



中國建築國際集團有限公司

CHINA STATE CONSTRUCTION INTERNATIONAL HOLDINGS LIMITED

(於開曼群島註冊成立之有限公司)

(Incorporated in the Cayman Islands with limited liability)

Leaping Towards a Sustainable Future

2019 Sustainability Report



精築幸福

創領潮流

Building Happiness and Leading the Trend

Tide, born from the ocean, and leads the ocean forward

With the guidance of China Overseas' Leading Culture, we go together with "one country, two systems" policy and resonate with the "reform and opening-up" of China

Hong Kong-rooted, China-based. Global-oriented Keep going beyond, Lead the trend, Stand at the forefront

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About this Report



China State Construction International Holdings Limited (“CSCI”) was listed in Hong Kong (stock code: 3311), together with its subsidiaries (collectively referred to as the “Group”). It operates primarily in building construction, infrastructure investments, project monitoring services and curtain wall construction. By launching a dual core operation model with “infrastructure investment and construction contracting” in Mainland China, Hong Kong, Macau and other overseas districts, the Group is committed to developing into a leading international integrated enterprise in construction and investment.

While pursuing business growth, the Group also incorporates sustainability concepts, such as business integrity, people-orientedness, social care and environmental protection, into its daily operations. To continually improve the transparency of information disclosure, the Group annually publishes its Sustainability Report for review of all.

Dual Core Operation Model

Infrastructure
Investment



Construction
Contracting



About this Report

This is the fourth Sustainability Report published by the Group, as well as the second report prepared in accordance with the Global Reporting Initiative (“GRI”) Standards: Core option. This Report discusses and summarises the Group’s commitment and efforts in sustainability, including management approach, practices and performances in economic, environmental and social aspects, in three key chapters.

Sustainability Governance

Describes the Group’s progress in developing sustainability strategies and managing sustainability-related policies, risks, performances and other daily issues effectively under the leadership of the Board of Directors (the “Board”).

Sustainability Management

Introduces the Group’s dynamic approach to engage stakeholders and the result of materiality assessment. Discusses from the perspectives of operational responsibility, social responsibility and environmental responsibility, the Group’s management methods and annual performance on key issues.

Regional Sustainability Performance

Highlights the Group’s sustainability practices in three major markets, namely Hong Kong, Macau and Mainland China¹.

¹ Operated by China State Construction Engineering (Hong Kong) Limited (“CSCHK”), China State Construction Engineering (Macau) Company Limited (“CSC Macau”), and China State Construction International Investments (China) Limited (“CSCIICL”).

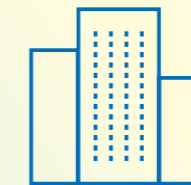
Reporting Boundary

This Report focuses on operational information related to construction and investment operations in Mainland China, Hong Kong and Macau during CSCI’s financial year, from 1st January 2019 to 31st December 2019 (the “reporting year”), as the reporting period. For information on sustainability performance of China State Construction Development Holdings Limited² (“CSCD”), please refer to its independently published Environmental, Social and Governance (“ESG”) report.

In addition, this Report excludes the environmental data of the jointly operation projects which are not led by the Group³. The Group will continually review the reporting boundary with the principle of materiality, to ensure comprehensive and accurate information is timely provided to stakeholders.

Headquarters and subsidiary offices

31

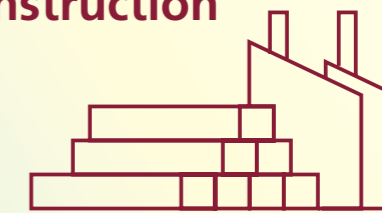


Construction and investment projects

166

Prefabricated construction factories

6



² The listed subsidiary (stock code: 830) of the Group has operations mainly on the business of curtain wall system and related operational management. During the reporting year, the Group has transferred the investment of Shenyang Huanggu Thermolectricity Company Limited (“Shenyang Huanggu”) and two toll bridges in Nanchang to CSCD.

³ The Group holds less than 50% of the equity interests.

About this Report

Reporting Standards

This Report satisfies the “comply or explain” provisions as well as “recommended disclosures” in the Environmental, Social and Governance Reporting Guide (“ESG Guide”), under The Stock Exchange of Hong Kong Limited (“SEHK”). It has also been prepared in accordance with the GRI Standards: Core option with reference to the GRI G4 Construction and Real Estate Sector Disclosures (“G4 CRE”).

The last chapter of this Report includes a complete SEHK ESG Guide Content Index and GRI Standards Content Index, for a quick reference for readers.



For the application of ESG Guide and reporting principles of the GRI Standards of this Report, please refer to the section of Reporting Principles and Application of CSCI's website – Sustainability.

Reporting Content Management

To ensure the accuracy, reliability and completeness of the information presented in this Report, the Group has established internal control and review procedures, and commissioned an independent sustainability consultancy, Carbon Care Asia, to assist in the preparation of this report, including stakeholder engagement, materiality analysis, information collection, data quantification and content design.

The content of this Report has been independently assured by a third party, the British Standards Institute, and was approved by the Board in July 2020.

Publication Channels

This Report is written in both Chinese and English, both of which have been uploaded to the websites of SEHK and CSCI. The Group has also published the a summary of this Report on its Wechat platform, and set up a Sustainability page on the website, to allow stakeholders to review the Group's updates on sustainability at any time.

Feedback Mechanism

Whether you are an employee, investor, client, business partner, public, media or non-governmental organisation, your opinions and suggestions can certainly confirm and enhance the Group's sustainability strategies in the future. The Group is looking forward to having you contact us through csci_esg@cohl.com.



For comments on our sustainability reports, please give us your feedback via the online survey.

Sustainability Governance

While pursuing economic growth, corporations should also strike a balance between the sustainable development of economy, society and environment. CSCI explores and develops a model of sustainability management bearing its own characteristics, and listens to and collects the opinions of stakeholders to further integrate sustainability concepts and strategies into its daily operation. This model ensures the co-existence of reasonable profit, social responsibility and environmental responsibility.

Board Statement

The current society is in an era of continuous development and change. When facing opportunities and challenges, such as the co-existence of economic globalisation and unilateralism, social informatisation, resource shortage and climate change, exploration and implementation of the sustainability model has been the global consensus. With the concept of sustainability taking root in strategic development of modern corporations, the Group, in line with the spirit of honesty, innovation and practicality, strives to create value for stakeholders from all walks of life, through increasing self-management level and technical skills, creating a blissful space through construction.

Systemised management system safeguards the Group's development in sustainability. The Group established the Sustainability Committee in 2018, to manage and coordinate the Group's business in economic, environmental and social aspects, and report to the Board. In two years of work, the Sustainability Committee assisted the Board to formulate the Group's sustainability approach and policies, as well as a stakeholder engagement plan, to clearly establish requirements of sustainability strategies and risk management methods.

Sustainability Governance



To cooperate with the Group's long-term sustainability work plan, the Group promoted the Sustainability Committee to the Board level in the beginning of 2020, enhancing the Board's direct engagement. As a committee under the Board, members of the Sustainability Committee must be appointed by the Board, and more than half of the members must be independent non-executive directors. Under the four work responsibilities listed below, the Sustainability Committee continues to assist the Board in monitoring sustainability related matters and proactively explores opportunities to create positive social impacts:

 <p>Sustainability targets, priorities and policies</p> <p>Determines the Group's sustainability targets and priorities; reviews the effectiveness of the Group's sustainability policies and practices.</p>	 <p>Sustainability risk</p> <p>Advises on the Group's sustainability risk tolerance as well as management strategies; discusses with management the Group's effectiveness in identifying and managing key sustainability risks.</p>
 <p>Sustainability performance</p> <p>Reviews and monitors the Group's general work performance in sustainability, including stakeholder engagement; inspect the work performances and work scheme of the four sustainability subcommittees.</p>	 <p>Sustainability report and certification</p> <p>Reviews and approves the disclosure of information and other certification related work arrangements for sustainability.</p>



For details on responsible matters of the Sustainability Committee, please refer to the section of Sustainability Management of CSCI's website – Sustainability.

Keeping up with societal and market changes and trends, and responding to stakeholders' demands, play a significant role in promoting the Group's sustainability. Through regular stakeholder engagement and materiality analysis, the Board and management can determine and discuss these trends and demands in a timely manner, to further create priority, target and action plan, to manage risks and opportunities related to the Group's business.

In this reporting year, by aggregating the results from stakeholder engagement, the Board confirmed material issues on sustainability covering different aspects, such as business ethics, employee's health and well-being, product and service responsibility and environmental protection. These issues are regarded as the focus of the Group's annual sustainability report, as well as an important reference for the sustainability roadmap that the Group is currently designing. Through the sustainability roadmap, the Group expects to stipulate its vision, focus areas, targets, indicators and concrete action plan, to further lead each business unit in increasing ESG work performance.

Looking ahead, the Group will sufficiently utilise its management experience and business advantages, to continue to seize opportunities, face challenges, and build a sustainable corporation, society and city.

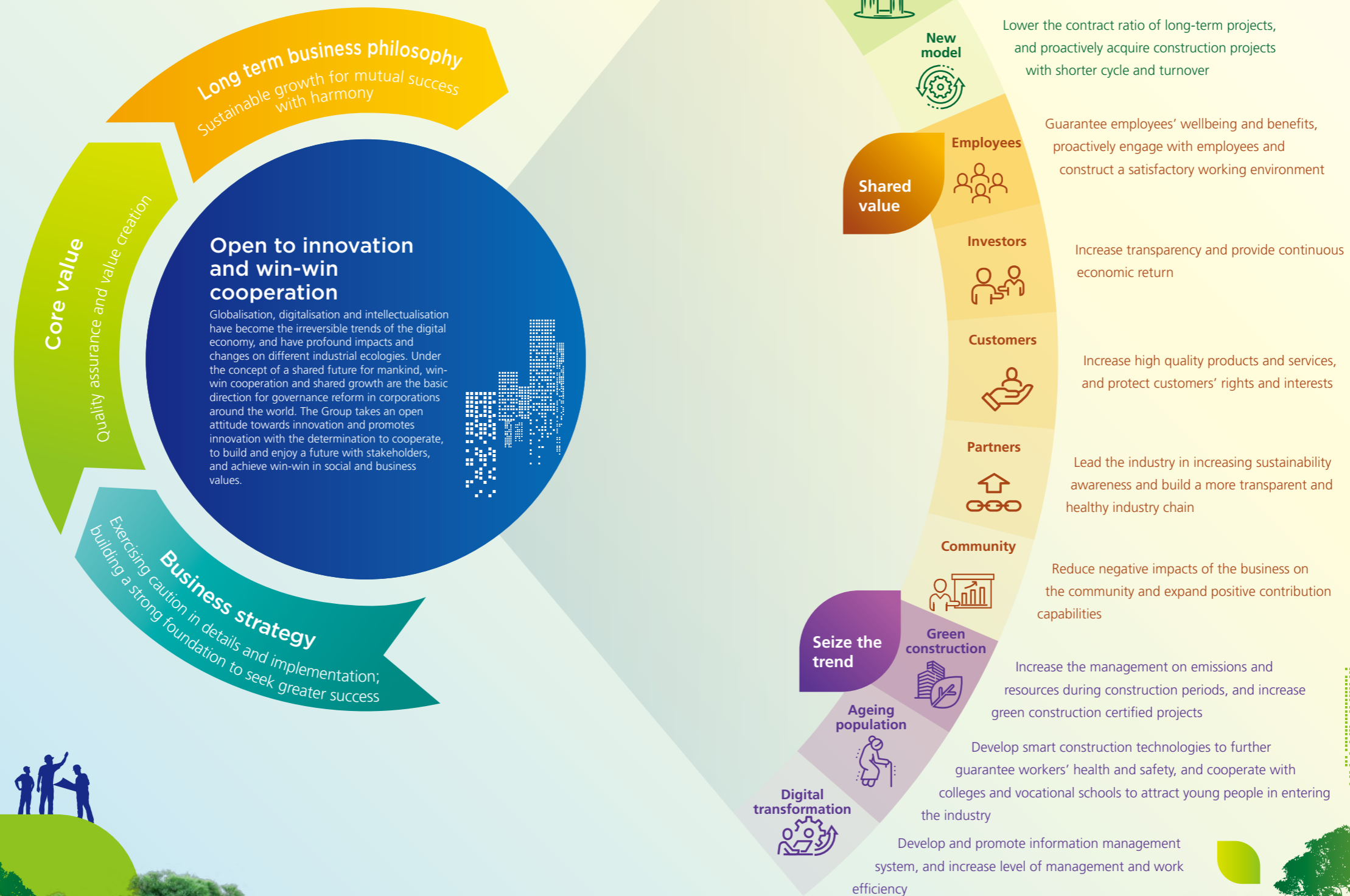


Sustainability Governance

Sustainability Strategy

A sustainability strategy is the key in leading corporations to face emerging global changes and promotes full integration of sustainability in day to day operations. The Group is committed to creating sustainability strategies that fulfil its business development, to systematically promote each project's development in stages, and assist decision makers in effectively reviewing the Group's sustainability progress.

Design Ideas



Sustainability Governance

Institutional Foundation

In 2019, the Group formulated and announced its Sustainability Policy, aiming to ensure all employees understand the Group's standpoint and management system in sustainability. On this basis, we construct and improve working guidelines and general measures that can fulfil different operating situation.

Environmental management policies

- Formulate internal environmental impact management guidelines, and utilise emissions data collection system to conduct daily monitoring, ensuring all air pollutants, waste, noise and wastewater have been properly handled according to requirements;
- Regular monitoring and review of resource consumption including energy, water and raw materials, and formulate saving measures;
- Encourage construction team to reuse construction materials;
- Carefully analyse each project's life cycle, and seek improvement measures to reduce the business' environmental impacts;
- Establish an emergency response system for environmental crisis, clarify emergency service agency and responsibilities, and improve environmental monitoring and warning system;
- Conduct climate change risk assessment, and formulate related measures and targets, to increase resistance capacity towards climate change.

Social management policies

- Construct and maintain a diverse, inclusive and anti-discriminatory working environment, and provide equal opportunities for employees, valuing the protection of their rights and interests;
- Continuously optimise safety management system, improve different safety management regulations and guidelines, promote the culture of safety, and commit to achieving the target of zero work accidents;
- Support employees in lifelong learning and self-value adding, encourage them to continue to study, and be committed to building a complete and multi channeled talent development ladder;
- Respect human rights, never allow child labour or forced labour, and require employees and business partners to comply with corresponding prevention and rectification measures;
- Implement standardised management to ensure that customers are provided with quality and safe services and products;
- Provide complete, sufficient and accurate information, and promise to protect customers and any employment related personal information;
- Respect and protect intellectual property rights, and comply with confidentiality agreement and licensing system of partners;
- Zero tolerance policy towards corruption, fraud and other actions violating professional ethics, and establish procedures for reporting, investigation and handling of related matters;
- Continue to strengthen connections with community, understand residents' needs, and be committed through volunteer services, cooperation with other groups, sponsorship and donations, to support works such as infrastructure projects, community service and charity.

The Sustainability Committee is responsible for monitoring the implementation of the Sustainability Policy to ensure the precise implementation of the policy and continuous communication with employees. Based on factors, such as business changes, regulatory requirements, and stakeholder engagement results, and the effectiveness of ESG measures, the Sustainability Committee reviews the policy at least once a year and revises the policy if necessary.

In addition, the Group is reviewing the relevance of its management policies on compliance management, green construction, safety management, product quality, employees, supply chain and community, with regards to the United Nations Sustainable Development Goals ("SDGs"). With a view to integrate the targeted global sustainability development trends into its strategy, the Group will be able to contribute to a better future.

Sustainability Governance



For details on 17 SDGs' background and description, please refer to the United Nations' website.

Sustainability Governance

Auxiliary Work

The Group developed a series of works during this reporting year, including sustainability ability training and improvement on electronic data collection platform, by raising employee's sustainability awareness, and increase non-financial data accuracy, to build foundation for strategy formulation and work arrangements in the future.

Macau



The Group appointed a sustainability consultancy to conduct three sessions of offline sustainability ability training in Hong Kong, Macau and Henan, aiming to increase employees' understanding on data importance, and methods of collection and recording. The consultant also conducted workshop with middle management, to strengthen participants' understanding of the concept of sustainable development, and listen to their suggestions on the Group's formulated sustainability strategies.

The sustainability consultant assisted the Group in analysing updates on local and international sustainability related report standards, index and scoring requirements, and correspondingly increased the number of collectable items on the sustainability electronic data collection platform. The data collected is not only used for external disclosure, but also helps the Group to compare and analyse its sustainability performance, in order to adopt targeted measures.

Henan



Based on the mindset and initiatives above, the Group has begun preliminary work on sustainability roadmap, and expects to disclose content related to the Group's sustainability vision, areas of focus and targets in the next report.

Sustainability Risk

Sustainability is not only a direction in corporate strategic planning, but also a key element in risk management. According to the 2019 Global Risk Report released by the World Economic Forum, regardless of the possibility of risk or risk impact level, environmental risk factors, such as extreme weather events and failure in reducing climate change and mitigation measures, ranked among the first, closely followed by social risks such as data security and cyber-attacks, reflecting the increasing impact and urgency of sustainability related risks.

The Group values assurance provided to business development, through identification and management of risks in day to day operations by the Board's risk management structure. In this reporting year, the Group identified main risk categories like contract risk, infrastructure investment risk and compliance risk, including sustainability risk factors such as environment and safety. Additionally, with construction, promotion and application of informatisation system, the Group continues to examine risks and protective countermeasures that information security brought to operations.

Risk Factor

Environmental compliance risk

Potential Impact

If the operation in the construction site violated environmental protection laws and is subjected to monitoring, it will damage the Group's reputation and reduce chances of acquiring over new contracts.

Response measures

- Determine key environmental factors related to the construction site's area of operation through environmental factors, compliance obligations and risk assessment, and strictly abide to standard work procedures, no. 12 'Environment Management Work Procedures' in construction.
- Environmental Safety Department monitors operations of construction site, including project inspections, surprise inspections in holidays and night time; if violation is discovered, it is required to rectify problems in the construction site immediately.

Risk Factor

Safety and health risk

Potential Impact

Construction projects have higher risks due to involvement of high-altitude work, machinery operation and heavy goods handling. Safety incidents threaten workers' health and safety, and can bring economic loss to the Group.

Response measures

- Promote implementation of tiered safety management, and arrange safety skills training and safety culture popularisation for employees.
- Introduce innovative technologies, such as smart construction sites and virtual reality safety experience, to enhance safety protection of construction work.

Sustainability Governance

Risk Factor

Information security risk

Potential Impact

The application of informatisation technologies and system not only increases work efficiency, but also increases information security risks, which can threaten the Group's data, confidential information and normal business operation.

Response measures

- Informatisation Management Department released the new version of informatisation management system, comprehensively executing ISO 27001 information security management system.
- Remodel and upgrade the data centre in the headquarter of the Group, and constructed disaster recovery centre, to reduce potential information security problems caused by emergencies such as typhoon.
- Complete the construction of central anti-virus system and promote the application. At the same time, utilise functions, such as real-time monitoring of cyber-attacks, network traffic monitoring and management, to increase the Group's defenses against virus and spyware, and ensure steady network performance.
- Arrange multiple informatisation trainings, internal exchange and sharing and network attack defense simulation exercises.

The Group understands that extreme weather events, and policies and market changes caused by climate change can impact its operations. Referring to its Sustainability Strategy, the Group gradually develops climate change risk assessment, and closely follows on updates of local and international related laws, agreements and disclosure advice. Looking ahead, the Group will improve its risk management framework, further identifying sustainability risks with close relation to its business, and refine risk management, to increase the Group's long-term risk resilience.



Sustainability Opportunities

Global economy's pursuit of sustainable development is reflected in business growth opportunities with higher environmental and social awareness, investment preferences and market preferences, which creates new opportunities for corporate development. The Group takes an open attitude and an innovative way of thinking, aggregating its own competitive advantages and external environmental changes, to grasp new development opportunities.

For example, facing urbanisation, the Group proactively invests and constructs affordable housing and infrastructure construction projects; facing climate change, the Group proactively promotes green construction and develops low-carbon economy; facing new technologies, the Group responds to construction industrialisation and informatisation, and develops prefabricated building and building information modelling; and facing green financial opportunities, the Group is researching in possibilities of green bonds or loan investments in eligible projects.

Moreover, with increasing attention from stakeholders, including investors, on corporation's sustainability, the Group strengthens its disclosure in sustainability information and participates in multiple sustainability related indices and ratings. This reporting year marks the fourth consecutive year that the Group was selected as FTSE4Good index constituent, fifth consecutive year selected as Hang Seng Corporate Sustainability Benchmark Index constituent, and attained the highest level of CarbonCare ESG Label awarded by CarbonCare InnoLab, reflecting external recognition on the Group's efforts in sustainability.

FTSE4Good
The Group was selected as a constituent stock in the FTSE4Good Index for four consecutive years

恒生可持續發展企業指數系列 2019-2020 成份股
Selected as a constituent stock in the Hang Seng Corporate Sustainability Benchmark Index for five consecutive years

ESG
Attained the highest level of CarbonCare ESG Label awarded by CarbonCare InnoLab

Sustainability Management

Stakeholders' demands and expectations act as an important point of reference for the Group to begin works in sustainability. To stay true and continue on the path of sustainability, the driving force lies with the responsibility of the Group. This chapter starts with the Group's stakeholder engagement plan, and various channels and results, in order to demonstrate how the Group responsibly manages and responds to issues concerning stakeholders, whilst striving to create values in operational, social and environmental aspects.

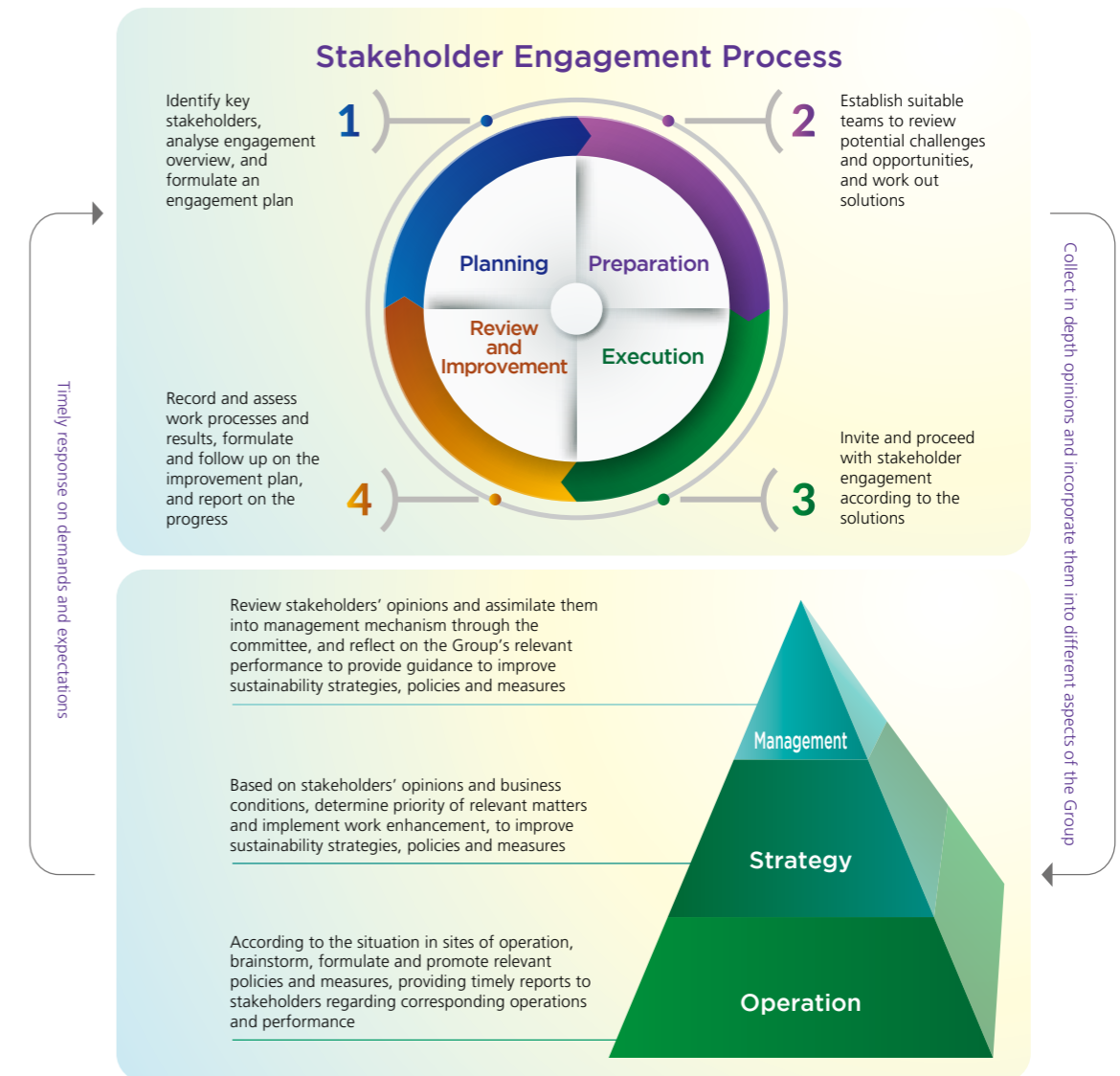


Stakeholder Engagement

A corporation's survival and development are tightly integrated with each and every stakeholder. They inject capital to the corporation, share the same risks with the corporation, and are affected by business activities conducted by the corporation; and they can also bring fruitful and important opportunities for the corporation. Proactively initiating close and transparent communication with them, and listening to their opinions and expectations not only benefit both parties in strengthening their understanding of the corporation, but also simultaneously assist the corporation in recognising its flaws and improve in the future. The Group has been encouraging stakeholders to express their opinions, and has established diverse communication channels with both internal and external stakeholders conducted on a daily basis.

Approach to Stakeholder Engagement

Given that the Group possesses numerous sites of operation spanning over different geographical locations, a systematic communication mechanism with stakeholders can support the Group in establishing an effective and appropriate communication method, collecting different in depth opinions and provide timely responses. By applying the AA1000 Stakeholder Engagement Standard, the Group aims to establish a stakeholder communication mechanism, referring to the framework listed below, to systemically collect opinions from key stakeholders. The opinions collected will be incorporated into management, strategic and operational levels, which may act as a foundation for performance improvement in the future.



Sustainability Management

Regarding the planning of stakeholder engagement, the Group referenced the AA1000 Stakeholder Engagement Standard to begin works on the establishment of the stakeholder engagement plan.



Under the guidance of the consultant, members of the Sustainability Committee identified key stakeholders according to the seven standards in AA1000 Stakeholder Engagement Standard, namely dependency, affectedness, responsibility, influence, representation, proximity and tension. This helps the Group to ascertain the order of priority in engaging stakeholders.

