



中油燃氣集團有限公司

CHINA OIL AND GAS GROUP LIMITED

*(Incorporated in Bermuda with Limited Liability)*

(於百慕達註冊成立之有限公司)

Stock Code: 603

股份代號：603



ENVIRONMENTAL,  
SOCIAL AND  
GOVERNANCE REPORT

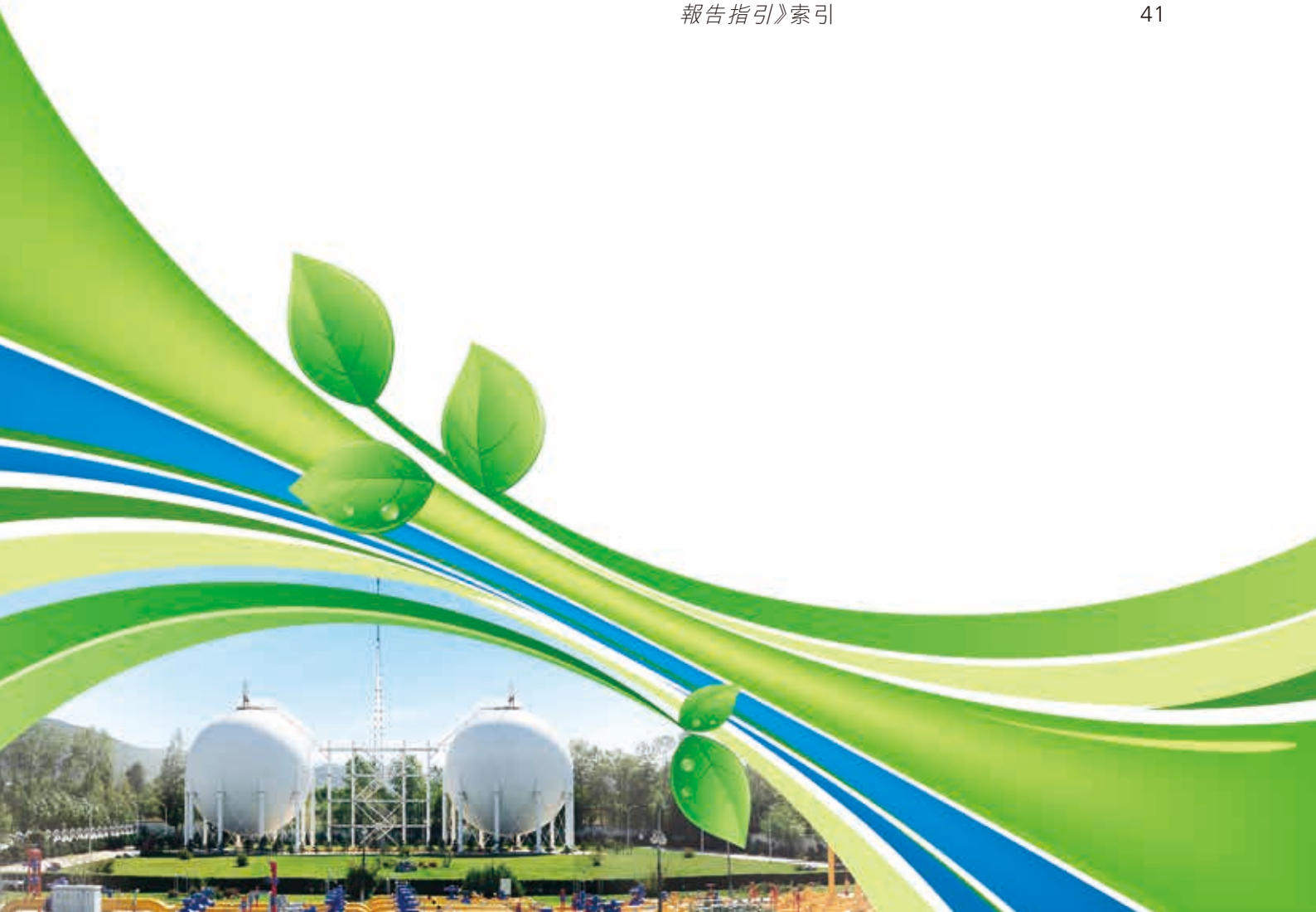
2019

環境、社會及管治報告

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## CHAIRMAN'S STATEMENT

## 主席致辭



Dear Stakeholders,

Welcome to our Environmental, Social and Governance Report ("ESG Report") for Year 2019, this ESG Report is prepared in accordance with the Environmental, Social and Governance Reporting Guide set out in Appendix 27 to the Rules Governing the Listing of Securities on Main Board of The Stock Exchange of Hong Kong Limited and with reference to the Sustainability Reporting Guidelines published by the Global Reporting Initiative.

