institutional	< 2500 L / M$ Work Done

WATER

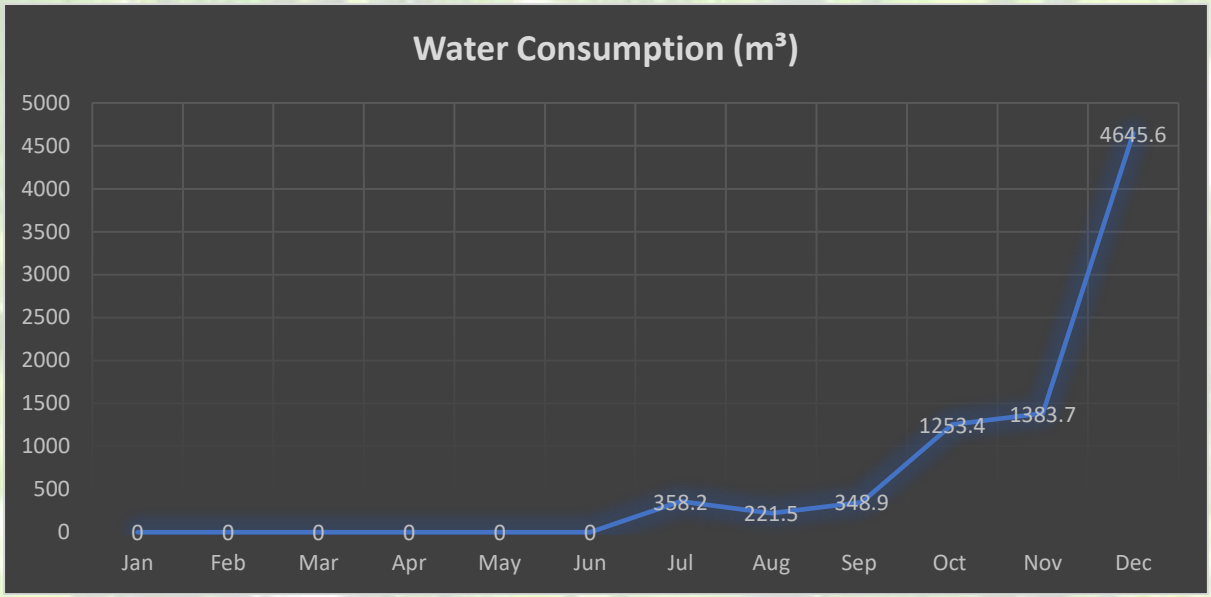


Figure 5 – Graph showing the total water consumption on monthly basis by the project sites for the Year 2022.

Figure 6 – Graph showing the average water consumption on monthly basis based on Million Dollar work done.

Singapore's total water demand is expected to double up by 2060, with the non-domestic sector accounting for 70% of water demand according to PUB. High levels of water use may put significant strains on water resources and result in wastewater pollution that could compromise important ecosystem services and affect the quality of life. In water-scarce Singapore, the consequences can be severe as the threat to water security could be further exacerbated by the impacts of climate change.

Photograph 3 – Auto water spraying system.

Photograph 4 – Ways on how recycled water from treatment plant are being used.

The total water consumption for the Year 2022 was 8,211.3m³ (as both project sites commence only during first half of 2022, data could only be captured starting from July 2022). There were no figures captured during the past few years as the company do not have any on-going project in Singapore.

In December 2022, there was an increase of 336% from 1383.7m³ to 4645.6m³. This is due to the commencement of the worker dormitory (500pax capacity) which is located at HGN1C13 project.

ENERGY, EMISSION AND POLLUTION

The key performance indicator (KPI) for water consumption is 500m³ / M$ work done for 2022 and both projects managed to keep the number below the target.

2023 Target(s)

Types of Projects	Target
Commercial	< 200 m³ / M$ Work Done
HDB	< 500 m³ / M$ Work Done
Private Residential	< 400 m³ / M$ Work Done
Industrial	< 500 m³ / M$ Work Done
Institutional	< 340 m³ / M$ Work Done

CONSTRUCTION WASTE

Figure 7 – Graph showing the total general construction waste on monthly basis by the project sites for the Year 2022.