In its day to day operations, the Group has kept close contact with its stakeholders. Their opinions towards the Group's advantages, challenges and areas for improvements will be invaluable in building the 2030 Sustainability Strategy. For this reason, the Group will analyse the engagement overview with key stakeholders, to further determine the engagement level required by key stakeholders, and design an effective and appropriate engagement plan for relevant stakeholders, ensuring stakeholders are involved in each process of building, execution and review of strategy.

Stakeholder Engagement

Stakeholder refers to groups or individuals materially influencing or being affected by the Group's business, including employees, management, directors, customers, business partners, investors, regulatory agencies and various community groups etc. Through diverse channels, the Group continues to engage with stakeholders on a daily basis, in order for them to understand more of the Group's development and operation approaches, and to acknowledge stakeholder opinions and expectations in a sincere and humble attitude.

Key Stakeholders	Issues of Concern ⁴	Schedule Engagement Channels	Relevant Pages
Employees 	<ul style="list-style-type: none"> A safe and healthy working environment Anti-corruption Employment management system Training and development Employer-employee relations 	<ul style="list-style-type: none"> Group's publications Grievance mechanism 	<ul style="list-style-type: none"> → P.38-39 → P.41-54
Investors 	<ul style="list-style-type: none"> A safe and healthy working environment Prevention of child labour or forced labour Health and safety of customer Training and development Anti-corruption 	<ul style="list-style-type: none"> General meetings Public information such as annual reports, interim reports and announcements Roadshow and reverse roadshow Investor meetings 	<ul style="list-style-type: none"> → P.38-39 → P.41-59
Customers 	<ul style="list-style-type: none"> Energy Management of product quality and after-sales service Employment management system Anti-corruption Employer-employee relations 	<ul style="list-style-type: none"> Tender meetings Project briefings Tea gatherings and academic activities 	<ul style="list-style-type: none"> → P.38-39 → P.50-52 → P.55-58 → P.64
Suppliers/Subcontractors 	<ul style="list-style-type: none"> Anti-corruption Customer privacy Waste Generation Anti-competitive practices Prevention of child labour or forced labour 	<ul style="list-style-type: none"> Establish relevant management systems Suppliers/Contractors meetings 	<ul style="list-style-type: none"> → P.38-40 → P.52 → P.59 → P.61-62
Community Groups 	<ul style="list-style-type: none"> Health and safety of customer Anti-competitive practices A safe and healthy working environment Customer privacy Management of product quality and after-sales service 	<ul style="list-style-type: none"> Conduct community opinion surveys Organise charity events 	<ul style="list-style-type: none"> → P.41-49 → P.55-58
Regulatory Agencies 	<ul style="list-style-type: none"> Waste Generation Management of product quality and after-sales service A safe and healthy working environment Health and safety of customer Anti-competitive practices 	<ul style="list-style-type: none"> Feedback through industry associations 	<ul style="list-style-type: none"> → P.41-49 → P.55-58 → P.61-62

⁴ Five most concerned issues of stakeholders on the topic of sustainability collected from 2018 & 2019 sustainability survey results.



Sustainability Management

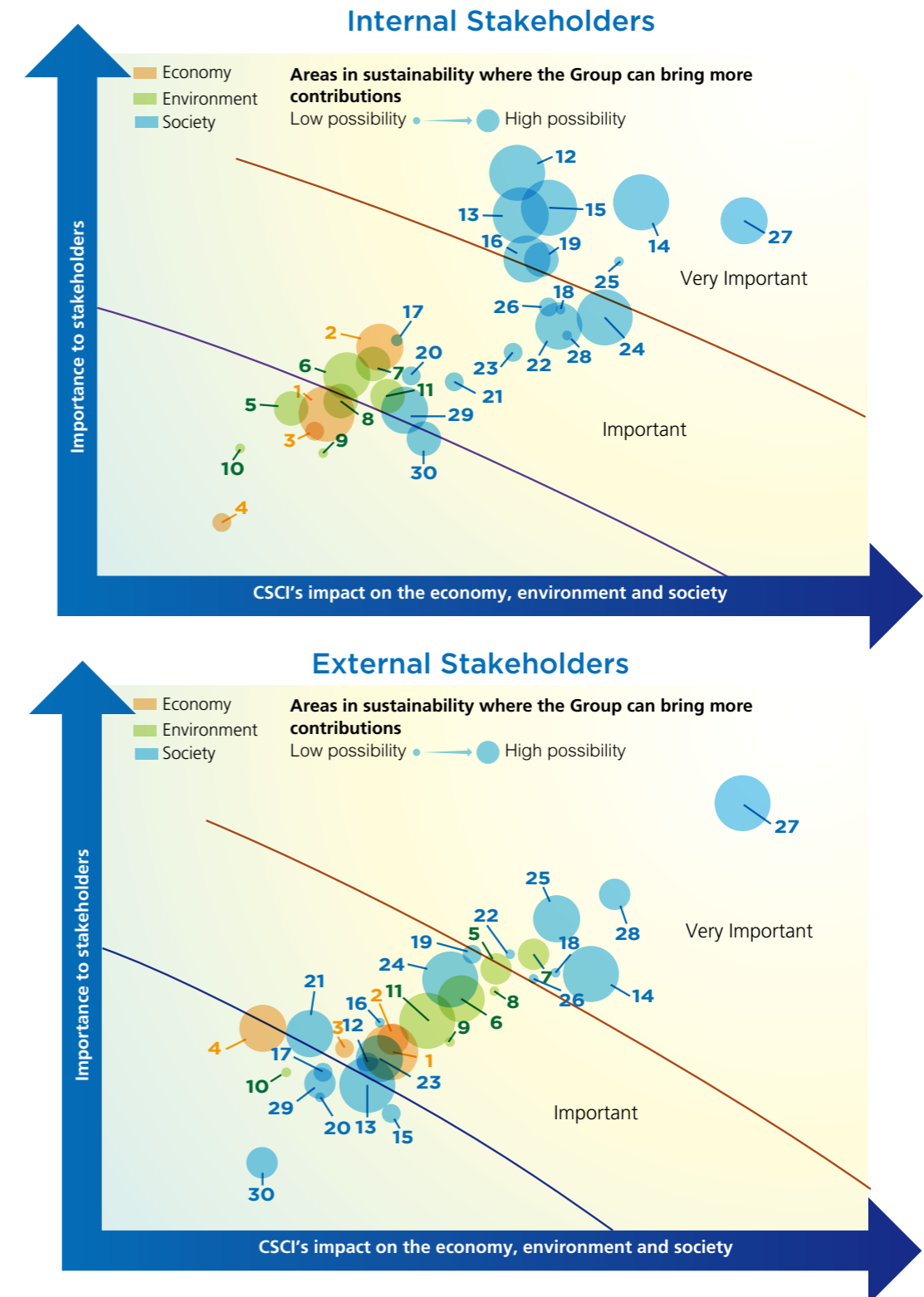


Identifying Material Issues

During the preparation of this Report, to ensure that information disclosed can fit into stakeholder's expectations and reflect on the issues of concern, the Group has authorised the consultant to conduct a series of stakeholder engagement activities and materiality analysis. On the basis of the original materiality analysis mechanism, the Group has purposely invited stakeholders to assess different issues and collect feedback on their perspectives on "Areas in sustainability where the Group can bring more active contributions", in order to assist the Group in reviewing and formulating appropriate sustainability strategies, better responding to stakeholder expectations. The Group utilised the following five steps in identifying this reporting year's material issues in sustainability.

01	Identifying key stakeholders	9 key stakeholders
	The consultant referred to the aforementioned analysis of key stakeholders conducted according to the AA1000 Stakeholder Engagement Standard, as well as the Group's previous stakeholder engagement results, to assist the Group in determining key stakeholders for the current engagement.	
02	Updating the list of issues	30 relevant issues
	The consultant made reference to international trends, industry practices and the results of the Group's stakeholder engagement over the years, and assisted the Group to identify 30 issues that are most closely related to its business and impacts. They cover the three aspects of economic, environmental and social, serving as the foundation of stakeholder engagement.	
03	Collecting stakeholders' opinions	
	To further collect opinions from different stakeholders, the Group invited both internal and external stakeholders in partaking an online questionnaire to rate 30 sustainability issues. The Group received a total of 530 valid responses.	
	Moreover, the consultant conducted five sessions of in-depth interviews with the Chief Executive Officer and all senior management. The consultant also conducted three workshops with internal stakeholders, with aims to: <ul style="list-style-type: none"> • Increase internal stakeholders' understanding towards sustainability issues • Understand the level of attention given by stakeholders to each issue • Collect opinions and advices from stakeholders concerning the risks and opportunities faced by the Group in sustainability 	
04	Identifying material issues	16 material issues
	To identify material issues for internal and external stakeholders more comprehensively, the consultant conducted materiality analysis from responses of internal and external stakeholders separately, assessing each issue's: <ul style="list-style-type: none"> • Importance to stakeholder • The Group's impacts on the economy, environment and society • Areas in sustainability where the Group can bring more active contributions <p>A total of 16 material issues was summarised from analysing the two sets of results. For details, please refer to the materiality matrix.</p>	
05	Confirming material issues	
	Consultant reported stakeholders' opinions and materiality analysis results to the Group's Sustainability Committee. Cross referencing to the Group's sustainability strategy, the committee discussed and confirmed the 16 material issues on sustainability as key disclosure in the Report.	

The Group collected the average score from stakeholders' ratings, and conducted analysis on the materiality of 30 relevant issues, which are displayed in matrix graphs as follow.



Sustainability Management



	Material Issues	Internal – High Importance/ Impacts	External – High Importance/ Impacts	High Possibility in Contributing Actively to Sustainability	Newly Added Issues Compared to 2018
27	Anti-corruption	✓	✓	✓	
14	A safe and healthy working environment	✓	✓	✓	
12	Employment management system	✓		✓	
25	Customer privacy	✓	✓		
15	Training and development	✓		✓	
13	Employer-employee relations	✓		✓	
19	Respect for human rights	✓			✓
16	Diversity, equal opportunities and anti-discrimination	✓			
24	Management of product quality and after-sales service			✓	
18	Prevention of child labour or forced labour		✓		
26	Intellectual property rights		✓		
28	Anti-competitive practices		✓		
22	Health and safety of customer		✓		
7	Waste generation		✓		
11	Land degradation, pollution and restoration			✓	✓
1	Economic performance			✓	

The above material issues on sustainability reflect issues that are: 1) high impacts (positive and negative) of the Group, and extremely important to stakeholders (see “Very Important” area in matrix); and 2) moderate impacts (positive and negative) of the Group, and moderately important to stakeholders (see “Important” area in matrix), and yet acknowledged by stakeholders as issues in sustainability where the Group can bring active contributions.

The top three material issues in sustainability aligns with results from 2018, being 27) anti-corruption, 14) a safe and healthy working environment and 12) employment management system respectively. Compared to 2018, newly added material issues are 19) respect for human rights and 11) land degradation, pollution and restoration. Other than that, analysed results are similar to those of previous reporting year.

The corresponding impact boundaries for the 16 material issues in sustainability are as listed:

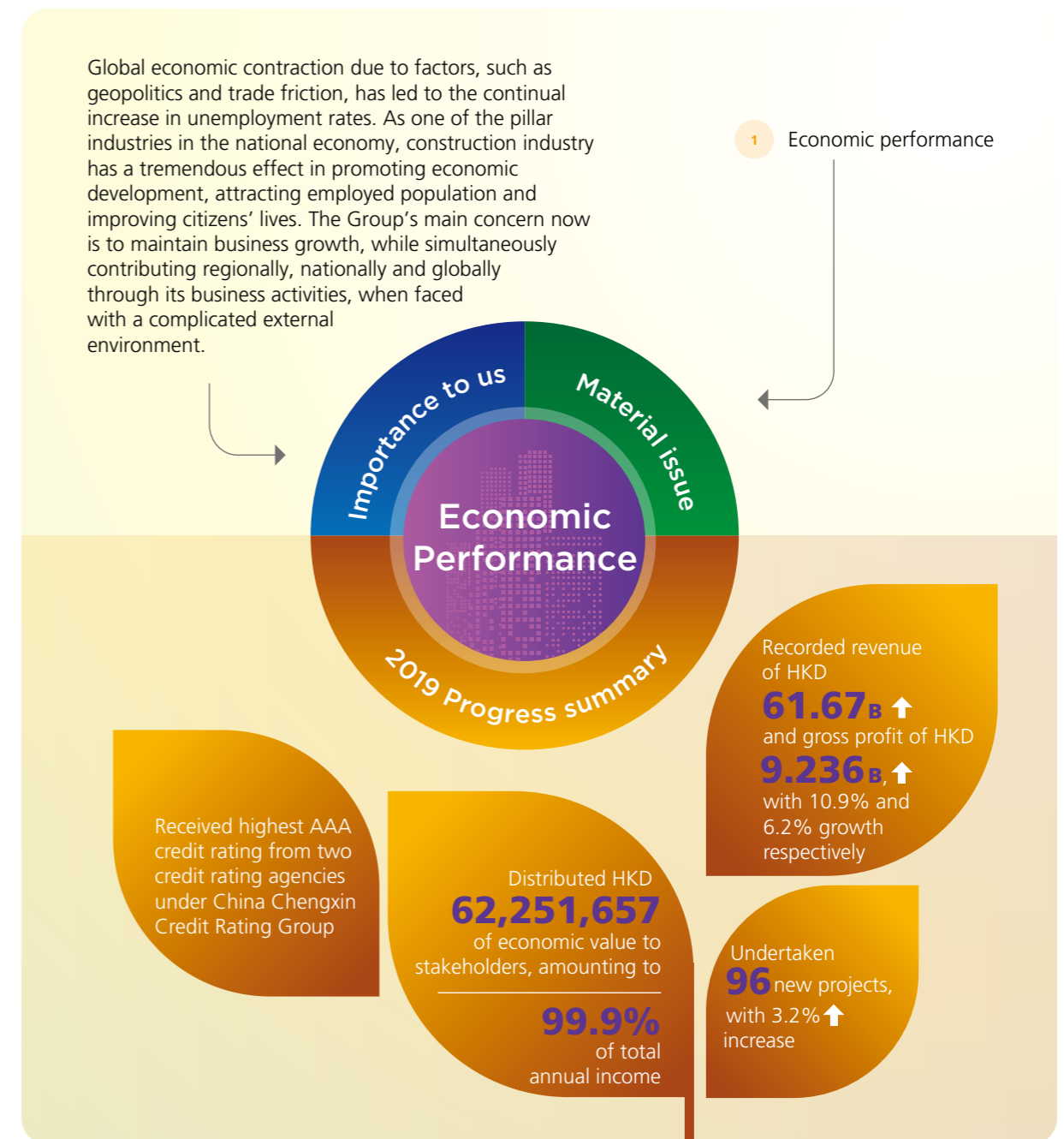
	Material Issues	Impact Boundaries		GRI Standards	Relevant Chapters
		Inside the Group	Outside the Group		
27	Anti-corruption	✓	✓	GRI 205	Sustainability Management – Operational Responsibility
14	A safe and healthy working environment	✓		GRI 403	Sustainability Management – Social Responsibility
12	Employment management system	✓		GRI 401	Sustainability Management – Social Responsibility
25	Customer privacy	✓	✓	GRI 418	Sustainability Management – Operational Responsibility
15	Training and development	✓		GRI 404	Sustainability Management – Social Responsibility
13	Employer-employee relations	✓		GRI 402	Sustainability Management – Operational Responsibility
19	Respect for human rights	✓		GRI 412	Sustainability Management – Operational Responsibility
16	Diversity, equal opportunities and anti-discrimination	✓		GRI 405, GRI 406	Sustainability Management – Social Responsibility
24	Management of product quality and after-sales service	✓	✓	Not applicable	Sustainability Management – Social Responsibility
18	Prevention of child labour or forced labour	✓	✓	GRI 408, GRI 409	Sustainability Management – Social Responsibility

Sustainability Management

Material Issues	Impact Boundaries		GRI Standards	Relevant Chapters
	Inside the Group	Outside the Group		
26 Intellectual property rights	✓	✓	Not applicable	Sustainability Management – Operational Responsibility
28 Anti-competitive practices	✓	✓	GRI 206	Sustainability Management – Operational Responsibility
22 Health and safety of customer	✓	✓	GRI 416	Sustainability Management – Social Responsibility
7 Waste generation	✓	✓	GRI 306	Sustainability Management – Environmental Responsibility
11 Land degradation, pollution and restoration	✓	✓	GRI CRE	Sustainability Management – Environmental Responsibility
1 Economic performance	✓	✓	GRI 201	Sustainability Management – Operational responsibility

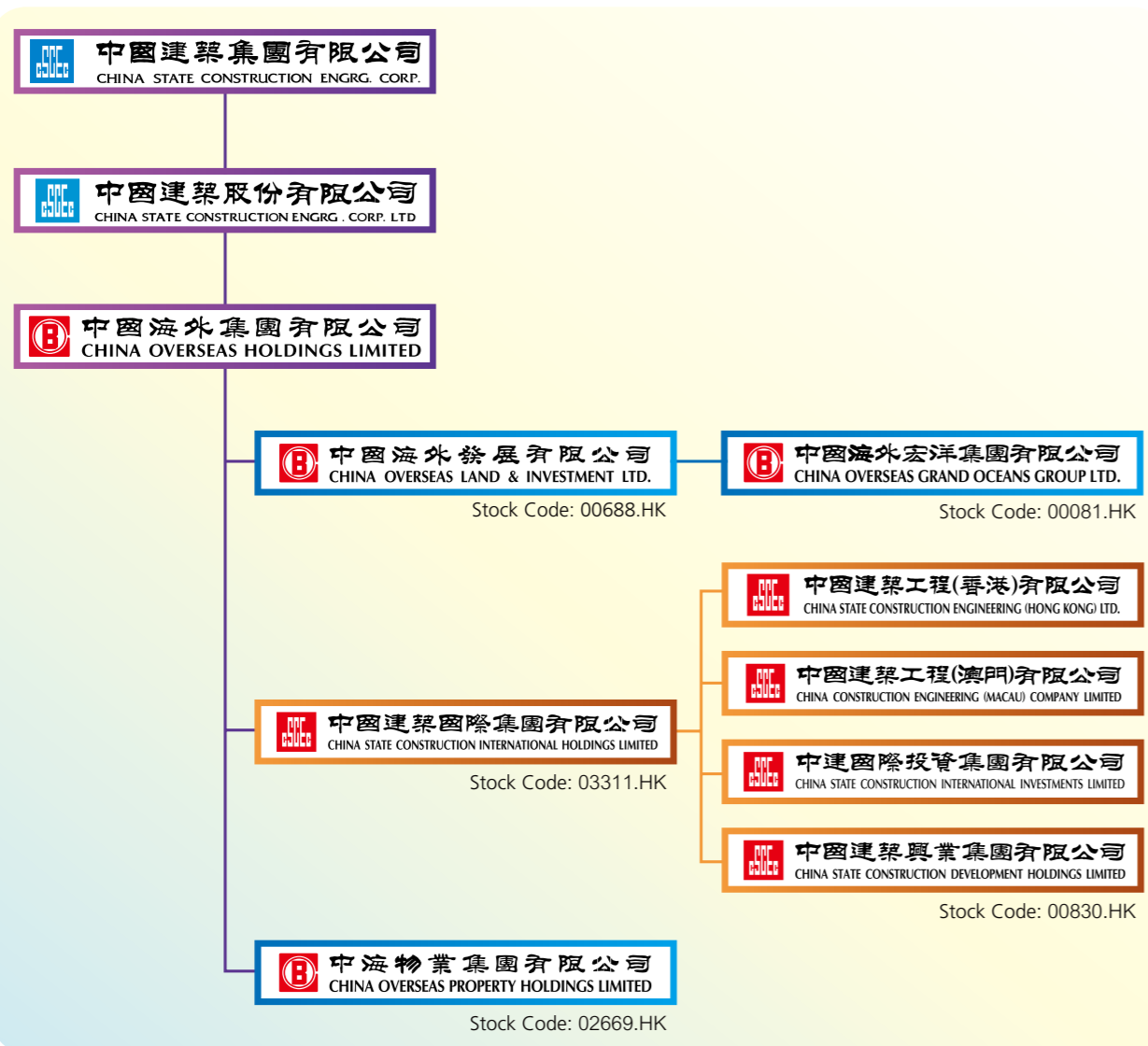
Operational Responsibility

Society is the fountainhead of corporate resources and interests, and corporations are the building blocks of the society. Hence, when conducting business activities using resources bestowed by the society, the corporation should take up responsibility, share its interests and grow with the community. Adhering to the principles of honesty, trustworthiness, fairness and justice, the Group scientifically manages and mitigates risks through compliance management, and the rule of law and institutional constraints, in order to continuously create industrial and corporate value, and lead social and economic development.



Sustainability Management

The Group pursues sustainable business growth in the long run, by promoting economic development in operations from different regions, to create value for stakeholders. In 2019, the Group decided on the strategic approach of "Investment differentiation, Construction differentiation, Operation differentiation", committed to organising and improving technical expertise. The aim is to expand the Group's reach in construction market of Hong Kong and Macau, as well as investments and operations management market in Mainland China, and the curtain wall construction business of CSCD. The Group utilises "Technology, Capital, China and Overseas cooperation+" as its core competitive advantages, which will soon become "A leading corporation with competitive international complex construction and infrastructure investment".



Core Business

Hong Kong and Macau

Construction projects in public housing, private residential buildings, commercial and industrial buildings, medical institutions, educational and cultural facilities, investment-driven contracting, hotels and public constructions.



Mainland China

Investment and construction in toll roads, toll bridges and various housing constructions, such as affordable housing, hospitals and schools, mainly following the "private-public partnership" model.



CSCD⁵

Services ranging from design, manufacture and production to exterior wall construction, for businesses related to glass curtain wall.

During the reporting year, the Group has successfully started its business plans, completing main construction projects such as the expansion of Hong Kong Tai Po Water Treatment Works and its water carrying services, construction investment project for infrastructure in Zhengzhou City, Henan Province, as well as construction investment project for relocation housing in New District Gardens of Huai'an City, Jiangsu Province. The Group has also acquired 96 new construction contracts. Business with prefabricated construction industrialisation and infrastructure project operations has been going smoothly. Annually recorded revenue and gross profit was HKD 61.67B and HKD 9.236B, each recorded 10.9% and 6.2% increase respectively.

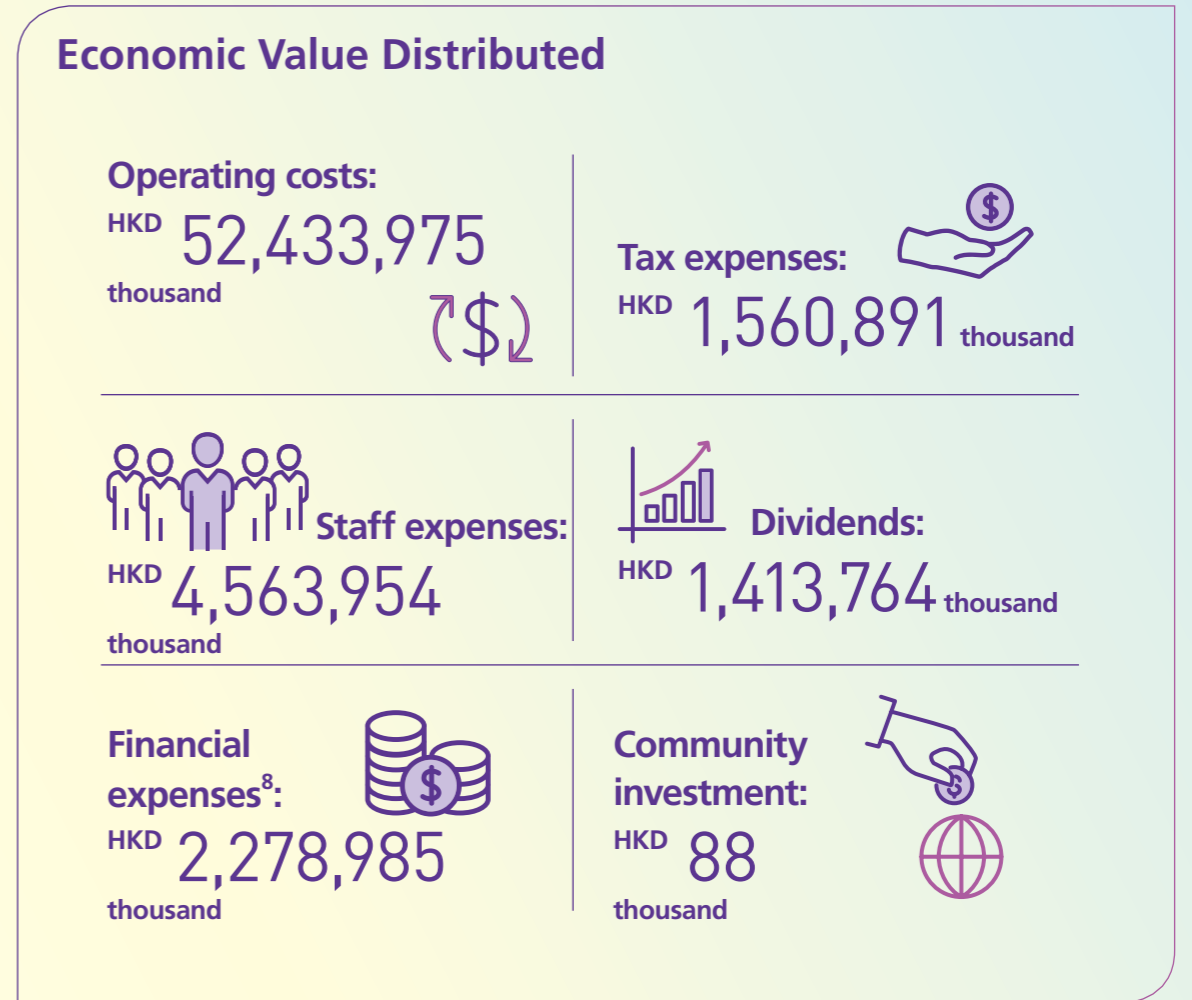
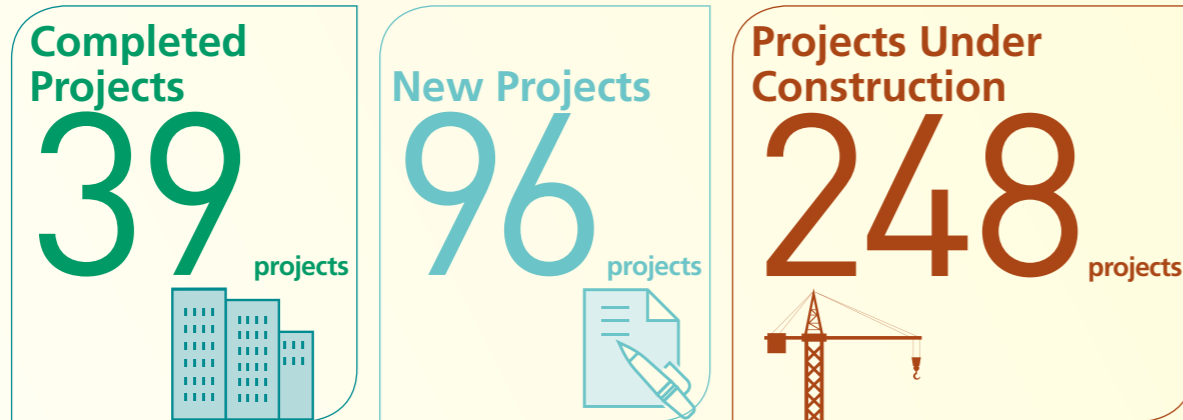
⁵ This listed subsidiary is managed by independent management team at the moment, therefore viewed as independent business unit of the Group.

