



CH. Karnchang Public Company Limited



Sustainability Report **2562|2019**

CH. Karnchang has been increasingly recognized and trusted by leading organizations, with ability to manage megaprojects at the regional levels where all advanced engineering technologies are needed



Content

004

Message from
the Board
of Directors

007

Our
CH. Karnchang

022

About
This Report

028

Economic
Performance

043

Environment-Friendly
Business Operation

054

Employees of
CH. Karnchang

066

Community
Engagement and
Development

072

Responsibility
Towards Customers
and Products

076

CH. Karnchang's
Awards and Pride

078

GRI Content Index





Message from the Board of Directors (102-14)

CH. Karnchang understands very well that businesses which are able to grow sustainably are not businesses which focus solely on the good return of investments, but also must be able to adapt under the context of various changes in the right direction, with stability, swift and up-to-date, and must take into consideration balance in creating sustainable and fair benefits for the stakeholders from all sectors in all respects. CH. Karnchang therefore has developed and improved the operations on sustainability by incorporating 3 dimensional concepts which are economic, social, and environmental as a part of the business strategy. In 2020, the Company has set operational goals to achieve tangible and measurable results as follows:

In terms of economic, in the last year there has been a slowdown in the bidding of the various construction projects from the public sector as it was an election year where the government was being rotated, which is a normal situation and has an impact on the construction industry within the country. CH. Karnchang realized this in advance and has prepared a support plan for the situation. Although the projects on hand and revenue from construction decreased over a period of time, however, the Company was able to maintain a steady profit ratio according to the targets, combined with additional revenue recognition from shared profits and

dividends from investments in companies within the CH. Karnchang group, contributing to the continuing stability of the Company's financial status and the Company was able to pay dividends to the shareholders consistently at a satisfactory ratio in accordance with the Company's management plan. In 2020, it is expected that the government will show clear progress on large domestic projects such as the MRT Orange Line (Thailand Cultural Center – Bangkhunnon), MRT Purple Line (Taopoon – Kanchanapisek Ring), Suvarnabhumi airport project (phase 3), Double Tracks project (phase 2), by which, CH. Karnchang has set targets for the success of the bidding at 20-25 % with revenue no less than 20 billion Baht, including an ability to maintain gross profit at 8%. In regards to projects in foreign countries, CH. Karnchang has joined together with business alliances to conduct studies in Myanmar and Laos with great progress and it is expected that within 1 – 2 years these projects will become more concrete.

In terms of society, CH. Karnchang believes that development is the foundation for sustainability. The Company sees the mentioned importance and therefore encourages research and development on technology and creation of innovations that cover every aspect of the operation to proceed at all times in order for the organization to experience progress and growth steadily

and add overall value in terms of economic and social value to the country. In the past year, CH. Karnchang has joined forces with the National Innovation Agency and Change Fusion Institute under the Foundation for Rural Integration of Thailand under Royal Patronage to organize a project to support community innovative inventors with the objective of developing and creating an innovation network together with the local communities, as well as elevating the skills of the local community inventors and increasing their competencies, bringing their original potential inventions to develop and improve towards a national level, which is consistent with CH. Karnchang's mission which focuses on improving the quality of life together with the development of Thailand's basic infrastructure. This project shall continue until 2020 and CH. Karnchang will provide support for knowledge, techniques, funds, and transfer of engineering techniques because we believe that technicians are valuable personnel who play an important part in building a favorable society, economy, and environment for our country.

In terms of the environment, CH. Karnchang is determined to be a good neighbor to the communities and society in sincerity. We are committed to operating the construction business with efficiency, a high level of quality, and continuous responsibility towards society, communities, and the environment at all times since we started our business. During every step of the construction process, the Company monitors, inspects, and prevents any procedures during operation that may impact the people and the environment in every project, such as vibration measurement, noise pollution measurement, surface water quality measurement, and particularly dust measurement, which in the past 1 – 2 years both the public sector and the people from all sectors have had growing concerns regarding small dust particles, PM 2.5, by which CH. Karnchang cooperates with the project owners and the government in reducing the dust pollution by our full capacity. At the same time, the Company organized CK R.A.T.E R project to encourage the employees to reduce the use of single-use plastic and recognize the value of resources, as well as

providing knowledge on the subject of climate change in order to create a mutual understanding within the organization which can help to minimize the growing impact in the present time. Additionally, in 2019, CH. Karnchang began to include a greenhouse gas emission report into this sustainability report, in which the Company has set targets in 2020 to reduce the amount of greenhouse gas emissions and prevent the occurrence of pollution over the standard benchmark required by the law.

In regards to occupational health and safety, CH. Karnchang has ensured the perfect conditions of the tools and machinery by continuously maintaining and improving at all times according to the environmentally-friendly construction policies, by implementing practices and monitoring the operations strictly to be in accordance with the law on environmental standards, including the efficient use of building materials, various forms of energy, as well as natural resources. The Company continually provides training and education to the employees to enable them to perform their duties correctly, creating great results for the customers and stakeholders from all sectors completely and in line with the Company's policies.

Throughout the path of CH. Karnchang's growth, we work on the basis of integrity, sincerity, transparency, and clarity. On behalf of the Company's Board of Directors and Executive Committees, we would like to thank all the employees who have dedicated their energy and skills to the full extent, and we would like to thank the stakeholders from all sectors for their continued support and confidence in the business practices towards sustainable growth. CH. Karnchang shall continue our business operation by adhering to the practice of good governance to be the leader in the construction business and investment in the development of basic infrastructure of quality in order to give back to society which will result in the continued sustainable development of the country.

Mr. Aswin Kongsiri
Chairman of the Board of Directors

Mr. Plew Trivisvavet
Chairman of the Executive Board

Dr. Supamas Trivisvavet
President



Our CH. Karnchang

About CH. Karnchang (102-1, 102-3, 102-5)

CH. Karnchang PLC. was established on the 27th of November, 1972 in order to operate in the construction industry, accept construction projects from government agencies and state enterprises, as well as from the private sector, in addition to accepting projects both as a (Main Contractor) and as a (Subcontractor). In addition, the Company also operates businesses which invest in public utility projects including:



Bangkok Expressway and Metro
Public Company Limited



TTW Public Company Limited



CK Power Public Company Limited



Registered Capital
1,693,899,970
Baht

Date of registration
on the SET
October 10, 1994



Head Office :

CH. Karnchang Public Company Limited

587 Viriyathavorn Building, Sutthisarnvinitchit Road,
Ratchadaphisek Subdistrict, Dindaeng District,
Bangkok 10400

Tel : 66(0)-2277-0460

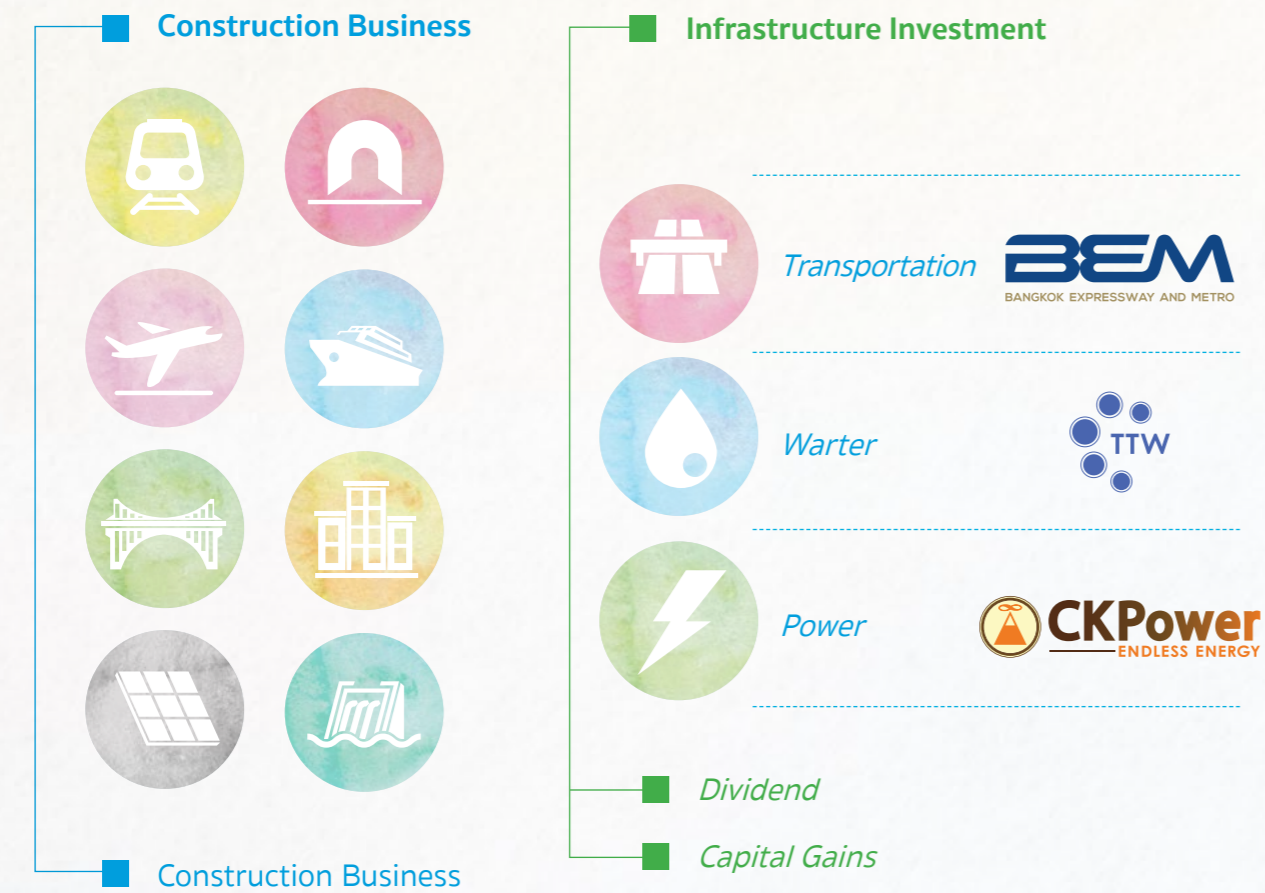
66(0)-2275-0026

Fax : 66(0)-2275-7029

<http://www.ch-karnchang.co.th>

Business Structure of Company Group (102-2)

The business operations of group companies are divided into two categories as follows :



Construction Business

The construction business operations of the Company, its subsidiaries and joint ventures can be divided into two natures, namely:

Main Contractor

The Company directly submits proposals in its own name,as contractor through bidding process or negotiation, to project owners. In case of a large-scale project, which requires specialized foreign companies for joint operation, the Company submits proposals in cooperation with specialized foreign companies in accordance with the requirements of the project owners. In the acceptance of projects in this manner, the Company does not solely carry out the entire construction work, but subcontracts parts of such work. In the nomination of subcontractor(s), the Company takes into account the creditability and previous achievements of the subcontractors, without reliance upon or adherence to any particular subcontractor.

Subcontractor

CH. Karnchang accepts subcontract work from other main contractor that is awarded the work directly from project owner. Most works of this nature will involve a production process utilizing large-sized and sophisticated machinery, which are usually operated by foreign companies. CH. Karnchang will consider accepting subcontractor work from companies with reputation and good financial standing, so as to enable it to have the opportunity to accept transfer of technology in respect of engineering, production process and management, as well as creating business alliance with qualified capability to carry out large-scale projects which require more advanced technology in the future.



Infrastructure Investment

In addition to the construction business, the Company also has invested in regional, comprehensive infrastructure project development business. Currently, the Company has invested in mass rapid transit system, water system, and energy system. Based on the said manner of the infrastructure investment, the definition of each respective form can be described below.

01 BOT (Build-Operate-Transfer)

Private entity shall be granted the right under a concession agreement from the government for investment in construction and implementation to derive returns within a specified period and during the implementation, the ownership of the property shall remain vested in the private entity. After the end of the concession period, the ownership of the invested property shall be transferred to the government in consideration of the grant of the concession.

02 BTO (Build-Transfer-Operate)

Private entity shall carry out the design, investment and construction of property, the ownership of which shall be transferred to the government immediately after the construction completion. The private entity shall be granted the right to utilize such invested property under the concession agreement to derive returns within a specified period. During the period the Company is still entitled to utilize such property under the concession period, the Company records such property in the form of the right to utilize, which is amortized throughout the concession period.

03 BOO (Build-Own-Operate)

Private entity shall carry out construction and management by its own investment. The ownership of the invested property is vested in the private entity. However, the private entity shall have an agreement with the government to guarantee revenue on a long term basis, whereby the government agency shall purchase goods during the term of the agreement and upon expiration of the concession period, such property shall remain vested in the investing company.

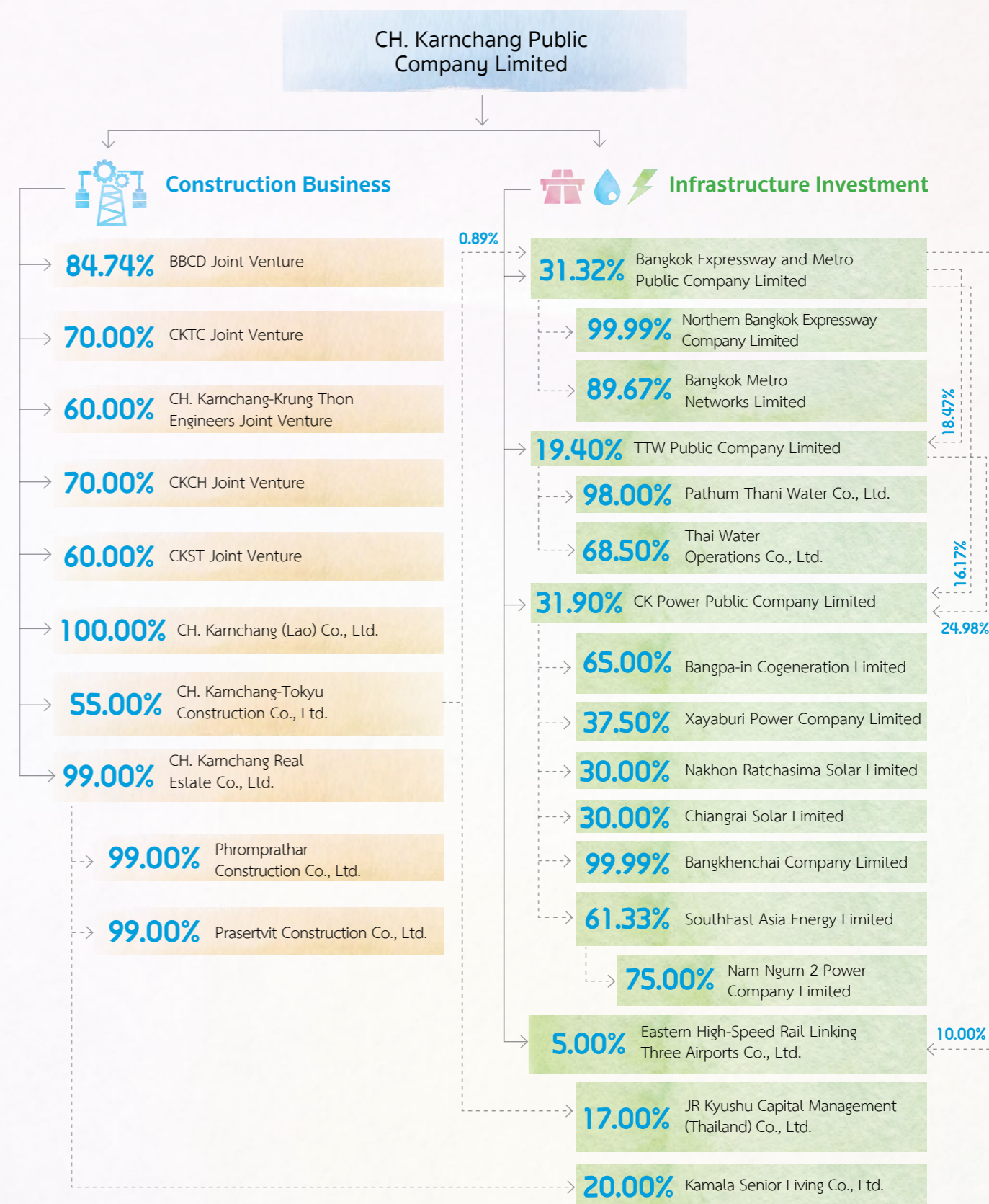
04 BOOT (Build-Own-Operate-Transfer)

Private entity shall be granted the right of concession by the government for financing, design, construction, and service operations during the specified period of time, provided that the ownership of the property shall be transferred to the government upon the end of such specified period of time.

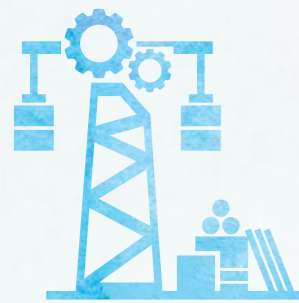
Map of Operations (102-4)



Shareholding Structure of Company Group (102-45)



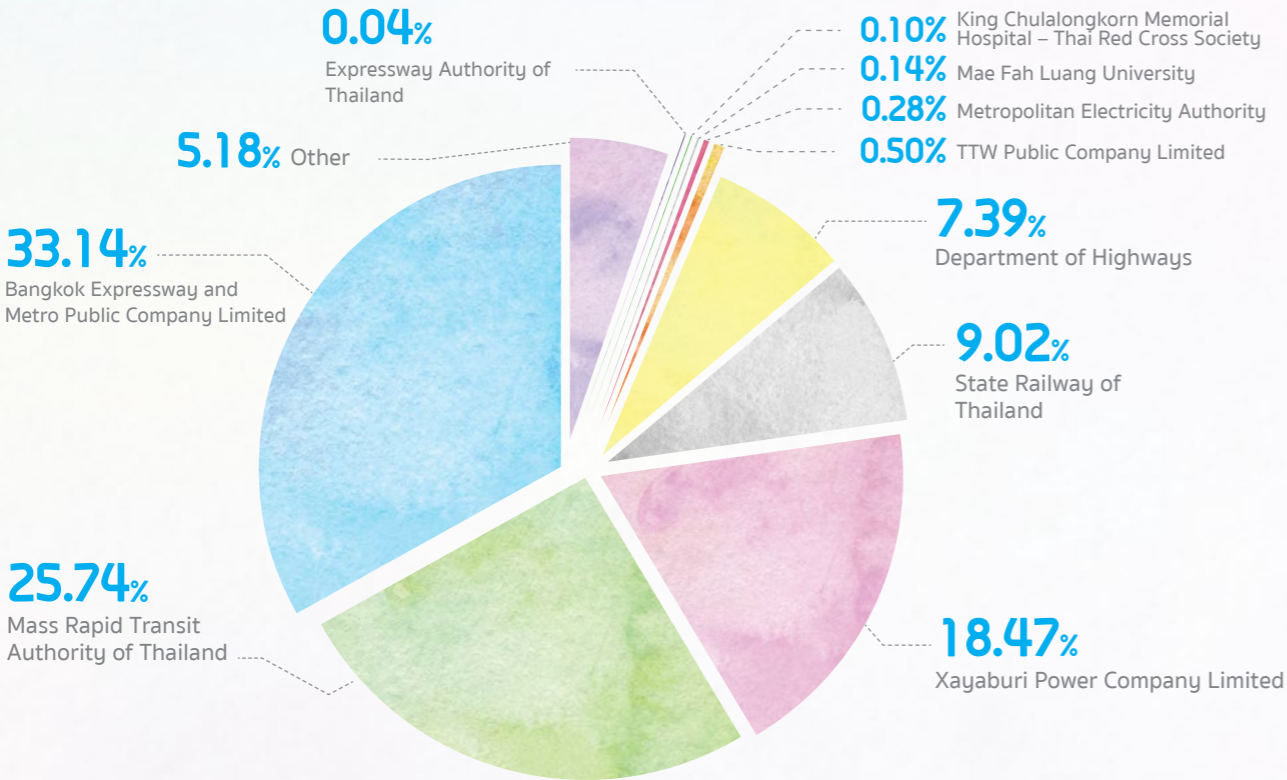
Characteristics of Customers (102-6)



Construction Business




The construction clientele of the Company and its subsidiaries can be divided into two groups, namely government agencies or state enterprises, and private sector. The characteristics of the Company’s customers could not be divided into definite ratios given the fact that the customers are different in terms of periods and nature of their projects. However, considering the projects in the past, most of the Company’s customers are the government agencies and state enterprises in the country.