As a clean energy company, China Oil And Gas Group Limited shoulders the mission of "Develop Business of Clean Energy, Contribute Sustainability to Society" and has been promoting the use of natural gas since our establishment.

As at 31 December 2019, the Group had established a total of 141 natural gas project companies in 16 provinces and autonomous regions, with 71 gas concession rights in the People's Republic of China ("PRC") and the total length of natural gas pipelines constructed was approximately 13,023 km, and supplied economical and clean natural gas to 1,466,416 households and 12,724 commercial and industrial users.

各位尊敬的利益相關方：

歡迎閱讀我們根據香港聯合交易所有限公司證券上市規則附錄二十七所載之《環境、社會及管治報告指引》及參考全球報告倡議組織發佈的《可持續發展報告指南》所編製而成的2019年環境、社會及管治報告（「ESG報告」）。

中油燃氣集團作為清潔能源公司，肩負著「發展清潔能源事業，保障人類持續發展」的使命，自成立以來不斷地推動天然氣的廣泛應用。

截至2019年12月31日，集團已先後在中國16個省及自治區成立天然氣項目公司合共141家，擁有71項燃氣特許經營權，累計投資建設天然氣管道約13,023公里，為1,466,416戶居民用戶、及12,724戶工商業用戶供應經濟、潔淨的天然氣。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

For the Reporting Period, the Group's total sales volume of natural gas was 4,079 million cubic meters, which is equivalent to the reduction of approximately 5.43 million tonnes of coal used, and this contributed to the reduction of carbon dioxide emission by approximately 20.00 million tonnes. The Group continues to work together and makes contributions to the transformation of China's energy structure and the reduction of carbon emissions and smog pollution.

Our emphasis on occupational safety is second to none, and we strictly regulate every detail of the production process. During the Reporting Period, no safety production liability accidents or casualties were recorded in the affiliated companies of the Group and safety management personnel's certificate rate is 100%.

To prevent and reduce the occurrence of safety incidents, the Group has established a comprehensive management system with clear accountability based on the laws and regulations promulgated by China, such as the Guideline of China Occupational Safety and Health Management System (GB/T33000), the Safety Technical Specification for Operation, Maintenance and Rush-repair of City Gas Facilities and other standards. The Safety Supervision Department is responsible for supervising various safety activities and emergency drills, and safety audits are organised twice a year for each of the Group's subsidiaries. No severe safety accidents of general (level B) or higher severity were recorded from any subsidiaries of the Group in the Reporting Period. Furthermore, the Group continues to optimise the information management platform, striving to build a highly efficient and intelligent enterprise to supply clean energy stably and reliably.

The Group firmly believes that human resources are the most valuable assets and the accomplishment of the Group today are attributed to the joint effort of our talents. To this end, the Group officially established Zhongtai University. With the Group's senior management, college professors, professional lecturers and internal trainers as teachers, the Group accelerated the establishment of a learning enterprise as well as talent training system to cultivate knowledgeable workers.

In addition to providing employees with opportunities for continuous improvement to enhance their overall quality and professional skills, the Group also strives to create a harmonious and encouraging cultural atmosphere to help employees to have a strong work-life balance. The Group strictly abides by the laws and regulations relating to labour in all locations of business and has established an excellent employment management system. The Group has also formulated an annual training plan and organises various activities to enrich the lives of employees and to grow together with employees.

於本年度，集團總天然氣銷售量為40.79億立方米，相當於減少使用煤炭約543萬噸，有助減少排放約2,000萬噸二氧化碳。集團上下齊心，為我國能源結構低碳轉型及減碳降霾持續作出貢獻。

自成立以來，集團高度重視燃氣生產運營安全，並嚴格把控生產經營過程中的每一個環節。於本年度內，集團各所屬公司概無錄得任何生產安全責任事故或人員傷亡，安全管理人員持證率為100%。

為防止及減少安全事故的發生，集團依據國家頒佈的《企業安全生產標準化基本規範》(GB/T33000)及《城鎮燃氣設施運行、維護和搶修安全技術規程》等標準制定了全面細緻、責任明確的安全管理辦法，並委派安全監察部負責督促各所屬公司組織各項安全活動和應急演練，以及每年組織兩次全覆蓋性的安全檢查。年內，各所屬公司概無錄得任何一般(B級)或以上安全生產責任事故。同時，集團持續優化信息管理平台，致力打造一個全新的高效運營智能化企業，以確保集團能夠穩定可靠地供應清潔能源。