Sustainability Management



For project details and financial status, please refer to CSCI's 2019 Annual Report.

Core Business (Continued)



⁶ Two of the bases have not become fully operational within the reporting year.

⁷ Includes interest income, dividend income, asset sales income, exchange gains, etc.

⁸ Includes interests from all kinds of debts and loans.

Sustainability Management



For corporate governance practices details, please refer to CSCI's 2019 Annual Report.

A corporation's longevity is inseparable from a value chain management that puts morality and ethics at its core. Purely pursuing profit maximisation and neglecting business ethics, not only damages stakeholders' interests, but also exposes the corporation in danger of being abandoned by society. The Group is committed to improving legal compliance in operating systems and passing the concept of responsibility to all stakeholders, constructing business morality and ethics through strengthening the effectiveness of corporate governance.

- 27 Anti-corruption
- 19 Respect for human rights
- 26 Intellectual property rights
- 28 Anti-competitive practices
- 25 Customer privacy



Developed a more detailed project risk assessment system, with discussion during management's regular monthly meetings, and supervision on execution to ensure operational risks falls within a controllable range

5,952 employees participated in training related to anti-corruption, which is **53.57%** of total employees

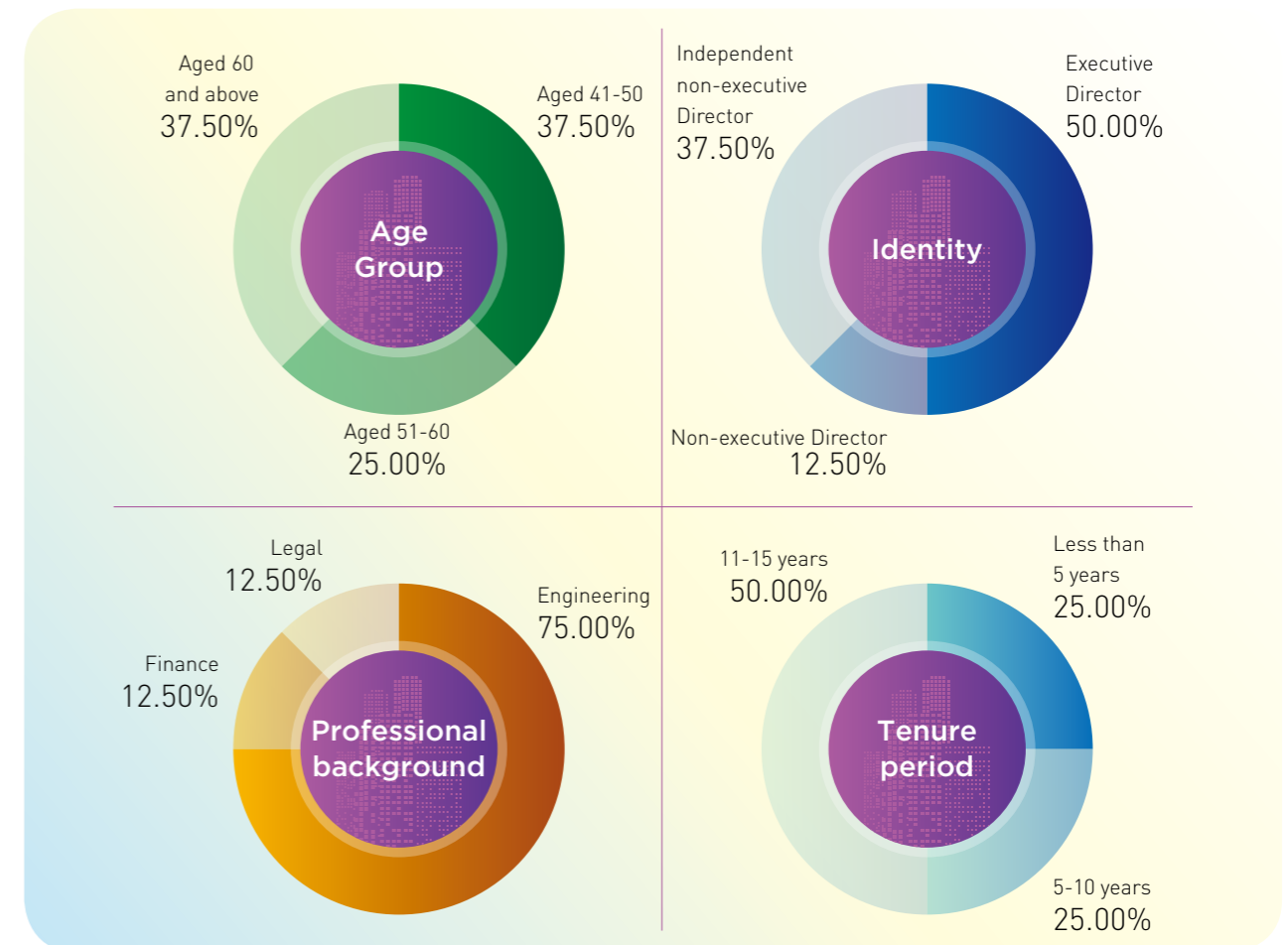
No discovery of actions which violated the Group's code of conduct

Started internal control testing in subsidiary which targets contract management, income management, capital management, cost management and cost audit, to further monitor, control and improve the quality of the Group's internal monitoring system

Corporate Governance Structure

The Group is headed by a competent Board. The Board is responsible for managing and monitoring the Group's overall strategy, policies, business plans, financial performance, internal monitoring and risk management system. Each director is appointed by the Group with consideration to their expertise, skills and experience, as well as the Group's development needs. As of the end of 2019, the Board has eight directors, with three independent non-executive directors. The Board has the Audit, Remuneration and Nomination committee, which consists of independent non-executive directors, to ensure the Board's independence and the Group's governance level.

The Group believes that diversity in members of the Board is beneficial in raising decision making capability and reducing the effects of groupthink. According to the Board's member diversification policy, the Nomination Committee has taken into consideration the diversity of members' gender, age, education background, professional experience, knowledge, culture, service term and more.



Sustainability Management



For risk management and internal monitoring situation details, please refer to CSCI's 2019 Annual Report.

Risk Management and Internal Control System

The Group understands the importance of risk prevention for a business' steady development, and has continually promoted the development of risk management and internal monitoring system. At the same time, the Group formulates a risk management structure, to clearly specify responsibilities of each functional department. The Board is responsible for determining the Group's risk management and internal monitoring strategies, assess acceptable risks by nature and degree, as well as supervising management in designing, implementing and monitoring the system.

Under leadership of the Board, the Group's Audit Department regularly reviews the effectiveness of the Group's risk management and internal monitoring system. Based on deficiencies and defects, the Audit Department directly reports and provides advice to the Chief Executive Officer, and prepares at least one aggregated report per year for review by the Board. In the reporting year, the Audit Department further investigated, researched and assessed one of the Group's subsidiaries, focusing on its cost control and integrated management, operation procedures, internal monitoring, finance, contract, quality control, work supervision and control, safety control and environmental control, as well as conducting analysis on the subsidiary's profit and non-profit factors.

Additionally, the Group has a Risk Management Control Committee set up, to continually identify and manage the Group's strategic risks, financial risks, market risks and operational risks. Chaired by the Chief Executive Officer, the committee comprises of the Executive Director and senior management from the Finance Department. The Audit Department and Risk Management Control Committee continue to independently assess risks, to manage risks at an acceptable level.

Anti-corruption

The Group has always stressed honesty and integrity as important foundations in a business' code of conduct and opposes any forms of corruption. To ensure the Group upholds transparency, integrity and accountability as the highest standards internally, the Employee Handbook clearly states what constitutes misconduct, such as conflict of interest, receiving gifts and benefits. Guidance on how to handle such situations are provided, with repercussions and accountability clearly listed in case of violation. Moreover, senior management staff are required to sign a letter of integrity responsibility to ensure accountability to any corrupt conducts under their supervision.

If employees, customers, suppliers or other business partners discover any misconduct, such as the "four forms of decadence" including formalism, bureaucratism, hedonism and extravagance, they can report the incident to the Group through the management system of Letters and Visits Matters and Clues. The report received will be transferred to the Group's Human Resources Department for assessment, and the responsible person of department will assign investigators to collect evidence and submit investigative report. After investigation and report, letters and visit matters cases that cannot be proven or are proven to be untrue will be closed and documented. For proven cases, the Group will handle based on the nature of the case. This includes disciplinary actions, such as warnings, suspension or severance of work relations. Cases suspected of crime will be handled according to relevant laws.



For management system of Letters and Visits Matters and Clues details, please refer to CSCI's 2017 Sustainability Report.

All levels of companies must follow the procedures in reporting evidence for the report case within specified time limit. For handling evidence, abusing power for personal gain, privately keeping, disclosing, under reporting or concealing is prohibited. Solutions in Managing Problems Regarding Letters and Visits have provided detailed guidance on reporting, managing and handling of evidence.

The Group delivers anti-corruption related policies and ideologies to employees and other stakeholders on a daily basis, through "Reminders of integrity to employees and partners during holidays", "Employee warning education" and "Organising visits to corruption free education bases". Furthermore, the Group hosted lectures given by Independent Commission Against Corruption personnel for new employees based in Hong Kong, to raise their awareness in anti-corruption. The lecture covered corruption pitfalls commonly seen in the construction industry, case sharing, employee's anti-corruption responsibilities and ways to report corruption.

Abide by Business Ethics

The Group focuses on the combination between entrepreneurial spirit and morality, and is committed to creating a mutually beneficial, fair and transparent business environment, maintaining good relations with employees, industry peers, suppliers and customers.

Respect for Human Rights



The Group adheres to the United Nations Guiding Principles on Business and Human Rights, and promotes an equal and diverse workplace. The Group has zero tolerance for any forms of discrimination or harassment, and protects employees from being subject to any forms of forced labour. The Group also values friendly and harmonious employer-employee relations, and provides effective and appropriate grievance mechanism, to protect employee rights.

Respect for Intellectual Property Rights



The Group values the protection of intellectual property rights for both itself and third parties. The Group applies for patent, of new processes, technology, research and more in a timely manner, and it authorised third party consulting companies to provide guidance for application when needed. As stated in the Group's Employee Handbook, employees must not utilise others' ideas and products without official authorisation.



For employer-employee relations on construction site details, please refer to the section of Social Responsibility of CSCI's website - Sustainability.

Sustainability Management



Anti-competitive Practices



The Group insists on fair competition, opposing monopolistic practices and vicious competition, to ensure that business activities follow regulations of laws against unfair competition. During the process of bidding, the Group forbids actions such as bid rigging, offering or accepting bribes etc., regularly updates and evaluates the list of qualified suppliers to prevent bid rigging, and will establish system documents related to fair competition based on business development needs. Through building a fair market environment, the Group hopes to promote healthy and sustained development of industry.

Protection of Customer Privacy



The Group values data security, following Personal Data (Privacy) Ordinance and related laws and regulations in properly handling all information provided by clients, employees and business partners in day to day operations. To further protect data security, the Group strengthened ISO 27001 information security management within the reporting year, including completion, promotion and application of a new central anti-virus system, to enhance defenses against information leakage due to virus intrusion or cyber-attacks.

Compliant Advertisement Promotion



The Group has established specialised departments, to provide sufficient and correct information for stakeholders, to set the standard regarding brand positioning, media management, brand activity and market information disclosure.



For information security and management details, please refer to "Sustainability Governance – Sustainability Risks" Chapter in this Report.



Social Responsibility

Rooted in the society, the corporation's operation of business is closely linked to various social groups. The Group continues to deepen the corporate philosophy of "Good Quality & Value Creation". By extending its individual value to the whole society, the Group delivers positive influence on employees, customers, partners and community, with hopes of achieving "mutual success with harmony" by building a livable environment.

Construction industry has always had higher health and safety risk compared to other industries. Work at height, heavy goods handling, machinery operation etc. can increase risks of construction safety hazards. Health and safety issues caused by ageing workforce has slowly attracted attention from construction corporations. The Group insists on the safety management philosophy of prioritising life and operational safety, focusing on close cooperation with subcontractors, committed to providing a more healthy and safe working environment for all employees and workers.



14 Safe and healthy working environment

In order to improve the safety production management system, the Safety Production Supervision and Management System are formulated

Carried out various forms of security inspections, accumulating **23,727** times

Approximately **787** full-time safety employees are employed to take charge of occupational health and safety at the site

Each branch has signed the Safety Production Responsibility Letter, and the safety performance has reached the Group's annual goals

Sustainability Management

Production Safety Management System

The Group values the protection of employees and workers' health and safety, and has built a production safety management system, committed to decrease occurrence of dangerous accidents. The Production Safety Supervision and Management Committee ("Safety Committee") is the highest leadership and decision-making body in the production safety management system. It promotes the implementation of safety and health related management methods, with the approach of "safety first, prevention based and comprehensive governance". Chaired by the Chief Executive Officer, the Safety Committee comprises of Financial Controller, Safety Director, Human Resources Management Leader, Person-in-charge of subsidiaries and Safety Director of subsidiaries. The supervisor from Production Safety Supervision Management Department will act as the secretary for Safety Committee.

Specific responsibilities of Safety Committee include:

- Executes safety management policies requirements of national, regional and parent unit at all operations;
- Improves occupational safety, safety management responsibilities and accountability system;
- Improves production safety emergency management system;
- Sets examples for safety management incidents, incident reports, timely investigation and feedback mechanism, reviews incident investigation reports and handles opinions;
- Formulates annual safety management goals, reviews important construction safety schemes and work plans;
- Organises performance evaluation works.

To raise health and safety management standards, the Group introduced internationally recognised professional health and safety management systems. As of the end of 2019, a number of the Group's branch offices have obtained the OHSAS 18001 certification, and CSCHK has even completed its shift to the new ISO 45001 standards.

Branches with ISO 45001 certification

- CSCHK
- China Overseas Building Construction Limited
- China State Mechanical & Electrical Engineering Limited
- Alchmex International Construction Limited

Branches with OHSAS 18001 certification

- China Overseas Construction Company Limited
- China State Construction International Engineering Limited
- Shenzhen Hailong Construction Technology Company Limited
- Anhui Hailong Construction Technology Company Limited
- Shangdong Hailong Construction Technology Company Limited

Production Safety Management Methods

During the reporting year, the Group has formulated the Production Safety Supervision Management System, which strengthened policy regulations related to occupational health and safety. It provided guidance for production safety planning, inspection, training, emergency management, etc. for investment business, construction business, professional and technical services and operating business.

Contractor Business Safety Management

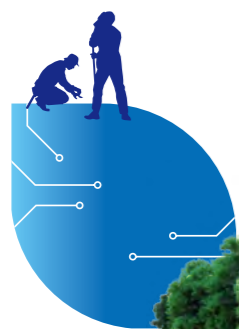
Preparation	
Production Safety Planning	Production units must complete preparation of safety plan one month prior to commencement of construction, providing plans that cover production safety target, indicators, organisation system, risk assessment, technical assurance, education and training, emergency management and cost input, for the safety director and supervisor to review and implement.
Production Safety Training and Promotion	Working personnel must undertake safety education and training, and pass examination before starting work; Production units utilise meetings, internet, briefing and other methods to promote safety; Each team is briefed on safety education every day before work; Production units create training documents, to assess training results and improve in the future.
Identifying Source of Hazard and Risk Assessment	Production units identify potential sources of hazards in construction, assess risk and create checklist for important sources of hazard, as well as updating and inspecting results on each quarter.

Sustainability Management



Contractor Business Safety Management	
Day to Day Management	
Technology Management	<p>Production units identify laws and regulations, technical standards and specifications for production safety in applicable countries, regions and industries. Simultaneously update the directory list, to prepare construction plans that fulfil the requirements;</p> <p>Production units conduct safety technical briefing on project construction design, special construction plans and sub-projects, to ensure all operation personnel understand relevant requirements prior to construction;</p> <p>Production units arrange designated persons to supervise on-site situation of construction plans, to ensure that sites which fail to implement safety plan are rectified, which includes evacuation of organisation operation personnel from areas which might endanger personal safety.</p>
Cost Management	Production units manage and utilise production management budget according to regulations under supervision of Production Safety Supervision Management Department.
Equipment Safety Management	<p>Production units purchase or lease equipment following the principles of technologically advanced, economically reasonable, applicable for production, safe and reliable, and only accepts equipment after successful test runs;</p> <p>Production units constantly check and analyse operating parameter of equipment, to timely identify risks in equipment;</p> <p>Production units set up the Equipment Management Department to be responsible for equipment operation, examination, repair and maintenance, etc.</p>
Contractor Management	<p>Contractor approval and elimination process covers safety qualifications as assessment factors: contractors must submit operational reports of safety system with certifying documents, covering safety performance, personnel changes and safety technical measures;</p> <p>Production units supervise and inspect contractors on-site, and record inspection results; upon discovering failure to meet standards, contractors are required to rectify the situation in time;</p> <p>Production units conduct safety credit evaluation with contractors, rewards and punishments as well as future project contracts are linked to evaluation results.</p>

Contractor Business Safety Management	
Occupational Health Management	<p>Production units identify and assess occupational disease hazards each year, and formulate annual prevention plan and implementation plan;</p> <p>Production units review labour contracts, and notify working personnel of potential occupational disease hazards. Warning signs are set up at eye-catching locations near potentially dangerous workplace, job post, equipment and facilities;</p> <p>Production units regularly inspect level of occupational disease hazards, and conduct inspection and maintenance on protection equipment;</p> <p>Production units supply sufficient protective equipment for employees, and arrange occupational health body checks for personnel engaging in works exposing to occupational disease hazards; upon discovering employees whose physical conditions are unsuited for related works, the production unit will arrange relocation and diagnostic treatment in time.</p>
↓	
Inspection	
Safety Inspections and Risk Investigation	<p>The Group conducts hierarchical management on production units according to scale, risk level, and social impact, promoting supervision inspection of different degree and frequency;</p> <p>When discovering major risks and problems, the production unit should rectify according to the stipulated personnel, time limit, funds and measures on the rectification notice.</p>
↓	
Emergency Response	
Emergency Management	<p>In accordance with the emergency plan, production units should report any information, form on-scene command team, evacuate personnel, and report to government, surrounding corporations and public, when there is an emergency;</p> <p>Production units organise emergency knowledge training and drills and improve the emergency plan based on the issues identified.</p>



Sustainability Management

Besides formulating different safety management systems according to nature of business, offices from different regions should construct appropriate health and safety management plan according to local regulations and conventions, building on the basis of the Group's system.

Policy system	
CSCHK	<ul style="list-style-type: none"> Standard Working Procedures provides guidance for safety and health training, risk assessment, construction site safety and health inspection, handling and reporting work injuries, emergency response, employee safety promotion and health protection; Executing Implementation Methods for Environmental Safety Management Zoning Responsibility System of Construction Site Frontline Management Personnel" and Rewards and Punishment Management Methods for Construction Site Sub-contractor Supervisor and Coworkers, to promote responsibility system with employees and sub-contractor workers, and incentive them to keep raising occupational health and safety related performance.
CSC Macau	<ul style="list-style-type: none"> Safety and Health Policy clarifies CSC Macau's promise on safety and health work aspect, and annual target and indicators; management will review policies annually according to opinions raised by employees from different levels; Formulates a series of safety guidelines and regulations, e.g. Construction Site Hoisting Machinery Working Guidelines, Thunderstorm, Tropical Cyclone (typhoon), and Storm Surge (rainstorm) Emergency Response Working Guidelines, Construction Site Safety and Fire Preventive Measures Management Guidelines and Newly Hired Construction Workers Health Check Guidelines, protecting project safety and standardise health management.
CSCIICL	<ul style="list-style-type: none"> Formulates the Production Safety Management Methods, setting examples for production safety management organisation structure, production safety responsibility, safety planning, production safety technology management, production safety training and education, emergency management, and accident report and handling; The Holidays Production Safety Work Shift Guidelines provides guidance for production safety work arrangements in festivals and holidays during project construction for subsidiaries, to increase emergency management capabilities.



Representative measures	
CSCHK	<ul style="list-style-type: none"> Formulates and implements safety and health management work plan each year. CSCHK sets up safety management team responsible for calling meetings to review effectiveness of the plan, and to suggest for improvement; Establishes construction site safety specialised teams, comprising of construction site manager and worker representatives from different positions, to review day to day safety and health management work of construction site through monthly work meetings; Safety and Environmental Protection Department focuses on safety and health training, facilities, material safety data and construction safety management system. The department conducts safety inspection on construction site every 6 months, and conducts internal safety review for all departments and engineering companies every year.
CSC Macau	<ul style="list-style-type: none"> Ranks construction site safety performance each month according to the occupational health and safety assessment of Labour Affairs Bureau of the Government, and monthly incidence of work-related injury. Rewards are given to construction sites according to the ranking; Promotes morning exercise for construction site, to reduce muscle strain from labour and risk of injury; Promotes daily self-inspections, cross examination for each month's safety management award, special inspections, inspections before severe weather and other forms of safety inspections.
CSCIICL	<ul style="list-style-type: none"> Signs the Production Safety Responsibility Letter with subsidiaries annually, to implement production safety responsibilities Promotes "joint inspection in same city" each month, conduct divisional safety inspections according to project distribution, and evaluate every project inspection. This evaluation mode encourages projects in construction to proactively do well in safety management works, which improves construction; working environment. Arranges special safety activities for employees such as visits to safety education base.

For CSCI Smart safety management system plan details, please refer to the section of "Respond to Global Trend 3: Ageing Population" of the CSCI's website - Sustainability.

Continuous improvement in technology is reflected in different aspects of production activities, including construction safety management. In recent years, the Group has progressively introduced the philosophy of smart construction site, increasing production safety levels through technology. For example, the Group established physical safety experience zone and virtual reality ("VR") experience project at construction sites in Hong Kong, Macau and Mainland China. Workers can choose to experience different projects based on their job nature, to experience the serious consequences to unsafe behaviour more intuitively, and deepen their safety awareness.

Sustainability Management



For annual health and safety statistics details, please refer to Key Performance Indicators Summary Chapter in this Report.

Regional offices also promoted various safety improvement projects. CSCHK established a smart safety management system for trench construction projects, utilising smart bracelets to enable real time monitoring of worker's position, heart rate and blood pressure, where warnings would be sent to outside world when in danger; CSC Macau innovatively utilises crane anti-collision automatic detection and alarm system, to reduce collision risk of machinery; CSCI promotes QR code usage during construction process, where workers can identify situation of major hazard sources through scanning QR code.

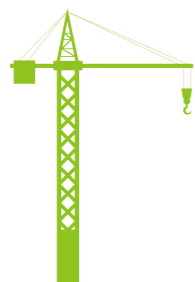
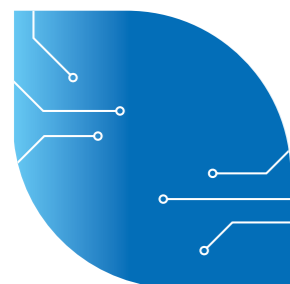
The Group also values worker's involvement on safety management matters. For possible safety management loopholes in the production process, the Group provides channels for reporting, welcomes workers to report relevant issues, and protects them from retaliation. If the reported incident is verified, the whistleblower will be rewarded according to the degree of harm of the reported incident.

During the reporting year, there were 203 work-related injury cases⁹ involving employees and third-party workers, mainly due to slips, trips, lifting or handling of materials; on average, 3.6 work-related accidents were reported per 1,000 employees and workers. The Group has provided appropriate support and compensation for injured employees and third-party workers in accordance with relevant national and local laws and regulations.

Attention to Physical and Mental Health

The Group continues to improve occupational disease prevention responsibility system, and provides health benefits for workers, including suitable life insurance, accident insurance and medical insurance, providing body check subsidies for employees and their family. To promote physical and mental health of employees, the Group encourages employees to build exercise habits, and organises activities for employees, such as fitness walking and basketball competitions. Taking into account the fact that modern people are under pressure and are prone to mental illness, the Group is planning to hold lectures related to mental health and stress relief, and is committed to let employees work and live in a happy mood.

⁹ Including 3 subcontractors' workers fatal cases.



In 2020, the outbreak of the coronavirus has caused a surge in pneumonia. The Group quickly deployed in a unified manner, and began to purchase masks, gloves, alcohol sprays, hand sanitisers and other protective supplies before the Spring Festival, and distributed them to employees and site workers. The Group also promptly purchased supplies and equipment for disinfection and body temperature testing, and implemented anti-epidemic measures in the workplace. In addition, the Group actively responded to the call of the Construction Industry Council to participate in the construction industry's anti-epidemic care action, providing financial assistance to front-line workers diagnosed with infection or requiring mandatory isolation, and purchasing anti-epidemic materials for employees. As of May 31, the Group has invested more than HKD16.06M in internal and external epidemic prevention and control.

The Group has invested more than HKD**16.06** M in internal and external epidemic prevention and control.



Sustainability Management

The Group has hired **11,111** number of employees in Hong Kong, Macau and Mainland China. The new number of employees is **3,165**.

Employees are the main bodies of creation for corporate value and affects every part of business operation. The Group's business covers multiple regions and has large number of employees. It requires continuous improvement on human resources policies and measures, respect and protection for each employee's benefits, and providing room for development to grow together with the Group.