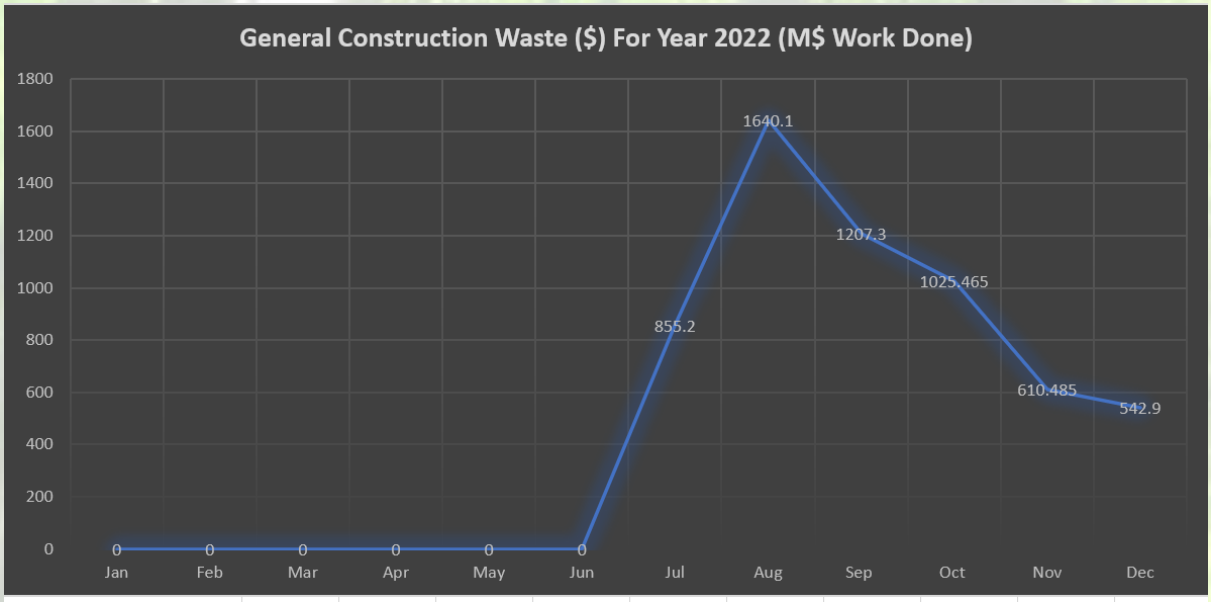


Figure 8 – Graph showing the average general construction waste on monthly basis based on Million Dollar work done.

Construction activities may generate large amounts of waste which may put a strain on our natural resources and ultimately lead to environmental degradation. Proper waste management is necessary to avoid air, water, and soil pollution, which pose a threat to the environment and human health. The management of proper waste management is following the Environmental Management System ISO 14001:2015 on the concept of Plan-Do-Check-Act (PDCA) which require us to:

ENERGY, EMISSION AND POLLUTION

1. Plan: establish waste management objectives and processes necessary to deliver results in accordance with the organization's management of waste policy.

2. Do: Implement the processes as planned.

3. Check: monitor and measure processes against the waste management policy, including its commitments, objectives, and operating criteria, and report the results.

4. Act: take actions to continually improve.

Similarly, effluents must be disposed properly especially where substantial quantities of chemicals and nutrients (principally nitrogen, phosphorous, or potassium) are present. Failing to do so would affect water quality and in turn negatively impact the ocean's biodiversity and aquatic ecosystems.

We strive to ensure that proper management and disposal of effluents by conducting regular testing of water discharged and complying with discharge quality standards. TSS Meters have been installed at the water discharge points to monitor the quality of water discharged into public drains. The monitoring is conducted using closed-circuit television (CCTV) footage and readings obtained from the TSS Meters.