Summary of Top 10 Major Customers (as at December 31, 2019)
% Of total revenue from construction Services (Consolidated Financial Statements)



Infrastructure Investment

With respect to concession business, customer groups depend on concession category, per the table as follows:

Company	Customer
Bangkok Expressway and Metro Public Company Limited	 The public using the services
TTW Public Company Limited	 Provincial Waterworks Authority
CK Power Public Company Limited	 Electricity Generating Authority of Thailand Provincial Electricity Authority Bangpa-In Industrial Estate

The Company’s Overall Operational Policy (102-16)



To ensure the accomplishment of the Company’s operations for the utmost benefits of all stakeholders, the Company has thus adopted the operational policies subject to the principles as follows:

Vision

To be the leader in construction business and the pre-eminent and comprehensive basic infrastructure developer in the region.



Mission

- Deliver quality work for our customers while committed to creating work that contributes to the society and country with good returns to our shareholders and providing fair treatment to all our stakeholders.
- Manage our business with professionalism and in accordance with the guidelines of good Corporate Governance.
- Be responsible to the community, society and the country
- Develop human capital and organization on a continuous and consistent basis

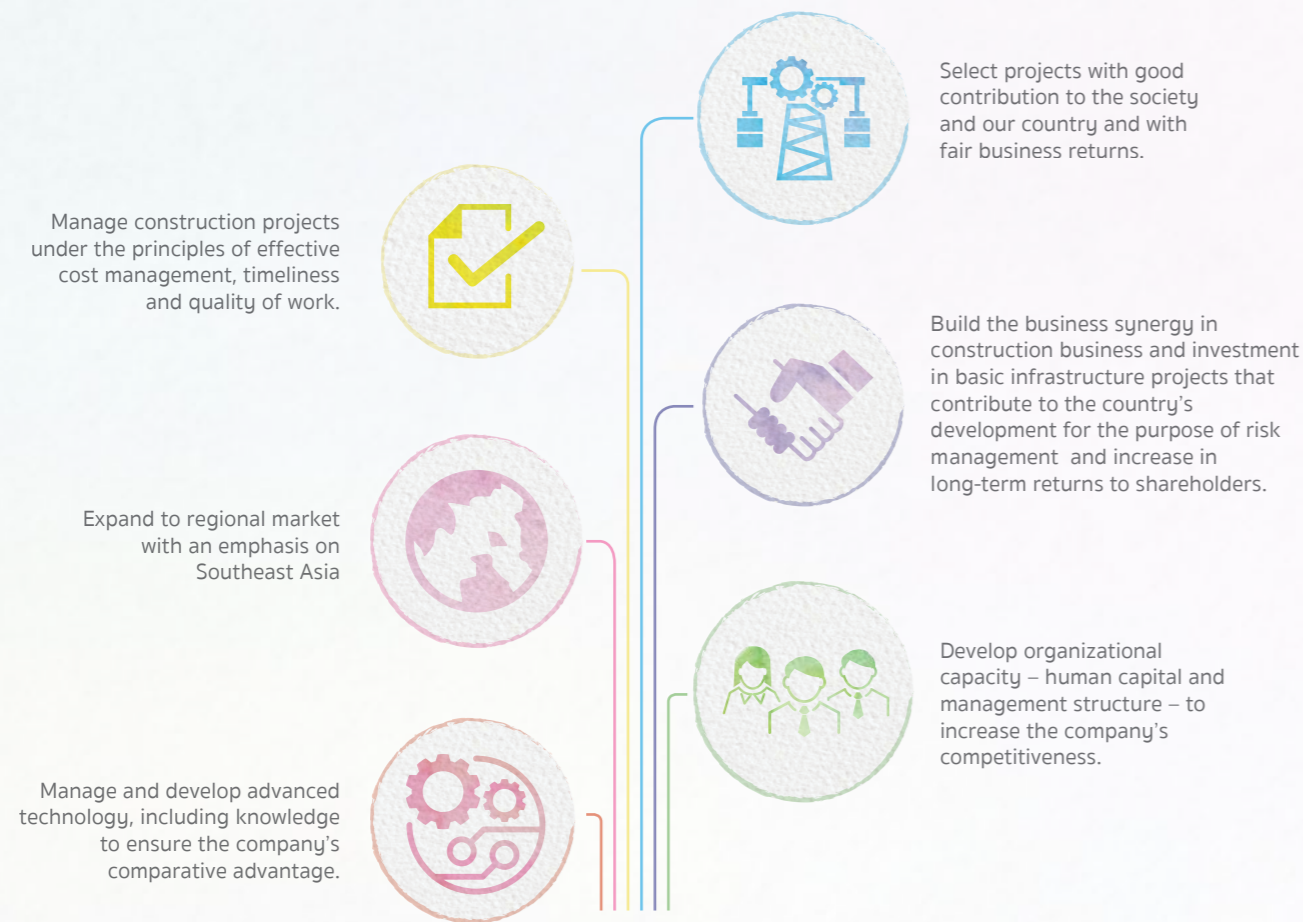


Core Values

- Q : Quality of Services
- C : Customer Satisfaction
- I : Integrity
- S : Social and Environmental Responsibilities
- T : Teamwork



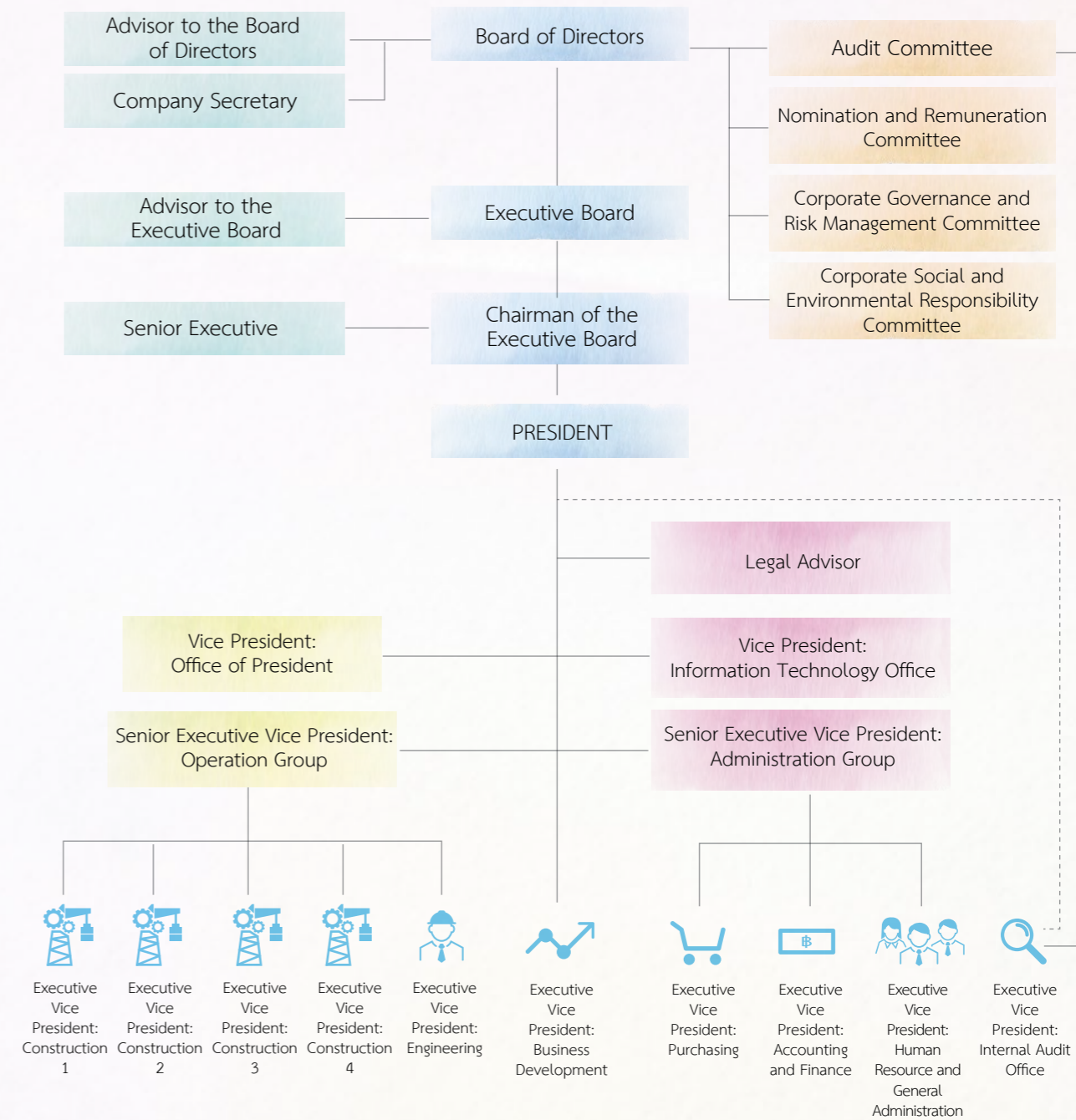
Strategies : Sustainable Growth



To ensure the Company’s business operations in compliance with the policies, the Company has complied with the strategies and action plans in 2019 as follows:

- 1. The Company carried out construction and performed various related works, with progress according to schedule;
- 2. The Company followed the procedures under every project agreement;
- 3. The Company conducted feasibility studies and made preparations for investments in various projects;
- 4. The Company maintained its liquidity and efficiently managed short-term and long-term investments to generate more revenues, as well as used various financial instruments for risk management, including reduction of finance cost;
- 5. The Company built a relationship with stakeholders through the social responsibility process and communicates to both internal and external persons for acknowledgement;
- 6. The Company maintained an efficient, transparent, and auditable management system subject to the good corporate governance principles, including the Quality Management System (ISO 9001), and developed the information system with updated technology to enhance performance.

Structure of Subsuduaries’ Directors (As at December 31, 2019) (102-18)







Stakeholders' Involvement (102-42)



CH. Karnchang prioritizes stakeholders from all sectors, as well prioritizing listening to feedback from all groups of stakeholders equally. It has therefore identified stakeholders in groups by using the Company's evaluation process, whether legal rights under related laws or agreements which have been made jointly or protection under basic rights. The Company realizes that the relationship and cooperation with the stakeholders shall be a factor contributing to the sustainable growth of CH. Karnchang. From deliberation, it has been identified that the stakeholders consist of 8 groups which are shareholders/investors and analysts, employees, customers, traders, mass, Press, public, communities, and competitors. In this regard, in 2019, CH. Karnchang established engagement and practices towards its stakeholders as follows:



Summary table showing the engagement method and treatment of CH. Karnchang stakeholders

Stakeholders (102-40)	Expectations and Concerns Of the Stakeholders (102-44)	Treatment of Stakeholders (102-43)	Engagement Method (102-43)
1. Shareholders, Investors, and Analysts • Shareholders • Analysts • Domestic and foreign institutional investors	• Legal benefits such as dividends • Shareholders' equitable treatment • Legal compliance in transparency, verifiable, and under good corporate governance. • The Company's business performance and financial situation are in good status that is stable and achieving the desired objectives.	• We adhere to the various laws, rules, and regulations to ensure that the shareholders' treatment is in accordance with the principles of good governance. • Share information equally, with accuracy, complete, clarity, efficiency, and up to date.	• Shareholders' Annual General Meeting • Analysts' Meeting • Activities Roadshows, Conference Meetings and Company Visits • Annual report • Annual disclosure report • Sustainability report • Good Corporate Governance Policy • Performance summary results (Company Presentation) • Telephone, Conference Calls and Video Conferences • Newspaper and Media • Website: www.ch-karnchang.co.th • E-mail: ck-ir@ckplc.com
2. Employees • Monthly Staffs • Daily Staffs	• Receive appropriate compensation and welfare • Employees hold equal rights • Gain career advancement and stability • Safety in the work place	• Compliance with labor laws by being mindful of human rights principles and the needs of our employees • Providing fair and appropriate compensation • Establishing communication channels for our employees to make complaints in cases of unfair treatment • Implement efficient occupational health and safety practices • Puts an emphasis on the development of potential at work • Clarification for a common understanding and usage of rules and regulations • Establishing various policies for the maximum benefit of the Company and other stakeholders. • All practices are in compliance with the law, rules, and corporate governance principles. • Control and manage the Company's operations to be in accordance with the established resolutions and policies.	• Management and employee meetings • Training and seminars • Email • Circular notice • Notice board • Clarification by the supervisors

Stakeholders (102-40)	Expectations and Concerns Of the Stakeholders (102-44)	Treatment of Stakeholders (102-43)	Engagement Method (102-43)
3. Customers • Project Owner, Government • Private sector • Companies in the CH. Karnchang Group 	<ul style="list-style-type: none">• There is supervision and management regarding occupational health and safety, and measures to control the impact that may occur to the environment.• Having efficient and sufficient personnel for operation• Having efficient and sufficient tools, machinery, and equipment for operation• Possess a certain level of competency and experience in the operation of successful construction projects.• Comprehensive technical details and prices for the construction of each type of project	<ul style="list-style-type: none">• Abide by the format and regulations of the bidding and contracts• Delivering projects with quality that meets the standards and requirements• Confidentiality for the project owner• Projects are guaranteed within the duration specified in the construction contract• Conduct a survey on the project owner's satisfaction	<ul style="list-style-type: none">• Reports/Evidence according to the regulations• Project owner's meetings• Telephone• Website• Email• Letter
4. Traders • Suppliers • Subcontractors 	<ul style="list-style-type: none">• Complete payments for goods and wages punctually as per the agreed time.• Utilize the goods and services provided by trade partners/sub-contractor continuously.	<ul style="list-style-type: none">• Treats all trade partners with fairness and equity.• Has a transparent bidding standard.• The procedures are verifiable.	<ul style="list-style-type: none">• Reports on Purchasing Orders/ Contract Hiring Orders• Meetings with contractors and retail• Telephone• Email
5. Press • Press, TV, and Radio • Online media 	<ul style="list-style-type: none">• Receive information from the company that is clear, precise, and correct.• Receive equal amounts of information with other groups of stakeholders.	<ul style="list-style-type: none">• Communicate information that is effective, beneficial, swift, accurate, and up to date.• Treat all groups of mass media equally with other groups of stakeholders.	<ul style="list-style-type: none">• Report and disseminate the company's news and information through press releases, articles, and news 20 times/year• Give interviews and arrange meetings with the Executives in order to exchange viewpoints 5 times/year• Email• Telephone
6. Public • General public • Users of roads and car 	<ul style="list-style-type: none">• Prevent accidents or negative impacts that are caused by the use of machinery and transportation of oversized equipment.• Does not emit pollution into the environment.	<ul style="list-style-type: none">• Have an assessment measure for the tools and machinery, as well as public impacts that may occur.• Carry out construction work efficiently and deliver within the specified delivery time.	<ul style="list-style-type: none">• Arrange meetings through the Supervisors.• Notice Board• Facebook Construction Projects

Stakeholders (102-40)	Expectations and Concerns Of the Stakeholders (102-44)	Treatment of Stakeholders (102-43)	Engagement Method (102-43)
7. Communities • Communities surrounding the construction site. 	<ul style="list-style-type: none">• Are not affected by the construction's side effects, including pollution such as air, dust, noise, surface water quality, or in terms of life quality and day-to-day routines.• If there is any impact from the construction, it must be rectified as soon as possible.	<ul style="list-style-type: none">• There are meetings with the community residents in order to inquire and follow up on any impacts that occur from the construction.• Survey on the needs of the community residents.• Participate in establishing communal practices and supporting those activities.• Prevent and create an understanding with the community, as well as participating in the development of the community resident's quality of life.• Organize community relations activities in order to develop the skills of the community residents.	<ul style="list-style-type: none">• Create a report on environmental impacts.• Community relations activities• Filing complaints at the construction site office• Facebook Construction Projects• Telephone• Project Website
8. Competitors Construction companies both listed and non-listed on the Stock Exchange of Thailand. 	<ul style="list-style-type: none">• companies within the same industry with dishonest or illegal methods.• Treat our competitors correctly and wish for lawful ethics.• Non-trade discrimination policy	<ul style="list-style-type: none">• Operate business within the frame of the law, with ethics, transparency, and verifiable.• Refrain from violations of intellectual assets and properties.	<ul style="list-style-type: none">• Meetings through the Thai Construction Industry Association under royal patronage and other relevant departments.

About this report (102-50,102-51,102-52,102-54)

In 2019, CH. Karnchang Public Limited Company prepared a sustainability report for the 7th consecutive year to demonstrate its intentions in management, policies, directions, as well as the direction of sustainable development. It also served to demonstrate its commitment to disclosure of important information regarding the Company's sustainable development in terms of economic, social, and environmental issues in order to communicate with the stakeholders for their acknowledgement, which covers the performance results from January 1st – December 31st, 2019. CH. Karnchang's report has been prepared in accordance with the reporting framework of the Global Reporting Initiative Standards or GRI Standards and the guidelines from (Construction & Materials disclosure) by disclosing information at the indicator level Core option which is gathered by the working committee, risk committee or responsible person from various departments in order to achieve clear and precise information.

Moreover, the Company has integrated its operation to be consistent with the United Nations Sustainable Development Goals: SDGs) and to demonstrate its commitment in responding to the sustainability goals.

Report Boundary (102-46)

The disclosure of information in this report has been considered according to business relevance, the readiness of the information, and the impact to the operations under the main business, that is construction, which covers only the businesses of CH. Karnchang Public Company Limited, CH. Karnchang (Lao) Co., Ltd., and V.R.T. (51) Co., Ltd., including information of the MRTA Orange line between the Thailand Cultural Centre – Minburi. In this regard, this report is yet to be able to disclose information from all construction projects. The reason being that some of the Company's projects were completed during 2018, while data collection is under development in order to report the results in accordance with the Company's standards. However, in order to ensure the completeness and clarity of the content, CH. Karnchang shall prepare a plan to improve the data gathering system for better efficiency which shall lead to quality performance reporting in according with the GRI standards.

Establishment process for content of the sustainability report

CH. Karnchang has a process to evaluate key issues by considering the GRI's content establishment, through engagement of the management and employees, as well as considering the expectations of key stakeholders in order for this report to respond to and communicate with both internal and external stakeholders of the organization, by using the following procedure:

Step
1

Identifying the issues of significance (Identification)

In identifying sustainability issues, the working committee considers the sustainability issues from issues that are related to the construction business, expectations of the relevant stakeholders, and sustainability development goals according to the frame laid by the United Nations in order to cover all dimensions including economic, environmental, and social.

Step
2

Ranking the significant issues (Prioritization)

The working committee processes and ranks the significant issues of CH. Karnchang through its operational meetings of the representatives from various relevant departments to review the significant sustainability issues by identifying the significance of each issue from 2 viewpoints, which are, the level of influence on the evaluation and decision of the stakeholders, and the level of significance of the impact on the economy, society, and environment, as well as identifying the scope of impacts which may occur from the mentioned significant issues of sustainability.