集團堅信員工是企業最大的財富，集團能發展成如今的規模皆有賴團隊的共同努力。為此，集團正式成立了中泰大學，以集團高管、院校教授、專業講師及企業內訓師為師資，加快創建學習型企業，搭建集團的人才培養體系和員工成長發展階梯，大力培養知識型員工。

除了為員工提供持續進修的機會以提升員工的綜合素質和職業技能外，集團亦注重營造和諧向上的文化氛圍，努力幫助員工平衡工作與生活，並提供合理的薪酬、完善的福利和發展機會。集團認真遵守業務所在地有關勞工的法律法規，建立了良好的用工管理制度，並且每年制定年度培訓計劃及組織各項活動來豐富員工的生活，實現員工和企業共同發展。

In respect of the continuous development of the economy of China, a safe, stable, clean and efficient energy system plays a pivotal role in the path of the country's sustainable development. As a clean energy company, the Group will persistently innovate and make energy-related technological breakthroughs with international competitiveness, satisfy the needs of economic development and sustain the energy safety of China.

In the future, the Group will continue to liaise closely with stakeholders (including investors, customers, employees, suppliers and the communities), understand and respond to the concerns of all parties, make efforts for business development and sustainable development and work hard to become an influential clean energy company.

**Xu Tie-liang**  
Chairman

隨著我國經濟持續發展，安全穩定及潔淨高效的能源體系將會給國家的可持續發展帶來舉足輕重的作用。作為一家清潔能源公司，集團將會努力不懈地創新與突破具有國際競爭力的能源相關技術，滿足國家經濟發展需求並支撐國家能源安全。

未來，集團將會更加注重可持續發展和持續進步，繼續深化與利益相關方（包括投資者、客戶、僱員、供應商及社區）的溝通，持續瞭解和回應各方的關注事項，並且為社會和環境的發展作出貢獻。

**許鉄良**  
主席

## 二零一九年年度環境、社會及管治報告

(continued) (續)

### SUMMARY OF SUSTAINABLE PERFORMANCE

#### 可持續發展表現摘要



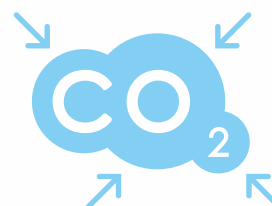
**10,261** million HKD  
百萬港元

Total Revenue  
總營業額



**4,079** million m<sup>3</sup>  
百萬立方米

Total Sales Volume of Natural Gas  
總天然氣銷售量



**20.00** million tonnes  
百萬噸

Reduction of CO<sub>2</sub> Emissions  
by approximately  
銷氣量相當於減少二氧化碳排放



**5.43** million tonnes  
百萬噸

Helps to replace coal usage by  
協助減少使用煤炭



**64,787** tonnes  
噸

Reduction of SO<sub>2</sub> Emissions  
by approximately  
銷氣量相當於減少二氧化硫排放



Baccalieu's Oil Field Wastewater  
Recycling Rate  
石油井區污水回收率

### MANAGEMENT SYSTEM CERTIFICATION

#### 管理體系認證



ISO 9001



ISO 14001



OHSAS 18001



Q/SY1002.1



## 1. ABOUT ESG REPORT

### 1.1 Reporting Basis

The ESG Report is prepared in accordance with the Environmental, Social and Governance Reporting Guide set forth in Appendix 27 to the Rules Governing the Listing of Securities on Main Board of The Stock Exchange of Hong Kong Limited (the “HKEx”). This ESG Report discloses the concept of sustainable development and the responsibility of fulfilling corporate citizenship of the company for the period from 1 January 2019 to 31 December 2019 (the “Reporting Period”). In order to fully understand the environmental, social and corporate governance performance of the Group, this ESG Report should be read in conjunction with the “Corporate Governance Report” within the Group’s annual report.

### 1.2 Scope of Report

Unless otherwise specified, this ESG Report covers the core business of the Group in China and the core business of the Group’s subsidiary, Baccalieu Energy Inc. (“Baccalieu”) in Canada for the Reporting Period. The core business of the Group includes the operation of city gas pipelines, pipeline design and construction; transportation, distribution and sales of compressed natural gas (“CNG”) and liquefied natural gas (“LNG”), and the development, production and sales of crude oil and natural gas, along with other upstream energy resources.