- 12 Employment management system
- 15 Training and development
- 13 Employer-employee relations
- 16 Diversity, equal opportunities and anti-discrimination
- 18 Prevention of child labour or forced labour



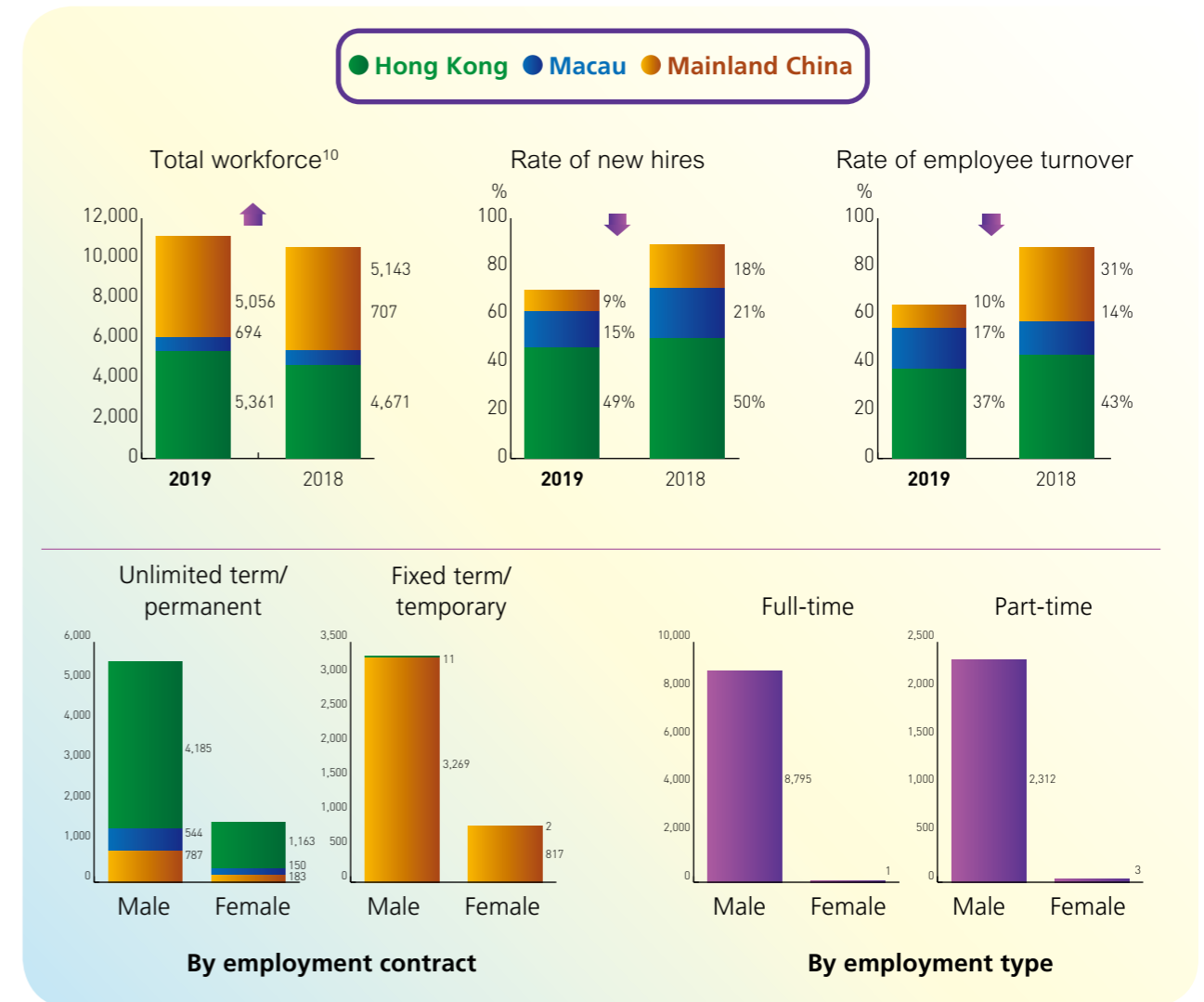
Optimised employee benefits policies, including improving the welfare of the stationed work, implement increase of stationed work benefits, and add paid birthday leave and blissful leave for Hong Kong and Macau regions

Invested over HKD **1.8M** for employee internal training and external learning; more than **24,000** person attended various special training

Did not identify operating sites with risk of using child labour or forced labour

Employment Management

The Group understands the importance of improving employment management system on protection of employee's legal rights. The Employee Handbook lists out the Group's policies and systems on salary and dismissal, recruitment and promotion, working hours, holidays and other treatment and benefits. As of the end of 2019, the Group has hired 11,111 number of employees in Hong Kong, Macau and Mainland China, with 3,165 new hires. *



¹⁰ The number of employees as of December 31, 2019.

Sustainability Management

As an employer that promotes equal opportunities, the Group aims to provide an inclusive, safe, diverse and anti-discriminatory work environment for employees from different backgrounds. Regulated by the Policy to Prevent Discrimination and Harassment, the Group's recruitment, salary, promotion, relocation, training, dismissal and layoff all follow uniform selection standards. Therefore, employees' job is assigned according to their experience, education and skills etc., and is never biased towards gender, race, disability, family, marital status or other factors protected by law.

Regarding salary benefits, employees besides from basic salary, are given daily subsidies according to regulations like lunch subsidies and transport subsidies, as well as non-daily subsidies like travel allowance and wedding vouchers. The Group guarantees statutory holidays, paid annual leave etc., and purchases medical insurance for employees. At the same time, the Group understands the importance of family to employees, and extends care towards their families. Employees' family members can apply to enroll into the Group's medical benefits scheme, and employees meeting certain requirements in job position and tenure, has their family premium fully subsidised by the Group.

Ratio of salary of male employees to female employees	Hong Kong	Macau	Mainland China
Senior	0.52:1	Not applicable	Not applicable
Middle	0.76:1	0.99:1	0.98:1
Executive	1.16:1	1.11:1	0.99:1
General	1.54:1	2.60:1	1.03:1

Child labour and forced labour do not exist in the Group, and the Group strongly opposes such actions. Human Resources Department inspects identity documents of applicants according to established work procedures in the recruitment process and requires applicants' confirmation and signature with their consent on application form. The Group has special Labour Officers at each construction site, responsible for managing and supervising contractors and sub-contractors, to ensure their actions are legally complaint during employment activities. Regular inspection of worker registration information are conducted to eliminate risks of child labour or forced labour.

If employees have any questions or disputes regarding employment issues, they can appeal to leadership through direct supervisor, department head, or Human Resources Department. For sub-contractor workers at construction sites, each construction site has personnel responsible for employer-employee relations matters, accepting related appeals as well as follow up and handling. Employees can also join organisations, such as Hong Kong Construction Industry Employees General Union, to coordinate in promoting fair and reasonable employment conditions in the industry.

The Group did not receive any complaints involving employment matters in the reporting year.

Employee Growth

The Group concerns with development needs of employees, and actively allocates resources to help employees achieve self-worth. According to the Employee Handbook, the Human Resources Department is fully responsible for works related to talent training in the Group, including arrangement of internal training, approving external training subsidies, and issuing education subsidies.

In the reporting year, on internal training, the Group expended nearly HKD 1,300,000, and organised more than 100 training projects, including leadership development training aimed towards senior management, special professional courses for middle level backbone, job training for general staff, and Haina professional recruitment program and Haizhizi Graduate recruitment program for new employees. After completing training, the Human Resources Department will communicate with training lecturers and participating personnel, to evaluate training results.

Target audience	Training scheme	Content
Senior management	Leadership development training	The COHL Management Institute collectively organised a two-day professional training. Tsinghua University's well-known professors taught around "High EQ Leadership" and organised team discussions.
Middle level management	Special professional courses	Management and professional knowledge courses related to respective departments and project works, such as risk management, supply management, financial capital system and procedures, as well as housing, civil and basic engineering construction site management, aims to increase professional capability of management personnel.
General employees	Job training	Targeting different business sectors to develop training beneficial to employees achieving skill enhancement and self-development. Content of training covers industry trends, expertise, system interpretation, corporate culture and other aspects.
New employees	Haizhizi graduate recruitment program	A 10-day training scheme targeting school campus for recruitment, covering leadership training, outward bound training, sandbox simulation and site visit learning.
	Haina professional recruitment program	Training scheme that targets the society for recruitment, contents include corporate culture, talent strategy, company business introduction and sharing from new employees.

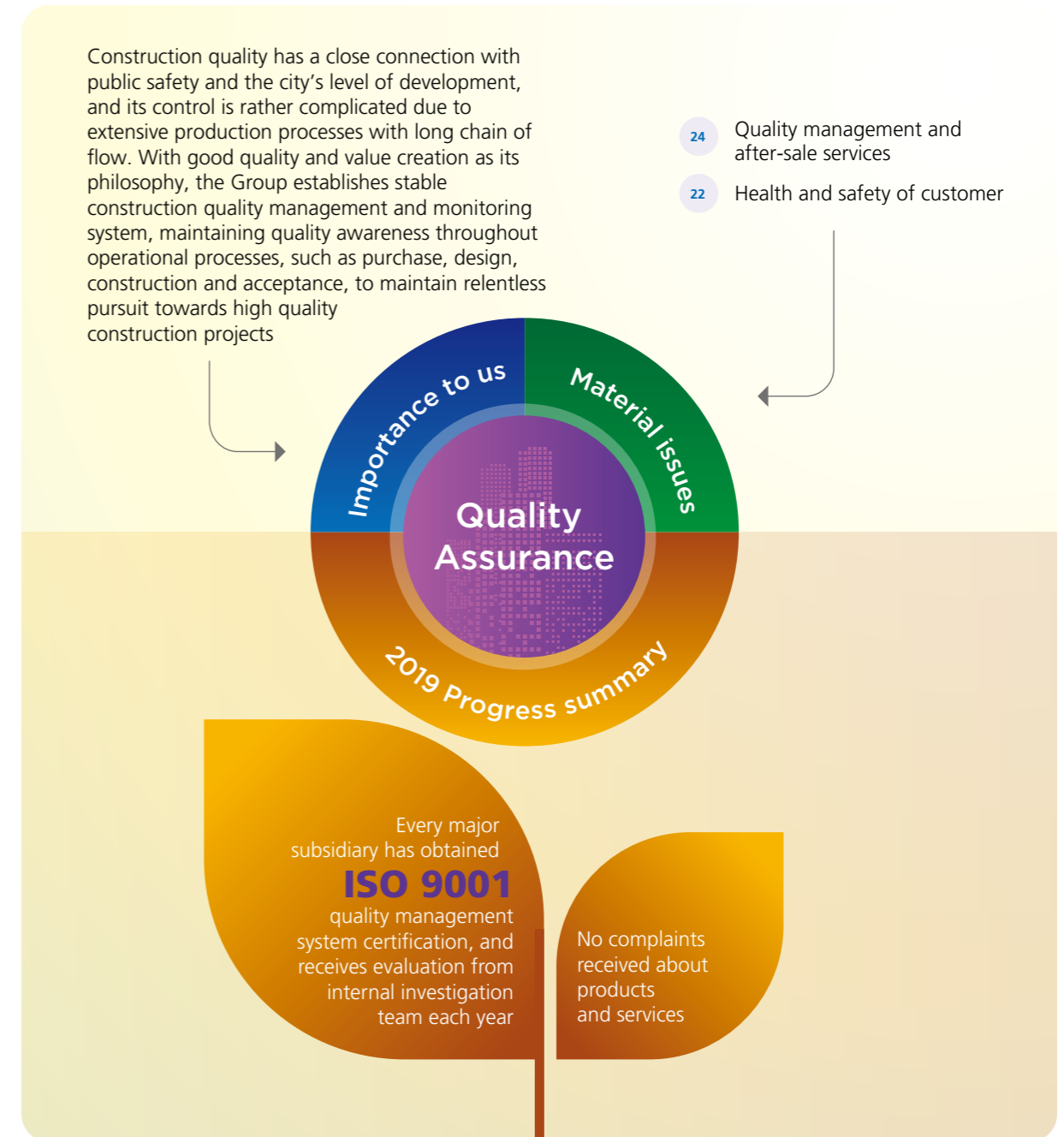


Sustainability Management

Engineer Trainee	Engineer trainee training scheme	Through arranging tutor guidance, it provides implementation opportunities and continuous special training, training undergraduates in becoming professional engineering personnel.
Apprentice	Apprentice training scheme	Cooperate with Vocational Training Council to cultivate teenagers with intentions of joining the construction industry with professional skills on housing construction, civil engineering, building services and quantity surveying, to help them become the industry's new force.

Moreover, in order to help employees in gaining professional skills and additional knowledge, the Group has granted 685 external training subsidy applications and 4 education subsidy applications respectively, with a total expenditure of HKD 601,386.

In 2019, a total of 9,448 employees received training, and the average training hours per employee was 13.72 hours.



Sustainability Management

Increase in product and service quality has always been the cornerstone for the Group's success. The Group continuously evaluates and improves on its quality management system, formulates and implements relevant measures, to strengthen systemisation and standardisation works in quality management, and increase quality management performance.

The Group's main subsidiaries have obtained ISO 19001 quality management system certification. Quality manager is responsible for executing quality management system, through regular internal evaluations, monitoring quality performance and making suggestions for optimisation. Also, to increase employee quality awareness, the Group has included content related to quality management policies into new employee training.

Depending on business conditions and regional regulations, CSCHK, CSC Macau and CSCI have constructed a set of quality management systems, to guide and promote appropriate quality management work. Taking CSCHK as an example, its quality management manual regulated organisation structure with general manager as overall person in charge, and clarified responsibilities for all quality related working personnel.

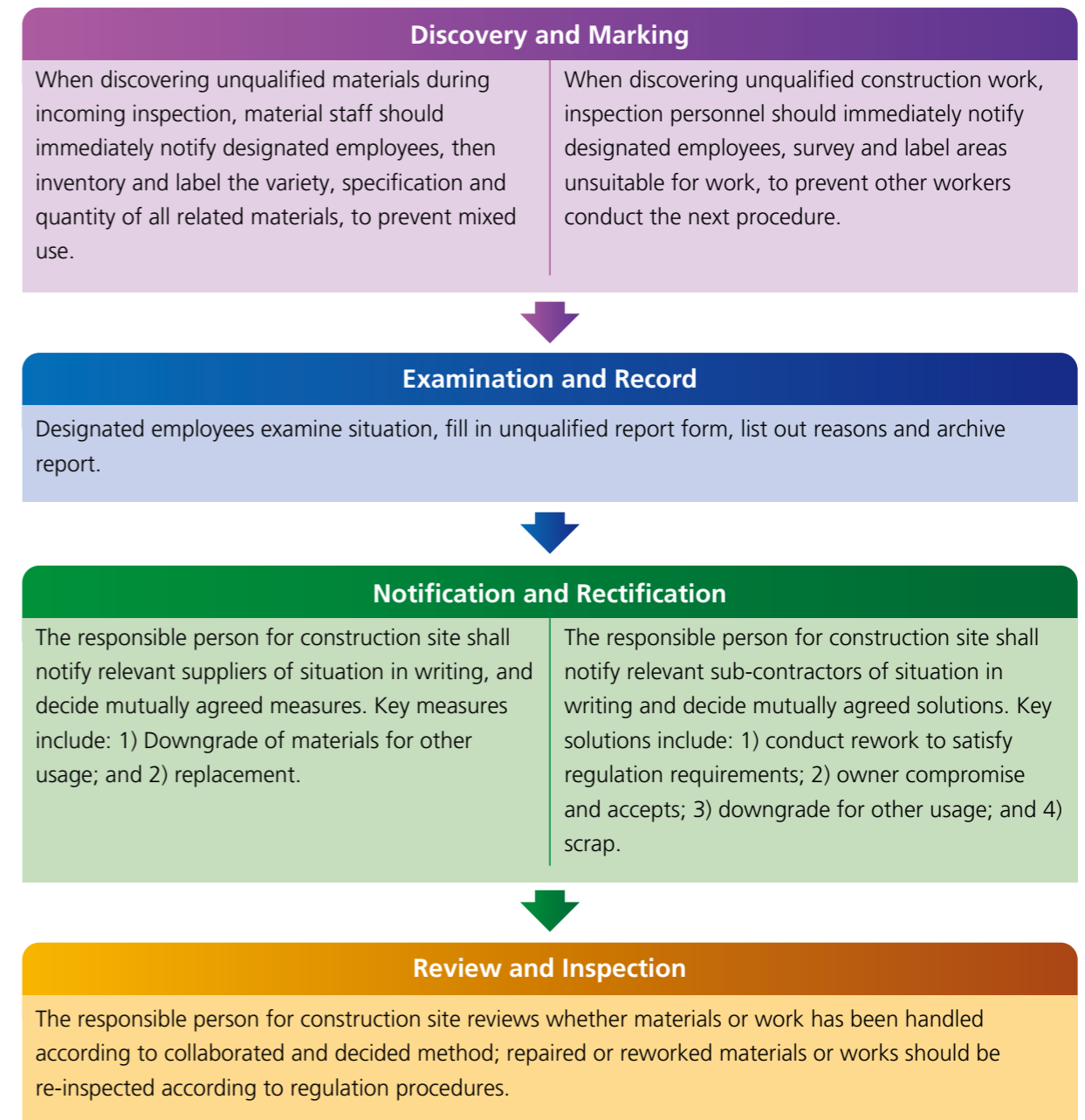
Examples for Quality Related Responsible Units	
Quality Management Work Team	Implements quality management measures, and formulates and evaluates on annual quality evaluation scheme.
Quality and Technical Department	Implements quality policies, targets and indicators, and responsible for internal advertisement, training and promotion, and collect, count and analyse construction site quality information and owner satisfaction rate.
Construction Site Comprehensive Management Work Team	Researches plans to improve construction quality, and implements quality monitoring works at on-site.

Quality Management Manual regulates process and content of construction project management including:

Management process	Content
Construction Planning and Control	Determine key elements in each process, and acceptance requirements of products and service; determine required resources.
Construction Requirements	Communicate with owner on project information, project contract and owner's opinions, determine and review related construction requirements.
Design and Promotion	The Quality and Technical Department prepares design proposal according to related project contract requirements, clarify that design and developed results meet requirements.
Purchase, Subcontracting and Other Outsourcing Management	Assess and manage suppliers and sub-contractors, and ensure materials and finished products from both sides meet regulations.
Construction and Services Provided	The Project Management Scheme at construction sites formulates control methods of required information, monitoring and measuring equipment, construction monitoring, certified appointment and consigned work.

Targeting different natures and requirements of each construction project, CSCHK prepared and implemented a series of working guidelines and procedures, including but not limited to Housing Construction Quality Management Working Guidelines Series, Civil Engineering Quality Management Guidelines Series, Guidelines for Quality Management of Mechanical and Electrical Engineering, Basic Construction Quality Management Working Guideline Series, Project Construction Key Process Quality Monitoring Procedures and Construction Site Quality Accident Report and Follow Up Work Procedures. CSCHK also carried out monitoring and inspection of high-risk projects of various projects. If unqualified incident is identified during material purchase and construction work, it should be handled with related control procedures according to Construction Management, Testing and Experiment Work Procedures and Mechanical and Electrical Installation Management Work Procedures.

Procedures in Handling Unqualified Materials and Construction



Sustainability Management



For application of BIM in prefabricated building details, please refer to the section of "Respond to Global Trend 6: Climate Change" of the CSCI's website - Sustainability.

During this reporting year, CSCHK had 4 minor, 1 general and 1 serious quality accidents. The Group has commenced investigation on accidents according to established procedures, and strengthened related management works, to ensure quality and safety of services and facilities.

Moreover, the Group understands the effect that technological innovation has on enhancing construction skills and service quality. In the reporting year, the Group formulated Technology Management Scheme, to regulate construction engineering method management, skills standardisation and construction projects organisation and design management works. It aims to provide quality construction products and outstanding service for owners. The promotion and application of BIM, increases the project's quality management during stages like planning, design, construction and maintenance.

Supply Chain Management

During the reporting year, the Group has cooperated with a total of 3,455 suppliers. They provided the Group with construction materials and equipment such as concrete, steel bars and gravel, diesel and coal-fired energy, and construction engineering, processing, labour and consulting services.

Selection of supplier's and the Group's project quality are tightly interwoven. Therefore, CSCHK formulated and implemented Procedures for Material Procurement, to set out approval procedures of general supplier with different business nature and purchase scale. It regulates and select suitable suppliers based on construction quality, safety and health, and environmental requirements. Supplier assessment includes consideration to their quality (30%), punctuality (20%), service (20%), safety (20%) and environmental protection (10%); suppliers with individual assessment scores lower than 50% of each score, or scored lower than 60 in total will not be approved to the supplier list. The Group implements such measures to manage its supply chain, in reducing environmental and social risks.

To further ensure that suppliers' quality meets the requirements, CSCHK has specified in contracts that all suppliers are required to sign and fulfil regulations in regard to supplier behaviours. The Group also prioritises suppliers with excellent business capabilities and ESG performance, or with ISO 14001 environmental management system and OHSAS 18001 occupational health and safety management system. If any suppliers are discovered to be involved in high risks, the Group will immediately notify the supplier in urging them to implement rectification measures in a reasonable time period.



The Group believes that smooth communication with suppliers is beneficial to risk management of supply chain. CSCHK invites key suppliers to participate in cooperation satisfaction survey each year, which covers areas such as corporate social responsibility (including integrity and self-discipline) and employees' work attitude (including behavioural performance, results and effectiveness), to deepen understanding of their opinions and suggestions to the Group. On this basis, CSCHK increased ESG performance investigations on key suppliers, requiring suppliers to report its compliance on work accidents, employment, environmental protection, acceptance of advantages and fair competition, as well as list of actions for waste reduction. Aggregating 21 valid responses (valid response rate: 21%), suppliers show 89% average satisfaction level to CSCHK; at the same time, the suppliers' ESG performance was averaged on 85%, with zero non-compliance.

In addition to regular supply chain management, the Group established special teams under special circumstances to resolve material issues promptly. For instance, at the end of 2019, during the beginning of the coronavirus epidemic, the Group has established an anti-epidemic material supply group to collect a list of anti-epidemic supplies, and communicated closely with the manufacturers to ensure quality and timely supply from suppliers, thereby protecting the company and personnel at all levels of the site to have sufficient protective materials to work safely and at ease.

Sustainability Management



For details of the CSCHK environmental goals and indicators, please refer to the chapter on "Regional Sustainability Performance – CSCHK" in this Report.

Environmental Responsibility

The development and operation of a corporation inevitably impact the community where it situates and the surrounding environment. The Group navigates towards achieving sustainability and continues to improve its environmental management system and implement environmental protection actions. This promotes the business model of harmonising business activities and environmental protection, contributing to the establishment of a resource-saving, environmentally friendly and resilient community.

Faced with numerous environmental issues, corporations going for green development has become an important trend. Due to high resource consumption and high emissions, which are characteristic of the construction business, the industry is in dire need of transformation and upgrade in order to lessen its environmental impacts. As a responsible construction corporation, the Group promotes green management, striving to create a better environment for the society. Also, as environmental laws and regulations become stricter, the Group must strengthen the environmental management during construction to avoid violations of laws and regulations, which would subsequently create negative impacts on the winning of new contracts.

- 7 Waste
- 11 Land degradation, pollution and restoration



Continue to promote wastewater reuse at construction sites and factories with **350,760** cubic metres of reused water during the reporting year

Energy density and greenhouse gas emissions density measured by turnover decreased by **3.0%** and **17.1%** respectively compared to 2018¹¹

The number of BEAM Professional ("BEAM Pro") increased by **60.9%**

¹¹ The data of Shenyang Huanggu has been removed for recalculation and comparison, to ensure the two-year data range is as consistent as possible.

Management System Improvement

The Group values environmental protection. Through its Environmental Policy, the Group pledges that its operation processes would comply with environmental laws and regulations, terms of contract and related requirements to prevent pollution, reduce construction waste and reduce natural resource consumption. The Group has also formulated a Sustainable Development Policy, regulating its management approach on environmental problems such as emissions treatment, resource usage, natural resources conservation and climate change. Regional offices are encouraged to grasp different regions' environmental needs, so as to establish systems such as targeted job responsibility, operating procedures and environment monitoring, as well as to formulate relevant measures and promote activities.

Strengthening of the management system and mechanism forms the basis for the Group to continually integrate environmental protection into its day to day operations. The Group built its environmental management system based on ISO 14001:2015. Its subsidiaries (including CSCHK, China Overseas Building Construction Limited, China State Mechanical & Electrical Engineering Limited, Alchmex International Construction Limited, China State Civil Engineering Limited (CSCE) and China State Foundation Engineering Limited (CSFE)) successfully passed this reporting year's internal and external audit. In addition, both CSCHK and COBC have passed the transfer audit of ISO 50001:2018 Energy Management System. CSFC also completed the new certification audit of the same system.

Environmental Safety Department is the main department responsible for the Group's environment management related works. It is in charge of the formulation of the Group's annual and long-term planning regarding environmental protection and the confirmation of project environment management plans. It is also responsible for supervising environment requirement compliance during construction, and promoting new environmental protection technology. Currently, based on the Environmental Indicator Calculation Guideline and Material Loss Control Working Guide, the Environmental Safety Department establishes environmental indicators and goals targeted to the operating nature of CSCHK construction sites, and resource saving goals targeted to the operation nature of Hong Kong head office. These indicators and goals are examined and approved by the director of the Integrated Management Committee.

Looking forward, the Group will continue to pay close attention to relevant trends in environmental protection globally and new developments, so as to make timely adjustments to its management approach and work arrangement. It also plans to gradually expand such goal setting to its various regional offices in a bid to continue monitoring the environmental management performance of all these offices.



Sustainability Management



Environmental Impact Reduction

To lower the environmental burden caused by construction work and office operation, the Group has formulated and implemented plans on reducing waste, wastewater, exhaust emissions and resource saving in order to enhance its green operation performance.

The Group's major waste comes from construction and production, including non-hazardous waste, such as demolished construction materials and concrete components from factory scraps, as well as hazardous waste such as chemical waste, third-level contaminated sea mud and fluorescent tubes. To control the amount of waste sent to landfills or incinerators, the Group reduces material usage at source and ensures the waste generated is properly sorted, handled, reused and recycled.

Process	Key Measures
Prevention	<ul style="list-style-type: none"> Utilise new technology, craftsmanship, equipment or raw materials, for example, using BIM technology to strengthen precise construction and to reduce material waste. Introduce and promote paperless office system.
Recycling	<ul style="list-style-type: none"> Use waste concrete to make concrete blocks for use at construction sites. Recycle expired safety helmets at construction sites. Set up collection points at office to recycle wastepaper, metals and plastics.
Treatment	<ul style="list-style-type: none"> Conduct clearance on non-hazardous waste according to regulations, either by third party recycling or send waste to landfills. Formulate storage and management plan on hazardous waste, and transfer waste to certified corporations for processing.