Step
3

The validation of the significant issues (Validation)

The working committee has verified and presents the significant sustainability issues to the senior management for their consideration and approval in order to ensure that the mentioned issues are complete, comprehensive and accurate, and consistent with the expectations of the stakeholders both internal and external.

Step
4

Reviewing the completed report (Review)

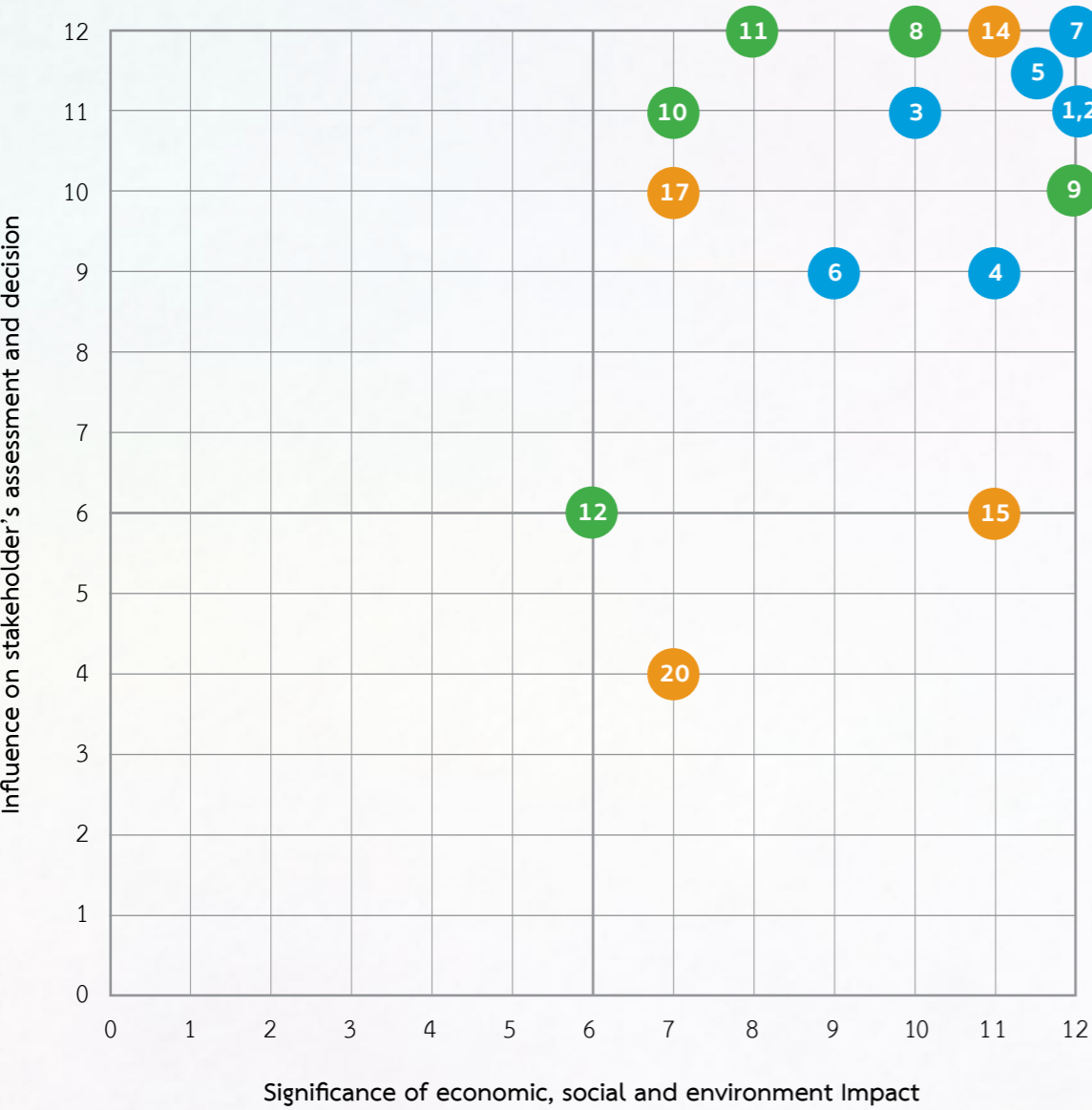
CH. Karnchang is committed to continuously improving its sustainability reports by giving the opportunity to all stakeholders to share their opinions regarding the sustainability report in order to enhance the report preparation process to be in line with the needs or the expectations of the stakeholders in the next version.

Summary of key issues and the reporting scope

Key Issues towards Sustainable Development (102-47)	Effect towards Stakeholders 102-46	
	Internal	External
Economic		
1. Business ethics	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Shareholders/investors and analystsCustomersTradersCompetitors
2. Good corporate governance	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Shareholders/investors and analystsCustomersTradersCompetitors
3. Supply chain management	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">TradersClients
4. Economic performance	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Shareholders/investors and analystsClientsTrade Partners
5. Anti-corruption	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Shareholders/investors and analystsClientsTrade Partners
6. Risk and crisis management	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Shareholders/investorsClientsTrade PartnersCommunities
7. Information security and information system	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">EmployeesCustomersTraders
Environment		
8. Environmental impact from construction project	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">CustomersPublicCommunities
9. Environmental law	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">CustomersTraders

Key Issues towards Sustainable Development (102-47)	Effect towards Stakeholders 102-46	
	Internal	External
10. Energy	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedVRT (51) Company Limited	-
11. Air Emission	<ul style="list-style-type: none">CH. Karnchang Public Limited CompanyVRT (51) Company Limited	-
12. Waste	<ul style="list-style-type: none">CH. Karnchang Public Limited Company	<ul style="list-style-type: none">Customers
Social		
13. Occupational Health and Safety	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">EmployeesClientsTrade Partners
14. Attracting and retaining employees with potential	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Employees
15. Employment/Labor practices	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Employees
16. Education and training	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Employees
17. Local communities	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">PublicCommunitiesClients
18. Economic and social law	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Shareholders/investors and analystsCustomersTrade Partners
19. Operation with quality standards	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Customers
20. Customer satisfaction	<ul style="list-style-type: none">CH. Karnchang Public Company LimitedCH. Karnchang (Lao) Company Limited	<ul style="list-style-type: none">Customers

Sustainability Materiality Matrix



20 Key Issues for Sustainable Development



Economic dimension
(7 issues)

- 1. Business ethics
- 2. Good corporate governance
- 3. Supply chain management
- 4. Economic performance
- 5. Anti-corruption
- 6. Risk and crisis management
- 7. Information security and information system



Environmental dimension
(5 issues)

- 8. Environmental impacts from Construction Projects
- 9. Environmental law
- 10. Energy
- 11. Air emission
- 12. Waste



Social dimension
(8 issues)

- 13. Occupational health and safety
- 14. Attracting and retaining employees with potential
- 15. Employment/Labor practices
- 16. Education and training
- 17. Local communities
- 18. Economic and social law (child labor, enlisted/forced labor)
- 19. Operation with quality standards
- 20. Customers' satisfaction

Reporting content (102-49)

The content of this report covers 20 key issues on sustainability, including a consolidation of sub-issues that are managed in a similar manner. In this regard, the information on the performance of the work in each issue is different from the previous report due to the Company having upgraded its information filing system and the report content format to be in accordance with the GRI Standards

In regards to the content on the operations of companies within the group that are not included in this report, they can be referred to in CH. Karnchang Public Company Limited's annual report or http://www.ch-karnchang.co.th/investor/th/quick_download.php. To download this report please visit <http://www.ch-karnchang.co.th/#/mission/growth-together>.

Contact Information (102-53)

This report is prepared for the benefit of stakeholders in all sectors, and has been prepared in 2 languages (Thai and English), as well as displaying information in accordance with the indicator of the GRI Standards. This report and the annual report are available for download on the website of CH. Karnchang. For more information, please contact



Corporate Secretary
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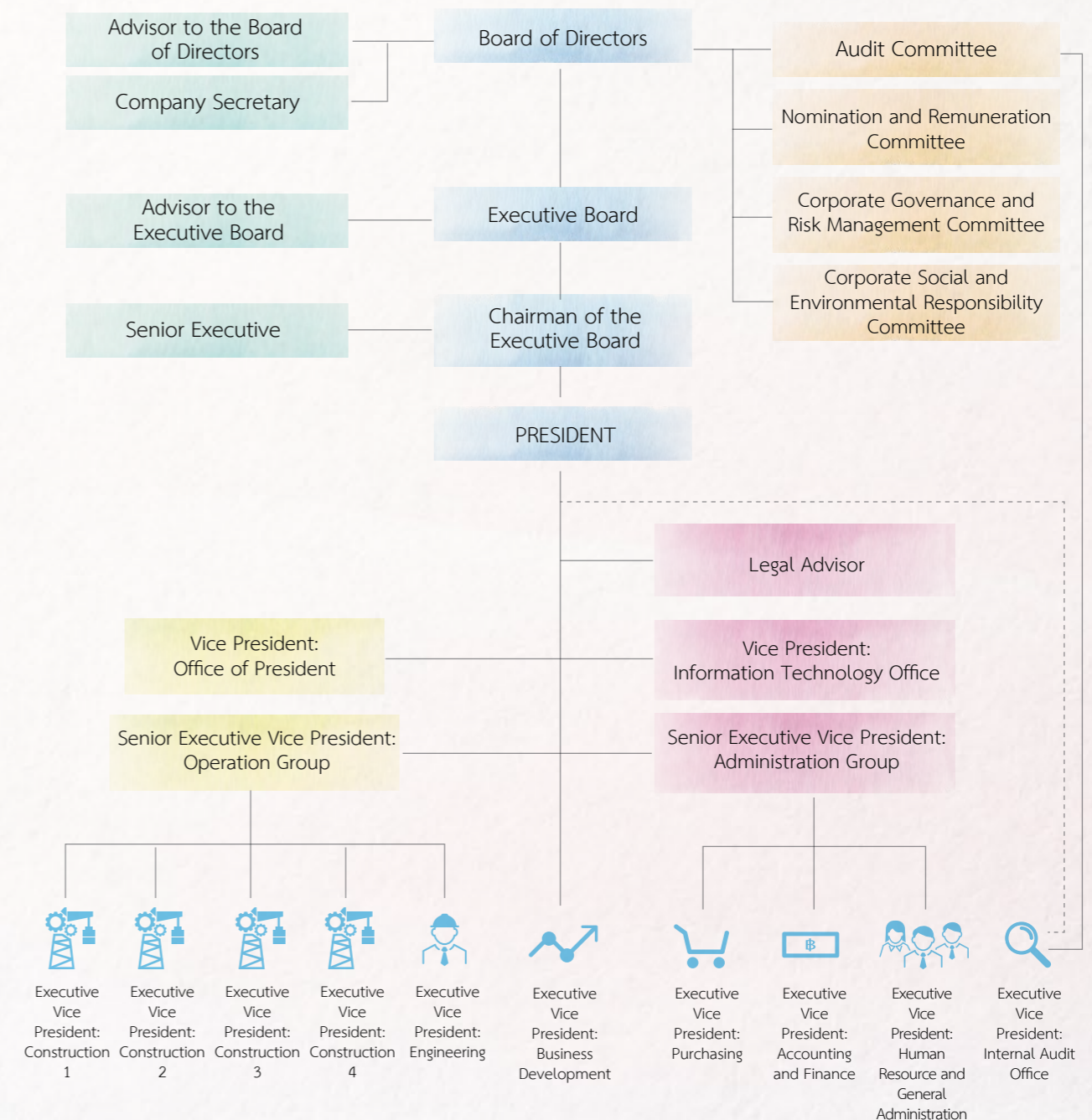
Economic Performance

Good corporate governance (103-1, 103-2, 103-3)

Implementation of the principles of good corporate governance is an important foundation for a business operation that is moving towards business stability and towards long-term organizational sustainability, as well as important issues which all groups of stakeholders are interested in and expect for the organization to carry out the tasks in this area. Therefore, CH.Karnchang and the Board of Directors recognize and place importance on good corporate governance by incorporating good governance policies and management practices into the roles and responsibilities of the Board of Directors, as well as preparations of other policies and practices such as the preparation of an ethics manual, business ethics, and good practices to be a guideline for behavior towards the Company, colleagues, external parties, and society according to the principles of good ethics. Also, the establishment of management and control systems, an implementation authority-balancing control mechanism for the administration to be transparent and verifiable, maintaining the financial credibility and disclosure of information on the business operation with considerations regarding all groups of stakeholders and respecting the equal rights of the shareholders, including the operating standards in accordance with the regulations of the Stock Exchange of Thailand.

(For more information please visit:
<http://www.ch-karnchang.co.th/#/governance>)

However, in order for the operation on good corporate governance to be more efficient and tangible, CH.Karnchang has designated the Executives to have a role in reviewing issues and risks on corruption prior to presenting to the Corporate Governance and Risk Management committee for approval quarterly. Moreover, the policies are being reviewed at least once every year for their suitability by the Board of Directors under the Company's management structure, which consists of 5 sub-committees following the Company's management structure as follows:



By which, CH. Karnchang has established the operational roles and duties of each Committee within the Board of Director’s structure of CH. Karnchang Pubic Company Limited as follows:

Roles and duties of the Committees

Committee	Roles and duties
Executive Committee 6 members	Provide consultancy that is beneficial to the management department and scrutinize the work proposed to the Board, as well as offer opinions and suggestions that are useful in terms of financial administration.
Audit Committee 3 members	Review the reliability of the Company’s financial statements prior to submitting them to the Stock Exchange of Thailand, as well as reviewing the disclosure of transactions and giving advice in regards to good corporate governance.
Nomination and Remuneration Committee 4 members	Deliberate on the criteria and process in the recruitment of a person(s) whose qualifications are suitable to take the position of the Company’s Directorship and establish the criteria for the consideration of the remuneration for the Directors and the President.
Corporate Governance and Risk Management Committee 5 members	To provide advice and monitor the operations to ensure compliance with the principles of good corporate governance. Oversee and review the Company’s overall risk management, as well as strategies that are used in managing the risks.
Social and Environmental Responsibility Committee 3 members •	Supervise the Company’s operation regarding its social and environment responsibilities by focusing on the impact on the Shareholders and the stakeholders through the establishment of the roles and responsibilities of the Social and Environmental Responsibility Committee as follows: <ul style="list-style-type: none">• Establish the Company’s social and environmental guidelines and policies in order to present them to the Board of Directors.• Review and approve the Company’s strategy to achieve the goals and policies regarding CSR• Review the annual plan and budget for the operations regarding CSR in order to present them to the Executive committee and the Board of Directors.• Review and follow up on the progress of CSR operations, as well as evaluate the success and the quality of the CSR projects. Other duties as assigned by the Company

Moreover, in order to create confidence among all stakeholder groups, CH. Karnchang therefore has a way to continually improve the Company’s good corporate governance practices through reviewing its policies on corporate governance and compliance with such policies at least once a year. In 2019, the Social and Environmental Responsibility Committee held meetings to follow up on the progress of the Company’s actions regarding social and environmental issues a total of 2 times.

Additionally, CH. Karnchanghas formulated other operational policies which are under the principles of good corporate governance, such as non-discrimination, anti-unfair competition, non-violation of intellectual properties or copyrights, with details as follows:



Non-Discrimination Policy

CH. Karnchang has established policies and practices based on equality and human rights principles towards all groups of stakeholders, such as opportunities for career advancement, reasonable welfare and compensation based on the nature of the job, as well as arranging operational areas with a safe and pleasant environment for all employees equally. Also, disclosure of business information that is complete, accurate, transparent, fair and verifiable, including granting rights for all major and minor shareholders to attend the annual general meeting without discrimination. Additionally, having a procurement management system, preparation of contracts, and debt settlement that are transparent and fair in order to retain a good relationship between CH.Karnchang and its trade partners, creditors, and debtors equally.



Anti-Unfair Competition Policy (Antitrust/Anti-Competitive Practices)

CH.Karnchang believes that business competitors are the important driving force that allows the company to develop and improve operationally to achieve higher efficiency at all times. Therefore, CH. Karnchang places importance in compliance with the various regulations under free trade laws such as refraining from destroying the competitors’ reputation by making negative accusations that are not based on the truth, refraining from accessing the competitors’ confidential information dishonestly or by other inappropriate methods which affect the overall business development, including service standards, technology development, and new innovations which bring maximum benefits to society and the country’s economy steadily and sustainably in the long run.



Policies and guidelines on non-violation of intellectual property or copyrights

The Board of Directors of CH.Karnchang has established policies and practices regarding non-violation of intellectual property or copyrights by prohibiting the Executives and employees from installing illegal software and make copies of copyrighted software for personal or professional use without permission from the developers of such software to prevent issues which may cause damage to the Company or its reputation.




Anti-Corruption


(102-13, 103-1, 130-2, 103-3, 205-1)





As CH.Karnchang is a construction company for large construction projects with high investment value and related to the development of the basic infrastructure system of our country, this is an issue which the Thai Construction Industry Association attaches great importance to because the Thai Construction Industry Association under Royal patronage has signed a cooperation agreement with the Anti-Corruption Organization of Thailand to prevent and suppress corruption, and has participated in the Private sector’s (Collective Action Coalition Against Corruption: CAC) to promote cooperation in the prevention and suppression of corruption according to the national strategy on prevention and suppression of corruption and to strengthen inter-organizational cooperation in supporting various measures to prevent fraud and corruption.


For this reason, CH. Karnchang therefore places great importance on anti-corruption and illegal practices whereby all its business procedures must be based on transparent actions and strictly abide by the relevant laws in order to create confidence for all stakeholders, and to create confidence at the international level. CH. Karnchang has established policies on anti-corruption by incorporating issues on fraud and corruption as part of its organizational risk management, especially risks of corruption caused by employees failing to fulfill their duties with integrity and perform acts which are in violation of the rules or laws both internally and externally, as well as establishing additional operational policies as follows:


- 


Requirement for the Company’s personnel at all levels, including companies within the group, including staff, representatives, affiliated companies, or any individual who acts for or on behalf of a juristic person, whether or not they are authorized in such matter, shall strictly adhere to the policies on prevention and anti-corruption, bribery, and business ethics.
- 

Practice guidelines in regards to conflict of interest by prioritizing the Company’s interests under the law and ethics, with fairness and transparency.
- 

Practice guidelines in securities trading and usage of internal information by not exposing internal information related to the operation or business management, by which a person acquiring such information through performing their duties, uses such information for their own personal or for other personal gains wrongfully.
- 

Procurement practice guidelines shall follow the regulations or procedures specified in the procurement regulations, consistent with the operating authority, and fair to all related parties.
- 

Practice guidelines towards government agencies shall strictly comply with the relevant laws and regulations.
- 

Practice guidelines in accepting or giving gifts, assets, entertainment, facilitation fees, or any other benefits which may influence a decision.
- 

Practice guidelines in charity donations and political activities support.