### 1.3 Information and Feedback

For information on environmental and social aspects of the Group, please refer to the ESG Report on the Group’s official website ([www.hk603.com](http://www.hk603.com)). If anyone has any comments, suggestions or feedback on the content of the ESG Report, please feel free to email us at [info@hk603.com](mailto:info@hk603.com).

## 1. 關於ESG報告

### 1.1 編製基準

集團按照香港聯合交易所有限公司(「聯交所」)發佈的《香港聯合交易所有限公司證券上市規則》附錄二十七《環境、社會及管治報告指引》編製ESG報告。ESG報告披露集團於二零一九年一月一日至二零一九年十二月三十一日(「本年度」)內實行之可持續發展理念及履行企業公民責任所推行的各項工作。ESG報告應與年報中的「企業管治報告」章節一併閱覽，以便全面了解集團在環境、社會及企業管治方面的表現。

### 1.2 報告範圍

除有特別註明外，ESG報告範圍為集團於中國內地以及附屬公司Baccalieu Energy Inc. (「Baccalieu公司」)在加拿大的核心業務。ESG報告的內容涵蓋集團重要的核心業務，包括城市管道燃氣營運、管道設計及建造；壓縮天然氣(「CNG」)及液化天然氣(「LNG」)之運輸、分銷及銷售；原油及天然氣等其他上游能源資源開發、生產及銷售。

### 1.3 信息及反饋

有關集團環境及社會方面的資訊，請詳閱上載至集團官方網站([www.hk603.com](http://www.hk603.com))的ESG報告。如任何人士對ESG報告的內容有任何意見、建議或反饋，歡迎以電郵形式發送至[info@hk603.com](mailto:info@hk603.com)。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

## 2. ABOUT US

### 2.1 Corporate Profiles

China Oil And Gas Group Limited (the “Company”) (stock code: 603) and its subsidiaries (together, the “Group”) are principally engaged in the investment in natural gas and energy related business. Operations of the Group include piped city gas business, pipeline design and construction; transportation, distribution and sale of CNG and LNG; and development, production and sale of crude oil and gas and other upstream energy resources.

As a piped city natural gas service provider, the Group supplies city natural gas through long-distance transmission pipelines. With 71 concession rights, the Group has built up city pipeline networks which offer stable and sufficient natural gas resources to local household, industrial, commercial and other users. As a non-pipeline natural gas provider, the Group has established 2 LNG plants in Qinghai Province, the PRC. Meanwhile, the Group has also built certain CNG primary stations to ensure a smooth supply of natural gas all year round. These facilities support supplies of natural gas to cities not yet covered by pipeline networks and are treated as emergency backup gas sources for the Group.

As a major national operator of natural gas stations for automobile natural gas filling, the Group has built 39 CNG stations, 10 LNG stations and 6 L/CNG stations across the country. All kinds of automobiles, city buses and long-distance buses can be converted into natural gas operation system by paying an affordable fee. Some of the provinces will provide subsidy to automobile owners who are willing to convert their automobile into natural gas operating system. With support from the PRC government, the Group offers inexpensive, clean and environmental friendly natural gas to the transportation sector.

As an operator of natural gas branch pipelines, the Group has already completed approximately 13,023 km natural gas pipelines in 16 provinces and autonomous regions. Apart from bringing in stable natural gas transmission revenue, the branch pipelines constructions will also facilitate the development of projects along the down-stream.

The Group has established a large-scale natural gas transport and logistics operation in the PRC, including the set up of LNG and CNG fleets which have reinforced the mobility and coverage of our natural gas supplies.

As an upstream energy resources producer, the Group engages in the development, production and sale of crude oil and gas and other resources in Alberta of Canada. The exploration and production business of the Group has the proved reserves of approximately 26.12 million barrels of oil equivalent and the proved plus probable reserves of approximately 41.69 million barrels of oil equivalent. Its average daily production was 5,625 barrels of oil equivalent during the Reporting Period. Our exploration and production business possesses energy business in production, a very experienced management team with proven track records, a stable production assets portfolio and strong profitability with considerable potential for growth.