Method of Treatment	Amount of Hazardous Waste Produced	Amount of Non-hazardous Waste Produced	Unit
Reuse	0	1,464,393.9	tonne
Recycling	0	430,201.4	tonne
Recovery	5.6	10,392.8	tonne
Combustion (being sent to incinerators)	0	2,167.5	tonne
In situ storage	1.7	43,681.5	tonne
Landfilled (being sent to landfill)	3,238.0	1,051,981.5	tonne
Processed by qualified contractors	102.0	4,642,485.2	tonne
Total waste produced	3,347.3	7,645,303.8	tonne
Waste intensity (by revenue)	0.06	131.70	tonne/ HKD million

Sewage produced by the Group is mainly classified as domestic sewage, construction sewage and industrial sewage. Sewage treatment work is all conducted according to the environment management plan compiled before project construction or the commencement of the operation. Domestic sewage is directly sent to sewage treatment plants through sewage pipes and discharged into municipal pipe network after meeting treatment standards. To monitor discharged water quality, construction sewage is handled through construction site sewage facilities and properly connected to the hose to ensure the outlet hose passes through the drain observation cylinder before reaching the license specified discharge point. Sewage produced by prefabricated building factories is reused in the production process after treatment by sewage treatment facilities inside the factories.

Moreover, to increase water use efficiency, the Group set up water tanks around construction sites to recycle and reuse wastewater in sprinkling and reducing dust, cleaning road and vehicles, as well as for construction site concrete maintenance. Site managers regularly inspect hose and water supply pipelines to prevent leakage.

Category	Consumption/ Discharge	Unit
Total water consumption¹²	18,052,323.9	cubic metre
Water consumption intensity (by revenue)	310.98	cubic metre/ HKD million
Municipal/ sewage discharge	1,713,496.7	cubic metre
Discharge into the sea, rivers or lakes after treatment in sewage treatment facility ¹³	3,088,027.5	cubic metre
Other destinations	107,113.0	cubic metre
Total discharge	4,908,637.2	cubic metre
Discharge intensity (by revenue)	84.56	cubic metre/ HKD million
Total water reused	350,760.0	cubic metre

Inappropriate storage and handling of waste and sewage can cause land pollution. In addition to the aforementioned waste and sewage management measures, the Group also set up road guard and embankments in construction areas, to prevent leakage of muddy water during construction. It also conducts ground hardening to collect and centrally process water used for rinsing and excavating waste soil, so as to maintain a clean construction site and prevent pollutants from migrating and spreading.

¹² This includes the use of fresh water supplied by the Group to construction contractors at construction sites.

¹³ It mainly includes the wastewater generated during the construction at sites in Hong Kong. After being treated by the site sewage treatment machine (precipitation suspended solids and acid-base neutralisation) and reaching the discharge standard, wastewater is discharged into the drain according to the requirements of the sewage discharge license.

Sustainability Management

Construction work produces dust, an emission which affects air quality. The Group, hence, utilises sprinkler truck, sprinklers and sprinkling systems to regularly sprinkle different parts of construction site to inhibit dust emissions. Additionally, the Group's major air pollutants come from fuel vehicles and machinery operations, generating mainly nitrogen oxide, sulphur oxide and inhalable suspended particulates. The Group utilises source management methods, such as using less polluting fuels and strengthening company vehicles, to reduce air pollutant emissions.

Pollutant Category	Emissions	Unit
Nitrogen Oxides	2,162.0	tonne
Sulphur Oxides	140.3	tonne
Inhalable Suspended Particulates	126.2	tonne

Climate Change Response

Climate change is one of the most complicated challenges faced by mankind's in the new century. Global warming gives rise to more frequent extreme weather conditions including changes in precipitation mode, droughts, floods and bushfires. Rise in sea level will make tens of thousands of people in densely populated coastal areas and island countries homeless. Faced with all sorts of problems, individuals, corporations and governments must take immediate actions to tackle climate change.

Over-emission of greenhouse gases is the main factor in causing global climate change. To contribute to achieving a low carbon economy, the Group is committed to reducing its greenhouse gas emissions through adopting more energy saving measures, equipment and technology. For example, prioritising the collection of natural lighting in onsite temporary office design to save energy; setting up solar powered water heaters to provide hot water in construction sites; conducting regular analysis on production equipment energy consumption by prefabricated building factories; and promoting energy saving measures and habits in office. During this reporting year, CSCHK has replaced all construction site temporary lighting with LED lights, achieving a 10% increase in usage amount compared to 2018.



In addition, starting from 2016, the Group constantly assesses, records and annually discloses its greenhouse gas emissions data, including actively tracking and monitoring other indirect greenhouse gas emissions (scope 3) from its business activities. It aims to review the effectiveness of the current measures and improve the data collection mechanism, which facilitates the setting of emissions reduction targets in the future. The quantification process¹⁴ of greenhouse gas emissions and emissions factors is conducted in accordance with the *Guidelines for Accounting and Reporting Greenhouse Gas Emissions China Public Building Operation Units (Enterprises) (Trial)*¹⁵, *Guidelines for Accounting and Reporting Greenhouse Gas Emissions Other Industrial Enterprises (Trial)*¹⁵, *Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong*¹⁶, *SME Carbon Audit Toolkit*¹⁷, *ISO:14064-1* and *Greenhouse Gas Protocol*.

Scope	Source of Emissions	Emissions	Unit
Direct (Scope 1) greenhouse gas emissions	Combustion of fossil fuels, construction welding, fire extinguishing system, fugitive emissions	101,247.4	tonne CO ₂ -e
Energy indirect (Scope 2) greenhouse gas emissions	Purchased electricity, purchased heat	69,880.4	tonne CO ₂ -e
Other indirect (Scope 3) greenhouse gas emissions	Waste paper disposal, freshwater processing, sewage discharge, business air travel, contractors' construction welding and stationary combustion of fossil fuels	44,060.4	tonne CO ₂ -e
Total greenhouse gas emissions		215,188.2	tonne CO ₂ -e
Greenhouse gas intensity (by revenue)		3.71	tonne CO ₂ -e/ HKD million

¹⁴ Adopt operational control methodology to manage data, with results covering the six greenhouse gases under the control by the Kyoto Protocol, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), Perfluorochemicals (PFCs), HFCs and Sulfur hexafluoride (SF₆) as well as BTM.

¹⁵ Published by China's National Development and Reform Commission.

¹⁶ Compiled by the Environmental Protection Department (EPD) and the Electrical and Mechanical Services Department of Hong Kong.

¹⁷ Compiled by the University of Hong Kong and the City University of Hong Kong.

¹⁸ Waste paper disposal, freshwater processing and sewage discharge only include the greenhouse gas emissions produced by the operations in Hong Kong.

Sustainability Management



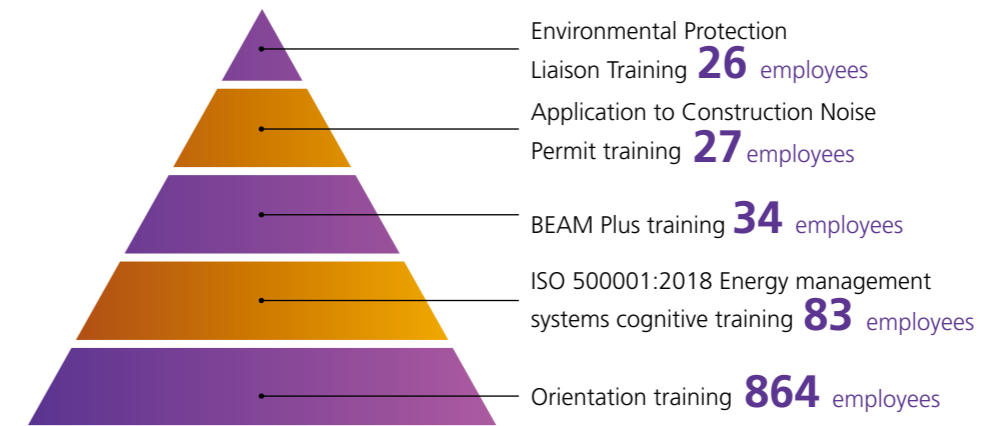
Total Greenhouse Gas Emissions by Region and Greenhouse Gas Category					
Category of Greenhouse Gases	Hong Kong	Macau	Mainland China	Total GHG Emissions by GHG Category	Unit
Scope 1: Direct emissions	75,482.5	2,414.2	23,350.7	101,247.4	tonne CO ₂ -e
CO ₂	75,194.4	2,387.9	23,260.6	100,842.9	tonne CO ₂ -e
CH ₄	21.6	1.1	0	22.7	tonne CO ₂ -e
N ₂ O	266.5	25.2	0	291.7	tonne CO ₂ -e
HFCs	0	0	0	0	tonne CO ₂ -e
PFCs	0	0	0	0	tonne CO ₂ -e
SF ₆	0	0	0	0	tonne CO ₂ -e
BTM	0	0	90.1	90.1	tonne CO ₂ -e

To reduce potential risks and actual damages caused by extreme weather, when faced with natural disasters such as typhoons, the Group has formulated emergency plans for each project, conducting timely risk level control and typhoon prevention measure checks, in order to increase the construction site's capability to adapt to and fight climate change. The Group is proactively seeking opportunities to take the lead in green building, constantly searching for alternative materials used in design and construction phases, as well as the possibility for technology innovation, to increase its resource use efficiency and climate resilience in construction.

Cooperation in Action

Enhancing environmental protection efficiency and results require corporate employees, partners, customers and the whole society to act in concert. The Group explained in the Employee Handbook that employees have the responsibility in understanding, complying and executing the Group's environmental protection strategies and measures, and that employees' environmental protection work performance is related to their promotion and salary increase. The Group has also incorporated environment management into project performance assessment.

To increase employees' environmental awareness and management capabilities, the Group arranges environmental training courses each year, either initiated by employees themselves or organised by external agencies. As an institutional member of the Hong Kong Green Building Council, CSCHK employees can enjoy fee discounts when they participate in activities and training held by the Council. During this reporting year, 34 employees of CSCHK participated in BEAM Plus training, whereas the number of certified professionals working for CSCHK has increased from 23 in 2018 to 37.



The impact of construction materials and equipment on the environment is one of the Group's major concerns for sustainability. CSCHK adheres to its Procurement Policy and Supplier's Code of Conduct, and cooperates with environmentally friendly suppliers to prioritise the purchase of environmentally friendly resources from near-by regions. To create a green supply chain, CSCHK also requires its suppliers to comply with the company's environmental protection strategies.



For details of CSCHK's green purchase plan, please refer to CSCI Website, under "Social Responsibility" of the Sustainability section.








Regional Sustainability Performance

Owing to differences in the natural and human environment, such as climate, resources, population, economy, system and culture, different regions seek different development models that target its own characteristics. The Group's business is mainly distributed across Hong Kong, Macau and Mainland China, all of which possess wide ties and impacts to the society. Guided by corporate level strategies and management approach, the Group's offices can gain a foothold in local business and conduct sustainability works that are adapted to local conditions in a bid to promote regional prosperity.



Major Businesses in Progress
Mainland China



-  Project in progress
-  Operation and Management Project
-  Prefabricated Construction Industrialisation Base

Regional Sustainability Performance

CSCHK

As one of Hong Kong's biggest contractors, CSCHK has engaged in construction-related business including building construction, civil engineering, foundation engineering and mechanical and electrical engineering since 1979. For more than 40 years, CSCHK, with its core competence in high quality, technical construction, participated in numerous large-scale government construction projects in the spheres of infrastructure and public housing, as well as private residential building and industrial and commercial projects. As of the end of 2019, CSCHK has a total of 80 projects in progress.

Key Performance Summary		
Economic Performance 	Revenue	HKD 21,421,172,000
Social Performance 	Total number of employees	5,361
	Employee turnover rate	37%
	Ratio of work-related injuries per 1000 persons ¹⁹	8.0
	Average training hours per person	3.0
Environmental Performance 	Greenhouse gas emissions intensity	5.5 tonne CO ₂ -e/HKD million
	Hazardous waste intensity	0.2 tonne/HKD million
	Non-hazardous waste intensity	73.5 tonne/HKD million
	Electricity use intensity	0.5 MWh/HKD million
	Water use intensity	687.0 cubic metre/HKD million

As of the end of 2019, CSCHK has a total of **80** projects in progress

¹⁹ Including employees and other workers controlled by the Group in the workplace or workplace due to work-related deaths and injuries.

Annual Project Highlights



Regional Sustainability Performance



Operational Responsibility

Advanced scientific technology is an important driving force in leading development. CSCHK treats technological innovation as an effective way to stimulate the corporation's inner vitality and to raise core competitiveness. This helps to speed up research and application in construction technology, craftsmanship, materials and equipment, leading to productivity enhancement.



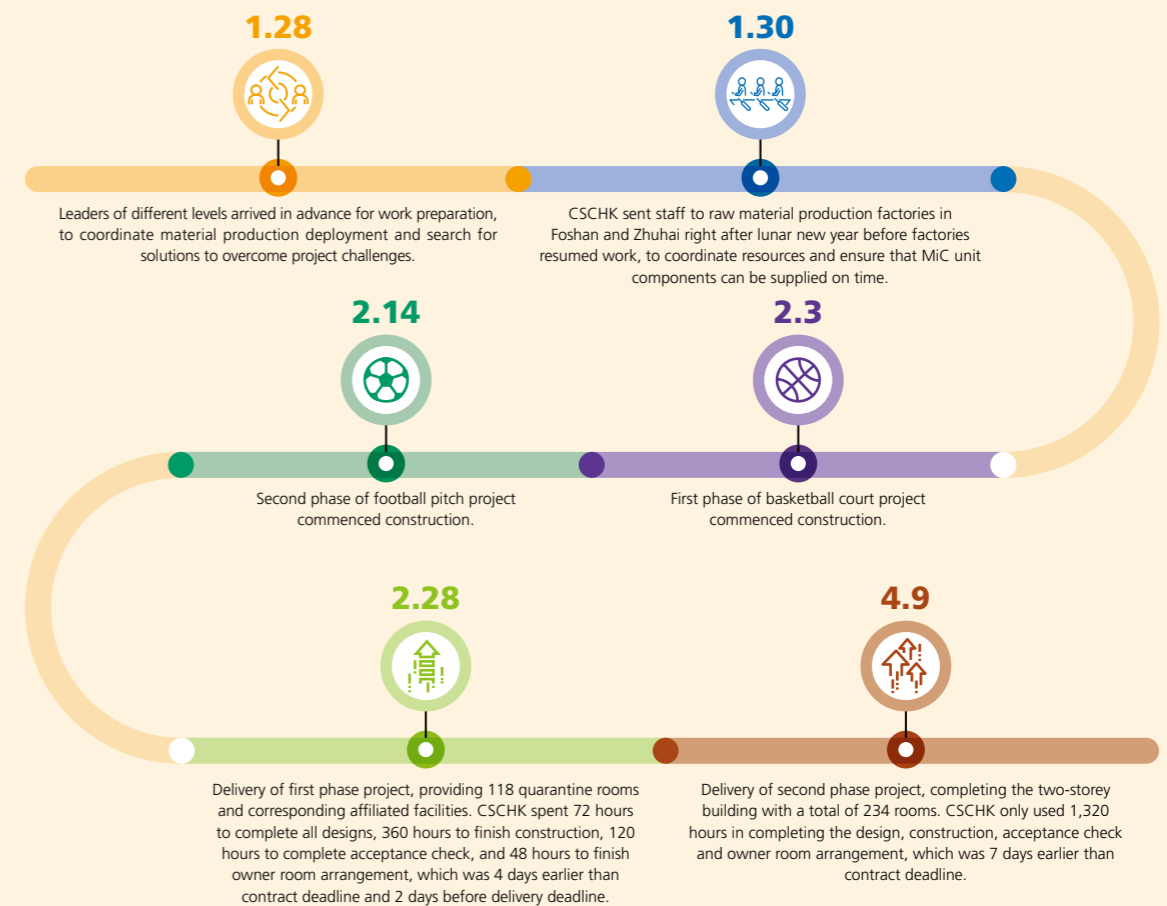
Applying new technology, empowering construction

Through its ability to enhance building quality and optimise industry chain resources, building industrialisation has become one of the important development trends in the construction industry. Under this trend, the construction industry in Hong Kong has promoted modular integrated construction ("MiC") in recent years, following the concept of factory assembly followed by on-site installation. Construction components are prefabricated and produced in factories before they are transported to construction sites for installation. This reduces the time and cost in project development and helps solve problems such as housing supply shortages in Hong Kong, labour shortages in the construction industry and continuously rising property prices.

MiC Advantages	
Economic Benefits ↑ 	<ul style="list-style-type: none"> Achieve synchronisation of on-site construction procedures, such as component production and piling, foundation construction and underground construction; shortens building time and subsequently lowers site management cost, shortens investment return cycle. Components can be reused in other sites, achieving asset preservation.
Building Quality ↑ 	<ul style="list-style-type: none"> Factory scale-up and production standardisation; inspection before delivery to ensure high quality of modules.
Safety Control ↑ 	<ul style="list-style-type: none"> Mechanised operations lower the demand for on-site labour force, reducing the possibility of industrial incidents.
Environmental Impact ↓ 	<ul style="list-style-type: none"> Requires less material than traditional building model; wastes less, and increases efficiency in resource use. Production process causes less interference to surrounding environment.

Banking on the years of experience and technical advantages of CSC Hailong Construction Science Co. Limited (a member of the Group) in prefabricated construction research and development, design and production supply, CSCHK continues to use MiC technology which has been applied to the construction site offices for projects such as the phase two of the Hong Kong Organic Resources Recovery Centre.

In the start of 2020, the unexpected coronavirus pandemic threatened millions of lives around the globe. Rapid response, prevention and control of the epidemic were the most pressing issues at hand. In this situation, CSCHK has taken up the responsibility of building Hong Kong's first and largest quarantine centre. Faced with difficulties such as tight work schedule, the importance of the mission and high pressure, the Group completed construction swiftly using MiC technology, which played an active role in helping Hong Kong combat the pandemic.



Regional Sustainability Performance



Social Responsibility

Safety management is the prerequisite for corporations to create a blissful life for employees. In accordance with company business characteristics, CSCHK creates a safe and healthy working environment through promoting a safe and innovative monitoring model and method via technical means.

Smart construction sites to increase safety management level

Difficulties in people management and construction supervision exist in construction sites. Due to the large number of personnel, resources and work procedures, potential safety risks can go unnoticed and unhandled. Transcendence Company Limited under CSCHK has developed a smart construction site integrated management platform. Focusing on technological elements such as artificial intelligence and the internet of things, it enables on-site data collection, storage and analysis, strengthening construction engineering management. Currently, smart construction site integrated management platform has been applied to over 20 construction sites, including the Hong Kong Palace Museum project.



The Hong Kong Palace Museum project is located on the western seafront of West Kowloon Cultural District, with a gross floor area of 43,000 square metres, covering a 7-storey main building, surrounding carparks and transportation facilities. Since the construction commenced in May 2019, the average daily entry of workers has reached 611. Throughout the project's construction process, the Group adheres to the philosophy of "technology promotes safety", and conducts informatised management on personnel information, behaviour monitoring and safety training to effectively ensure the safety of all working personnel.

Worker Information Management



CSCHK independently researched and developed facial recognition access control system, through technology like facial recognition and biometrics and this is linked to the database of the Hong Kong construction industry workers. The system can register information of workers going in and out of construction sites in real time, and can eradicate situations such as illegal trespassing and consigning others to punch card. The system is equipped with thermal imaging monitoring technology to automatically monitor body temperature and generate reports to help management staff monitor worker conditions.

Safe Behaviour and Facilities Monitoring



The smart construction site platform aggregates techniques, such as artificial intelligence analysis of footage, infrared and radar detection, and smart electricity monitoring to achieve full coverage of safety intellectualisation monitoring. If the platform detects unsafe behaviour such as workers entering designated danger zones without a safety helmet, and potential fire and electrical hazards, it will send a warning prompt through cloud platform to mobile devices. Co-workers and management personnel will notice and can rectify the problem immediately.

VR Safety Training



To concretise safety clauses and reinforce construction safety, CSCHK built a VR Safety Experience Hall for workers to experience serious consequences from unsafe operations in a narrow shipping container. This serves to eradicate workers' "go-lucky" mindset and helps to achieve the safety target of zero work injuries and zero accidents. The VR safety training system simulates real-life scenarios, such as high-altitude work, machinery operation and fire extinguishing equipment usage, and strengthen the visual and audio impact when danger occurs, so as to deepen workers' impression on training and help them apply the skills in daily practice.



Construction safety inspection and communication

To continue to improve construction management and prevent accidents from happening, CSCHK calls environment safety management work conferences each quarter, to review construction site work performance with safety and environmental management personnel from the office's different operating sites, as well as to deliver the newest safety and environmental protection information and work plans.

On 24 and 25 October 2019, the general manager of CSCHK's Environment Safety Department hosted the third quarter conference. The conference analysed construction site work injury incidents and problems discovered during Labour Department inspections, as well as follow up actions. It briefly described events, such as "Star of Behavioural Safety", "Care for workers in hot weather", as well as the development of fire prevention warning education and safety training. The conference also tabled requirements and suggestions on strengthening the environment safety management of construction sites.

Fourth Quarter Safety Management Key Points

System Execution 	Environment safety management personnel strengthens monitoring in implementation of systems such as "Construction site cave safety management guidelines", "Construction site fire prevention safety management guidelines", "Emergency plan in fire prevention and disaster mitigation" in construction sites.
Innovation Management 	Assist management using technological and informatised means.
Safety Inspections 	Develop specialised inspection and training, targeting construction site fire prevention, personal protection and high-risk work procedures.
Safety Personnel 	Groom assistant safety managers for construction sites and assist them in career planning and registration to become safety managers, so as to expand the safety management team.
Safety Activities 	Launch safety promotion activity for fall and winter gifting.

Regional Sustainability Performance



Providing safe, reliable and high-quality products and services have always been CSCHK's pursuit. To continue to increase the company's supply capacity in quality engineering and to satisfy customer and user demands, CSCHK values the management of project design, material procurement, construction procedures, as well as the acceptance check and delivery processes.

Upgrade supply chain management system to face project life cycle and the whole business process orientation

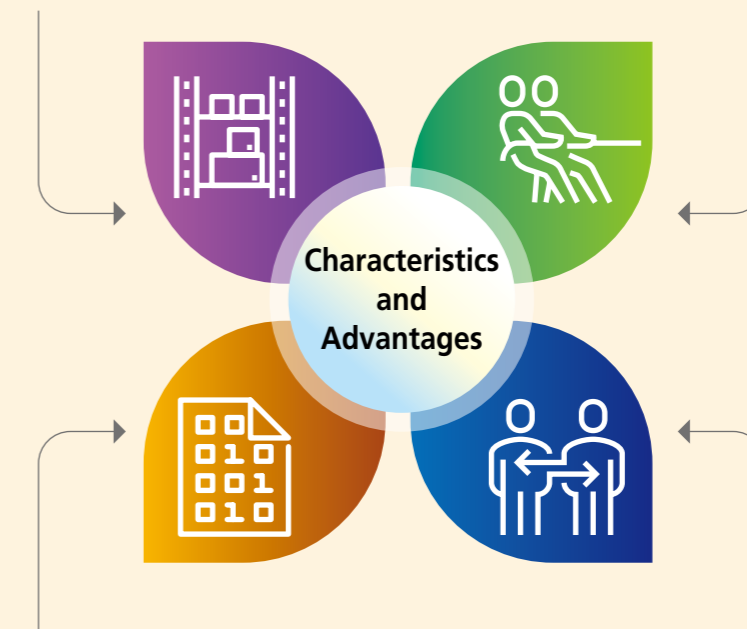
On the basis of introducing Enterprise Resource Planning (ERP) into material management, CSCHK's Resources Department integrates current international frontier concepts and technology to comprehensively upgrade its supply chain management system, independently developing a resource management platform that is applicable to the whole construction life cycle and business process. The platform incorporates operations such as planning, bidding, contracts, payments, on-site management, inventories and ledgers to achieve comprehensive data sharing, solving information isolation and repeated logging, and makes deepmining of data value possible.

Resource management platform utilises the latest information technology such as internet, cloud computing, cloud storage, radio frequency, QR code and internet of things. It also adopts the ASP.NET 4.5, HTML5 technology, high cohesion low coupling scalable modules and BPM business process management technology to construct the platform. OAuth 2.0 and incident traceability technology usage separately specifies user verification and achieves statistics read-write splitting to increase throughput and response speed. Additionally, based on the newest research results of data mining algorithm, combined with construction corporation data mining model and construction project data characteristics, the Resources Department designed dynamic neuro network algorithm suitable for resource supply chain management, achieving future trend prediction through historical data and providing strategic opinions for procurement decisions.



Adjustable material contract model with two layers and five categories, which fully covers different procurement scenarios throughout construction project, achieving the standardisation and normalisation of information communication between the central procurement department and project teams.

Apply supply chain theory in construction industry to build supplier database and whole-process dynamic management system, which helps to achieve complementary advantages, resource sharing and high-level coordination among all parties in the supply chain.



Innovative coding system solves the problem of redundant traditional resource coding and breaks information transfer barrier; successfully establishes project information sharing on a horizontal scale and business process information sharing resource information network on a vertical scale.

Create dual-track resource management system which fully covers resource procurement information and implements systemised and dynamic management of cost information to achieve optimal resource management.



The resource management platform received Second Prize of the CSEEC Scientific Technology Award, computer software copyright from the China National Copyright Administration. It was also evaluated by third party authorities of the China National Technology Performance Evaluation Service Platform as an internationally advanced scientific and technological achievement.

Regional Sustainability Performance



CSCHK proactively utilises its own professional advantages in its operations to develop social welfare activities such as education, environmental protection, resident caring and improvement on infrastructure, satisfying the practical needs of the community and enhancing the brand image of the company's volunteer service.