Remark: (For more information please visit: <http://www.ch-karnchang.co.th/th/#/governance>)

In order for the implementations on anti-corruption to achieve maximum effectiveness, CH. Karnchang supports and promotes all levels of personnel to be conscious of anti-corruption and fraud in all forms through the communication of anti-corruption policies and bribery, by which all employees shall receive a copy of the policies in writing, as well as arranging training sessions for the Executives and employees in order to create awareness and understanding as a part of the orientation process or prior to new employees assuming their positions, with details as follows:



Communication of the Organizational anti-corruption policies and practice guidelines (205-2)

Employee Type	Total number of recipients of the Organizational anti-corruption policies and practice guidelines (people)	%
Committee or senior management	17	100
Executives	107	100
Operational level	1,361	100
Type of business alliance	Total number of business trade partners who received communication in regards to the organizational policies and guidelines on anti-corruption.	%
Contractor	158	100
Seller	63	100

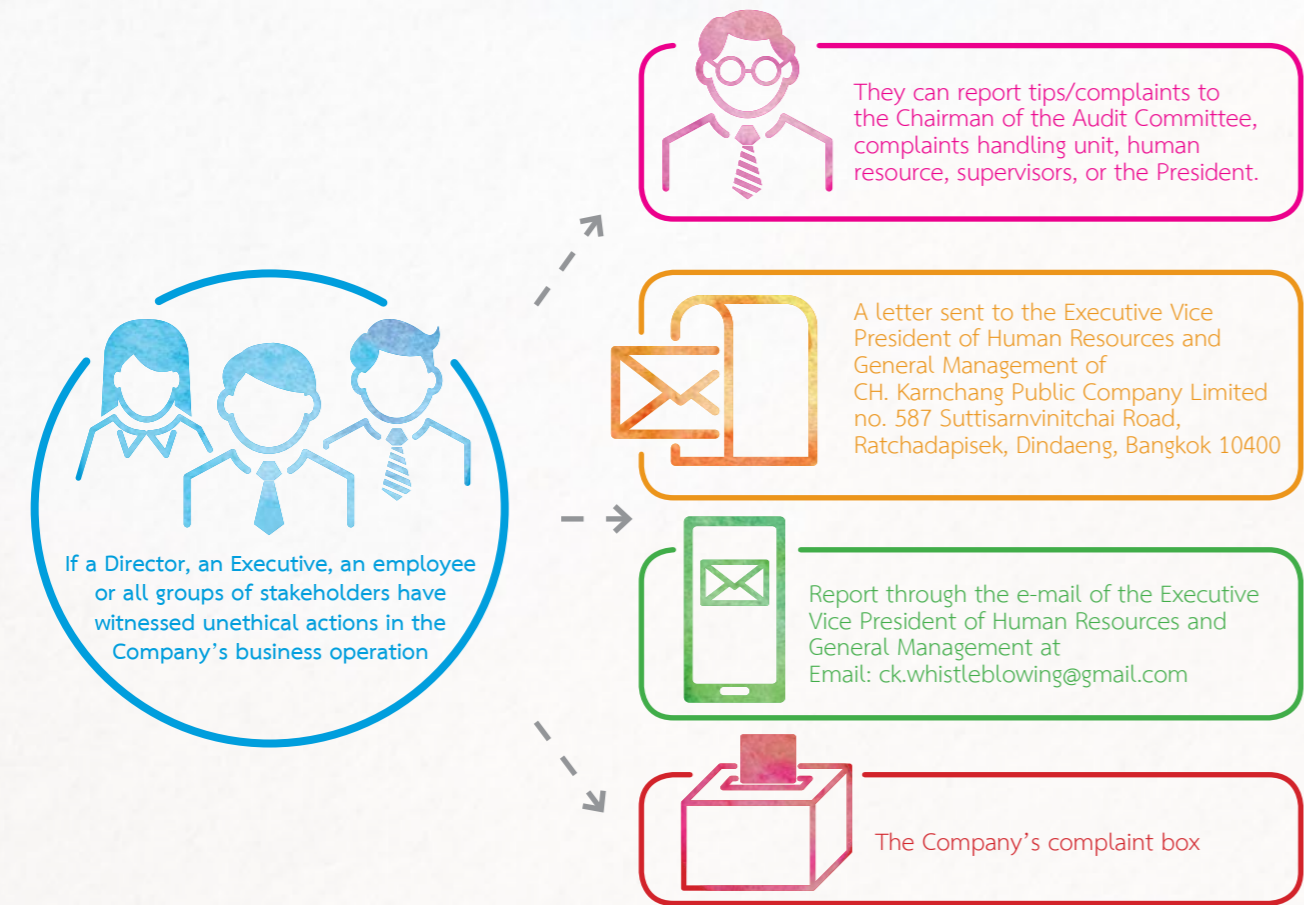
Training course on anti-corruption (205-2)

Committee	Total number of recipients of the Organizational anti-corruption policies and practice guidelines	%
Course on Corruption Prevention in the Organization Course		
Committee or senior management	5	29.41
Executives	40	37.38
Operational level	430	31.59
Culture Building and Awareness Development Program for Organization Success		
Committee or senior management	5	29.41
Executives	41	38.32
Operational level	462	33.95

Channels for receiving complaints on anti-corruption (103-2, 205-3)



In this regards, CH.Karnchang has established channels for reporting tips and complaints, including protection measures for the informants who witnessed the acts of fraudulence and corruption, according to the principles of good corporate governance regarding roles towards the stakeholders by establishing a reviewing process and protection and mitigation measures for the informants or the complainant, following the policies on whistleblowing and complaints regarding corruption as specified by the company as follows:



In this regard, from the risk evaluation on corruption of 2019, CH. Karnchang did not come across any risks or complaints regarding corruption, and there were no incidents where an employee was discharged or disciplined due to corruption. There were no findings that the Company entered into an agreement with trade partners or business partners who were engaged in a violation or breach of contracts that are related to corruption. Additionally, no organizations or employees sued the Company for a case of fraudulent actions, and all the aforementioned cases are in line with the Company's objectives which anticipate that the Company's operations are carried out with integrity, free of fraudulence and corruption.

Risk and Crisis Management (103-1, 103-2)

The rapid changes in today's world generate various factors of risks such as changes in technology, competition that is more intense both from competitors in the same business and multi-national businesses that have entered the market, political instability which effects the business operation both directly and indirectly, resulting in risk management becoming an important tool in operating the business in order to achieve the objectives and also an important factor for good corporate governance. In order for the organization to achieve its objectives in terms of economic and relationship-building, as well as responding to the expectations of the stakeholders, therefore, CH. Karnchang has conducted a review on the procedures and the strategy of its current business operation to ensure its readiness in coping with the mentioned changes, by considering the present situations and evaluating the possibility of risks that may occur in the future and new risks as follows:

Organizational Risk Management

Risk issues on Sustainability	The importance of the risks	Performance
<ul style="list-style-type: none">• Risks from the evolution of technology• Risks from losing competitive ability to foreign competitors	<ul style="list-style-type: none">• Risks from the evolution of technology are significant to the increase of competitive abilities in business.• Nowadays, foreign competitors have new technological capabilities and financial capital advantages.	<ul style="list-style-type: none">• Appointing a team with specific knowledge and skills in order to monitor, analyze, and evaluate the significant impacts that the changes have on the business, and report to the senior Executives in order to formulate measures to face these changes in a timely manner.• Gather the various insights from the construction, challenges, and problem-solving methods from the previously completed projects into a knowledge depository in the form of a library for the relevant parties to study, and organize a training session for the employees' acknowledgement.• Adjustment of the business strategy in order to retain the competitive edge in terms of cost, technology, and innovation to maintain the Company's sustainable business growth.• Co-invest with foreign businesses in order to study, develop, and apply new technologies to existing ones that are being used at present, as well as improving the organizational efficiency.• Creating new investment opportunities through the application of new technologies.• The improvement and development of the potential of the organization

Furthermore, CH. Karnchang has appointed its Good Governance and Risk Committee to perform duties in formulating policies, risk management operational framework, providing advice to the Board of Directors, and management in regards to risk management, supervision and support for risk management to be successful, determining the Company's key risks that are consistent with the Company's business both from internal and external factors that may affect the business operation and organizational objectives such as investment, financial, security, law and regulations.

Including making suggestions on methods of protection, methods to reduce the risks to be within the acceptable level, monitoring and evaluating the results, improving the operational plan for continual and appropriate risks reduction, along with reporting the results of risk assessment and actions taken to reduce the risks to the board of Directors on a regular basis. The Board of Directors must receive a timely report in the event that there are issues which significantly affect the Company in order to prepare a business continuity plan (BCP) to withstand the various incidents that may cause operational disruption to the organization and enable the Company to resume normal operation within the appropriate time, by which the aforementioned execution shall be specified under risk management structure as follows:



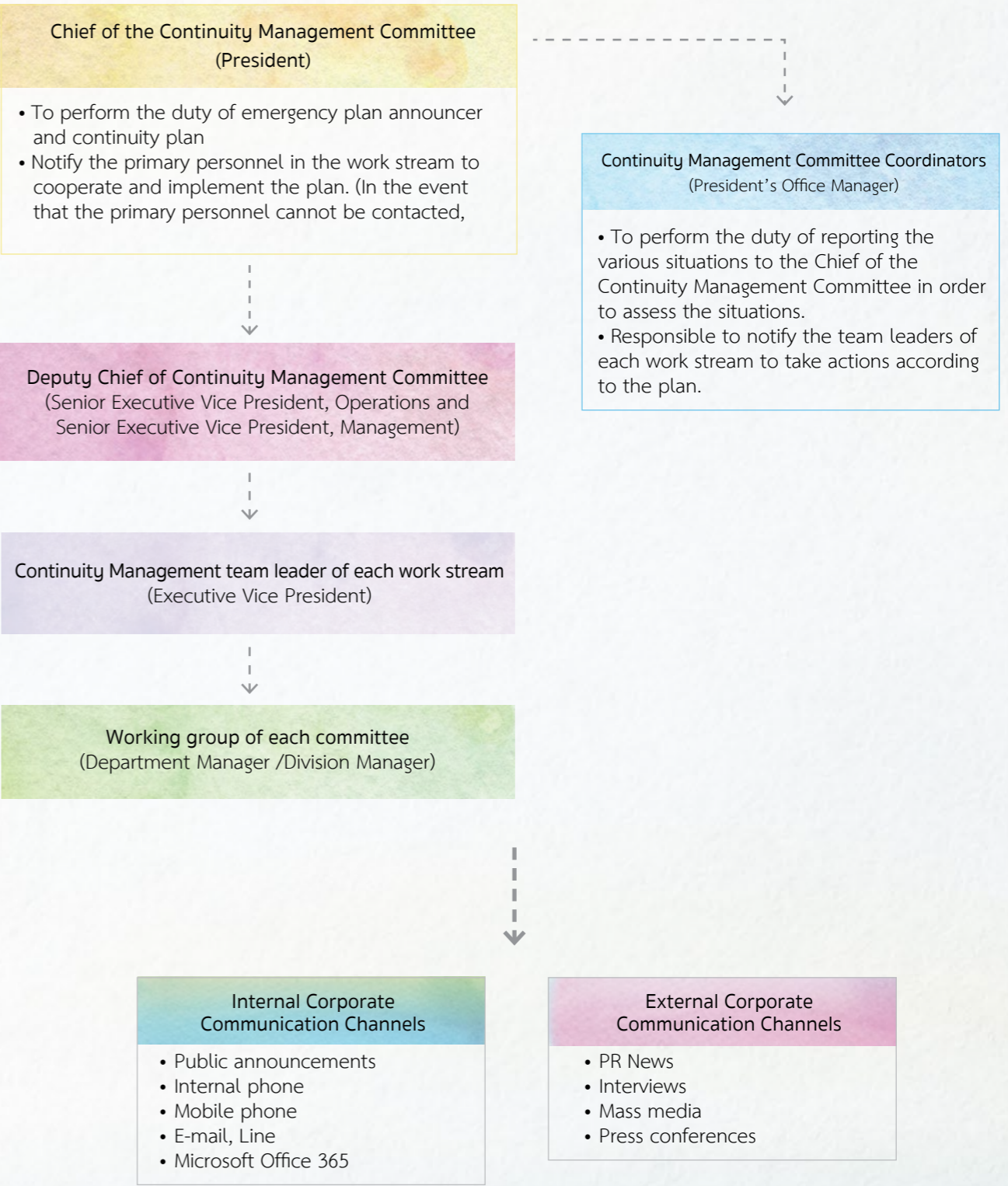
Management Structure of CH. Karnchang Public Company Limited

In addition, CH. Karnchang has established risk evaluation guidelines for the business through establishing a risk management system and prevention measures that are effective in covering the entire organization as follows:

- The Board of Directors, Executives, all employees, and every department are the owners of the risks, and are responsible for evaluating, monitoring, and supporting the existence of effective risk management procedures.
- All departments of the Company must implement a process to administrate and manage risks, as well as continuously and systematically evaluate, monitor, and fine tune the process to be suitable with the changes in the business on a regular basis at a minimum of once a year.
- Include risk assessment as part of the annual operation plan for every department by identifying all risks covering the entire organization by taking into consideration the risk factors both from within the organization and from outside, as well as implementing appropriate risk management measures.
- The Governance and Risk Management Committee has a duty to assess the risk management and present their opinions to the Board of Directors.
- Create a corporate culture which generates a mutual understanding and awareness of risks, build a knowledge base where the employees at all level are able to search for information and exchange experiences, which shall lead to the development and improvement in the process of risk management to become an efficient mechanism in strategic management,

as well as preparation of a Business Continuity Plan (BCP) to be used in responding and operations in the event of emergencies to enable the key operations of the Company to continue smoothly and be able to resume normal operations within a reasonable period of time, under an emergency management project and process as follows:

Structure of the Continuity Management Committee and Communication Plans



Supply Chain Management

(102-9,103-1,103-2)

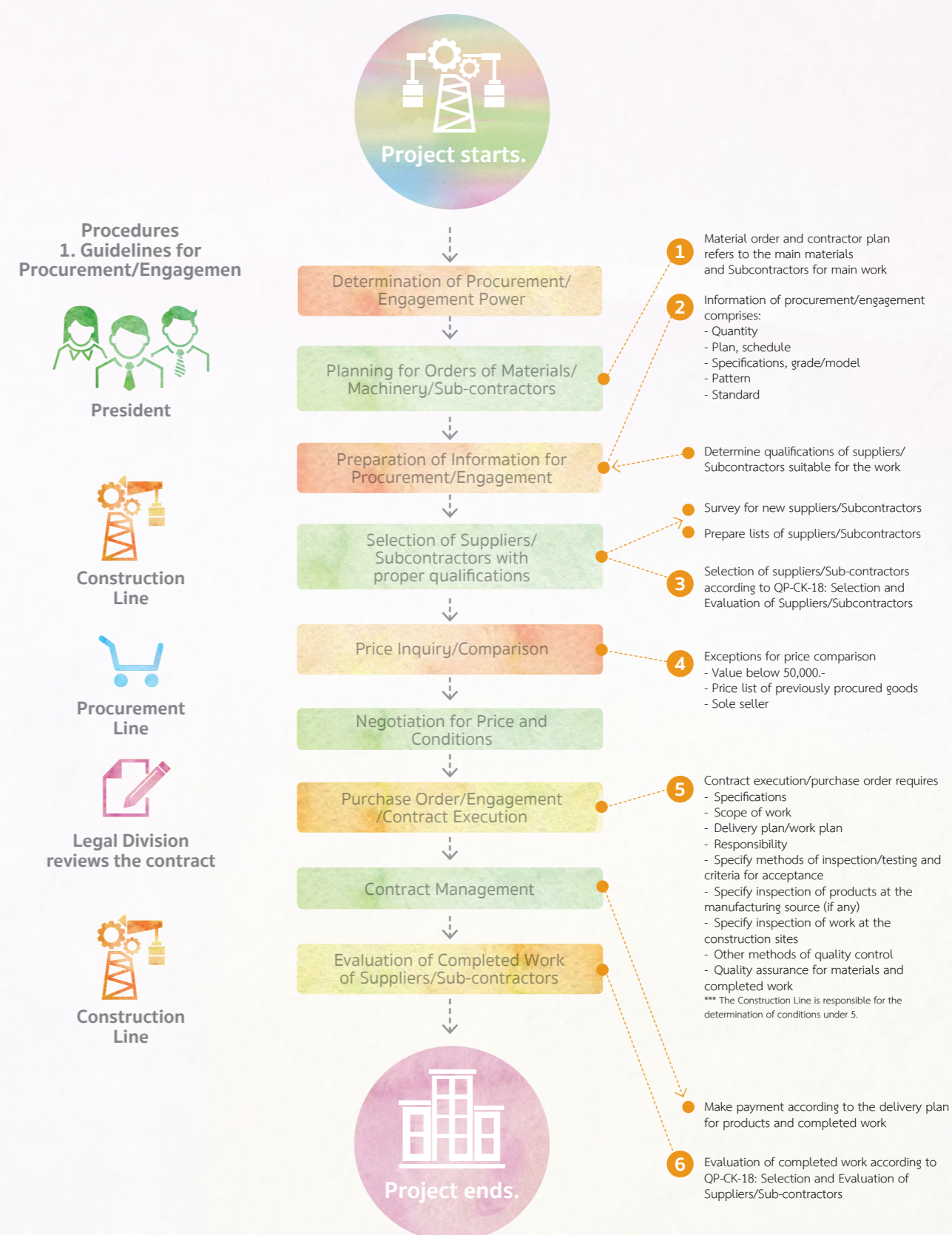
CH. Karnchang places importance on the management of the supply chain on the basis of good corporate governance principles, especially in regards to Antitrust in the procurement process, for example procurement of materials and mechanical tools used in construction, hiring of subcontractors to work on the construction projects, by which all trade partners entering into the goods and services procurement process, CH. Karnchang has established a selection process for potential contractors based on competition on quality, product prices, experience, performance, appropriate qualifications, including after sales service and dealer's experience, whereby CH. Karnchang shall inspect the prices and the quality of the delivery to be in accordance with the standards specified by the owners of the project in order to minimize the impact on the entire operation system.

Furthermore, CH. Karnchang has guidelines to increase the potential and improve the procurement process of goods and services by applying an Enterprise Resource Planning (ERP) system in the controlling and recording of purchasing order processing and inventory management to be more systematic, which results in CH. Karnchang's ability to effectively manage the inventory and reduce waste materials in construction projects, as well as placing importance on the selection of building materials which have an impact on the environment, such as avoiding using materials made from asbestos and opting to use substitution materials which don't have an effect on the environment, by which the procurement work stream shall cooperate with the Professional Engineers in planning to procure the correct materials according to the project specifications.

In this regard, CH. Karnchang has established measures in the assessment of its trade partners in the selection process of choosing a supplier who shall become the Company's trade partner, whereby the Procurement work stream shall implement measures to control, inspect, and evaluate such trade partners within a specific time frame, which the assessment shall be carried out a minimum of 2 times per year. CH. Karnchang has established measures in trade partner assessment whereby the procurement work stream shall implement measures to control, inspect, and evaluate trade partners on a regular basis, with the scope of evaluation, such as quality of products/service, the delivery, coordination/cooperation including manpower and machinery, by which the number of trade partners to be evaluated shall depend on the number of trade partners that meet the criteria for the evaluation at that time. In principle, the main suppliers and contractors shall be evaluated and for the small trade partners, it shall depend on the volume and the value of the orders at that time. In the event that the trade partner evaluation results do not meet the specified criteria, the Company shall invite the trade partners to jointly discuss the problems in order to find solutions and appropriate methods of improvement. Moreover, regarding trade partners who have been assessed and listed under the procurement management system, if the partner encounters problems or fails to meet the assessment criteria, CH. Karnchang shall invite such partner for a meeting to discuss, notify problems, and find a solution together.

Description of Procurement of Raw Materials (102-9)

The Company procures raw materials from local and overseas sources as described above. The guidelines for procurement are as per the detailed procurement flow chart as follows:



Economic Performance

(102-7, 103-1, 103-2, 103-3, 201-1)



The construction business and investments in basic infrastructure projects are the key components in the development of a country’s economy and increasing the quality of life for the public. CH. Karnchang therefore is committed to operating its business under policies which take the stakeholders of all sectors into consideration, which includes stakeholders in terms of economic, social, and environmental issues, in order to achieve a strong performance, create sustainable returns for the shareholders, create jobs and distributing income to the industries within the supply chain, sharing benefits with the government in terms of taxes and promoting social activities that are beneficial to communities and society through the use of crafts and engineering potential in the creation of businesses, capital support, and various operational measures.