Photograph 5 – Recycle bin placed on site.

00	05	10	15	20	25	30	35	40	45	50	55
3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
3.4	3.3	3.4	3.4	3.4	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.3	3.3
3.4	3.4	3.4	3.4	2.7	2.8	2.7	2.7	2.7	2.6	2.9	3.3
3.4	3.3	3.4	3.4	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4

Photograph 6 – CCTV image showing the cleanliness of water being discharge out of the project sites.

Based on our robust framework to reduce, reuse, and recycle the construction waste generated from our operations are closely monitored for the quantity and composition of the waste being generated. Separate waste bins are placed at our construction sites for the collection of various waste types – general construction waste, scrap metal and food waste.

We continue to work with NEA-licenced waste collectors to ensure that the waste generated is properly disposed of. Our waste management performance is tracked on a regular basis through monthly reviews and data submitted to the Building and Construction Authority (BCA) each year under the Green and Gracious Builder Scheme.

Photograph 7 - Prefabricated Prefinished Volumetric Construction (PPVC)

Further, we adopt innovative technologies and processes to reduce waste. In lieu of conventional construction methods, the Design for Manufacture and Assembly (DfMA), pre-cast off-site production and PPVC methods are used to reduce the need for wet work at our construction sites. We also utilise system formwork in our construction activities, which replaces and can be reused more than the conventional metal and timber formworks. In addition, Building Information Modelling (BIM) is used to model the mock-up sample instead of building an actual mock-up on site.

SC2
ISO 14001: 2015

Accredited Certification Body
SAC
ES-2020-10

CERTIFICATE OF REGISTRATION
Environmental Management System

This certifies that the management system of
Chang Hua Construction Pte Ltd
112 Lavender Street #04-01 Chang Hua Building
Singapore 338728

has conformed to the requirements of
ISO 14001: 2015

For the scope of
Building Construction Services

General Manager
SC2 Pte Ltd

Certificate No:	Date of Original Issue:	Date of Issue:	Date of Expiry:
CAE/CH/0027/22	02 June 2022	02 June 2022	01 June 2025

SC2 Pte Ltd - No1. Bukit Merah Lane 2 Construction House, Singapore 159760
This Certificate remains the property of SC2 Pte Ltd and shall be returned upon request. The use of certificate is subject to the terms and conditions of registration.

We continue to monitor our wastage management and maintained real time environmental management system. We use the information data to compare with our set targets. This will help us meeting the Environmental Management ISO 14001:2015.

2023 Target(s)

Types of Projects	Target
Commercial	< $950 / M$ Work Done
HDB	< $1500 / M$ Work Done
Private Residential	< $1200 / M$ Work Done
Industrial	< $1300 / M$ Work Done
Institutional	< $1200 / M$ Work Done

GRI 403-1, 403-2, 403-4, 403-5, 403-6, 403-7

SAFETY PERFORMANCE

Figure 9 – Graph showing the Workplace Injury Rate for year 2022.

Classification	HGNC13	HGN1C14	Chang Hua
Fall from height >2m	0	0	0
Fall from height <2m	0	0	0
Slip / Trip / Fall	0	1	1
Struck by falling object	3	0	3
Struck by moving object	0	0	0
Caught in-between object	0	1	1
Cut / Laceration (Hand / Electrical tool)	0	1	1
Injury by flying chips / foreign object	0	0	0

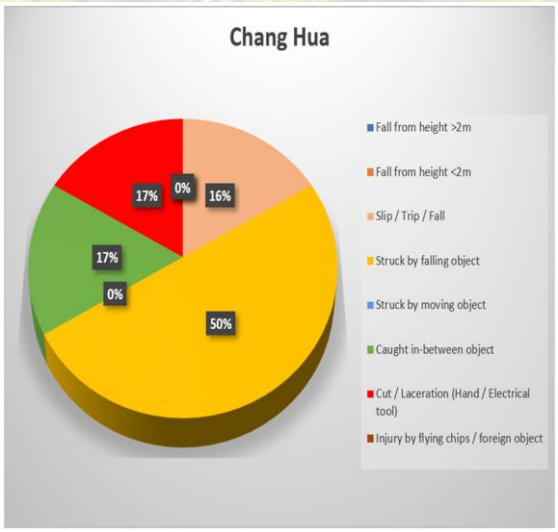


Figure 10 - Classification of the types of injuries obtained.