Gathering the power of the volunteers to serve community residents

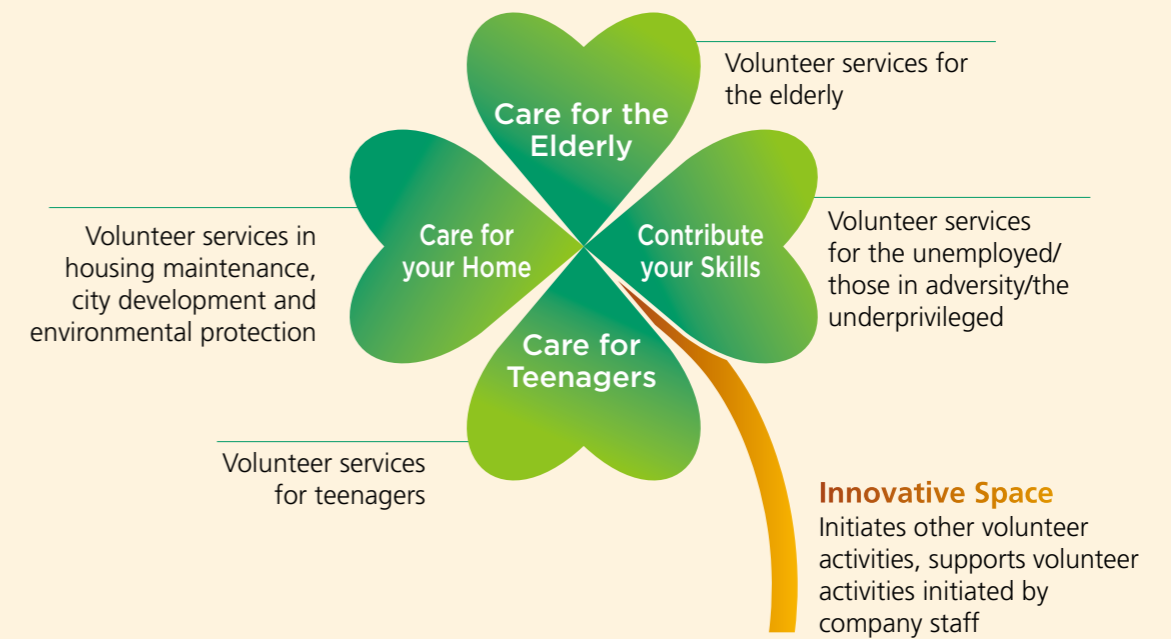
To utilise its professional skills to serve the community, the Group established CSCI "Caring for the Community" Volunteer Branch ("3311 Volunteer Branch"). The 3311 Volunteer Branch is led by the Group and the management team of CSCHK. An Examination and Assessment Committee and Brand Building Committee were established for organisation work and brand building respectively. The Executive Committee is responsible for carrying out volunteer activities and mobilising members of the Branch to care for the community.



President	CSCI's Executive Director and Vice President and CSCHK's General Manager
Five Vice Presidents	Including CSCI's Vice President, CSCI's Assistant President, and CSCHK's Human Resources General Manager
Examination and Assessment Committee	Responsible for organisation building, assessment for outstanding volunteers, award application work
Brand Building Committee	Responsible for brand building, formulation of promotion plans, composition of promotional materials
Executive Committee	Responsible for detailed implementation
Five volunteer officers (team leaders) and several officers (team members)	Responsible for launching of the organisational work for the volunteer branch
Over 800 volunteer members	Participate in volunteer activities and serve the community

The main service theme of the 3311 Volunteer Branch is "4+x", which is a breakthrough of the traditional contractor profession boundary. It encourages employees to participate in various types of volunteer activities and proactively explores and responds to the service needs of the society. To facilitate the systematic organisation of volunteer activities by the 3311 Volunteer Branch, the Group sends core members to participate in the "Corporate Volunteer Training Course 2019" promoted by the Social Welfare Department to acquire the knowledge and skills on how to manage large-scale volunteering events.

"4+x" Main Service Themes:



Activity Results in 2019



Regional Sustainability Performance



The 3311 Volunteer Branch organises various volunteer activities in accordance with the “4+x” main service themes. In 2019, 3311 Volunteer Branch organised volunteer services focusing the elderly, students and families of employees. Volunteer activities included “Care for local family” which offered small-scale household repair services for employees; “Water activity plan” which promotes safety in water sports and marine conservation; “Care for single-resided elder” which sent blessings to elderlies during festivals; and “Tea party for the elderly” under which volunteers took residents of nursing homes out for yum cha.



Environmental Responsibility

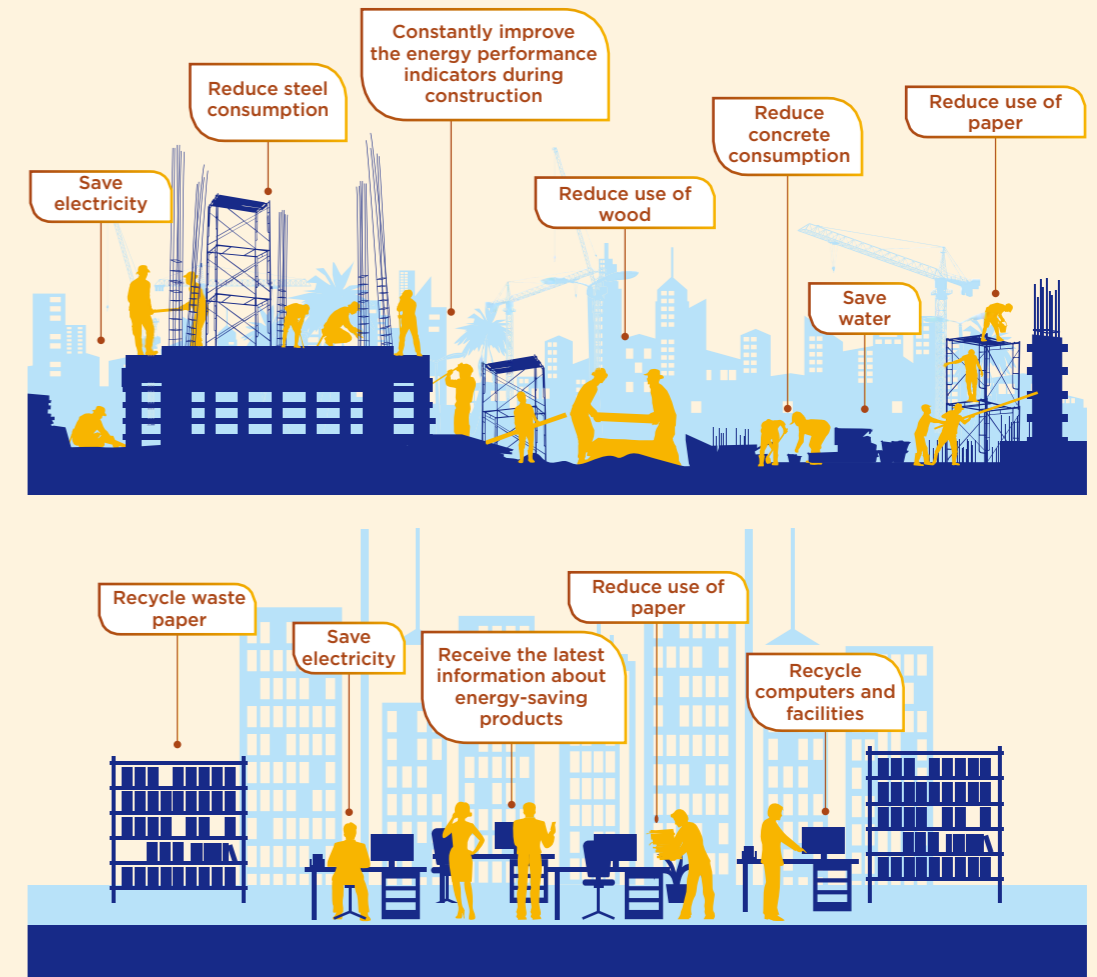
With the world pursuing a low carbon economy, CSCHK cares about the impact of its operation process on the environment. It strives to optimise the company's environmental management system and strengthens its energy saving and emissions reduction efforts continuously to promote the effective use of resources. Moreover, CSCHK proactively participates in building and operating environmental protection facilities, and expands its green supply chain.



Implement environmental protection work with specific goals

CSCHK established its environmental and resources management system in accordance with ISO 14001 and ISO 50001, forming a close-circuit management in planning, implementation, performance appraisal and improvement, as well as integrating green development into the daily operations of the company. As an important component in environmental management, the establishment and review of annual targets guide CSCHK in implementing its environmental management plan and measures, which also quantify its performance.

In 2019, most construction sites and office buildings of CSHK met their environmental targets. Based on this performance, the company has established environmental targets and indicators for 2020:



Regional Sustainability Performance



Environmental Targets	Indicators in 2019	Performance in 2019	Indicators in 2020
Reduce use of timber	Less than 130 cubic metres/revenue of HKD 100 million	100% construction sites reached target	Less than 129 cubic metres/revenue of HKD 100 million
Reduce use of paper (construction sites)	Less than 350 packs of A4 paper/revenue of HKD 100 million	96% construction sites reached target	Target unchanged
Reduce use of paper (offices)	Decreased by 3% compared to the average total use in 2016-2018	6 supporting departments exceeded the target slightly	Decreased by 3% compared to the average total use in 2017-2019
Save water (construction sites)	Water bill less than: HKD 59,000/revenue of HKD 100 million (general construction sites); HKD 640,000/revenue of HKD 100 million (mill pile construction sites)	100% construction sites reached target	Water bill less than: HKD 58,000/revenue of HKD 100 million (general construction sites); HKD 630,000/revenue of HKD 100 million (mill pile construction sites)
Save electricity (construction sites)	Electricity bill less than HKD 230,000/revenue of HKD 100 million	100% reached target	Electricity bill less than HKD 220,000/revenue of HKD 100 million
Save electricity (offices)	Annual electricity use less than 120 KWh/square metre	Electricity use reduced by 3.56% compared to 2018	Annual electricity consumption less than 115 KWh/square metre
Constantly improve the energy performance indicators during construction	Improve energy performance indicator related to construction work during the year by 2.0%	Unable to calculate data due to the lack of relevant comparable procedures in the year	Target unchanged
Reduce concrete wastage	Wastage rate less than: 2.0% (general construction sites) 6.0% (mill pile construction sites)	100% construction sites reached target	Target unchanged
Reduce wastage of reinforcement bars	Wastage rate less than: 4.5% (housing construction sites) 3.0% (civil construction sites) 4.0% (foundation construction sites)	100% construction sites reached target	Target unchanged
Recycle computers and equipment	Recycled all computers, monitors, hard disks and other accessories	100% reached target, recycled 44 sets of equipment	Target unchanged
Recycle waste paper	Recycled all used paper and old newspapers	100% reached target, recycled 20,270kg of waste paper	Target unchanged
Acquire the latest information about energy-saving products	Visited the annual international environmental protection expo; Shared the latest information about energy-saving products	100% reached target	Target unchanged



Design, build and operate organic resources recovery centre



Hong Kong disposes approximately 3,700 tonnes of organic waste each day, with 1,000 tonnes coming from catering and food production and processing industry. This waste not only takes up landfill space, but also decomposes and produces biogas and leachates, causing long-term burden to the environment. The Organic Resources Recovery Centre (Phase 2) project, with CSCHK as an associate contractor, is located at the former site of the Hong Kong Northern District Sha Ling Livestock Waste Control Centre. With an area of 2.5 hectares, it will adopt biological treatment technology,

upon completion of construction, to convert organic food waste into useful resources like biogas and soil enhancers, achieving an environmentally friendly circular economy.

CSCHK imported advanced UK handling skills and has innovatively achieved a craftsmanship process combining “anaerobic digestion and granulation”, successfully doubling the Environmental Protection Department’s expected waste processing capacity from 300 tonnes to 600 tonnes per day on 2.5 hectares of land. In the project design, building and operation stages, CSCHK has added environmental protection elements to achieve a symbiosis effect between building and the environment.

Design



- Reserve land for landscaping, integrating the project into its natural environment;
- Make full use of underground space, reduce usage of land resources;
- Reserve development space for future factory expansion;
- Through craftsmanship such as granulation, convert biogas residue into soil enhancers with commercial value;
- Choose hammer mills to achieve automatic bag breaking, sorting and crushing of kitchen waste, with no odour source exposed.

Build



- Use modified cement such as fibre and iron powder, and innovative materials like inlaid high-density protective layers to strengthen structural wear and corrosion resistance;
- Use BIM to conduct collision tests and design construction components etc.;
- Use instant monitoring system for noise and dust, which automatically and instantly monitors noise and dust level in construction sites, increasing management efficiency and reducing impact to surrounding environment.

Operation



- Full negative-pressure design of factories, and the systematic and point source ventilation devices help keep pressure inside the plant below atmospheric pressure and prevent odour leakage;
- Recycle and reuse heat energy produced from power generation, to increase biological reaction speed;
- Use water reclamation technology and biogas power generation to achieve self-sufficiency in the supply of hydro and electrical resources;
- Use BIM system to formulate repair and maintenance plans.

Regional Sustainability Performance

CSC Macau

Since registered in Macau in 1981, CSC Macau has established a diversified development model through its determined spirit and rigorous scientific management approach. This model puts construction by contract as its main business, and is supplemented by multiple investment ventures. The company undertook diverse construction projects including housing construction, infrastructure, electro-mechanical engineering. Landmark projects in Macau include Macau Tower Convention & Entertainment Centre and The City of Dreams. As of the end of 2019, CSS Macau has 11 projects in progress.

Key Performance Summary		
Economic Performance 	Revenue	HKD 4,693,648,000
	Scientific research investment	HKD 20,779,000
Social Performance 	Total number of employees	694
	Employee turnover rate	17%
	Ratio of work-related injuries per 1000 persons ²⁰	1.2
	Average training hours per person	1.0
Environmental Performance 	Greenhouse gas emissions intensity	1.0 tonne CO ₂ -e/HKD million
	Hazardous waste intensity	0 tonne CO ₂ -e/HKD million
	Non-hazardous waste intensity	56.4 tonnes/HKD million
	Electricity use intensity	0.7 MWh/HKD million
	Water use intensity	57.3 cubic metres/HKD million

As of the end of 2019, CSS Macau has **11** projects in progress

Economic Performance:
Revenue HKD **4,693,648**

²⁰ Including work-related deaths and injuries of employees and other workers controlled by the Group or in workplaces controlled by the Group.

Annual Project Highlights

Rua do Comandante João Belo Zone C Residential Development Project

Construction of the main body of the Islands Hospital Complex Project

C385R - Macau LRT Depot Project Construction Work

Guangdong Province Zhuhai Hengqin Boundary Service Area A03 land plot exploitation project

Construction of the main body of the medical complex in Outlying Island

Regional Sustainability Performance

Operational Responsibility

Due to historical and geographical reasons, Macau is in a position to make greater contributions in the execution of initiatives and strategic schemes such as the “Belt and Road Initiative” (“BRI”) and the “Guangdong-Hong Kong-Macau Greater Bay Area” development plan. CSC Macau is exploring cooperation modes with the Greater Bay Area cities and countries along the BRI, and proactively allocating resources and speeding up the completion of important projects to drive the internationalisation of its business portfolio.

Responding to the BRI and building bridge of cooperation with Portugal

Portugal is the first western European country to sign a co-build BRI memorandum of understanding with China. As a director-member of the Macau Chinese Enterprises Association Chinese Portuguese platform special committee, CSC Macau proactively plans and arranges investment and cooperation with Portuguese-speaking countries and regions. It brings over 30 Macau-based Chinese enterprises together to establish the “Macau Chinese Enterprises Portuguese-speaking Countries headquarters” and set up the China State Construction Portugal Company Limited to assist China and Portugal in developing a strategic partnership.






In April 2019, using the combined opportunities of the BRI and the construction of the Macau’s Chinese Portuguese Platform, China State Construction Portugal Company Limited signed an investment cooperation agreement with Teixeira Duarte Group, one of Portugal’s biggest construction corporations, for combined projects in Lisbon’s Oeiros Industrial Park, with an aim to achieve mutual benefit through complementary advantages and resource sharing. The total investment of the project amounts to 350 million and it plays an active role in opening up markets for CSC Macau in Portuguese-speaking countries.



In the process of rapid development in informatisation and intellectualisation, the increasing cyber risk has demanded greater security in corporate cyber networks. Through multi-dimensional risk prevention and control, as well as information safety management system and system construction, CSC Macau strengthens its management on the company’s cyber security.

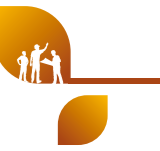
Strengthening employees’ cyber security awareness

From 16 – 20 September 2019, the Group organised a cyber security promotion week. Focusing on the national cyber security week’s theme of “Cyber safety for the people, cyber safety relies on the people”, CSC Macau displayed event related posters and banners in offices and construction sites. The aim was to explain cyber safety threats to the employees and help them interpret cyber security laws.

Common Cyber Security Risks and Precautions	
Phishing 	Uses spam block, malware and URL block methods to strengthen security, and regularly conduct anti-phishing practices, to increase employee’s awareness of web intrusion.
Trojan Virus 	Use anti-virus software to scan received documents before opening; do not install software with unknown source.
Social Traps 	Do not send over key information of credit cards to social media recklessly; set up messaging alert system to keep bank account transactions updated.
Pseudo Base Station 	Do not recklessly click on websites displayed messages related to asset disposals, mobile phones, bank card credit point redemptions or transfers; online management should be done on registered official websites.
Information Leakage 	Setup strong passwords that are regularly changed; do not disclose close personal information to strangers online.

Through this initiative, CSC Macau spreads knowledge on cyber security and musters employees’ understanding, attention and passion for participating in cyber security. It contributed to the establishment of a collective defence system for the company’s information security.

Regional Sustainability Performance

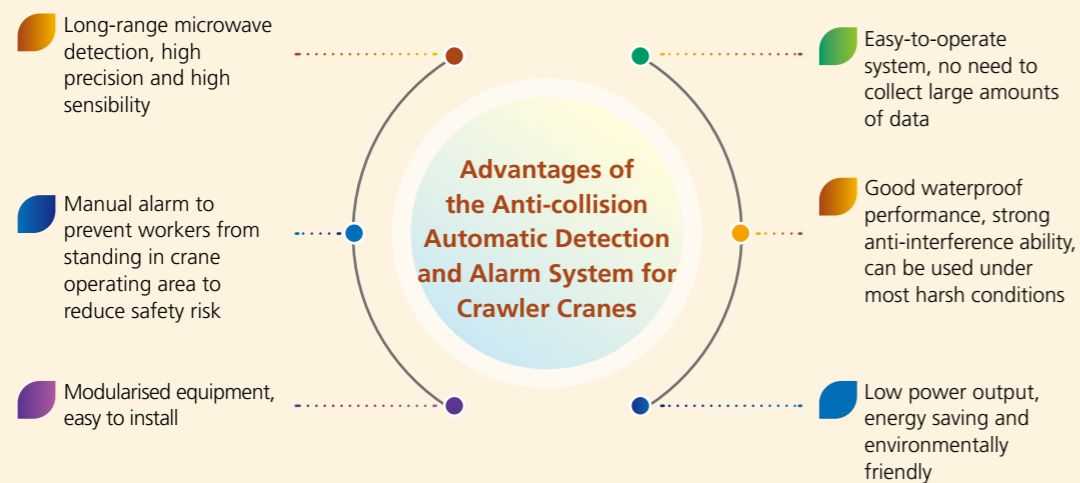


Social Responsibility

CSC Macau puts workers' life and safety in the first place. While continuously building and improving related management systems to achieve standardised management of occupational health, the Group promotes application of safe, new technologies to enhance construction work safety. The company also values health management of workers and continuously improves labour conditions. A large variety of occupational health promotion and education events were organised.

Taking multiple measures to ensure production safety

Infrastructural construction continues to increase with the progress of urbanisation. This resulted in a continuous increase in the use of mobile machinery equipment. However, accidents do occur frequently during the operation of mobile machineries and this has become a focus issue for the construction industry regarding safety management. Judging from actual work situations, the team at CSC Macau's Morais construction site has innovatively invented an automatic detection and alarm system to prevent collision by crawler cranes. This was made possible by installing a radar detection alarm system on the crane arm and a proximity alarm radar system on the crane tail, which allows the operator to precisely understand the surroundings of the crane in real time. Compared to traditional manual management, the introduction of technological means can make up for insufficiencies such as workers' slackness and low management efficiency, lowering the possibilities of collision as a result.



Additionally, through a cloud system for smart construction sites, CSC Macau has set up a distribution power box with an automatic cut-off and alarm system. Environmental safety pamphlets were also produced to raise safety management efficiency at the construction sites.

Smart Construction Site Cloud System



Utilise artificial intelligence and cloud storage technology for management and construction staff to monitor workers' safety behaviour on large screens and mobile phone applications, to ensure authenticity and completeness of information and to achieve zero-distance streamlined on-site management.

Distribution Box With Automatic Power Cut-off and Alarm System



If someone opens the distribution box during operation, the system will give out audio alarm and warning lights, and immediately cut off power supply, effectively preventing electrocution when unauthorised construction workers illegally access the electricity supply.

Protective Equipment



- Thermometer:** Real-time monitoring of construction site's humidity, temperature and thermal index; when temperature and humidity combined reaches a dangerous levels in the working environment, the alarm will sound to remind workers to replenish water loss and take appropriate rest; this aims to prevent heatstroke on workers;
- Insulation hook:** Suitable for construction site surroundings and pedestrian walk guardrails; proper installation of electrical and oxy-ace cables to effectively prevent cables immersing in water and treaded over by pedestrians; reducing risks of electrocution and tripping;
- Impact-resistant gloves:** Add impact absorbing pads to vital parts to reduce risk, compared to ordinary gloves, of workers' hands being crushed by heavy objects, bruised or cut by sharp objects during work;
- Cut-resistant hand sleeves and gloves:** meet European standard level 5 in cut resistance, with good tear resistance, that would effectively prevent safety risk of workers being harmed by sharp objects.

Safety Standards



Combining procedures, such as construction site piling, foundation pit support and excavation, prepare construction site safety and environmental protection standards, issued to frontline construction workers. Pamphlet should be made for workers to carry around and browse with ease; contents easy to understand with illustrations to facilitate better understanding among workers.

Regional Sustainability Performance



A full protection for workers' health from corporation to society



CSC Macau considers workers' occupational health a long-term basic management and conducts regular safety briefings at meetings in the morning coupled with morning exercises, alcohol breath tests, and the spraying of mosquito repellent oils twice every week to prevent mosquito bites and dengue fever. Theme-specific seminars on occupational health are held to popularise health knowledge among workers. To implement its philosophy for healthy work, CSCHK also improves its welfare system continuously, providing employee leave, health checks and medical insurance for staff.

During the coronavirus outbreak in 2020, and taking into account the increased infection risk of employees residing in nearby areas of Macau, such as Zhuhai, passing customs during rush hours, CSC Macau responded to government's initiative and very swiftly built camps for foreign employees. The construction covered an area of 11,700 square metres, which included 8 living areas, 1 service area and corresponding supporting facilities. The 17 buildings in total can accommodate up to 1,132 foreign employees. CSC Macau overcame various difficulties such as short construction period, understaff within construction teams, shortage in resource provision and huge pressure on epidemic prevention. The company succeeded to complete project design, building and delivery in just 21 days. The camp is equipped with showers, boiler room, laundry room, food heating room, supermarket and education and training rooms, to ensure a healthy, comfortable life and convenience for its residents.

Short Construction Period

Since the pandemic affects lives, the company must race against time to shorten the construction period as much as possible.

- Utilise prefabricated construction technology to directly produce prefabricated houses in mainland factories, and transport them to sites for hoisting; this reduces on-site workload and increases efficiency;
- Strengthen external communication, successfully seek support from relevant government departments to speed up project approval;
- Two work shifts for all staff, both day and night, to count down construction time by the hour.

Understaff in Construction Teams

Bound by epidemic prevention measures, many foreign employees cannot return to Macau after Chinese New Year as scheduled and they also have to be isolated for medical observation for 14 days after entry.

Shortage in Resource Provision

Macau's construction market is small and stock is low; construction materials are mainly purchased from Mainland China. Affected by the pandemic, factories in Mainland China were not in full operation; Transportation and logistics movement were slow, and so was customs declaration. Materials and supplies were delayed.

All human and material resources of the company are gathered and directed towards building the camp; a construction team with more than 600 people was promptly set up and equipped with 100 units of machinery; a company under the Group in Zhuhai was assigned to monitor resource production.

Huge Pressure on Epidemic Prevention

During the peak period of the epidemic, large numbers of management personnel and workers participated in construction projects; epidemic prevention and control became one of the focus issues and difficulties affecting the project's smooth completion.

- Supply sufficient protective equipment, such as face masks, to all staff and hire medical professionals to conduct epidemic prevention training;
- Conduct regular all-rounded disinfection and sterilisation in construction sites;
- Construction site entry gates are equipped with facial recognition and automatic temperature check functions;
- Develop real-name verified QR code system, requiring working staff to submit daily health declarations.

Regional Sustainability Performance



In a bid to promote high quality construction projects, CSC Macau abides by its customer responsibility by conducting comprehensive quality management and supervision, and controlling quality risks to ensure the provision of safe and reliable quality constructions for its customers and users.

ShunTak Hengqin project - Fine quality management

Maintaining quality management has always been the priority of the Group's construction projects. CSC Macau's ShunTak Hengqin project, located on Zhuhai Hengqin Port, is a super high-rise large scale commercial and residential complex. ShunTak Hengqin project utilises international construction management model and domestic construction monitoring system. It is the first Macau construction management model pilot project in the Greater Bay Area. During construction, the project established a quality control committee and strictly executed multiple quality management systems which include a quality management divisional assessment system, public notice on risk source, morning assembly system and an education system for quality training.

Quality Control Highlights	Measures	Effectiveness
Quality Management Divisional Assessment System 	Divide quality management areas according to on-site construction stages; management personnel of each unit are responsible for quality management and monthly assessment.	Increase management personnel's participation rate in on-site quality management work
Public Notice on Risk Source and Morning Assembly System 	Set up public notice on quality risk source of the day and conduct morning assembly in each construction site to ensure workers understand daily quality risks. Moreover, existing quality problems and related rectification measures are recorded every day before the end of work and updated on public notices.	Increase pass rate of quality management acceptance check
Education System for Quality Training 	Conduct monthly quality training activities for employees, teach standardised methods and quality acceptance check specifications. From time to time, the Group also invites technological experts and functional supervisors to exchange views with on-site employees.	Increase employees' professional knowledge and abilities

In addition, the committee completed research topics such as "achieving new methods of accurately forming large sized, complex section of curved aluminium lines", and "increasing pilot test pass rate of curtain wall units built in open fan processing" to raise the quality of construction details. Quality management effectiveness of the ShunTak Hengqin project was affirmed. In this reporting year, it received the ISA International Safety Award, the National Construction Project Safe and Civilised 3A Construction Site Award, and the 2019 Guangdong Province Quality Association member unit - Excellent Quality Management Team Second and Third Prize.

Regional Sustainability Performance



Upholding the principle of “what comes from the society goes back to the society”, CSC Macau utilises its own resource advantage and proactively participates in community building and values sharing with the public, in a bid to create a blissful living environment for all.

Poverty alleviation in Congjiang, Guizhou Province

Qianjiang County in the southeastern part of Qian Southeast Miao and Kam Autonomous region, Guizhou Province, is Macau's major target for poverty alleviation. CSC Macau implements the basic strategy of “targeted poverty reduction and alleviation measures” in a consistent manner, proactively participating in the first phase of poverty reduction work in Congjiang of Guizhou Province, Macau's counterpart city. CSC Macau makes use of its professional advantage and integrated “enhancing confidence” and “enhancing ability” in its poverty reduction work through education. It assisted in the construction of the Meingor Hope Primary School. It helped local communities to relocate and around 800 students in nearby villages receive education, hoping to help the villagers escape from inter-generational poverty.