## 2. 關於我們

### 2.1 公司簡介

中油燃氣集團有限公司(「公司」)(股份代號：603)及其附屬公司(統稱為「集團」)主要從事天然氣及能源相關業務之投資。集團之業務包括城市管道燃氣營運、管道設計及建造；CNG及LNG之運輸、分銷及銷售；及原油及天然氣等其他上游能源資源開發、生產及銷售。

作為城市管道燃氣服務供應商，集團透過長距離輸送管道供應城市天然氣。集團已獲得71個燃氣特許經營權，建立了城市管道網絡，為當地家庭、工商等用戶提供穩定及充裕之天然氣資源。作為非管道天然氣供應商，集團於中國青海省建立了兩座LNG工廠。同時，集團已建造多個CNG加氣母站，確保集團之天然氣供應全年保持穩定。該等設施有助於向尚未有管道網絡覆蓋的城市供應天然氣，並被視為集團之應急備用燃氣來源。

作為全國車用天然氣加氣站之主要營運商，集團已在全國範圍內建立CNG加氣站39座，LNG加氣站10座及L/CNG加氣站6座。各類汽車、公共交通汽車及長途客運車均可以通過改裝，即以可承擔之費用轉換成天然氣運行系統。並且，部分省份將為願意將汽車轉換成天然氣運行系統的車主提供補貼。在國家政府之支持下，集團向運輸界提供價格低廉、清潔及環保之天然氣能源。

作為天然氣支線管道經營之營運商，集團已於16個省及自治區投資建成總長度約13,023公里的天然氣管道，除了增加天然氣管道運輸收入外，更可帶動下游沿線天然氣市場的開發。

集團已於中國發展龐大的天然氣運輸及物流業務，已建立LNG及CNG運輸車隊，增強了集團天然氣供應之流動性以及擴大了其覆蓋範圍。

作為上游能源資源之生產商，集團於加拿大阿爾伯塔省從事原油及天然氣等資源的開發、生產及銷售，集團油氣生產業務之探明儲量約為2,612萬桶油當量及探明加控制儲量約為4,169萬桶油當量，本年度平均每日產量為5,625桶油當量。集團之油氣生產業務擁有在產的能源業務及一個經驗豐富、業績卓越的管理團隊，具穩定的生產資產組合，較強的盈利能力及廣闊的增長空間。