At Chang Hua, we are committed towards safeguarding the health and safety of our employees and subcontractors. Amidst the COVID-19 pandemic, we monitor the situation closely and maintain close communications with all our employees, foreign workers and relevant authorities. In accordance with the government health advisories and guidelines, we have implemented Safe Management Measures (SMM) in all our projects in 2021. Where

appropriate, we provide support to our workers to meet their needs and promote general well-being during this difficult period. As part of the support to our staff and workers, we distribute masks and sanitation kits to protect themselves from COVID-19.

We continue to provide a workplace where the risk of illness or injury to our workers, community and customers are eliminated or minimalised. Our Occupational Health and Safety Management System was certified under the ISO 45001:2018 standards. The effectiveness of our system is checked by external certification body on yearly basis. As such, our hazard identification and risk management processes undergo constant review and improvement, in turn improving safety for our stakeholders.

SC2
ISO 45001: 2018

Accredited Certification Body
SAC
OSH-2008-02

CERTIFICATE OF REGISTRATION

Occupational Health and Safety Management System

This certifies that the management system of

Chang Hua Construction Pte Ltd

112 Lavender Street #04-01 Chang Hua Building
Singapore 338728

has conformed to the requirements of

ISO 45001: 2018

For the scope of

Building Construction Services

General Manager
SC2 Pte Ltd

Certificate No:	Date of Original Issue:	Date of Issue:	Date of Expiry:
CA/CH/0044/22	04 June 2019	02 June 2022	03 June 2025

SC2 Pte Ltd - No1, Bukit Merah Lane 2 Construction House, Singapore 159760
This Certificate remains the property of SC2 Pte Ltd and shall be returned upon request. The use of certificate is subject to the terms and conditions of registration.

EMPLOYEES HEALTH AND SAFETY

We have an Environmental, Health and Safety (EHS) policy in place to protect all employees against possible occupational risks and prevent accidents from happening in the workplace. Information on the EHS policy is provided to all employees and new employees are informed of the policy during the EHS induction programme.

For new employees at our construction sites, the First-Day EHS induction programme provides an overview of the EHS policy implemented at Chang Hua. The Corporate EHS personnel participates in virtual forums and seminars on a regular basis to keep abreast of the latest regulations and re-examines the existing EHS policy to ensure that regulatory compliance.

Safety updates, initiatives and our corporate health and safety targets are shared with our employees during the daily tool box meetings and monthly EHS committee meetings held at all projects sites. Our employees are encouraged to take part in safety initiatives, which include monthly safety awards, demonstration, talks and creating safety posters. In-person meeting are conducted in small groups with safe distancing measures in place and the duration of the meeting kept to a minimum.

Likelihood / Severity	Rare (1)	Remote (2)	Occasional (3)	Frequent (4)	Almost Certain (5)
Catastrophic (5)	5	10	15	20	25
Major (4)	4	8	12	16	20
Moderate (3)	3	6	9	12	15
Minor (2)	2	4	6	8	10
Negligible (1)	1	2	3	4	5

Risk Level	Acceptability of Risk	Recommended Actions
Low Risk	Acceptable	No additional risk control measures may be needed. However, frequent review may be needed to ensure that the risk level assigned is accurate and does not increase over time.
Medium Risk	Moderately Acceptable	A Careful evaluation of the hazards should be carried out to ensure that the risk level is reduced to as low as -is practicable within a defined time period. Interim risk control measures, such as administrative controls, may be implemented. Management attention is required.
High Risk	Not Acceptable	High Risk level must be reduced to at least Medium Risk before work commences. There should not be any interim risk control measures and risk control measures should not be overly -dependent on personal protective equipment or appliances. if need be, the hazard should be eliminated before -work commences. Immediate management intervention is required before work commences.