CH. Karnchang has a strategy in the management of the Company’s construction projects by managing the construction projects based on the principles of effective cost management, punctual work delivery to the clients (project owners), selecting construction projects that are beneficial to society and the country, which offer fair business returns, as well as creating synergies in the construction business and investments in basic infrastructures that are beneficial to the country’s development in order to manage risks and increase long-term returns to the shareholders from a stable and sustainable income structure from construction business and investments in basic infrastructures.

Economic performance in 2019

CH. Karnchang’s operating performance (201-1)

(Unit : Million Baht)		(Unit : Million Baht)	
Construction and other related services		Investments in Basic Infrastructure Businesses	
Construction revenue	23,009	Share of profits from investments in associated companies	1,806
Other income	508	Dividends received	465
		Profit from sale of investment	48
		Other income	767

In 2019, the Company completed many construction projects, such as the Xayaburi Hydro Power Plant project, by which the mentioned projects have helped to generate electricity from clean and economical renewable sources for Thailand and Laos and double track railway at Chira-Khonkaen junction, MRT Blue Line extension from Hua Lum Phong station to Lak Song station to improve the quality of life for the people to have a comfortable means of traveling respectively. The Company was able to complete the construction by the due time and with results that are acceptable to the employer without any damage claims.



During 2019, the Company signed 6 new projects at a total value of 9,690 million Baht, which resulted in the accrued income pending recognition by the end of 2019 from the projects on hand being 37,380 million Baht, which was in accordance with the Company’s strategy to select construction projects that are beneficial to society and the Country with fair business returns.

For 2019, the Company’s revenue from the construction business and other related services was 23,517 million Baht and revenue from investments in basic infrastructure businesses was 3,086 million Baht, with a net profit of 1,717.78 million Baht. Return on assets percentage was 2.14 % and the net debt debt-to-equity ratio was 1.00. Return on equity ratio was 6.63% from investment value, and Earnings Per Share were 1.05 Baht. The total revenue earned by the Company was able to be distributed to the various groups of stakeholders as follows:

Distribution of Direct Economic Value (201-1)

Economic details		(Unit : Million Baht)
Direct Economic Value Generated	Revenue	26,603*
Direct Economic Value Distributed	Operating costs	20,364
	Employee wages and benefits	2,976
	Payments to providers of capital	2,073
	Payments to government	205**
	Community investments	29
Economic value retained		956

Remark: *Total Share of profits from investments in associated Companies
** Not including referred income tax

Information security and information system

(103-1, 103-2, 103-3)

The security of information and information systems are crucial to the management of business continuity in order to create trust, security, and stability of information and information systems, by which the information must be stable, secure, accurate, reliable, and able to protect and maintain the Company’s confidential information and information systems, whether it is the Company’s own information or information of other persons, in order to reduce the risks of information leakage and the risks of damaging the Company’s reputation. For this reason, CH. Karnchang has established practices that are in accordance with the Confidentiality of Information policies with the details as follows:

- Defining the class of data confidentiality and the ways in which the Company’s personnel must understand regarding the level of confidentiality in each class and practices to maintain such confidentiality. The Company’s personnel must maintain confidentiality in the scope of their responsibilities, ensuring that such confidential information is not exposed to other parties, including other Company’s personnel who are not involved.
- The Company must maintain and protect the clients’ information, as well as their business information from the Company’s personnel and irrelevant external parties, except if required by the law to disclose such information, or disclosure for litigation purposes, or the Board of Directors has approved the disclosure of internal information to be used in the operation and management of the business that is the Company’s confidential information not yet disclosed to the public, which, if disclosed will affect the Company and companies within the Group, particularly the value of shares traded in the Stock Exchange of Thailand. The Company’s personnel therefore must keep the Company’s internal information confidential, and shall not disclose internal information which comes to their knowledge through performing their duties to other parties, or use such internal information for their own benefit or minimizing the benefit of the Company.
- The Company’s personnel shall receive a notification and campaign to refrain from using internal information through the Company’s communication channels, especially when there are important events such as the issuance of new shares, issuance of bonds, employment of personnel who used to be hired by competitors or the government. The Company must search and study the confidentiality agreements which the personnel have made with competitors or the government, and shall not take any actions which force the personnel to breach the contracts made with competitors or the government which may lead to prosecution.
- Disclosure of information shall be done by authorized personnel of the Company. Any person who does not have the authority to disclose information, if being asked for any information, such person shall advise the inquirer to make the inquiry with the person who is authorized to disclose information to ensure that the information provided is correct and answered in the same direction.
- Regarding the Company’s personnel, the data should be kept at a minimum for 10 years by storing it as a paper document and as an electronic document in order to retrieve certain types of document, and store it as per the law’s requirements. Once the storage period is due, such documents should be destroyed.

In this regard, in 2019, CH. Karnchang improved its Computer Network Security System (Firewall) in order to prevent any mentioned information leakage by adopting the Microsoft Office 365 system to apply in the maintenance and control of information, as well as preparation plans to improve the Computer Network Security System (Firewall) in 2 layers for high-sensitive data departments such as Human Resources and General Management by the year 2020. The effective implementation of information security and an information system resulted in no cases of complaints found in 2019 on these issues. (103-3)




Environment-friendly business operation


From the concerns regarding the current impacts on the environment causing many organizations to implement policies and various measures to control the operations with greater awareness on the responsibilities towards the environment, CH. Karnchang places great importance to developing the organization to become progressive and sustainable as the leader of the construction business and as an integrated investor in the country’s integrated basic infrastructure.

CH. Karnchang is committed in socially and environmentally responsible operations, alongside efficient management. As one of the Company’s main businesses is construction, therefore the Company has overseen the effects that may occur from the Company’s operation, by implementing supervision in regards to atmospheric air quality, noise level, surface water quality, transportation management and waste management, under an operation called “Green Construction” , or construction that is friendly to society and the environment, which is the management method in regards to the environment for all construction projects of CH. Karnchang.


Significant results in 2019



Average amount of dust value
0.113 milligrams/cubic meter (mg/m³)
*The average dust value for 24 hours only for the MRT Orange Line project



Maximum level of noise does not exceed 115 decibels (dBA)
and the average level of noise in 24 hours does not exceed 70 decibels A (dBA) In accordance with the specified standards



Amount of electricity power consumption
11,185,005.60 Mega joules (MJ)

Environmental management from construction operations (102-11, 102-12, 103-1)

There is strict environmental management for all construction projects of CH. Karnchang, including within the construction areas, project office, and building material storage area, by which during all operational procedures, CH. Karnchang ensures strict compliance with construction-related laws in order to mitigate the impact on the environment as a result of construction activities in every project. Alongside this, CH. Karnchang initiates the application of modern technologies and techniques that meet the standards by utilizing a BIM system (Building Information Modeling) in the construction planning to achieve efficiency, which results in faster construction work, ability to control the quality of the construction, and control the usage of resources for maximum benefit, as well as contributing to better cost management.

In addition, CH. Karnchang adheres to the quality management system according to the international standards system in regards to the management system which contributes to the clients' satisfaction towards the product or service of an organization, or ISO 9001/2015 and other related requirements which are considered good practice that are accepted as international standards, as well as requiring the management of every project to prepare a management system and operational plan on occupational health, including a supervision plan to mitigate the impacts on the communities and the environment with a regular quality assurance system that is continuous and serious, in order to ensure safety and create confidence in the employees, public, and nearby communities, and ensure that the impacts are minimized by following the measures and management plan efficiently. CH. Karnchang has implemented environmental management from construction projects which cover the various topics as follows:



**Air
quality control**



**Waste water treatment
and waste disposal**



**Noise
quality control**



**Energy
Consumption**



Air quality control (103-1)

In large construction projects, the key impact from the operation is the air quality from dust issues in construction sites which is a direct responsibility of CH. Karnchang due to various building materials being used in construction which is the cause of dust diffusion during construction activities which may affect the workers and communities surrounding the construction area. It is necessary for CH. Karnchang to implement dust control measures under the conditions of construction work prescribed in the National Environmental Quality Promotion and Conservation Act B.E. 2535 and the Ordinance of Bangkok (Bangkok) and guidelines for dust control during construction by the Pollution Control Department that CH. Karnchang shall follow, together with the owners of the projects, and having government agencies such as the Pollution Control Department, the National Environment Board, etc., oversee and supervise the construction projects.

Management Guidelines (103-2)

CH. Karnchang has established guidelines in managing dust issues during construction by identifying monitoring points to inspect air quality in the construction area, including a plan showing the project's (Boundary Line), operational plan, and process that are under the benchmarks specified by the government agencies. CH. Karnchang provides preventative measures within the project areas as follows:



Building a solid wall around the construction area.



Spraying water mist to prevent dust diffusion.



The wheels of the trucks shall be cleaned every time prior to leaving the construction site.



Spraying water onto the roads within the construction project.



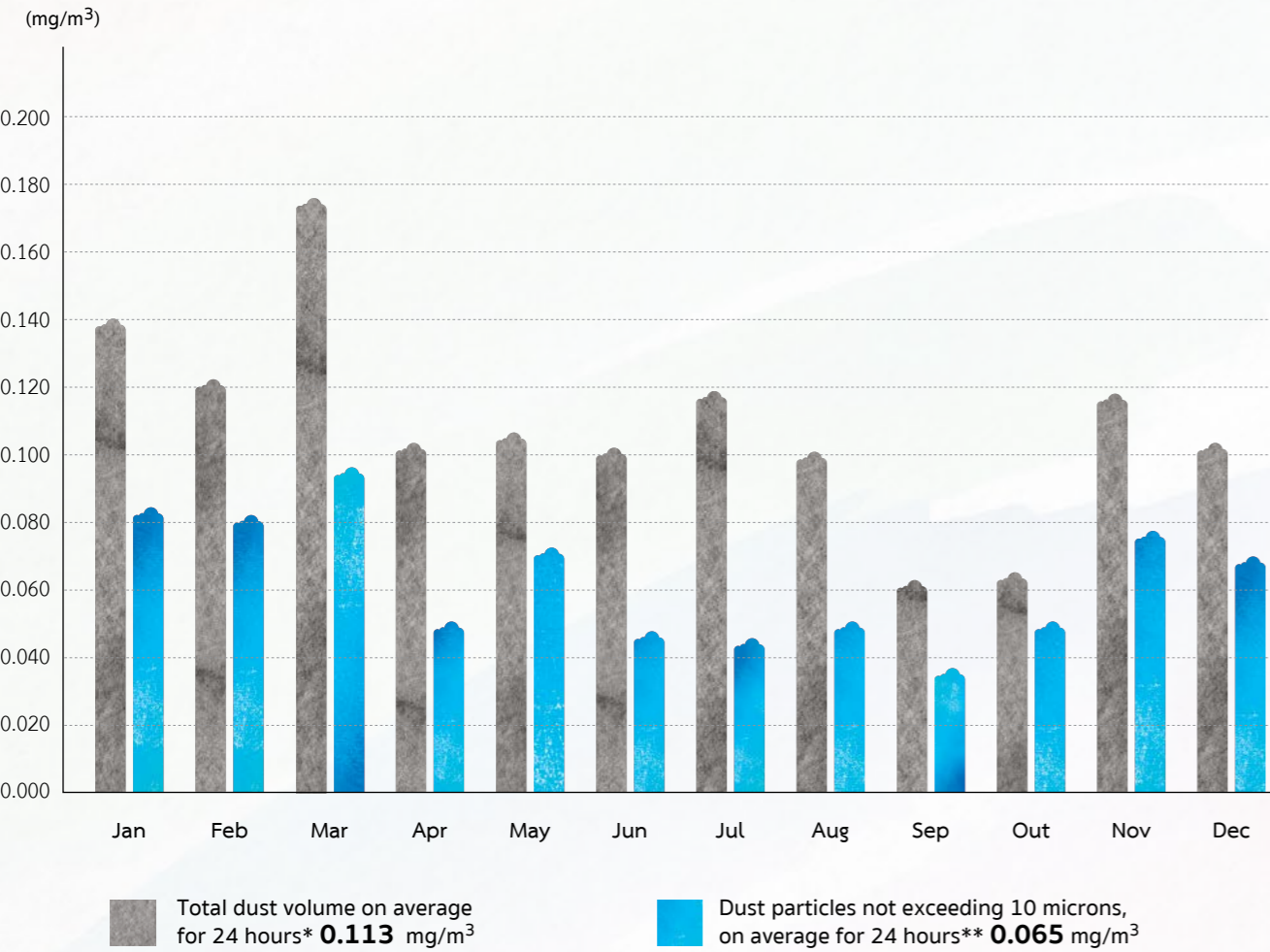
Preventing cleaning water from flowing directly into public water drainage outside of the construction site.

CH. Karnchang has promoted and developed guidelines to control and protect the air quality from the diffusion of dust during the construction projects in order to keep the dust level within the benchmarks according to the announcement by the National Environment Board, which has been defined as follows:

- Total dust volume on average for 24 hours shall be less than 0.33 milligrams/cubic meter
- Dust particles not exceeding 10 microns, on average for 24 hours shall be less than 0.12 milligrams/cubic meter

In 2019, CH. Karnchang identified monitoring points to inspect the air quality in the Charnvit School area of the MRT Orange Line project, between the Thailand Cultural Center-Lumsalee-Minburi, by checking the average dust value during 24 hours and the average value of dust particles not exceeding 10 microns during 24 hours (the inspection was carried out between January – December 2019). It was found that the air quality index value was at a normal level. However, CH. Karnchang shall continue to maintain the standard of air quality control and protection measures from dust diffusion in future construction projects.

Average dust volume and average dust volume not exceeding 10 microns in 24 hours



Remark : *24-hour average dust volume standard value = 0.33 milligrams/cubic meter (mg/m³)
** Standard values for dust particles not exceeding 10 microns on average for 24 hours = 0.33 milligrams/cubicmeter (mg/m³)



Spraying water within the construction site and public streets cleaning



Noise quality control (103-1)

Noise quality is one of the effects which results from construction activities, which if the noise level exceeds the level specified by the standards, it could severely affect the lives of the people who are living around the construction area. For this reason, CH. Karnchang has established a management plan and various control measures as specified in the conditions of the construction work. The Company is responsible to adhere to the law together with the project owner under the supervision from various state agencies such as the National Environment Board or Municipal officers, for example.

Management Guidelines (103-2)

CH. Karnchang has identified monitoring points to inspect the noise levels in construction project areas with a plan showing the project’s Boundary Line to explore the environment, source of noise pollution, characteristics of the noise and the working hours, as well as preparing a plan and operational procedures to control the noise level to be within the level that is specified by the government agencies in order to promote and develop management guidelines to control and prevent noise pollution from construction sites from exceeding the standard benchmarks according to the announcement by the National Environment Board No. 15 (B.E. 2540) By specifying a standard for general noise level as follows:



In 2019, CH. Karnchang monitored and inspected the construction noise level at CH. Karnchang’s various construction projects and found that it is within the benchmark index criteria as mentioned above and did not find any complaint cases regarding the level of noise exceeding the standards. Moreover, CH. Karnchang has established measures to reduce the impact from noise as follows:



Conduct construction activities with loud noises between 6:00 am. – 10:00 pm. If the activities shall continue beyond the established time, it will be communicated to the surrounding communities for their awareness.



Establish measures to prevent effects from noise Such as installation of temporary noise canceling walls around the construction site.



Areas to conduct soil stripping, demolishing, destruction, drilling machines Concrete mix, solid fence shall be built around the construction area (height not less than 2 meters)



Waste water treatment and waste disposal (103-1)

As CH. Karnchang is the country’s major construction business operator which pays great attention to every process of the construction, including the quality of the construction as well as paying attention to the environment while the construction is in process in order to maximize the efficiency in reducing the impact caused by the construction activities, including the care and management of wastewater and waste which have been implemented in every project of CH. Karnchang, CH. Karnchang is in compliance with the National Environmental Promotion Act 1992 in carrying out the control and prevention of effects on health and safety of the communities and the environment both within the construction area and surrounding areas.

Management Guidelines (103-2)



Wastewater Management: CH. Karnchang shall review and assess the quality of the soil surface and ecosystem in the water of the area of the construction projects. When the water is being drained, CH. Karnchang shall tend to, improve, and amend the water quality to be in accordance with the specifications of the law and under the supervision of state agencies such as the Pollution Control Department and the Environment Committee, etc, in order to ensure that the quality of water released into the public canals is in accordance with the law and shall not affect the communities nearby the construction site.



Construction of temporary water drainage to drain surface water from construction activities/arrange a pond to clean the car wheels prior to leaving the site/preparation of a prefabricated wastewater treatment system for wastewater from bathrooms and toilets.



Waste Management: CH. Karnchang shall review the scraps of construction materials, garbage, and waste which occur from the construction site which may affect the communities by separating the waste prior to forwarding it to the district office or other related agencies to collect and dispose of it according to the sanitation principles prescribed by the government agencies.

For 2019, there has been no data collection on the volume of waste water at the office building and various construction projects of CH. Karnchang, since the construction projects do not release wastewater from the production process. Waste water from the temporary sanitation system used during the construction period shall be treated at the prefabricated treatment tank prior to releasing to public water sources and the quality of the water shall be in accordance with the standards set by the law.

In regards to the garbage volume within the office building and CH. Karnchang’s various construction sites, there is yet to be a collection of data, by which CH. Karnchang is in the process of developing data collection systems that are suitable to the type and nature of future construction projects.

“Shred2Shared” Activity

CH. Karnchang, in cooperation with Iron Mountain Co., Ltd, which is the world’s leading company in data storage and management, noted that from January – September 2019, CH. Karnchang delivered 1.52 tons of paper to be digested. Once it is safely digested and brought to the recycling process, this can reduce the emission of carbon dioxide, as well as the use of coal and water as per the following details:

Reduce Carbon Dioxide emission (CO₂) ↓ **395.40 Kg.**

Reduce the usage of coal (Coal) ↓ **167.28 Kg.**

Reduce the usage of water (H₂O) ↓ **76.04 Cubic meters (m³)**



Energy Consumption (103-1)



Energy is an important key factor in the development of a country’s economy and society. At present, the demand for energy is continuously increasing, which has resulted in shortages of energy and fluctuations in the increasing cost of production. For this reason, CH. Karnchang attaches great importance to the conservation of energy and energy consumption by managing the energy usage for maximum efficiency.

Management Guidelines (103-2)

CH. Karnchang adopts guidelines in the management of energy by supporting the government policies towards energy conservation and encouraging its employees to be aware and pay attention to conservative and efficient usage of energy in order to reduce the consumption and the burden on the Company’s expenses on energy.

Starting from the management at the head office, such as turning off the lights in the operation area during lunch breaks or when not in use, supporting the replacement of fluorescent lamps with energy saving LED lamps, setting the time to shut down the air conditioning system before the completion of working hours, and controlling the temperature to be at an appropriate level, as well as starting to substitute electrical appliances in the office to be energy-saving types, for example.