## NATURAL GAS DISTRIBUTION BUSINESS IN CHINA

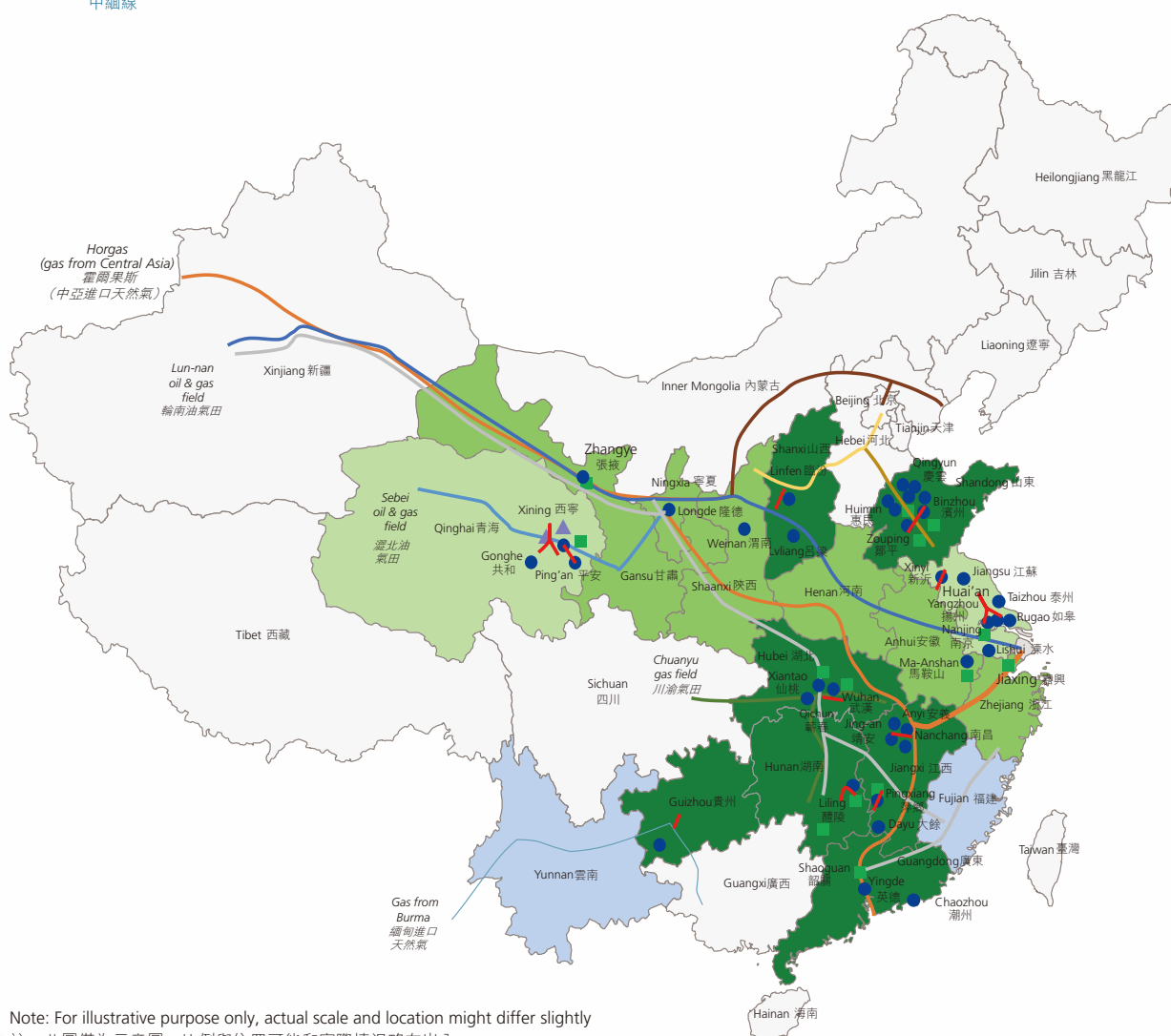
## 中國天然氣分銷業務

### Main trunk pipelines 主要幹線管網

- West-to-East line 1  
西氣東輸一線
- West-to-East line 2  
西氣東輸二線
- West-to-East line 3  
西氣東輸三線
- Se-Ning-Lan line  
滄寧蘭線
- Shaan-Jing line 4  
陝京四線
- Shaan-Jing line 3  
陝京三線
- Cang-Zi Line  
滄淄線
- Zhong-Wu Line  
忠武線
- Myanmar-China Line  
中緬線

### Company operating assets / data 公司運營資產及數據

- Branch pipeline  
公司自有支線管道
- City gas project with concession right  
公司城市天然氣項目
- LNG processing plant  
公司液化天然氣工廠
- CNG/LNG/L-CNG station  
公司天然氣加氣站
- Province with natural gas sales volume > 500mn m<sup>3</sup> in FY2019  
公司二零一九財年銷氣量5.0億立方米以上省份
- Province with natural gas sales volume between 100mn m<sup>3</sup> and 500mn m<sup>3</sup> in FY2019  
公司二零一九財年銷氣量1.0-5.0億立方米省份
- Province with natural gas sales volume < 100mn m<sup>3</sup> in FY2019  
公司二零一九財年銷氣量1.0億立方米以下省份
- Province to enter in near term  
公司於近期內準備開展業務的省份



Note: For illustrative purpose only, actual scale and location might differ slightly  
 註：此圖僅為示意圖，比例與位置可能和實際情況略有出入

## 二零一九年年度環境、社會及管治報告

(continued) (續)