“Enhancing confidence in poverty reduction”
Incentivise the poor to escape from poverty and change their way of thinking; arouse their passion to work and determination to escape from poverty.

“Enhancing ability in poverty reduction”
Through education and training, empower people living in disadvantaged areas to escape from poverty by broadening their horizons and developing their innovative and entrepreneurial thinking.

On 1 September 2019, Meingor Hope Primary School was officially opened. In the future, CSC Macau will continue to assist in school teaching management and students' personal development. It also plans to organise activities that would strengthen the bonding between teachers and students on a long-term basis. Visits by staff and the general public would be arranged and donations would be welcomed. Students of outstanding virtue and academic achievements would be invited to join summer camps in Macau.



Environmental Responsibility

To foster ecological civilisation and green development, CSC Macau continues to improve its environmental management system and strengthen its efforts in environmental protection, energy saving and emissions reduction management. It will also proactively explore ways to integrate corporate development and environmental protection, and promote new technologies and new business models to contribute to a green economy.

Support the application of prefabrication in construction technology

As an icon in the trend of construction industrialisation, prefabricated construction technology can transform and upgrade the construction industry. Market demand is rising gradually. The widespread application of this technology not only increases project efficiency, but also reduces labour demand in construction sites and plays a part in environmentally friendly construction.

In 2016, CSC Macau took the opportunity to jointly invest with CSCIICL in the Zhuhai Hailong prefabricated factory, adding to the competitive advantage in prefabricated construction projects in Macau and the Greater Bay Area. Currently, CSC Macau already uses prefabricated floorboards and prefabricated container-style construction site offices. It will continue to communicate and cooperate with industry peers, customers and the government to progressively promote the application of prefabrication in construction technology.

Environmental Advantages of Prefabricated Construction Technology		
Factory production facilitates noise capture, dust capture and wastewater recycling	Standardised production process reduces waste and save resources	No interruption caused mostly by weather or seasonal conditions; environmental resilience is stronger

Regional Sustainability Performance

CSCIICL

CSCIICL is a platform for the Group to develop infrastructure investment and other construction related businesses in Mainland China. With its background as a national enterprise with foreign investment and a mature management system, CSCIICL has invested in building a series of national and regional key projects in 20 provinces and municipalities nationwide, which also covers operational management, production introduction and prefabricated construction businesses, contributing to significant upgrades at both city and industry levels. As of the end of 2019, CSCIICL possesses 157 projects under construction, 2 operational projects in infrastructure, and 6 production bases for prefabricated construction.

Key Performance Summary		
Economic Performance 	Revenue	HKD 31,935,556,000
Social Performance 	Total number of employees	5,056
	Employee turnover rate	10%
	Ratio of work-related injuries per 1000 persons ²¹	0.7
	Average training hours per person	28.4
Environmental Performance 	Greenhouse gas emissions intensity	2.9 tonnes CO ₂ -e/HKD million
	Hazardous waste intensity	0.003 tonne CO ₂ -e/HKD million
	Non-hazardous waste intensity	181.8 tonnes/HKD million
	Electricity use intensity	2.9 MWh/HKD million
	Water use intensity	104.4 cubic metres/HKD million

As of the end of 2019, CSCIICL possesses **157** projects under construction

Economic Performance
Revenue HKD **31,935,556**

²¹ Including work-related deaths and injuries of employees and other workers controlled by the Group or in the workplace controlled by the Group.

Annual Project Highlights

Art Town of Succulent Plants PPP Project, Suizhou City, Hubei Province

Innovation City PPP Project Chuzhou, Anhui Province (Phase I)

High Speed Railway Station Industrial New Town Project, Changsha, Hunan Province (Phase I)

Government Targeted Repurchase Project, E-28a plot, Lucheng District, Wenzhou, Zhejiang Province

Industrial Park Renovation Project, Foshan, Guangdong Province

Regional Sustainability Performance



Operational Responsibility

Urban planning and construction are pivotal in improving regional economic development and people's livelihood. CSCI exerts business advantage based on investment, coordinating company resources, proactively communicating and cooperating with regional governments to participate in regional planning and construction, so as to directly and indirectly promote regional economic development and create a blissful life for the people.

Build projects to better people's livelihood and enhance residents' wellbeing

As an important infrastructural project for the people, relocation housing not only improves the housing conditions of residents in the city upon completion, but also drives the economic development of the local community. CSCII (Zhejiang) Company Limited participated in developing and building the central green-axis government relocation housing in Wenzhou City. The building plan converted an original village plot in the city, which lacked unified planning, management and infrastructural facilities, into a residential commodity housing with comprehensive public facilities to improve residents' living environment. Moreover, the project cooperated with a large number of local suppliers and workers, bringing positive impacts to local economic development.



Direct Economic Contribution



- Compared to traditional general contract project bid, the land cost and procurement cost for the relocation housing project are both regarded as investment in fixed assets, which will further promote an increase in local GDP.

Indirect Economic Contribution



- The project construction will provide numerous job positions for workers and help resolve unemployment;
- Increase local suppliers' market competitiveness through purchasing materials locally;
- Lead to construction of supporting facilities surrounding the project, such as schools, restaurants and shopping malls, stimulating an increase in local education and consumption levels;
- Help to speed up renovation of old villages and achieve urban modernisation.

Besides economic contribution and satisfying basic housing needs, modern society has bestowed more functional requirements for city building. As Wenzhou City's key iconic project, its design has to strictly follow consistency principles and its overall tone and style have to align with surrounding buildings, so as to fit into the city's overall architectural planning. At the same time, to create a green environment for the community, the project adheres to the ecological landscape construction concept of "unity of nature and man" during the design process. Through introducing a green landscape belt on the western side of the city, the project constructed multi-level green structures to satisfy the residents' demand for a green environment.

Social Responsibility

CSCIICL cherishes the value created by employees and pays an even greater attention to the physical and mental health and safety of its employees. The company continuously improves the level of scientific management and opens itself to innovative measures and technologies in order to provide employees with a safer working environment.

Promote QR codes at construction sites to protect employees' health and safety

With the advent of the "Internet+" era and the popularisation of smart phones, QR codes are widely used in the daily life of the public. CSCIICL explores the application of QR codes at construction sites to make construction site management more modern and intelligent.

At present, site management personnel enter information according to specific construction conditions, generate a QR code and paste it next to the main hazard source of the project. Workers will understand the security risk situation and operation guidelines by simply scanning the QR code. The QR code can also be connected to the notification platform to promote all sorts of news in a timely manner, so that workers can keep up to date on what happens at the construction sites.

Additionally, the QR code can be used in registering the identity of construction staff and recording their entries and exits, work progress, safety education and emergency drill participation information, etc., It helps managers to trace the dynamics of workers, arrange suitable work and further training, improve the quality of employees and reduce the risk of accidents.

CSCIICL provides a broad career opportunity and development platform for every employee. By building smooth recruitment channels and career development paths, as well as improving the training system and training resources, CSCIICL has built a diversified talent structure and at the same time helped employees and the company to grow together.

Attract talents and enlarge local employment capacity

As an integrated system for talent training, school-enterprise cooperation adopts a model that combines theoretical knowledge with business practice. This system is targeted to provide society with talents of practical expertise, and is an effective model in helping out employment for college students. As a national enterprise situated in Henan, CSCII (Henan) Company Limited ("CSCII Henan") values school-enterprise cooperation in training professional talents as a means to highlight its social responsibility as a national enterprise. During its cooperation with the Zhengzhou University, CSCII Henan invites students selected by schools to work as interns in the corporation each year, helping them to put practical knowledge in business operations. At the same time, internships can help students accumulate working experience and quickly adapt to society's development needs.



Regional Sustainability Performance



Simultaneously, the recruitment of local talents is also one of the important channels for corporations to integrate into local economic development and culture. CSCII Henan highly values local talent introduction and is committed to increasing the local employment rate. In the reporting year, all new employees of CSCII Henan through social recruitment come from Henan. Regarding campus recruitment, CSCII Henan proactively contacts colleges in the province in each year's recruitment season, assisting students to understand the corporation's direction of development through various channels and providing diverse employment choices for them. Of all graduates hired by CSCII Henan this year through campus recruitment, more than 70% originates from Henan.

Improve talent training programs and build a diversified training system

To optimise talent cultivation and personal growth mechanism, CSCII CL has integrated the development needs of employees at different stages and formulated a talent training programme for this year. The programme clearly targets training subjects, methods and objectives respectively for new employees, general management staff, middle-level management and senior-level management staff. The aim was to improve employees' management capabilities, professional skills and operational skills in a targeted manner. "Customer-centered, results-oriented, striver-oriented, and pursue profits under the sun" was their motto for work. CSCII CL expands its offline and online training modes, which combines off-production with on-the-job training and provides the best resources possible to help employees achieve skills enhancement and self-development.

<p>Sailing Plan</p>	<p>Train new employees on corporate culture and business processes to quickly orientate new employees into work mode.</p>
<p>Racing Plan</p>	<p>Professional knowledge training for different positions to strengthen the professional knowledge foundation of general management staff and expand their horizons.</p>
<p>Voyage Plan</p>	<p>Target middle-level management cadres, conduct training for reserve cadres and workshop sharing and exchanges to groom talents with management and social skills.</p>
<p>Pilot Plan</p>	<p>Ongoing seminars and training activities for company executives surrounding the themes of strategic thinking, key customer acquisition and leadership enhancement.</p>

CSCII CL cares for the development of the locality where it operates and continues to explore the best way to contribute to the society with the company's expertise to actively contribute to social development. Through voluntary services, targeted poverty alleviation and cash donations, CSCII CL is committed to contributing to the development of culture, education and environmental protection.

Integrate charity forces to support the development of rural primary education

As an important way to achieve personal and social development, education has always been one of the key focuses for CSCII CL. Currently, the distribution of education resources in the society is uneven, and teachers working for schools in remote areas are limited. Therefore, CSCII CL has carried out various charitable activities on education from time to time.

Rixi Central Primary School is located in Rixi Town, Fuzhou, Fujian Province. Teachers are relatively scarce due to inconvenient transportation in the mountainous areas of the region. School students are mostly left-behind children. Care and education are being neglected as their parents usually work in the city. Although attention has increased on these children from all walks of life in the society and the school hardware has improved, the learning, livelihood and psychological problems of these children still exist.

In September 2019, CSCII CL orchestrated the "Rixi Good Deeds and Brilliant Breeding" programme. Young and outstanding volunteers from various departments were selected to teach English, music, art, architectural aesthetics and other special courses at Rixi Central Primary School. The programme also prepared psychological counseling courses and extracurricular games linked to students' actual needs. In addition, CSCII CL started online collection of books one month before the event and prepared donated materials. Air conditioners, projectors, sports equipment and books were sent to all teachers and students.

The "Rixi Good Deeds and Brilliant Breeding" programme is one of CSCII CL's key theme activities to celebrate the 70th anniversary of the founding of the People's Republic of China. Through practising "enterprise serving the society", the company provides help and care in education and livelihood to students in need using its resource advantages.



Regional Sustainability Performance



Environmental Responsibility

In regard to green building and production, CSCIICL strives to contribute to creating a beautiful China with blue skies, green mountains and clear water by promoting environmental protection, resource waste reduction and strict pollution control continuously.

Green buildings to strengthen prevention of air pollution

To further strengthen prevention and control of atmospheric pollution, the China State Council has introduced a three-year Blue Sky Protection War Action Plan, aiming to continually improve air quality in the environment. Part of the plan targets dust spread from construction sites and has listed corresponding control requirements. Companies showing serious negligence in dust management will be blacklisted in the main body of the construction market.

As government's management on construction dust is getting stricter, CSCIICL has been highly responsive. During this reporting year, all construction units were asked to formulate various dust reduction measures to ensure that construction standards adhere to national requirements.

Requirements	Fulfilment and Responsive Measures
Strictly implement 100% enclosure around construction sites, 100% air-tight transportation by dirt trucks, 100% cleaning of vehicles upon entries and exits, 100% hardening of roads at construction sites, 100% wet works in dirt excavation, and 100% coverage on stacked materials.	Fulfilled related requirements stipulated by the Action Plan to reduce dust raised during construction.
Install online monitoring and video monitoring equipment, and form a network to connect with local administration departments.	Install PM ₁₀ detectors and video monitoring equipment to conduct real-time monitoring of PM ₁₀ concentration around construction sites to ensure dust control requirements meet standards.

In addition, CSCIICL project managers regularly communicate with local government departments like construction site dust control office, atmospheric control office, environmental protection bureau and dirt control office to understand the latest dust control strategies and adjust the corresponding control measures. At the same time, the company has resorted to advanced procurement for raw materials that are more likely to be affected by dust management, such as reinforcement bars, cement, sand and tiles.

Turning construction waste into resources

CSCIICL utilises its own building technology to reduce negative environmental impacts during project construction. The Henan Mushan Wetland Park project, located in Zhengzhou City, Zhongmu County and taking up nearly three square kilometres of land, is one of the most important livelihood projects of the Zhongmu County government. The construction plan includes digging lakes and heaping mountains, landscape greening, and building path roads and other supporting facilities inside the park. Due to the large volume of soil required to build the artificial mountain, a large amount of soil is still needed even after using the dirt excavated from the lake. As the project is located on flat plains lacking soil resource, where to borrow soil became a problem hindering the construction progress.

To solve the soil shortage problem, CSCIICL, after multiple party investigations, found that large amounts of construction waste generated from large scale reconstruction in Zhongmu County were not disposed of. It therefore decided to cooperate with the Zhengzhou Zhongmu County government and built the mountain in the Wetland Park with construction waste generated from the county's reconstruction. This not only reduced the amount of construction waste sent to landfills, but also solved the soil shortage problem of mountain filling. By avoiding the use of new soils and keeping environmental pollution in control, the scheme has achieved a winning situation for all three parties.

In 2019, construction work for the Henan Mushan Wetland Park was completed and the Park was open to public. The Wetland Park has added 1,419 acres of green area for Moshan County, planted with around 200,000 trees and shrubs inside the park. Together with the Jialu River governance project, it forms an ecological promenade of ten thousand hectares. The lakes in the park collect river water and rainwater to form artificial wetlands. Aquatic plants in the lake, such as water lilies and reeds, not only add beauty to the landscape, but also purify and filter waters in the park. Besides, various recreation facilities were built in the wetland park, including a cedar lawn, kids' playground and plank roads, providing a wonderful space for the public recreation.



Summary of Key Performance Indicators



Environmental Performance²²

Air Emissions

Statistics	Sites of operation within the reporting boundary	CSCD	Total	Unit
Nitrogen oxides	2,162.0	1,165.5	3,327.5	tonne
Sulphur oxides	140.3	287.1	427.4	tonne
Respirable suspended particulates	126.2	22.6	148.8	tonne

Greenhouse Gases

Statistics	Sites of operation within the reporting boundary	CSCD	Total	Unit					
Scope 1: Direct emissions	Combustion of fossil fuels	91,232.3	101,247.4	797,557.3	800,010.5	888,789.6	901,257.9	tonne of CO ₂ -e	
	Industrial production processes – welding	9,925.0		0					9,925.0
	Industrial production processes – desulphurisation	0		2,455.2					2,455.2
	Fugitive emissions	90.1		0					90.1
	Removal by planted trees	0		(2.0)					(2.0)
Scope 2: Energy indirect emissions	Purchased electricity	64,022.4	69,880.4	51,146.3	51,172.3	115,168.7	121,052.7	tonne of CO ₂ -e	
	Purchased heat	5,858.0		0		5,858.0			
	Purchased town gas	0		26.0		26.0			
Total GHG emissions (Scope 1 & 2)	171,127.8	851,182.8	1,022,310.6	tonne of CO ₂ -e					
GHG intensity (Scope 1 & 2, by revenue)		16.58		tonne of CO ₂ -e/ HKD million					

²² To facilitate readers' comprehensive understanding of the quantified environmental performance of the Group, the performance indicators of CSCD (including Huanggu Shenyang transferred by the Group this year), are also listed in this chapter. CSCD's environmental performance are quoted from the "Environmental, Social and Governance Report" in its 2019 Annual Report. The environmental performance of Huanggu Shenyang was independently assessed by Carbon Care Asia.

Statistics	Sites of operation within the reporting boundary	CSCD	Total	Unit				
Scope 3: Other indirect emissions	Industrial production processes – welding (contractor)	2,056.3	44,060.4	N/A	202.4	2,056.3	44,262.8	tonne of CO ₂ -e
	Stationary combustion (contractor)	31,244.3		N/A		31,244.3		
	Disposal of waste paper	1,315.6		31.0		1,346.6		
	Water consumption	6,240.0		25.0		6,265.0		
	Sewage treatment	2,943.4		13.0		2,956.4		
	Air business travel	260.8		133.4		394.2		
Total GHG emissions (Scope 1, 2 and 3)	215,188.2	851,385.2	1,066,573.4	tonne of CO ₂ -e				
GHG intensity (Scope 1, 2 and 3, by revenue)		17.29		tonne of CO ₂ -e/ HKD million				

Hazardous Waste

Statistics	Sites of operation within the reporting boundary	CSCD	Total	Unit
Total hazardous waste	3,347.3	0.005	3,347.3	tonne
Hazardous waste intensity (by revenue)		0.05		tonne/HKD million

Non-hazardous Waste

Statistics	Sites of operation within the reporting boundary	CSCD	Total	Unit		
Total non-hazardous waste	Inert construction and demolition waste	7,361,566.1	7,645,303.8	255,095.0	7,900,398.8	tonne
	Non-inert construction and demolition waste	92,431.2				
	Old construction demolition waste	143,114.1				
	Other construction waste	35,758.7				
	Other non-hazardous waste	12,433.7				
Non-hazardous waste (by revenue)		128.11		tonne/ HKD million		

Summary of Key Performance Indicators



Energy

Statistics		Sites of operation within the reporting boundary		CSCD		Total		Unit
Total energy consumption	Gasoline	16,819.4	520,431.9	830.7	491,531.2	17,650.1	1,011,963.1	MWh-e
	Diesel	316,652.1		2,145.1		318,797.2		
	Liquefied Petroleum Gas ("LPG")	826.1		417.3		1,243.4		
	Liquefied Natural Gas	41.9		0		41.9		
	Piped gas	509.1		0		509.1		
	Acetylene	40,473.4		0		40,473.4		
	Natural gas	23,650.7		0		23,650.7		
	Methanol	224.2		0		224.2		
	Lignite	0		2,199,264.1		2,199,264.1		
	Renewable energy	1,234.9		0		1,234.9		
	Purchased electricity	105,207.3		83,935.5		189,142.8		
	Towngas	0		31.0		31.0		
	Purchased steam	14,792.8		0		14,792.8		
	Sold electricity	N/A		(103,148.0)		(103,148.0)		
	Sold steam	N/A		(1,678,666.7)		(1,678,666.7)		
Sold heat (heated water)	N/A	(13,277.8)	(13,277.8)					
Energy intensity (by revenue)		16.41				MWh-e/ HKD million		

Water Resources

Statistics		Sites of operation within the reporting boundary		CSCD		Total		Unit
Total water consumption ²³		18,052,323.9		2,484,502.0		20,536,825.9		cubic metre
Water consumption intensity (by revenue)		333.0						cubic metre/ HKD million
Sewage discharge	Municipal/sewage discharge	1,713,496.7	4,908,637.2	1,147,579.0	1,147,579.0	2,861,075.7	6,056,216.2	cubic metre
	Discharge into the sea, rivers or lakes after treatment in sewage treatment facility ²⁴	3,088,027.5		0		3,088,027.5		
	Other destinations	107,113.0		0		107,113.0		
	Water discharge intensity (by revenue)			98.2				
Total water reused ²⁵		350,760.0		0 ²⁶		350,760.0		cubic metre

Packaging Materials for Finished Products

Statistics		Sites of operation within the reporting boundary		CSCD		Total		Unit
Total consumption of packaging materials	Timber for packaging	3,635.9	23,756.3	N/A	158.0	3,635.9	23,914.3	tonne
	Other packaging materials	20,120.4		158.0		20,278.4		
Packaging material intensity (by revenue)		0.39						tonne/ HKD million

²³ Including freshwater supplied to contractors at construction sites by the Group.

²⁴ Mainly include wastewater produced by construction work at construction sites in Hong Kong, which is being treated by the on-site sewage treatment machine (settlement of suspended solids and neutralisation). Once the discharge standard is met, wastewater is discharged into storm drain in accordance with the requirement stipulated by the sewage license.

²⁵ Reused in construction sites of the Group, not used by other organisations.

²⁶ Only include data from Huanggu Shenyang.

Summary of Key Performance Indicators



Use of Raw Materials^{27, 28}

Statistics		Hong Kong	Macau	Mainland China	Total	Unit
Internal consumption by the Group	Concrete	4,842,221	278,432	1,708,982	6,829,635	cubic metre
	Cement mortar	287,624	7,590	35,559	330,773	cubic metre
	Reinforced steel bar	282,661	72,166	362,937	717,764	tonne
	Steel beams	23,045	717	7,151	30,913	tonne
	Sheet pile	9,897	1,084	1,103	12,084	tonne
	Cement	49,311	450	167,102	216,863	tonne
	River sand	921,413	14	163,258	1,084,685	tonne
	Stones	390,838	90	318,113	709,041	tonne
	Bricks	7,354	1,427	65,380	74,161	tonne
	Concrete floor materials	6,938	0	165	7,103	tonne
	Aluminium products	20	0	2,602	2,622	tonne
	Steel products	2,917	1	25,355	28,273	tonne
	Silica gel	0	0	583	583	tonne
	Glass	10	0	5,144	5,154	tonne
Consumption of contractors ²⁹	Concrete	54,972	0	2,884,309	2,939,281	cubic metre
	Cement mortar	5,460	0	263,361	268,821	cubic metre
	Reinforced steel bar	16,998	0	633,109	650,107	tonne
	Steel beams	9,624	0	1,334	10,958	tonne
	Sheet pile	1,759	0	16,320	18,079	tonne
	Cement	5,880	0	242,961	248,841	tonne
	River sand	27,635	0	214,707	242,342	tonne
	Stones	2,267	0	264,480	266,747	tonne
	Bricks	226	0	577,928	578,154	tonne
	Concrete floor materials	0	0	6,512	6,512	tonne
	Aluminium products	0	0	6,643	6,643	tonne
	Steel products	95	0	6,288	6,383	tonne
	Silica gel	0	0	257	257	tonne
	Glass	69	0	4,466	4,535	tonne
Timber for packaging	0	0	80,171	80,171	tonne	

²⁷ The relevant data of CSCD (including Huanggu, Shenyang) was not calculated.

²⁸ The Group was unable to calculate the consumption data of all raw materials this year (for instance: timber). The Group will continue to improve the data collection and calculation mechanism to gradually expand the types of disclosure.

²⁹ Data mainly provided by contractors in Hong Kong, Macau and the eastern region of Mainland China. The Group will continue to communicate and coordinate with all sites of operation to expand the data scope.

Expenditure on Environmental Protection

Statistics		Sites of operation within the reporting boundary	CSCD	Total	Unit
Annual expenditure on environmental protection	Waste treatment	85,699,300.8	4,356,686.7	90,055,987.5	HKD
	Sewage discharge treatment	5,594,568.6	1,229,548.0	6,824,116.6	
	Air emissions treatment	22,950.8	4,714,252.2	4,737,203.0	
	Prevention of climate change risks	348,660.1	0.00	348,660.1	
	Environmental protection facilities	17,960,752.1	72,000.0	18,032,752.1	
	Recruitment of environmental protection personnel	16,333,693.0	2,603,869.0 ³⁰	18,937,562.0	
	Other environmental protection expenditure and investment	12,404,496.2	152,863.2	12,557,359.4	
		138,364,421.6	13,129,219.1	151,493,640.7	

Social Performance³¹

Employment

Statistics		Sites of operation within the reporting boundary	CSCD	Total	
Current employees ³²	Gender	Male	8,796	2,799	11,595
		Female	2,315	398	2,713
	Age group	30 or below	3,487	932	4,419
		31-40	3,417	1,042	4,459
		41-50	2,390	806	3,196
		51 or above	1,817	417	2,234
		Employment rank	Senior	30	8
		Middle	223	31	254
		Executive	1,191	258	1,449
		General	9,667	2,900	12,567
	Region	Hong Kong	5,361	318	5,679
		Macau	694	N/A	694
		Mainland China	5,056	2,604	7,660
		USA	N/A	126	126
Canada		N/A	149	149	
		11,111	3,197	14,308	

³⁰ Only include data from Huanggu Shenyang.

³¹ To facilitate readers' comprehensive understanding of the quantified social performance of the Group, the performance indicators of CSCD (including Huanggu, Shenyang transferred by the Group this year), are also listed in this chapter. Except for Huanggu, Shenyang, CSCD's respective data on "total number of employees", "number of employees lost" and "number of suppliers" are quoted from the "Environmental, Social and Governance Report" in its 2019 Annual Report. The environmental performance of Huanggu Shenyang was independently assessed by Carbon Care Asia.

³² Total number of employees in 31 Dec 2019.

Summary of Key Performance Indicators



Statistics		Sites of operation within the reporting boundary		CSCD		Total	
New hires	Gender	Male	2,512	3,165	462	529	2,974
		Female	653				
	Age group	30 or below	1,219		172		1,391
		31-40	733		181		914
		41-50	689		126		815
		51 or above	524		50		574
	Region	Hong Kong	2,606		84		2,690
		Macau	106		N/A		106
		Mainland China	453		432		885
		USA	N/A		7		7
Canada		N/A	6	6			
Rate of new hires ³³	Gender	Male	29%	28%	17%	17%	26%
		Female	28%				
	Age group	30 or below	35%		18%		31%
		31-40	21%		17%		20%
		41-50	29%		16%		26%
		51 or above	29%		12%		26%
	Region	Hong Kong	49%		26%		47%
		Macau	15%		N/A		15%
		Mainland China	9%		17%		12%
		USA	N/A		6%		6%
Canada		N/A	4%	4%			

Statistics		Sites of operation within the reporting boundary		CSCD		Total	
Number of employee turnover	Gender	Male	1,940	2,458	696	797	2,636
		Female	518				
	Age group	30 or below	776		328		1,104
		31-40	643		281		924
		41-50	498		136		634
		51 or above	541		52		593
	Region	Hong Kong	1,820		57		1,877
		Macau	119		N/A		119
		Mainland China	519		561		1,080
		USA	N/A		153		153
Canada		N/A	26	26			
Rate of employee turnover ³⁴	Gender	Male	23%	23%	24%	24%	23%
		Female	23%				
	Age group	30 or below	24%		32%		26%
		31-40	19%		26%		21%
		41-50	22%		17%		20%
		51 or above	30%		12%		26%
	Region	Hong Kong	37%		19%		36%
		Macau	17%		N/A		17%
		Mainland China	10%		21%		14%
		USA	N/A		77%		77%
Canada		N/A	16%	16%			

³³ Rate of new hires = (Number of new hires in 2019/ Number of current employees on 31 Dec 2019) x 100%.