Electricity energy consumption in 2019 (302-1)

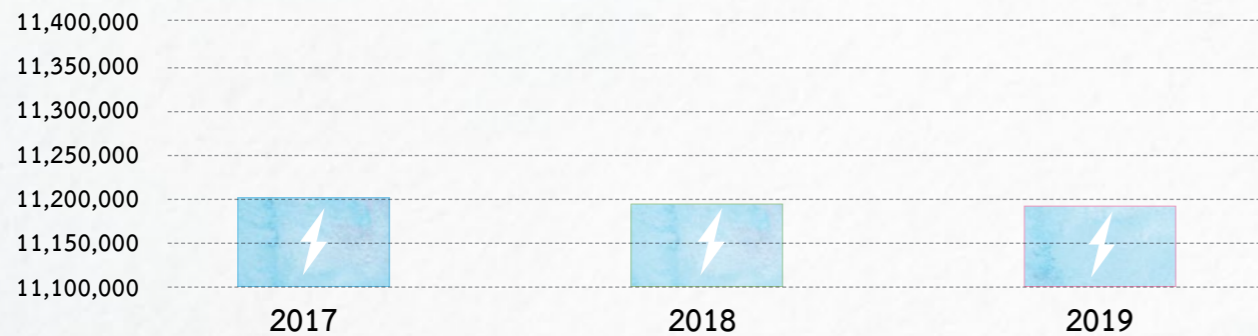
Amount of electricity energy consumption
11,185,005.60 Mega joules (MJ)

Remark : * Information on the electricity consumption of CH. Karnchang PLC Headquarter only

Comparison of the amount of electricity consumption from 2017 - 2019

Year	Kilowatt/hour (kWh)	Mega joules (MJ)
2017	3,110,612.00	11,198,203.20
2018	3,109,830.00	11,195,388.00
2019	3,106,946.00	11,185,005.60

Comparison of the amount of electricity consumption from 2017 - 2019



Remark : * Information on the electricity consumption of CH. Karnchang PCL only



In this regard, from the amount of electricity consumed in 2019, the concentration value of energy per employee can be calculated and it was found that the energy concentration was 882.65 kilowatts/hour (302-3) and it can be used to calculate the emission of category 2 greenhouse gases (Scope2) or the indirect emission of greenhouse gases as a byproduct of energy consumption (Indirect Energy Emissions) from the purchase of electrical energy for consumption within the organization as follows:

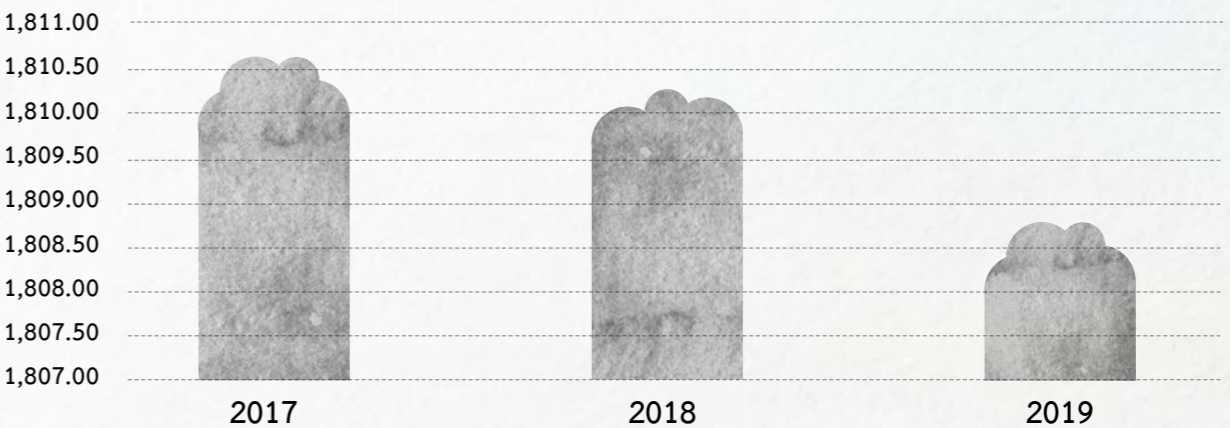



Amount of category 2 greenhouse gas emissions
Tons of equivalent carbon dioxide (tCO2e)
1,808.55

Comparing the amount of category 2 greenhouse gas emissions from 2017 – 2019 (305-2)

Year	2017	2018	2019
Kilowatt/hour (kWh)	3,110,612.00	3,109,830.00	3,106,946.00
Tons of equivalent carbon dioxide (tCO2e)	1,810.69	1,810.23	1,808.55

Comparing the amount of category 2 greenhouse gas emissions from 2017 – 2019 (tCO2e)



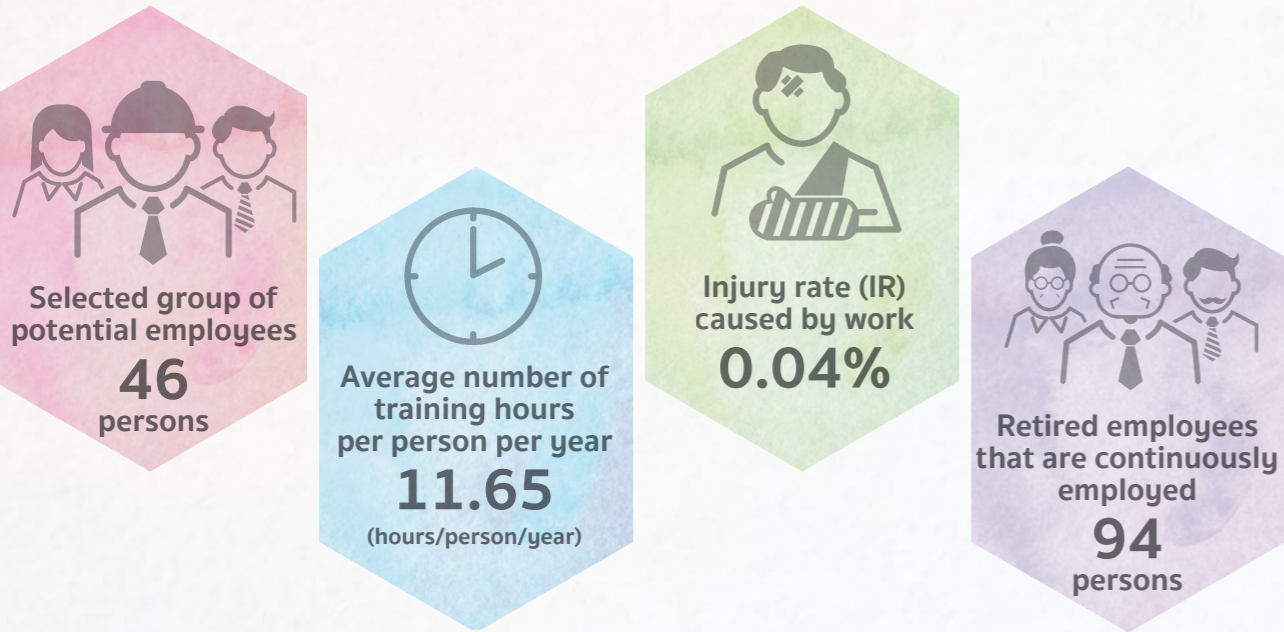


“CH. Kanchang is driving force behind
the development and progress of the Country.
We build a better life for all. And we will
continue giving back to society”

Employees of CH. Karnchang

The employees of CH. Karnchang are a factor of utmost importance for the successful operation of our business. It is necessary for CH. Karnchang to manage its human resources fairly and with consideration to the principles of human rights, which shall be consistent with and supportive of CH. Karnchang’s strategy and objectives, which can be achieved by implementing operations that are clear, transparent, fair, and equal in every process of human resources, as well as to support and develop the knowledge, competence, and skills of the employees, employee care and retention, so that employees may remain with the organization as long as possible, including supporting fair compensation and welfare for all employees.

Key performance in 2019



Employment and Labor Law Practices (103-1)

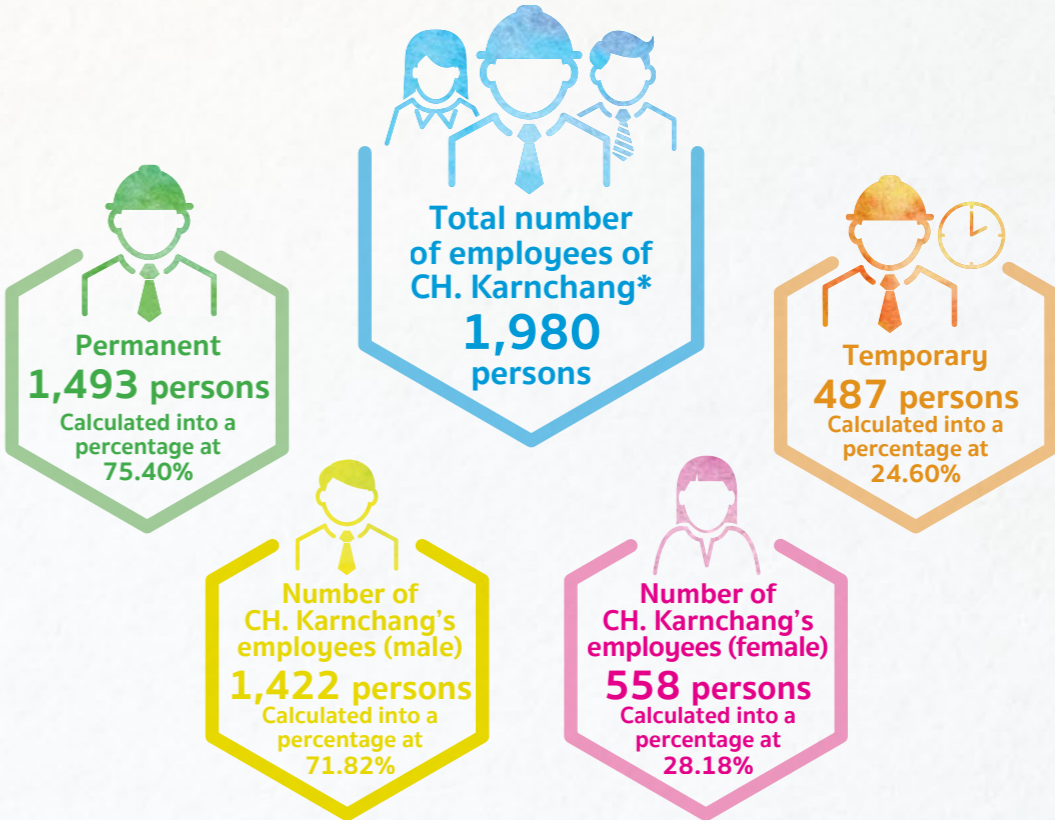
There are changes happening in our current society, including business models which may accordingly change. The important factor in bringing the Company towards change depends on the organization of human resources, which is a factor that CH. Karnchang attaches great importance to. The reason for this is because human resources are the force driving the Company towards successful achievement of its goals. CH. Karnchang begins from the selection and hiring of efficient personnel by adopting human rights principles, good corporate governance, and execution in fairness and in compliance with the process stated in the Labor Protection Act and Labor Relations Act to reassure that there are no actions of discrimination in regards to race, religion, gender, skin color, and regardless of educational institutions or difference in abilities. However, the factors taken into consideration shall cover the skills, knowledge, competencies, and experiences of the personnel at all level, by aiming for employees to be able to work with contentment and reduce the amount of employee turnover.

Management Guidelines (103-2)

CH. Karnchang has standards and personnel selection systems that are transparent and fair, by starting from the selection planning and communication to create motivation for the target applicants and process to conduct a written examination, English abilities test, and job interviews. The selection criteria are based on the knowledge and skills of each person, the suitability to the position, disregarding their gender, race, religion, or difference in abilities.



Number of Employees of CH. Karnchang in 2019 (102-7, 102-8)



* Total number of CH. Karnchang’s employees (temporary and permanent employees combined)

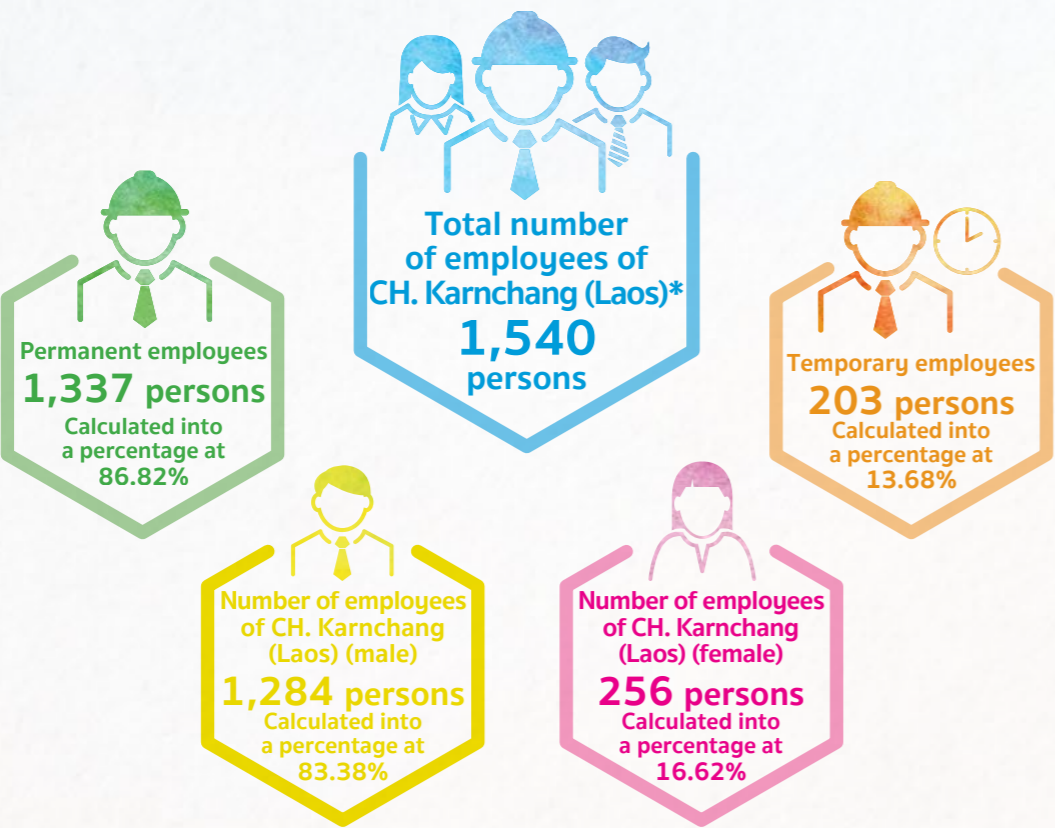
Number of new employees of CH. Karnchang in 2019 (401-1)

Type	2017		2018		2019	
	Number (persons)	%	Number (persons)	%	Number (persons)	%
Total number of new employees*	138	6.63	95	4.82	57	2.88
Gender						
Male	115	5.53	76	3.86	51	2.58
Female	23	1.10	19	0.96	6	0.30
Age range						
Age < 30	66	3.17	48	2.44	19	0.96
Age 30-50	59	2.83	43	2.19	27	1.36
Age > 50	13	0.62	4	0.20	11	0.56
Area						
Central region	83	3.98	78	3.96	43	2.17
Other regions in the country	55	2.64	17	0.86	14	0.70

* Total number of CH. Karnchang’s employees (temporary and permanent employees combined)



Number of employees of CH. Karnchang (Laos) in 2019 (102-7, 102-8)



*Total number of employees of CH. Karnchang (Laos) including permanent and temporary employees with Laotian nationality at 748 persons and Thai nationality at 792 persons.

Number of new employees of CH. Karnchang (Laos) in 2019 (401-1)

Type	2017		2018		2019	
	Number (persons)	%	Number (persons)	%	Number (persons)	%
Total number of new employees*	41	1.12	9	0.37	0	0.00
Gender						
Male	40	1.10	9	0.37	0	0.00
Female	1	0.03	0	0.00	0	0.00
Age range						
Age < 30	18	0.49	3	0.12	0	0.00
Age 30-50	20	0.55	6	0.24	0	0.00
Age > 50	3	0.08	0	0.00	0	0.00
Area						
Foreign countries	41	1.12	9	0.37	0	0.00

* Total number of new employees of CH. Karnchang (Laos) (Permanent employees and temporary employees combined)

Attraction and retention of employees and potential employees (103-1)



Once the personnel are employed at CH. Karnchang, the Company shall begin the process of retaining valuable employees with the organization, particularly employees with potential, by which these employees are the main force in the growth development of the Company. Employee retention helps to reduce the cost of hiring new employees which contributes to the Company’s sustainable growth. CH. Karnchang has implemented guidelines in attracting employees by establishing a Succession Plan, continuous development of knowledge, a reasonable compensation scheme, and attempts to create a good working atmosphere by establishing good communication within the organization.

Employee’s potential assessment criteria, whereby CH. Karnchang shall assess the employee’s KPI (Key Performance Indicator) and Competency in their position, by which all employees at every level of CH. Karnchang, accounting for 100%, shall be evaluated, in order to be selected as a group of employees with potential. In 2019, there were a total of 46 employees in this group, calculated into a percentage at 1.31% of the total employees with details as follows:



* Includes permanent employees of CH. Karnchang (Laos) Co., Ltd.

Percentage (%) of Employees selected as a potential group (measured by performance) in 2019

Type	Male	Female	Total	%
Existing employees	31	14	45	1.28
New employees	1	0	1	0.03
Total	32	14	46	1.31

Retention ratio of employees in the potential group in 2018 - 2019

Potential employees	2018		2019	
	Total	%	Total	%
Male	23	0.52	32	0.91
Female	6	0.14	14	0.40
Total	29	0.66	46	1.31



Additionally, in order to retain employees with the Company for as long as possible, CH. Karnchang has established compensation, welfare, and allocation of benefits to permanent and temporary employees as follows (401-2) :

Subsidies Welfare	Permanent employees	Temporary employees
Marriage subsidies (employees)	✓	✗
Marriage subsidies (employees’ children)	✓	✗
Employee’s death (company’s subsidies)	✓	✓
Employee’s death (insurance)	✓	✓
Subsidies for parents, spouse, and children of deceased employees	✓	✗
Ordination	✓	✗
Medical expenses	✓	✗
Maternity expenses	✓	✗
Experiencing natural disasters	✓	✓
Annual health checks	✓	✓

Moreover, in case of child birth by female employees, CH. Karnchang provides benefits of maternity leave wherein in 2019 there were a total of 16 employees claiming this right which is calculated into a percentage at 0.45 (401-3)

Case of leave	Male	Female	Total
Number of employees eligible to take maternity leave	-	814	814
Number of employees exercising the right to take maternity leave.	-	16	16
Number of employees exercising the right to take maternity leave and return to work.	-	15	15
Number of employees returning to work after the end of maternity leave and continuing working for a minimum of 1 year.	-	15	15
Return ratio and retention ratio of returning employees After the leave period is over.	-	93.75%	93.75%

Remarks: Total number of female employees (temporary and permanent employees) of CH. Karnchang Public Company Limited and CH. Karnchang (Laos) Co., Ltd.



Training and education (103-1)

Providing training and education to our employees is an activity which CH. Karnchang has always implemented in order to develop the competencies of our employees at every level to be able to carry out their duties efficiently and support the Company in dealing with the changes that have occurred. The focus is to increase the employees’ (knowledge), create the right (understanding), raise their working (skills) and adjust their (attitude).