### OIL AND GAS PRODUCTION BUSINESS IN CANADA

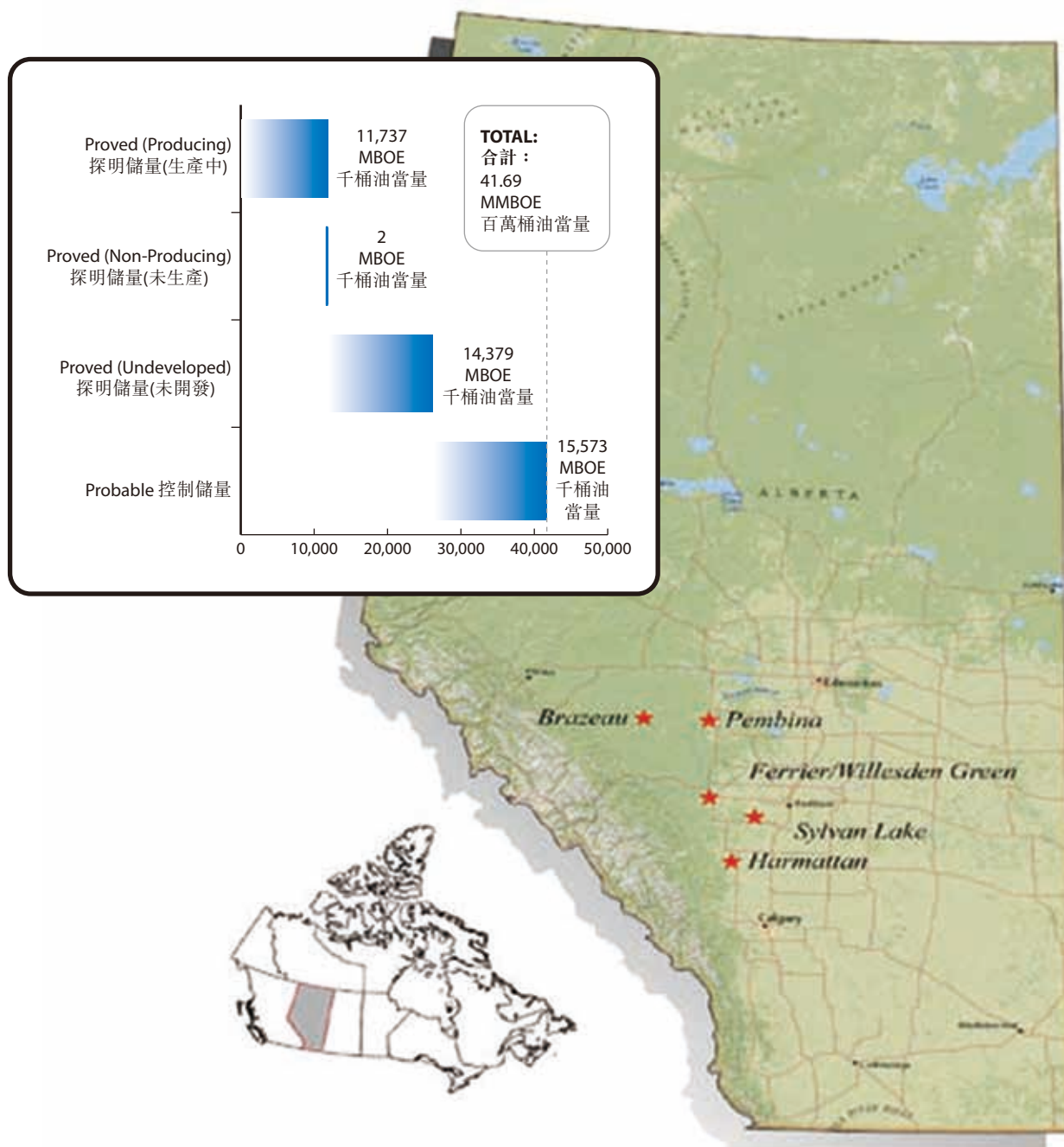
### 加拿大油氣生產業務

#### RESERVES

As at 31 December 2019

#### 儲量

於二零一九年十二月三十一日



## 2.2 Enterprise Culture

## 2.2 企業文化





## 二零一九年年度環境、社會及管治報告

(continued) (續)



### 2.3 Concept of Sustainability

China Oil And Gas Group Limited (the "Company") (stock code: 603) and its subsidiaries (the "Group", "We") are principally engaged in natural gas and energy related businesses. It is the responsibility of the Group to "Develop Business of Clean Energy, Contribute Sustainability to Society" and we pay close attention to global issues such as climate change, environmental protection and employee rights and interests. In response to the Paris Agreement and the national policy of "Reducing Carbon Emissions and Mitigating the Problem of Smog", the Group actively contributes to refining the energy mix in China, increasing the market share of natural gas and strongly supporting the development of clean energy.

### 2.3 可持續發展理念

中油燃氣集團有限公司(「公司」)(股份代號：603)及其附屬公司(「集團」)主要從事天然氣及能源相關之業務。集團視「發展清潔能源事業，保障人類持續發展」為己任，熱切關注氣候變化、環境保護、員工權益等全球性議題。為響應《巴黎協定》的簽定、國家「降碳除霾」政策的落實，集團積極配合調整能源結構並致力提高天然氣的市場佔比率，大力支持發展清潔能源的大方向。

As a natural gas service provider, it is our duty to promote and spread the use of natural gas and make contributions to the improvement of the atmospheric environment. Through years of efforts and effective operational management, the Group contributed to ease global warming; during the Reporting Period, 4,079 million cubic meters of natural gas were successfully promoted and sold, equivalent to the reduction of 5.43 million tonnes of coal used, contributed to the reduction of carbon dioxide emissions by approximately 20.00 million tonnes.