Level	Severity	Description
5	Catastrophic	Fatality, fatal diseases or multiple major injuries
4	Major	Serious injury or life threatening occupational disease (includes amputations, major fractures, multiple injuries, occupational cancer, actual poisoning)
3	Moderate	Injury requiring medical treatment or ill health leading to disability (includes lacerations, burns, sprains, minor fractures, dermatitis, deafness, work-related upper limb disorders)
2	Minor	Injury or ill-health requiring first aid treatment only. (includes minor cuts and bruises, irritation, ill health with temporary discomfort)
1	Negligible	Not likely to cause injury or ill health

Level	Likelihood	Description
1	Rare	Not expected to occur, but still possible
2	Remote	Not likely to occur under normal circumstances
3	Occasional	Possible or Known to occur
4	Frequent	Common occurrence
5	Almost Certain	Continual or repeating experience

HEALTH AND SAFETY

We carry risk assessments meeting and safety inspections of machineries and equipment once a month to ensure that they are maintained in good condition and meet safety requirements. In addition, Construction Safety Audit Scoring System (ConSASS) audits are conducted every six months by external auditors, appointed by MOM or Singapore Accreditation Council, to assess the welfare of the workers' quarters. Our Safe Management Officer also conducts inspections of toilet facilities on monthly basis.

S/No.	System Elements	BAND			Instructions:
		I	II	III	- Shade cells that achieve 70% and above in ascending band sequence, starting from Band I.
1	WSH Policy	100%	100%	100%	
2	Organisational roles, responsibilities and authorities	100%	75%	100%	
3	Actions to address risk, opportunities, legal & other requirements	100%	82%	67%	
4	WSH Objectives & Planning to achieve them	100%	80%	25%	
5	Resources	100%	100%	50%	
6	Competence	100%	83%	100%	
7	Awareness	100%	75%	100%	
8	Communication	100%	80%	NA	
9	Documented information	100%	83%	50%	
10	Operational planning & control	100%	86%	100%	
11	Safety controls	88%	100%	NA	
12	Health and wellness controls	100%	100%	NA	
13	Contractor Management & Procurement	100%	75%	100%	
14	Emergency preparedness	100%	100%	NA	
15	System monitoring, performance and compliance evaluation	100%	80%	0%	
16	WSH inspections	100%	100%	100%	
17	Internal audit	100%	NA	NA	
18	Management review	100%	NA	NA	
19	Incident, non conformity and corrective actions	75%	100%	75%	
20	Continual improvement	100%	100%	NA	
	No. of elements in band (≥70%)	20 / 20	18 / 18	8 / 13	
	% of Total element score 70% and above	100%	100%	62%	
	Mean score in each band	98%	89%	72%	

Name of Lead Auditor: Signature of Lead Auditor:

SUB-CONTRACTOR HEALTH AND SAFETY

We strive to ensure that the safety and health of our sub-contractors by creating a safe working environment at our construction sites and assessing the safety performance of our sub-contractors.

Information on Chang Hua's Environmental, Health and Safety policy and targets is provided to our sub-contractors before and during the commencement of work. Regular dialogues are held to allow our sub-contractors to share any concerns or issues that they may have relating to health and safety. Our sub-contractors are also provided with updates and information on incidents reported during our daily toolbox meetings and monthly EHS committee meetings at all project sites.

All contractors (including our second tier and third tier suppliers) are encouraged to attain BizSafe 3. Safety inspections and audits are carried out once every six months to ensure that machines and equipment used by subcontractors are in proper working condition.

Beside conducting an evaluation on each sub-contractor, we provide training to the members of its management team and share best safety practices with them.

2023 Target(s)

- Maintain zero work related incident resulting in fatality.
- Keep Workplace Injury Rate below Construction Industry Rate (Based on the Annual Report from MOM)

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