³⁴ Rate of employee turnover = (Number of employee turnover in 2019/ average number of current employees on 1 January 2019 and 31 Dec 2019) x 100%.

Summary of Key Performance Indicators



Health and Safety³⁵

Statistics		Sites of operation within the reporting boundary	CSCD	Total
Employees	Number of work-related injuries	47	10	57
	Work-related injury rate per 1,000 persons	4.2	3.1	4.0
	Number of work-related fatalities	0	0	0
	Work-related fatality rate per 1,000 persons	0.0	0.0	0.0
	Lost days due to work-related injury or occupational diseases	7,506	930	8,436
	Lost day rate ³⁶	58.2	28.5	52.2
	Absent days	26,611	36,197	62,808
	Absentee rate ³⁷	0.83%	4.44%	1.55%
Other workers ³⁸	Number of work-related injuries ³⁹	156	0	156
	Work-related injury rate per 1,000 persons	2.7	0.0	2.6
	Number of work-related fatalities	3	0	3
	Work-related fatality rate per 1,000 persons	0.1	0.0	0.05
	Lost days due to work-related injury or occupational diseases	17,673	32	17,705
	Lost day rate ⁴⁰	72.7	1.0	64.2
	Absent days	17,693	32	17,725
	Absentee rate ⁴¹	0.29%	0.004%	0.26%

³⁵ There were no employees and other workers with occupational diseases in the Group during the year.

³⁶ Lost day rate = (Total number of lost days/ Original number of total working hours) x 200,000; Total number of working hours measured by 8 hours per working day.

³⁷ Absentee rate = (Number of absent days/ Original total number of working days) x 100%.

³⁸ Including contractors/ sub-contractors, interns, volunteers and other workers whose venue of work or work are managed by the Group.

³⁹ Including number of work-related fatalities.

⁴⁰ Lost rate day = (Total number of lost days/ original total number of working hours) x 200,000; Total number of working hours measured by 8 hours per working day.

⁴¹ Absentee rate = (Number of absent days/ Original total number of working days) x 100%.

Training and Development⁴²

Statistics		Sites of operation within the reporting boundary	CSCD	Total	
Training percentage	Gender	Male	89.5%	84.0%	92.9%
		Female	68.0%	74.6%	70.6%
	Employee rank	Senior	100.0%	87.5%	100.0%
		Middle	100.0%	29.0%	96.5%
		Executive	100.0%	88.0%	100.0%
		General	79.4%	82.9%	84.7%
Average training hours	Gender	Male	14.9	12.2	15.2
		Female	12.9	9.9	12.7
	Employee rank	Senior	5.6	23.9	9.4
		Middle	29.5	0.5	26.4
		Executive	20.1	15.3	19.5
		General	13.4	11.7	13.9
Percentage of employees who received performance review	Gender	Male	82.4%	100.0%	91.3%
		Female	71.5%	100.0%	77.4%
	Employee rank	Senior	43.3%	100.0%	55.3%
		Middle	87.9%	100.0%	92.1%
		Executive	93.5%	100.0%	96.1%
		General	78.4%	100.0%	87.8%

⁴² Including data on employee turnover who has received training this year.

Summary of Key Performance Indicators

Supply Chain Management⁴³

Statistics		Sites of operation within the reporting boundary		CSCD		Total	
Number of suppliers	Hong Kong	1,896	3,455	44	123	1,940	3,578
	Macau	318		N/A		318	
	Mainland China	1,241		77		1,318	
	USA	N/A		1		1	
	Australia	N/A		1		1	

Community Investment

Statistics	Sites of operation within the reporting boundary	CSCD	Total	Unit
Total amount of investment	183,524.46	0.00	183,524.46	HKD
Number of participating volunteers	3,193	28	3,221	number of people
Number of volunteer participation hours	21,151	157	21,308	hour

⁴³ The Group consistently applies supplier recruitment, management and monitoring practices to all suppliers of the same category to ensure fairness of the system.

Key Membership

Hong Kong	Macau	Mainland China
<ul style="list-style-type: none"> The Hong Kong Chinese Enterprises Association – Construction Industry Committee 	<ul style="list-style-type: none"> The Macau Chinese Enterprises Association 	<ul style="list-style-type: none"> Si Chuan Association For Construction Quality and Safety Supervision
<ul style="list-style-type: none"> The Hong Kong Construction Association 	<ul style="list-style-type: none"> Associacao Geral do Sector Imobiliario de Macau 	<ul style="list-style-type: none"> Chengdu Construction Quality Association
<ul style="list-style-type: none"> Construction Industry Council 	<ul style="list-style-type: none"> School of Business Advisory Board, Macau University of Science and Technology 	<ul style="list-style-type: none"> Yunnan Construction Industry Association
<ul style="list-style-type: none"> Occupational Safety and Health Council 	<ul style="list-style-type: none"> Macau Construction Industry Association 	
<ul style="list-style-type: none"> Vocational Training Council 	<ul style="list-style-type: none"> Macao Association of Building Contractors and Developers 	
<ul style="list-style-type: none"> Labour Advisory Board 	<ul style="list-style-type: none"> Macau Construction Association 	
<ul style="list-style-type: none"> Hong Kong Institute of Environmentalists 	<ul style="list-style-type: none"> Macao Wo Kuong Advancement Association 	
<ul style="list-style-type: none"> The Employees' Compensation Insurance Residual Scheme Bureau Limited 	<ul style="list-style-type: none"> Association of Study of Environmental Science and Technology of Macau 	
<ul style="list-style-type: none"> Employees Compensation Insurer Insolvency Bureau 	<ul style="list-style-type: none"> Macau Construction Safety Association 	

Declarations of Auditing



INDEPENDENT ASSURANCE OPINION STATEMENT



Statement No.: **SRA-HK 726001**

China State Construction International Holdings Limited 2019 Sustainability Report

The British Standards Institution is independent of China State Construction International Holdings Limited, and its subsidiaries (hereafter referred to as "CSCI" collectively in this statement), and has no financial interest in the operation of CSCI other than for the assessment and assurance of CSCI 2019 Sustainability Report (the "Report").

This independent assurance opinion statement has been prepared for CSCI solely for the purposes of assuring its statements relating to the Report, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or towards any person by whom the independent assurance opinion statement may be read. This statement is intended to be used by stakeholders & management of CSCI.

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Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to CSCI only.

Scope

The scope of engagement agreed upon with CSCI includes the following:

1. The assurance covers the whole Report and, focuses on systems and activities of CSCI in Mainland China, Hong Kong and Macau, which include construction and investment business, during the period from 1st January 2019 to 31st December 2019. The Report is prepared in accordance with the Core Option of GRI Sustainability Reporting Standards ("GRI Standards") and in accordance with the Hong Kong Stock Exchange's ("HKEX") Environmental, Social and Governance Reporting Guide ("ESG Guide").
2. Type 1 Moderate Level of Assurance in accordance with the AA1000 Assurance Standard, AA1000AS (2008) evaluates the nature and extent of CSCI's adherence to three reporting principles: Inclusivity, Materiality and Responsiveness. The specified sustainability performance information/data disclosed in the Report has been evaluated.

This statement was prepared in English and translated into Chinese for reference only.

Opinion Statement

We conclude that the Report provides a fair view of CSCI's sustainability programmes and performance in the reporting year. We believe that the economic, social and environmental performance indicators are fairly represented in the Report, in which CSCI's efforts to pursue sustainable development are widely recognized by its stakeholders.

Our work was carried out by a team of sustainability report assurers. We planned and performed this part of our work to obtain the necessary information and explanations. We considered CSCI has provided sufficient evidence that CSCI's self-declaration of compliance with the Core Option of GRI Standards and the HKEX ESG Guide were fairly stated.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- A top level review of issues raised by external parties that could be relevant to CSCI's policies to provide a check on the appropriateness of statements made in the Report;
- Discussion with senior executives on CSCI's approach to stakeholder engagement. We had no direct contact with external stakeholders;
- Interview with staff involved in sustainability management, report preparation and provision of report information;
- Review of key organizational developments;
- Review of supporting evidence for claims made in the Report; and
- An assessment of the company's reporting and management processes concerning reporting against the principles of Inclusivity, Materiality and Responsiveness.

Conclusions

A detailed review against the AA1000 AccountAbility Principles of Inclusivity, Materiality and Responsiveness and the HKEX ESG Guide, and in accordance with GRI Standards is set out below:

...making excellence a habit.™

Declarations of Auditing



Inclusivity

The Report has reflected the fact that CSCI is seeking the engagement of its stakeholders through numerous channels such as group publication; grievance mechanism; general meeting; public information such as annual report, interim report and announcement; performance roadshow and reverse roadshow; investors' conferences; tender meeting; project briefing; tea gathering and academic activity; establish the relevant management system; supplier / contractor meeting; community opinion survey; charity event; feedback through industry associations; and more.

CSCI's operation involves various methods of engaging its stakeholders on a daily basis. The Report covers economic, social and environmental aspects of concern to its stakeholders with a fair level of disclosure. In our professional opinion, CSCI adheres to the principle of Inclusivity. Our view of areas for enhancement of the Report was adopted by CSCI before the issue of this opinion statement.

Materiality

CSCI publishes sustainability information that enables its stakeholders to make informed judgments about the company's management and performance. In our professional opinion, the Report adheres to the principle of Materiality and identifies CSCI's material aspects by using appropriate methods of materiality analysis and demonstrating material issues in a matrix form. Areas for enhancement of the Report were adopted by CSCI before the issue of this opinion statement.

Responsiveness

CSCI has implemented practices that respond to the expectations and perceptions of its stakeholders. These include various surveys and feedback mechanisms for both internal and external stakeholders. In our professional opinion, CSCI adheres to the principle of Responsiveness. Areas for enhancement of the Report were adopted by CSCI before the issue of this opinion statement.

GRI Standards Reporting

CSCI provided us with their self-declaration of compliance with GRI Standards "In Accordance" - Core option.

Based on our verification review, we are able to confirm that social responsibility and sustainable development disclosures in all three categories (Environmental, Social and Economic) are reported in accordance with the GRI Standards: Core option.

In our professional opinion the report covers CSCI's social responsibility and sustainability issues. Areas for enhancement of the Report were adopted by CSCI before the issue of this opinion statement.

HKEX ESG Guide Reporting

Based on our verification review, we are able to confirm that social responsibility and sustainable development key performance indicators and disclosures in two ESG subject areas (Environmental and Social) are reported on basis of the HKEX ESG Guide.

In our professional opinion, the Report covers CSCI's social responsibility and sustainability issues. Areas for enhancement of the report were adopted by CSCI before the issue of this opinion statement.

Assurance Level

The Type 1 Moderate Level of Assurance provided in our review is defined by the scope and methodology described in this statement.

Responsibility

It is the responsibility of CSCI's senior management to ensure that the information being presented in the Report is accurate. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Competency and Independence

The assurance team was composed of Lead Auditors, who are experienced in the industrial sector, and trained in a range of sustainability, environmental and social standards including GRI G3, GRI G3.1, GRI G4, GRI Standards, AA1000, HKEX ESG Guide, UNGC's Ten Principles, ISO20121, ISO14064, ISO 14001, OHSAS 18001, ISO45001, ISO 9001, and ISO 10002, etc. British Standards Institution is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI

Chris Cheung, Head of Compliance & Risk - Asia Pacific

Hong Kong
13th July 2020



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General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
A. Environment			
A1 Emissions			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Sustainability Governance (x); Sustainability Management (x)	<p>Important laws and regulations which are applicable to the Group include the Environmental Protection Law of the People's Republic of China, Atmospheric Pollution Prevention and Control Law of the People's Republic of China, Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes, Air Pollution Control Ordinance and Water Pollution Control Ordinance in Hong Kong. These laws and regulations stipulate standards relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste. Any non-compliance may result in fine penalty, mandate to suspend operation and/or legal action imposed by regulators on the Group.</p> <p>During the year, the Group's project in Hong Kong was involved in a non-compliance case relating to sewage treatment and was charged HKD25,000 for violating the Water Pollution Control Ordinance in Hong Kong. The Group has carried out remedial measures in accordance with the law and will strengthen management to ensure compliance with laws and regulations relating to emissions.</p>
A1.1	The types of emissions and respective emissions data.	Sustainability Management (x); Summary of Key Performance Indicators (x)	

General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
A1.2	Greenhouse gas emissions in total and intensity.	Sustainability Management (x); Summary of Key Performance Indicators (x)	
A1.3	Total hazardous waste produced and intensity.	Sustainability Management (x); Summary of Key Performance Indicators (x)	
A1.4	Total non-hazardous waste produced and intensity.	Sustainability Management (x); Summary of Key Performance Indicators (x)	
A1.5	Description of measures to mitigate emissions and results achieved.	Sustainability Management (x); Regional Sustainability Performance (x)	
A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	Sustainability Management (x); Regional Sustainability Performance (x)	
A2 Use of Resources			
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Sustainability Management (x); Sustainability Management (x)	
A2.1	Direct and/or indirect energy consumption by type in total and intensity.	Summary of Key Performance Indicators (x)	

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General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
A2.2	Water consumption in total and intensity.	Sustainability Management (x); Summary of Key Performance Indicators (x)	
A2.3	Description of energy use efficiency initiatives and results achieved.	Sustainability Management (x); Regional Sustainability Performance (x)	
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	Sustainability Management (x)	During the year, the water used by the Group was supplied by the municipal pipeline network. There were no issues in sourcing water fit for purpose.
A2.5	Total packaging material used for finished products and, if applicable, with reference to per unit produced.	Summary of Key Performance Indicators (x)	
A3 The Environment and Natural Resources			
General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	Sustainability Governance (x); Sustainability Management (x)	
A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Sustainability Management (x)	

General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
B1 Employment			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Sustainability Governance (x); Sustainability Management (x)	Important laws and regulations which are applicable to the Group include Labor Law of the People's Republic of China, The Labor Contract Law of the People's Republic of China, the Employment Ordinance in Hong Kong and the Labour Relations Law in Macau. These laws and regulations stipulate the requirements for compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare, clearly stating employers' legal obligations and responsibilities. The Group complies with relevant laws and regulations. There were no cases of non-compliance relating to employment within the Group during the year.
B1.1	Total workforce by gender, employment type, age group and geographical region.	Sustainability Management (x); Summary of Key Performance Indicators (x)	
B1.2	Employee turnover rate by gender, age group and geographical region.	Summary of Key Performance Indicators (x)	

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General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
B2 Health and Safety			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Sustainability Governance (x); Sustainability Management (x)	<p>Important laws and regulations which are applicable to the Group include the Production Safety Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases, Regulation on Work-Related Injury Insurances of the People's Republic of China, the Occupational Safety and Health Ordinance in Hong Kong and Amendment to the Employees' Compensation Insurance Ordinance in Macau. These laws and regulations stipulate the requirements for production business units and employers in providing a safe working environment and protecting employees from occupational hazards.</p> <p>During the year, CSCHK and CSC Macau were involved in 3 cases and 1 case of non-compliance relating to health and safety respectively, resulting in a total penalty of HKD267,000. The Group has arranged professionals to analyse the cause of incidents and ways to improve. The joint construction unit and supervision unit shall adopt targeting preventive measures, increasing the frequency of on-site patrolling and monitoring the whole process of dangerous works. In addition, the Group organised a safety production warning educational meeting to strengthen workers' safety awareness. The Group will constantly improve the safety the management system and procedures to ensure compliance with laws and regulations relating to health and safety.</p>

General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
B2.1	Number and rate of work-related fatalities.	Sustainability Management (x); Summary of Key Performance Indicators (x)	
B2.2	Lost days due to work injury.	Summary of Key Performance Indicators (x)	
B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	Sustainability Management (x); Regional Sustainability Performance (x)	
B3 Development and Training			
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Sustainability Governance (x); Sustainability Management (x)	
B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Summary of Key Performance Indicators (x)	
B3.2	The average training hours completed per employee by gender and employee category.	Summary of Key Performance Indicators (x)	

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General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
B4 Labour Standards			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Sustainability Governance (x); Sustainability Management (x)	Important laws and regulations which are applicable to the Group include the Labour Law of the People's Republic of China, the Law of the People's Republic of China on the Protection of Minors, the Employment Ordinance in Hong Kong and the Labour Relations Law in Macau. These laws stipulate the prohibition of using child labour or forced labour and clearly outline employers' legal responsibilities. The Group complies with relevant laws and regulations. There were no cases of non-compliance relating to labour standards within the Group during the year.
B4.1	Description of measures to review employment practices to avoid child and forced labour.	Sustainability Management (x)	
B4.2	Description of steps taken to eliminate such practices when discovered.	N/A	There were no such cases of non-compliance discovered in our operations during the year.
B5 Supply Chain Management			
General Disclosure	Policies on managing environmental and social risks of the supply chain.	Sustainability Governance (x); Sustainability Management (x)	
B5.1	Number of suppliers by geographical region.	Summary of Key Performance Indicators (x)	
B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	Sustainability Management (x); Summary of Key Performance Indicators (x)	

General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
B6 Product Responsibility			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Sustainability Governance (x); Sustainability Management (x)	Important laws and regulations which are applicable to the Group include the Company Law of the People's Republic of China, the Patent Law of the People's Republic of China, Buildings Ordinance in Hong Kong and the Personal Data (Privacy) Ordinance. These laws and regulations stipulate the requirements for the health and safety, as well as privacy matters of products and services. The Group complies with relevant laws and regulations. There were no cases of non-compliance relating to product responsibility within the Group during the year.
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	N/A	There were no recalls concerning the provision and use of products and services for safety and health reasons within the Group during the year.
B6.2	Number of products and service related complaints received and how they are dealt with.	N/A	There were no substantiated complaints received relating to the provision and use of products and services that have a significant impact on our operations during the year.
B6.3	Description of practices relating to observing and protecting intellectual property rights.	Sustainability Management (x)	
B6.4	Description of quality assurance process and recall procedures.	Sustainability Management (x)	
B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	Sustainability Management (x)	

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General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
B7 Anti-corruption			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Sustainability Governance (x); Sustainability Management (x)	Important laws and regulations which are applicable to the Group include the Anti-Unfair Competition Law of the People's Republic of China, Anti-Money Laundering Law of the People's Republic of China, Criminal Law of the People's Republic of China, Prevention of Bribery Ordinance in Hong Kong and the Criminal Code in Macau. These laws and regulations stipulate the prevention of bribery, extortion, fraud and money laundering, outlining the legal responsibility of maintaining a clean and fair society and curbing unfair competition. The Group complies with relevant laws and regulations. There were no cases of noncompliance relating to anti-corruption within the Group during the year.
B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	N/A	There were no concluded legal cases of corruption brought against the Group or its employees during the year.
B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	Sustainability Governance (x)	

General Disclosure, KPIs	Description	Relevant Chapter (Page Number)	Remarks
B8 Community Investment			
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Sustainability Governance (x)	
B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Regional Sustainability Performance (x)	
B8.2	Resources contributed to the focus area (e.g. money or time).	Summary of Key Performance Indicators (x)	

GRI Standards Content Index



GRI Standards	Content	Relevant chapter (page number)	Remarks
GRI 101: Foundation 2016 (excluding any disclosures)			
General Disclosures			
GRI 102: General Disclosures 2016			
Organisational profile			
102-1	Name of the organisation	About this Report (x)	
102-2	Activities, brands, products, and services	About this Report (x); Sustainability Management (x); Regional Sustainability Performance (x)	No product or service of the Group was banned in the market during the year.
102-3	Location of headquarters	N/A	Hong Kong
102-4	Location of operations	About this Report (x); Sustainability Management (x);	
102-5	Ownership and legal form	Sustainability Management (x);	
102-6	Markets served	About this Report (x); Sustainability Governance (x); Sustainability Management (x);	
102-7	Scale of the organisation	Sustainability Management (x)	Detailed financial and sites of operations data is available on p. 25-27 of CSCI's Annual Report 2019.
102-8	Information on employees and other workers	Sustainability Management (x)	The Group's construction projects include workers not directly employed by the Group and the work is usually carried out by workers employed by contractors and/or sub-contractors. There were no factors causing significant changes to the total number of employees during the year.

GRI Standards	Content	Relevant chapter (page number)	Remarks
102-9	Supply chain	Sustainability Management (x); Summary of Key Performance Indicators (x)	
102-10	Significant changes to the organisation and its supply chain	About this Report (x)	There were no relevant significant changes to the Group and its supply chain during the year.
102-11	Precautionary Principle or approach	Sustainability Governance (x)	
102-12	External initiatives	Sustainability Governance (x)	
102-13	Membership of associations	Key Memberships (x)	
Strategy			
102-14	Statement from senior decision – maker	Sustainability Governance (x)	
Ethics and Integrity			
102-16	Values, principles, standards and norms of behaviour	Sustainability Governance (x)	
Governance			
102-18	Governance structure	Sustainability Governance (x); Sustainability Management (x)	Please refer to p.61 and p.68-76 of the CSCI's Annual Report 2019.
Stakeholder engagement			
102-40	List of stakeholder groups	Sustainability Management (x)	
102-41	Collective bargaining agreements	N/A	The Group's employees were not protected by collective bargaining agreements.
102-42	Identifying and selecting stakeholders	Sustainability Management (x)	
102-43	Approach to stakeholder engagement	Sustainability Management (x)	
102-44	Key topics and concerns raised	Sustainability Management (x)	

GRI Standards Content Index



GRI Standards	Content	Relevant chapter (page number)	Remarks
Reporting practice			
102-45	Entities included in the consolidated financial statements	About this Report (x)	Please refer to p. 187-193 of CSCI's Annual Report 2019.
102-46	Defining report content and topic Boundaries	Sustainability Management (x)	Please refer to CSCI's Website – Sustainable Development “Foreword” https://www.csci.com.hk/tc/sus_notes.php
102-47	List of material topics	Sustainability Management (x)	
102-48	Restatements of information	N/A	This report did not include restatements of information from previous reports.
102-49	Changes in reporting	Sustainability Management (x)	
102-50	Reporting period	About this Report (x)	
102-51	Date of most recent report	N/A	The most recent report of the Group was Sustainability Report 2018 published on 22 July 2018.
102-52	Reporting cycle	About this Report (x)	
102-53	Contact point for questions regarding the report	About this Report (x)	
102-54	Claims of reporting in accordance with the GRI Standards	About this Report (x)	
102-55	GRI Content Index	GRI Standards Content Index (x)	
102-56	External assurance	About this Report (x); Assurance Statement (x)	
Material Issues			
Economic Performance			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	For details please refer to p. 18-23 of CSCI's Annual Report 2019.
103-3	Evaluation of the management approach	Sustainability Management (x)	

GRI Standards	Content	Relevant chapter (page number)	Remarks
GRI 201: Economic Performance 2016			
201-1	Direct economic value generated and distributed	Sustainability Management (x)	
Anti-corruption			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x); SEHK ESG Guide Content Index (x)	
GRI 205: Anti-corruption 2016			
205-3	Confirmed incidents of corruption and actions taken	N/A	During the year, the Group and its employees were not involved in cases of corruption. There was no prosecution due to corruption.
Anti-competitive Behaviour 2016			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	
GRI 206: Anti-competitive Behavior 2016			
206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	N/A	During the year, the Group was not involved in any cases of anti-competitive behaviour, anti-trust, and monopoly practices.
Effluents and Waste			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	

GRI Standards Content Index



GRI Standards	Content	Relevant chapter (page number)	Remarks
GRI 306: Effluents and Waste 2016			
306-2	Waste by type and disposal method	Sustainability Management (x)	
Employment Management System			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	
GRI 401: Employment 2016			
401-1	New employee hires and employee turnover	Summary of Key Performance Indicators (x)	
Labour/Management Relations			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	
GRI 402: Labour/Management Relations 2016			
402-1	Minimum notice periods regarding operational changes	N/A	Depending on the situation, the Group will inform employees 2-4 weeks prior to any operational changes.
Safe and Healthy Work Environment			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	

GRI Standards	Content	Relevant chapter (page number)	Remarks
GRI 403: Occupational Health and Safety 2016			
403-1	Workers representation in formal joint management-worker health and safety committees	Sustainability Management (x)	The Group's safe production monitoring and management committee at different tiers covers the health and safety issue of 100% employees and third party workers.
Training and Education			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	
GRI 404: Training and Education 2016			
404-1	Average hours of training per year per employee	Summary of Key Performance Indicators (x)	
Diversity, Equal Opportunity and Non-discrimination			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	
GRI 405: Diversity and Equal Opportunity 2016			
405-2	Ratio of basic salary and remuneration of women to men	Sustainability Management (x)	
GRI 406: Non-discrimination 2016			
406-1	Incidents of discrimination and corrective actions taken	N/A	There were no incidents of discrimination during the year within the Group.

GRI Standards Content Index



GRI Standards	Content	Relevant chapter (page number)	Remarks
Prevention of Child Labour or Forced Labour			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	
GRI 408: Child Labour 2016			
408-1	Operations and suppliers at significant risk for incidents of child labour	Sustainability Management (x)	During the year, the Group did not identify any operations and suppliers that are at significant risk for incidents of child labour.
GRI 409: Forced or Compulsory Labour 2016			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	Sustainability Management (x)	During the year, the Group did not identify any operations and suppliers that are at significant risk for incidents of forced or compulsory labour.
Respect for Human Rights			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x); SEHK ESG Guide Content Index (x)	
GRI 412: Human Rights Assessment 2016			
412-2	Employee training on human rights policies or procedures	N/A	The Group did not calculate relevant data during the year and is planning to improve the data collection mechanism to disclose relevant data in the future.

GRI Standards	Content	Relevant chapter (page number)	Remarks
Customer Health and Safety			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	
GRI 416: Customer Health and Safety 2016			
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	N/A	There were no cases of non-compliance relating to health and safety impacts of products and services during the year.
Customer Data and Privacy			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x); SEHK ESG Guide Content Index (x)	
GRI 418: Customer Privacy 2016			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	N/A	The Group did not receive any complaints concerning breaches of customer privacy and losses of customer data during the year.
Material issues not covered by the GRI Standards			
Land degradation, Contamination and Restoration			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x)	

GRI Standards Content Index

GRI Standards	Content	Relevant chapter (page number)	Remarks
Intellectual Property Rights			
GRI 103: Management Approach 2016			
103-1	Explanation of the material topic and its Boundary	Sustainability Management (x)	
103-2	The management approach and its components	Sustainability Governance (x);	
103-3	Evaluation of the management approach	Sustainability Management (x); SEHK ESG Guide Content Index (x)	