Management Guidelines (103-2)

In regard to personnel training and development, the process begins from identifying training needs, creating and building a training course for the employees, including follow-up and training evaluation, whereby the mentioned process can be applied to the development of personnel through training for all positions and being consistent with the organizational goals, contributing to the Company achieving its goals with excellence. In 2019, the training courses were divided into different types as follows:

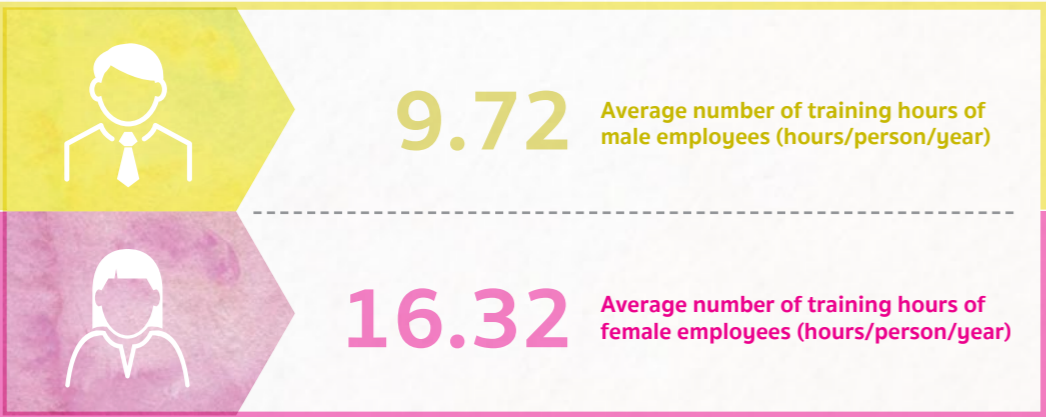




Average number of training hours per person per year (404-1)



Average number of training hours separated by gender (hours/person/year)



Average training hours separated by employee level (hours/person/year)



Employee Occupational Health and Safety (103-1)

CH. Karnchang operates a business in large-scale construction of various types, where the Company mainly requires manpower in order to operate and have various machinery and technology as a support. For this reason, the Company is considerate of employees’ occupational health and safety in essence by continually integrating good occupational health and safety management in order to reduce the and control employees’ operational accidents. Additionally, it is also a response to the Company’s quality policy regarding security management and it effectively enhances the quality of life of the personnel at work.

Security Policy (103-2)

- 1 Be responsible for safety and occupational health
- 2 Employees and relevant parties of the project must be aware that safety is everyone’s duty.
- 3 Safety and occupational health must be incorporated into various operational plans.
- 4 Risk assessment is established in all operations
- 5 Promotes safety and occupational health by organizing training and education for all employees
- 6 Constant improvement of the security policy to create confidence regarding safety and occupational health





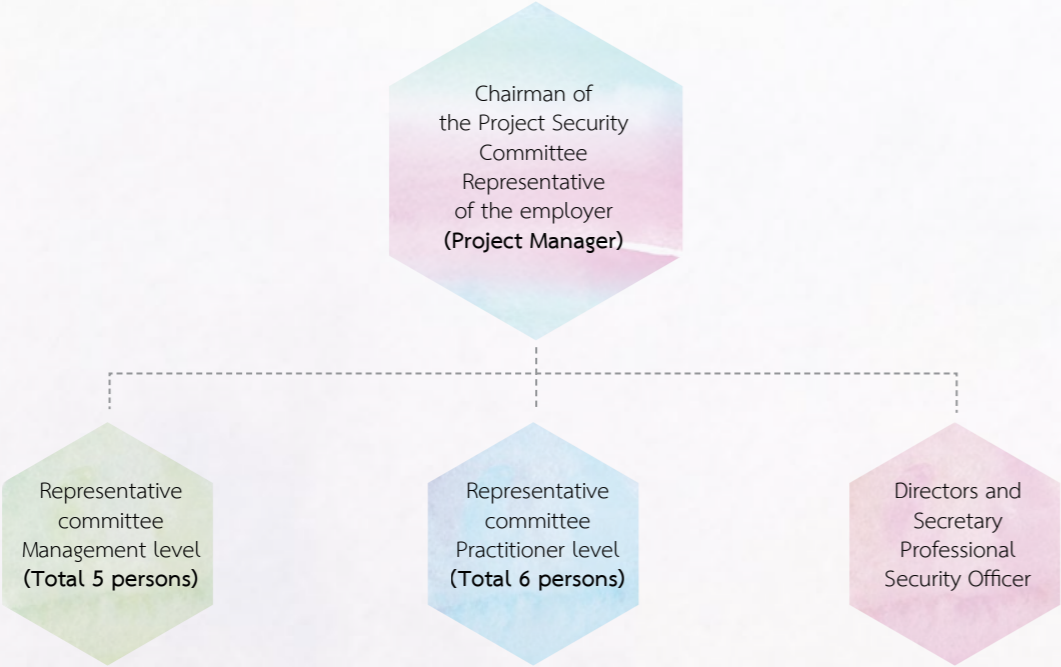
CH. Karnchang recognizes that construction work must be carried out alongside awareness of safety and occupational health, whereby the Company’s security policy is one of the main policies implemented to ensure that the operations are safe and that they are carried out efficiently at every step, as well as to prevent and lessen the losses from accidents which may occur to the employees under the Occupational Safety, Health, and Environment of the Work Place Act.

Therefore, CH. Karnchang attaches great importance to our security policy, and regards the policy as the highest standard, by committing to conducting safe operations under the Occupational Safety and Health law of Thailand such as:

- Ministerial Regulations on the Prescribing of Standards for The Administration and Management of Safety, Occupational Health, and Environment in the Workplace for Construction Works B.E. 2551
- Occupational Safety, Health, and Environment Act B.E. 2554
- Ministerial Regulations on The Prescribing of Standards for The Administration and Management of Safety, Occupational Health, and Environment in the Workplace (Volume 2) B.E. 2553
- Ministerial Regulations Prescribing Standards for the Administration and Management of Occupational Safety, Health, and Environment in the Workplace for Works Involving Machines, Cranes, And Boilers, B.E. 2552
- Ministerial Regulations Prescribing the Administration and Management of Occupational Safety, Health, and Environment in the Workplace for Confined Space Workplaces, B.E. 2547

By which, the details have been included in the Occupational Health and Safety Management Plan of CH. Karnchang’s employees to allow all employees to be aware of and pay attention to their health and safety at work. In addition, CH. Karnchang’s contractors shall strictly comply with the regulations of the Safety and Occupational Health plan to ensure that the operations on safety are conducted efficiently. There shall be an appointment of Safety, Occupational Health, and Environment in the Workplace Committee for every construction project belonging to CH. Karnchang with an objective to determine the standards and establish policies for the operations to be carried out efficiently, in which a meeting is required to be held once every week to ensure safety, and also as a measure to control losses caused by accidents at work

Security Committee on the Project site (403-1)



Safety, Occupational Health, and Environment in the Workplace Committee shall consist of not less than 11 persons including

Position	Number (persons)	Details
Chairman	1	Authorized by the employer, which is the Project Manager
Committee	11	5 persons: appointed as the management representative committee 6 persons:qualified as the practitioner level representative committee
Directors and Secretary	1	Professional Security Officer

Besides the appointment of Occupational and the Safety, Occupational Health, and Environment committee, CH. Karnchang has guidelines to manage Occupational Health and Safety in accordance with the law and international standards based on the principles of prevention and control to avoid accidents that may occur from unsafe operations such as inappropriate selection of machinery or not wearing protective equipment as per the regulations, for example.

In this regard, the implementation of Occupational Health and Safety at CH. Karnchang is done in accordance with the Company’s quality policy, ISO 9001:2015 standards, and consistent with general international practices in order for continual development, by supporting the budget and resources such as providing sufficient protective equipment, as well as organizing training to increase their skills, knowledge, and competence regarding Occupational Health & Safety, and continually strengthen the awareness of the Company’s employees and relevant parties.

Injury ratio (IR), from the operations of all projects from 2017 – 2019. (403-2)

	2017	2018	2019
Injury ratio (IR)	0.06	0.05	0.04
Working hours not less than 300,000 consecutive hours without injuries forcing a leave from work*	✓	✓	✓

Remark : * This criteria is used within the Company only ✓ indicates that the objectives are met X indicates that the objectives are not met

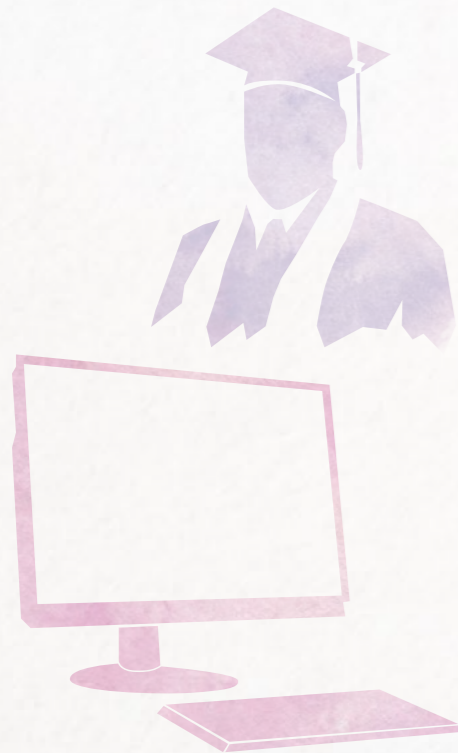
CH. Karnchang has continuous and systematic guidelines in the development of work safety management, starting from the planning process of safety management, putting the plans into action, inspection and improvement in order to elevate the objectives and increase the efficiency of safety management according to the format of a continuous development cycle.



Employee promotion and preparation for retirement (201-3)

Employees are the most important driving force of business growth and keeping up with the changing global society. Therefore, CH. Karnchang is focused on developing the Company’s personnel in order to enable them to fully utilize their potential by giving equal development opportunities to all personnel at every level from the first day until their retirement day, whereby CH. Karnchang has arranged a skills management plan and lifelong learning that facilitates continuous employment and assists our employees with managing their lives after retirement.

CH. Karnchang has established both internal and external training plans for our employees by assessing whether the organized training courses can be beneficial to our employees themselves and the duties that they perform within the Company, as well as developing their working skills to increase their effectiveness, such as:



- Using a basic integrated building system design program (Autodesk Revit)
- Lighting protection standards
- Construction safety standards
- Project management basics Seminar on Japanese Construction Technology Presentation
- Using Excel for work and taking leave without pay for further education and being able to return to work as usual.

Moreover, CH. Karnchang has guidelines for life management after retirement, which includes social security planning, retirement savings, money saving and spending after retirement, and providing knowledge with regards to provident funds, which is another option to help save money for retirement and the funds can continue to grow even after retirement, by inviting guest speakers to share various knowledge that is beneficial to the employees in the future. Furthermore, in 2019, CH. Karnchang allocated provident funds for the Executives and employees in the mount of 73,993,669 Baht, in order for the employees to have savings prepared in the event of retirement, resignation, disability or as insurance for their families.



Number of dismissed employees of CH. Karnchang in 2019 (401-1)

Type	2017		2018		2019	
	Number (persons)	%	Number (persons)	%	Number (persons)	%
All employees are dismissed*	502	24.10	215	10.91	155	7.83
Gender						
Male	340	16.32	156	7.91	111	5.60
Female	162	7.78	59	3.00	44	2.22
Age range						
Age < 30	185	8.88	79	4.00	35	1.77
Age 30-50	284	13.63	120	6.08	101	5.10
Age > 50	33	1.58	16	0.81	19	0.96
Area						
Central region	368	17.66	126	6.39	131	6.61
Other regions in the country	134	6.43	89	4.52	24	1.21

* No. of dismissed employees of CH. Karnchang combining permanent and temporary employees.

Number of dismissed employees of CH. Karnchang (Laos) in 2019

Type	2017		2018		2019	
	Number (persons)	%	Number (persons)	%	Number (persons)	%
All employees are dismissed*	143	3.92	403	16.40	201	13.05
Gender						
Male	132	3.62	216	8.79	178	11.56
Female	11	0.30	187	7.61	23	1.49
Age range						
Age < 30	34	0.93	47	1.91	28	1.82
Age 30-50	84	2.30	218	8.87	118	7.66
Age > 50	25	0.69	138	5.62	55	3.57
Area						
Foreign countries	143	3.92	403	16.40	201	13.05

Remark : * Number of dismissed employees of CH. Karnchang (Laos) combining permanent and temporary employees.

พนักงานเกษียณอายุที่ได้รับการจ้างงานอย่างต่อเนื่อง

Company	Amount (Person)*	%
CH. Karnchang Public Company Limited	80	4.04
CH. Karnchang (Laos) Co., Ltd.	14	0.91

Remark : * Number of employees includes permanent and temporary employees



Communities Community Engagement and Development

CH. Karnchang's aspiration is that business operations must go hand in hand with community development and environmental care by avoiding actions that will cause negative impacts to the community, as well as caring for all personnel, as a fair reward to the stakeholders both inside and outside of the organization and as a means to create mutual sustainability.



Key performance in 2019

CH. Karnchang operations,
no legal dispute.

Mitigation of impacts on communities (103-1)

Communities are considered one of the stakeholders that CH. Karnchang places great importance on, on the grounds that during a construction period, the communities may be affected both directly and indirectly in regards to social and environmental issues. Therefore, the Company has an assessment and planning process to prevent impacts that may occur to the communities during construction activities, promotes involvement with the communities, and ensures that the needs of the communities surrounding the construction area are being conformed to, in order for the Company to gain acceptance and trust from the communities surrounding the construction area.

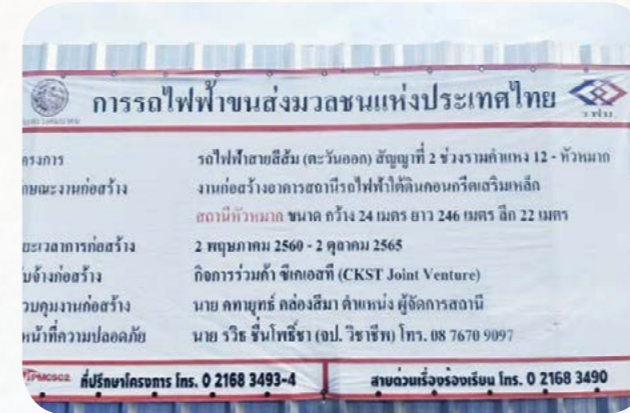
In the construction process, CH. Karnchang follows the control measures prescribed in the construction conditions, by which the Company has a responsibility to adhere to the law together with the project owner and committees from the community under the supervision of various government agencies such as the National Environment Board, officials from local agencies, etc.

Management Guidelines (103-2)

CH. Karnchang has initiated community information studies (Social Mapping), data collection from stakeholders, appointed a community committee which consists of representatives from the government, project owner, community, and representatives from the Company to participate in discussions (Engagement) and identify the main operation plan (Master Plan), monitoring points and objectives, as well as assessment on the impacts (Impact Assessment), and stakeholder satisfaction survey.

Each of CH. Karnchang's project offices will be responsible for establishing measures and taking actions in mitigating any negative impacts that are significant to the community by allocating personnel to conduct community relationship activities and community engagement, including an arrangement of publicity signage and publishing the construction project details on the website for the public's acknowledgement regarding the project's construction plans, subcontractors' details, number of workers, construction plan and traffic management plan, as well as a construction site warning sign around the nearby areas of the construction site.

Additionally, a communication channel to report complaints shall be established in the areas where the construction activities are ongoing by publicizing through the project signage along the construction area and specifying the name of the project's safety officer on site, including the contact number for reporting complaints, along with cooperation with the complainants to assess the impact and rectify the problems according to the Company's quality system.



The image shows the identification of communication channels to report complaints in the construction areas

Traffic management in the project area

To manage, alleviate, and reduce traffic problems for the residents in the area, CH. Karnchang has implemented a transportation operation plan to search for measures to reduce traffic impacts from construction by referring to various methods, including:

- Identifying areas for monitoring.
- Creating traffic plans that are consistent with the construction phase at various times.
- Meeting to discuss traffic management methods with local police officers and other relevant local officers.
- Assigning safety officers to participate in supervision with government officers.
- Preparation of accident statistics and causes of traffic accidents on the routes of users and pedestrians.

CH. Karnchang has managed and amended the traffic management around the construction area throughout the project operation period and found that major causes of traffic accidents are unrelated to the construction, such as violation of fire signals/ traffic signs, driving in close proximity (rear end crash), scraping, sudden lane changes, etc. Therefore, the ways to correctly manage traffic and prevent accidents is to increase the number of safety officers on duty to help supervise during rush hour in order to control the speed and traffic lanes, as well as increase lighting during the night hours, for example.



Installation of barriers and traffic diversion signs.



Legal Compliance (103-1)



CH. Karnchang recognizes the importance of business operations that are consistent with ethics, law, rules, regulations, and various operational standards whether it is the labor law, international trade law, human rights law, laws regarding infrastructure systems and tax laws, etc, in order to prevent the effects that may occur to the operation of the business, such as reputation damage, payment of fines, or being suspended from operations that are not in legal compliance.

Management Guidelines (103-2)

Every Executive and employees of CH. Karnchang has the responsibility to support, promote, and carry out their operations consistent with good practices in compliance with the economic and social law, with details as follows:



1 The Company’s personnel shall have a thorough understanding of the laws that are directly related to their duties and responsibilities and to follow them strictly. Advice from the legal department shall be requested if there are any doubts, and no operations shall be carried out if such doubt persists.



2 In the event that the Company’s personnel must travel to fulfill their duties abroad, that person must study the law, customs, traditions and cultures of the destination country prior to making the trip in order to ensure that the products or materials and equipment, including travel documents, travel purpose, and the operation at the destination country are not illegal, nor against the customs, traditions, and culture of the destination country.



3 The Company has compiled the laws and official regulations into categories for the Company’s personnel to appropriately study the relevant laws and arranged to have orientations and educational training regarding the laws that are related to the business operation for the Board of Directors, Executive committees, and employees of the Company.



4 The Company must strictly adhere to the principles of international human rights, enhance the knowledge and understanding on the principles of international human rights for the employees to adopt as part of their operation, and shall not support any business that violates the principles of international human rights.

As of December 31st, 2019, the Company or the subsidiaries do not have a legal dispute in which the Company or the subsidiary is a party or a counterparty, that may have a negative impact on the assets of the Company or subsidiaries which are higher than 5% of the shareholders’ equity at the latest fiscal year end. Including no lawsuits that significantly affect the Company’s business operations and the Company does not have any lawsuit that does not arise from the Company’s usual business operation in any significant way.

Furthermore, the Company’s Board of Directors attaches great importance to the internal control system of the Company continuously, in order to prevent and reduce risks that may arise from corruption during one’s duties, or non-adherence with the laws on economic and social issues, as well as the various regulations that are related to the Company’s business operation. The Company has assigned the Audit Committee, which consists of independent directors, to review and evaluate the internal control system with the internal audit department reporting directly to the committee, to perform duties of reviewing the operation systems of each department of the Company according to the annual audit plan, which has been approved by the Audit Committee. The aim is to ensure that the Company adheres to all laws related to the business operation in all sectors, the operations are effective and efficient where the Company’s resources are being maximized in value and benefit, as well as having control of the preparation of financial reports that are accurate, reliable, and delivered in a timely manner with compliance to the policies, legal regulations, and rules of the government and related agencies. Moreover, the effectiveness of the internal control system is reviewed continually to ensure that the business operation creates maximum benefit to the shareholders based on fairness to the interests of all stakeholders.

Additionally, the Audit Committee is responsible for engaging in considerate selection and nomination of an auditor, as well as his/her compensation and review of the disclosure of the Company’s information to ensure the accuracy and completeness in the event that there are connected transactions or transactions that may cause a conflict of interests in order for the internal audit and the supervision of the Company’s operation to be carried out efficiently. The Company therefore has appointed Mr. Viboon Angkapipatanachai, Executive Vice President of the Internal Audit Office, as the Chief of Internal Audits, who the Audit Committee is of opinion that Mr. Viboon Angkapipatanachai has the knowledge, ability, and work experience suitably qualified to perform the duty as the Company’s Chief of Internal Audits effectively. In the appointment, removal and transfer of the person holding the position of Chief Internal Audit must be approved by the Audit Committee, and Mrs. Tipwaree Attakrit, Legal/Regulatory Manager, has been appointed as the Company’s Operational Supervisor to be responsible in overseeing together with the President’s Office by coordinating with the Corporate Secretary.

In this regard, in 2019, the Company’s Board of Directors, Audit Committee, and Auditor established consensus that the Company’s operation was in accordance with the principles of good corporate governance with compliance to the law regarding both economic and social regulations by the government and relevant agencies correctly and completely, and the Company’s business operation is transparent and verifiable with appropriate and efficient internal control systems and risk management which can protect the Company’s assets from being misused or used without authority by the Executives or employees.



The Company's Board of Directors not only places importance on the Company's internal control system but also recognizes the importance of using internal information to seek personal benefit or benefit for the relevant parties, whereby the Company monitors the use of internal information according to the law and good corporate governance as follows:

1. Policies and Procedures in monitoring the Directors and Executives

The Company has notified the Directors and the Executives to acknowledge the relevant notifications of the Securities and Exchange Commission which requires the Directors and Executives to take responsibility in reporting changes in the holding of securities to the Securities and Exchange Commission according to section 59 of the Securities and Exchange Act B.E. 2535 within 3 business days counting from the date that the change occurs, as well as to inform the Corporate Secretary in order to record the changes and summarize the number of securities held by the Directors and Executives individually and present them to the Board of Directors at the next meeting. Furthermore, a notification on penalties for violations or non-compliance with the mentioned regulations has been given to the Board of Directors and Executives for their acknowledgement and to strictly comply with the policies and laws related to the use of internal information.

2. Measures regarding the maintenance of internal information

2.1 Refrain from using internal information for personal or other parties' benefits

2.2 Specify and restrict the persons who may have access to the internal information, whereby the persons authorized to access the internal information shall not disclose the mentioned information to other parties until the information has been disclosed to the public in accordance with the various criteria.

2.3 Disclosure of information that is significant to the Company's performance through the channels of the Stock Exchange of Thailand for general acknowledgment prior to disclosing to particular groups of investors.

2.4 Insiders shall refrain from trading securities or wait until the information is disseminated to the general public and provide a sufficient time for them to assess the information.

3. Storage and prevention of internal information usage

3.1 The Company has policies and practices to monitor the use of internal information by the Directors, Executives, and employees to prevent incidents where the Directors, Executives, and employees retract internal information and use for personal or other parties' benefits. The Company's work regulations prohibit the Company's employees from revealing the Company's confidential information to outsiders or using their positions to improperly seek benefits for themselves or others. If there are violations it will be considered as a disciplinary offense.

3.2 The Company has a system to control the use of the Company's information by applying an information security system to control access to the system by specifying the suitable level of access to the Company's information for employees at different levels in accordance with their responsibilities.

3.3 The Company prohibits Executives with knowledge of internal information to take any action that is against section 241 of the Securities and Exchange Act, as well as other related rules.

Whereby in 2019, the Company did not have any legal disputes, where the Company is a party or a counterpart, that may have a negative impact on the Company's asset which is higher than 5% of the shareholders' equity at the end of the latest fiscal year. The Company also did not have any lawsuits which significantly affect the Company's business operation nor did the Company have any lawsuits which did not arise from the Company's usual business operations that are essential. (307-1, 419-1)

Community Innovative Inventors



CH. Karnchang Public Company Limited has organized an activity to support community innovative inventors, in cooperation with the National Innovation Agency (Public Organization) or "NIA" and Change Fusion Institute under the Foundation for Rural Integration of Thailand under Royal Patronage, to support the development of "Community Inventors" in the development of innovation and elevate the skills of the community inventors through the "Community Innovative Inventors Promotion Project" which is a contest for inventions that focus on solving problems faced by local communities by accepting talented and innovative community inventors from all over the country to submit their creations that are beneficial to the community and the society, as



well as offering training from experts. It was considered the first collaboration between government agencies, the private sector, and local communities in order to concretely promote community inventors in a comprehensive manner to address social challenges based on the concept of the (Design Thinking) thought process.



Photos from a Community Innovative Inventors activity

Responsibility towards customers and products

Based on the operating experiences of over 47 years and as a leading construction company in Thailand, CH. Karnchang emphasizes the importance of the customers by focusing on quality operations, ensuring work delivery by the due time with a quality of work that is effective and safe, in accordance with the standards required by the clients.

Key Performance in 2019



All construction projects of CH. Karnchang comply with the quality and safety standards



CH. Karnchang's customer satisfaction survey results in the past years for every project have been within the average criteria of "good" and "very good".

Compliance with standards and safety (103-1)

In the construction of various projects, CH. Karnchang is constantly aware of the standards, quality, and safety by upholding the achievement of the standards and safety as a mandatory practice in every construction project. In addition, standards and safety are also important tools that CH. Karnchang adopts in the management of procedures and in determining the steps during construction activities in order to ensure that the completed construction works are in accordance with the format and regulations following the various construction standards, as well as regulations on safety management at work both within the construction site and surrounding area.

Management Guidelines (103-2)

CH. Karnchang has conducted studies on the specifications and various construction standards prescribed in the contracts and applied them to the various construction processes in order to achieve efficiency which shall be able to create trust from the construction inspector and the project owner at each step of the construction inspection. CH. Karnchang has also implemented construction plans and checking & corrective actions, which includes work scheduling and allocation of resources which will be used in the activities according to the work process appropriately throughout the duration of the construction project until its completion.



Progress of the construction projects in 2019

Projects	% of Completion
1. MRT PL : M&E Systems, Contract 4	99.2
2. MRT PL : Maintenance and E&M Systems	26.0
3. MRT BL : Underground Civil Work, Contract 2 *	99.9
4. MRT BL : Trackworks, Contract 5 *	99.7
5. MRT BL : M&E, Contract 6	87.0
6. MRT BL : Hua Lamphong - Bang Sue : E&M	48.1
7. MRT BL : Care of Works (BL – Contract 2)	97.0
8. MRT BL : Maintenance Services on Civil Infrastructure and E&M Systems	3.9
9. MRT GL : Elevated Structure & Depot, Contract 1 *	99.9
10. MRT GL : Trackwork, Contract 2 *	99.9
11. MRT OL : Underground Civil Work, Contract 1 (JV 60 : 40)	44.8
12. MRT OL : Underground Civil Work, Contract 2 (JV 60 : 40)	36.7
13. MRT OL : Depot and Park & Ride, Contract 5 (JV 60 : 40) *	48.2
14. MRT OL : Underground Manholes & Ductbanks, Contract 1 (JV 60 : 40)	29.9
15. MRT OL : Underground Manholes & Ductbanks, Contract 2 (JV 60 : 40)	23.0
16. MRT OL : Water Supply Pipeline, Contract 2 (JV 60 : 40)	0.0
17. Double Track : Chira - Khon Kaen (JV 70 : 30) *	99.6
18. Xayaburi Hydroelectric Power Project	95.8
19. Dismantling of Gas Distribution Pipeline, Pathum Thani – Phaya Thai	93.2
20. Rama III - Dao Kanong Expressway : Contract 4 *	0.1
21. Connection Si Rat (B+) & Si Rat Expressway	94.2
22. Repair Si Rat Expressway : Period 4 Phase 3 Sector B	24.7
23. Motorway : Pattaya-Map Ta Phut, Contract 5 *	99.8
24. Motorway : Bang Pa-in - Nakhon Ratchasima, Contract 3 *	84.0
25. Motorway : Bang Pa-in - Nakhon Ratchasima, Contract 6 *	91.1
26. Construction & Improvement : Si Rat (B+) & Repair : Si Rat Expressway	71.8
27. Diagnosis & Treatment Building Mae Fah Luang *	99.5
28. King Chulalongkorn Hospital : Integrated Medical Center Building *	1.1
29. 2nd Tap Water Treatment Plant – TTW	99.9
30. Improvement of Machinery & Equipment for the Tap Water Production	23.5
31. Improvement of Waterway : along Vibhavadi Rangsit Road (1st Phase)	96.8
32. Other Projects	72.7

In 2019, all construction projects of CH. Karnchang were in compliance with the quality and safety standards which were required procedures and agreed upon under the construction contracts. Therefore, 100% of CH. Karnchang’s construction projects were in total compliance with the related quality and safety standards and have passed all evaluations on quality and safety compliance by the construction inspector and the project owners for every project during the inspection process. In this regard, in 2019, CH. Karnchang did not receive complaints from any project owners regarding non-compliance with the related quality and safety standards.

Customer Satisfaction (103-1)

CH. Karnchang pays the highest attention to the satisfaction of our “customers” or the “project owners” on the grounds that CH. Karnchang is a business providing construction services where there are expectations that the construction work delivered will be of quality, meet the standards of integrity, safety, punctuality, and engaging in social and environmental responsibilities during the operation.

During the operation of CH. Karnchang, operation is consistent with the quality management system ISO 9001/2015, and therefore it has been specified that a survey must be carried out at every construction project to check the satisfaction of the project owners/customers with data collection procedures including both qualitative and quantitative in order to receive information that is transparent and complete, and present the customer satisfaction survey results to the Company’s Executives. If any comments or suggestions from the project owners/customers are observed, CH. Karnchang shall proceed to analyze and improve the operation to be consistent with the demands of the project owners/customers. Each year, CH. Karnchang sets the target satisfaction level of the project owners/customers to be no lower than the benchmark of “good”, whereby the project owners/customers satisfaction data shall be collected on a monthly basis.

Management Guidelines (103-2)

CH. Karnchang has established methods for the issue of customer satisfaction by closely monitoring the various construction processes and procedures in terms of the quality of the construction, construction timing, safety of the operation, and the coordination to be within the frame of the established policies and operation plan, as well as establishing good relationships with our customers as the project owners, supporting the participation of the customers in providing feedback and suggestions in order to increase the customers’ level of trust and satisfaction.

Customer Satisfaction Survey

CH. Karnchang arranges to have an evaluation of the customers’ satisfaction by organizing a Customer Expectation and Satisfaction Questionnaire using the method of inquiring at meetings, interviews, or survey responses which are conducted on a monthly basis according to the Company’s quality system. By which, the customer expectation and satisfaction questionnaire shall consist of the following:



Satisfaction on the quality of the results, Materials, Equipment, and Personnel



Satisfaction in work safety Public and environmental protection



Time satisfaction, such as progress compared to the time and potential for work acceleration.



Satisfaction in communication and coordination

In which, if the customers have shared their opinions and suggestions regarding the construction project, this will be stated in the questionnaire and will be brought up for consideration. The evaluation results achieved from the mentioned questionnaires shall be used further to continuously improve the confidence and satisfaction level from the customers.

Customer satisfaction survey results

Average score criteria from the customer satisfaction survey results are to be used as an indicator to determine the customers’ satisfaction as follows:

- 86-100 % -----> 😊 Very Good
- 71-85 % -----> 😊 Good
- 56-70 % -----> 😊 Fair
- 41-55 % -----> 😐 Needs improvement
- 0-40 % -----> 😞 Needs improvement urgently

In this regard, CH. Karnchang’s customer satisfaction survey results in the past years for every project have been within the average criteria of “good” and “very good”.

In 2019, CH. Karnchang received complaints from the operation of every project a total of 18 times, whereby CH. Karnchang proceeded to improve and correct the results from the operations in order to respond to the needs and increase the customers’ satisfaction.

Complaints report from all projects’ operations between 2017 - 2019

Items	2017	2018	2019
Total number of complaints	77	21	18
Number of complaints that have been addressed and rectified (100%)*	✓	✓	✓

Remarks: * The number of complaints which have been rectified

CH. Karnchang's awards and pride



Drive Awards 2019

Mr. Viboon Angkapipatanachai, Executive Vice President of the Internal Audit Office, represented the Company in receiving the “ Drive Award 2019” for the Property and Construction business which was organized by the Faculty of Commerce and Accountancy, Chulalongkorn University, where Asst. Prof. Dr. Vilert Phuriwat, Dean of the Faculty of Commerce and Accountancy and Mr. Chartchai Payuhanawichai, President of the Alumni Association of MBAs, Faculty of Commerce and Accountancy, Chulalongkorn University presented the awards on September 1, 2019, by which the award ceremony was held at the Chulalongkorn University Auditorium.

The Drive Award is a selection of companies or organizations with innovations and management excellence which supports and pushes for the creation of innovations with attention to the environment to achieve sustainability and for the economy to move forward and overcoming various hurdles to create standards that belong to Thailand, as a part of the driving force of the economy and society including the ability to compete at the international level.



ESG 100

CH. Karnchang Public Company Limited has been selected to be in the list of ESG100 Companies of 2019 from Thaipat Institute for the 3rd consecutive year.



Good Corporate Governance award for Thai listed Companies of 2019

CH. Karnchang Public Company Limited received a score of “Excellent” in the assessment of corporate governance of Thai listed companies of 2019 from the Thai Institute of Directors Association (IOD).

Shareholders' General Assembly Meeting Quality Assessment

CH. Karnchang received an assessment score in the quality of Shareholders General Assembly meeting (AGM Checklist) in 2019, in the range between 90 – 99 by the Thai Investors Association.



สมาคมส่งเสริมปฎิภาณ
THAI INVESTORS ASSOCIATION



Compliance with Environmental Standards Award

Mr. Sarote T. Suwan, Assistant Governor of the Mass Rapid Transit Authority of Thailand (MRTA) presented the outstanding award and follow-up prize to CH. Karnchang as the Company has consistently and comprehensively maintain the standards of compliance with the environmental standards with excellence from July – December 2019, for the construction project of the MRT Orange Line between Thailand Cultural Center – Minburi station, as support and motivation for the contractors who have demonstrated excellent performance in regards to the environment. In this regard, the MRTA has given importance to the audit on the environment, along with the construction of the MRT project under the responsibility of the MRTA, as well as being considerate of the quality of life of the public, communities, and society and striving to continuously maintain and improve the standards.

GRI Content Index

GRI Standard		Description	"Page Number (s) and/or URL"	SDG
Organization Profile				
GRI 101 : Foundation 2016	102-1	Name of the organization	7	
	102-2	Activities, brands, products, and services	10	
GRI 102 : General Disclosures 2016	102-3	Location of headquarters	7	
	102-4	Location of operations	12	
	102-5	Ownership and legal form	7	
	102-6	Markets served	14	
	102-7	Scale of the organization	40-41,55-56	
	102-8	Information on employees and other workers	55-56	8
	102-9	Supply chain	39	
	102-10	Significant changes to the organization and its supply chain	8-9	
	102-11	Precautionary Principle or approach	44	
	102-12	External initiatives	44	
	102-13	Membership of associations	32	
	Strategy			
	102-14	Statement from senior decision-maker	4-5	
	Ethics and integrity			
	102-16	Values, principles, standards, and norms of behavior	15	16
	Governance			
	102-18	Governance structure	17	
	Stakeholder engagement			
	102-40	List of stakeholder groups	19-21	
	102-41	Collective bargaining agreements		
	102-42	Identifying and selecting stakeholders	18	
	102-43	Approach to stakeholder engagement	19-21	
	102-44	Key topics and concerns raised	19-21	
	Reporting Practice			
	102-45	Entities included in the consolidated financial statements	13	
	102-46	Defining report content and topic Boundaries	22,24-25	
	102-47	List of material topics	24-25	
	102-48	Restatements of information		
	102-49	Changes in reporting	27	
	102-50	Reporting period	22	
	102-51	Date of most recent report	22	
	102-52	Reporting cycle	22	
	102-53	Contact point for questions regarding the report	27	
	102-54	Claims of reporting in accordance with the GRI Standards	22	
	102-55	GRI content index	78-81	
	102-56	External assurance		

GRI Standard		Description	"Page Number (s) and/or URL"	SDG
Economic				
GRI 201 : Economic Performance 2016	103-1	Explanation of the material topic and its Boundary	40-41	
	103-2	The management approach and its components	40-41	
	103-3	Evaluation of the management approach	40-41	
	201-1	Direct economic value generated and distributed	40-41	2,7,8,9
	201-3	Defined benefit plan obligations and other retirement plans	64	
GRI 205 : Anti-Corruption 2016	103-1	Explanation of the material topic and its Boundary	32	
	103-2	The management approach and its components	32,34	
	103-3	Evaluation of the management approach	32-34	
	205-1	Operations assessed for risks related to corruption	32	16
	205-2	Communication and training about anti-corruption policies and procedures	33	16
	205-3	Confirmed incidents of corruption and action taken	34	16
	Ethics and Integrity			
	103-1	Explanation of the material topic and its Boundary	32	
	103-2	The management approach and its components	32	
	Good Corporate Governance			
	103-1	Explanation of the material topic and its Boundary	28-31	
	103-2	The management approach and its components	28-31	
	103-3	Evaluation of the management approach	28-31	
	Supply Chain Management			
	103-1	Explanation of the material topic and its Boundary	38	
	103-2	The management approach and its components	38	
	Risk and Crisis Management			
	103-1	Explanation of the material topic and its Boundary	35-37	
	103-2	The management approach and its components	35-37	
	IT Security			
	103-1	Explanation of the material topic and its Boundary	41-42	
	103-2	The management approach and its components	41-42	
	103-3	Evaluation of the management approach	41-42	
Environment				
GRI 302 : Energy 2016	103-1	Explanation of the material topic and its Boundary	50	
	103-2	The management approach and its components	50	
	302-1	Energy consumption within the organization	50	7,8,12,13
	302-3	Energy intensity	51	7,8,12,13
GRI 305 : Emissions 2016	103-1	Explanation of the material topic and its Boundary	44	
	103-2	The management approach and its components	44	
	305-2	Energy indirect (Scope 2) GHG emissions	51	3,12,13,14,15

GRI Standard		Description	"Page Number (s) and/or URL"	SDG
GRI 306 : Efflents and Waste 2016	103-1	Explanation of the material topic and its Boundary	48	
	103-2	The management approach and its components	48	
GRI 307 : Environmental Compliance 2016	103-1	Explanation of the material topic and its Boundary	68-69	
	103-2	The management approach and its components	68-69	
	307-1	Non-compliance with environmental laws and regulations	70	16
Social				
GRI 401 : Employment 2016	103-1	Explanation of the material topic and its Boundary	54	
	103-2	The management approach and its components	54	
	401-1	New employee hires and employee turnover	55-56,65	5,8
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	58	8
	401-3	Parental leave	58	5,8
GRI 403 : Occupational Health and Safety 2016	103-1	Explanation of the material topic and its Boundary	61	
	103-2	The management approach and its components	61	
	403-1	Workers representation in formal joint management-worker health and safety committees	62	8
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	63	3,8
GRI 404 : Training and Education 2016	103-1	Explantion of the material topic and its Boundary	59	
	103-2	The management approach and its components	59	
	404-1	Average hours of training per year per employee	60	4,5,8
	404-2	Programs for upgrading employee skills and transition assistance programs	59	8
	404-3	Percentage of employees receiving regular performance and career development reviews	57	5,8
	Talent Attraction & Retention			
	103-1	Explanation of the material topic and its Boundary	57	
	103-2	The management approach and its components	57	
		percentage of new employees were recruited as a talent.	57	
		Percent of potential employees who remain with the organization.	57	
GRI 413 : Local Communities 2016	103-1	Explantion of the material topic and its Boundary	66	
	103-2	The management approach and its components	66	

GRI Standard		Description	"Page Number (s) and/or URL"	SDG
GRI 419 : Socioeconomic Compliance	103-1	Explanation of the material topic and its Boundary	68-69	
	103-2	The management approach and its components	68-69	
	419-1	Non-compliance with laws and regulations in the social and economic area	68,70	16
	Compliance with quality standards			
	103-1	Explanation of the material topic and its Boundary	72	
	103-2	The management approach and its components	72	
		Percentage of projects that comply with the relevant safety standards.	74	
		The number of projects have been complaints about the structural integrity and safety.	74	
	Customer Satisfaction			
	103-1	Explanation of the material topic and its Boundary	74-75	
	103-2	The management approach and its components	74-75	
		Percentage of customer satisfaction	75	

More than just
a construction firm...
CH.Karnchang is a driving force
behind the development and
progress of the country. We
build a better life for all.
And we will continue
giving back to society.





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