The Group concentrated in the investment of high-quality city gas projects, intensified efforts in developing possible markets and strived to obtain concession rights in various regions of China; the Group seized every opportunity, improved efficiency, increased market share of gas and provided sufficient and clean natural gas resources for users in different regions. As of 31 December 2019, the Group has established 141 project companies in 16 provinces and autonomous regions of China, obtained 71 concession rights, and has provided clean and efficient natural gas to more than 1.40 million residential users and over 10,000 industrial and commercial users. The Group owned 55 natural gas refuelling stations and approximately 13,023 kilometres natural gas pipelines. Utilising a structure wherein city gas projects act as the primary body, and resource development and energy services act as the wings, the Group has composed a diversified and coordinated development of unified upstream and downstream operations. In the future, the Group will further explore the domestic market of gas, allocate resources accordingly, ensure the provision of stable gas supply and promote natural gas to become the main force in the energy consumption structure of China.

### 3. VALUE THE PARTICIPATION OF STAKEHOLDERS

We value the opinions of stakeholders on the topic of sustainable development. In order to collect and understand the opinions of stakeholders on the environmental and social development of the Group, we regularly communicate with employees, customers, investors, suppliers and communities, etc. Based on the guidelines stipulated by the HKEx, the Group communicated with stakeholders through a diverse and unobstructed way to understand their expectations and needs, and adjusted the strategies and policies of sustainability development according to material issues prioritised by stakeholders in a timely manner.

集團作為燃氣公司，協助國家推廣天然氣的廣泛使用以貢獻空氣治理，我們責無旁貸，經過多年孜孜不倦的努力，配合行之有效的營運管理，本公司2019年度成功推廣及銷售天然氣40.79億立方米，相當於減少使用煤炭543萬噸，減少排放二氧化碳當量2,000萬噸，舒緩地球溫室效應。

集團集中投資高品質的城市燃氣項目，加大力度開發市場，努力獲取中國多個地區的燃氣特許經營權，搶抓機遇，提高效率，努力提高燃氣市場佔有率，為不同地區的用戶提供充足、清潔的天然氣資源。截至二零一九年十二月三十一日，集團已在中國16個省及自治區成立項目公司141家，擁有71個燃氣特許經營權，為超過140萬戶居民用戶及過萬戶工商業用戶提供潔淨、高效的天然氣資源。集團擁有55座天然氣加氣站，累計投資建設天然氣管道約13,023公里，形成以城市燃氣項目為主體，資源開發、能源服務為兩翼，上下游一體，多元化協同發展的發展格局。未來，集團將進一步開拓國內的燃氣市場，做好資源配置，確保提供穩定的燃氣供應，推動天然氣成為中國能源消費結構中的主力軍。

### 3. 重視利益相關方參與

集團定期主動與員工、客戶、投資者、供應商及社區等進行溝通，以便收集且了解各利益相關方對集團在環境和社會發展方面的意見與觀點，並視為中油燃氣在可持續發展管理中的重要一環。集團以聯交所報告指引為基礎，透過建立多元、通暢的溝通方式與利益相關方進行溝通交流，了解利益相關方的期望與需求，針對利益相關方優先關注的重要議題，適時調整可持續發展策略及政策。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

Stakeholders 利益相關方	Channels of Communication 溝通渠道	Expectation 期望
 <b>Investors and shareholders</b> 投資者及股東	<ul style="list-style-type: none"> <li>— Annual General Meeting and other shareholder meetings 股東週年大會及其它股東會議</li> <li>— Financial Reports 財務報告</li> <li>— Announcements and circulars 公告及通函</li> </ul>	<ul style="list-style-type: none"> <li>— Complying with relevant laws and regulations 保障合法權益</li> <li>— Sustainable development 企業可持續發展</li> <li>— Economic performance 財務業績</li> <li>— Disclosing latest information of the corporate in due course 及時公佈企業最新信息</li> <li>— Risk management 改善內部監控及風險管理</li> </ul>
 <b>Customers</b> 客戶	<ul style="list-style-type: none"> <li>— Customer service counter 客戶服務窗口</li> <li>— Online platform e.g. WeChat official account 公司微信公眾號等網絡平台</li> <li>— Customer satisfaction survey 客戶滿意度調查</li> </ul>	<ul style="list-style-type: none"> <li>— Safe and high-quality product and service 安全及優質的產品與服務</li> <li>— Protection of customer privacy 客戶隱私保護</li> <li>— Complying with relevant laws and regulations 合規經營</li> </ul>
 <b>Suppliers</b> 供應商	<ul style="list-style-type: none"> <li>— Business visit 實地考察</li> <li>— Business discussion and negotiation 商務洽談</li> <li>— Management meeting 管理層會議</li> </ul>	<ul style="list-style-type: none"> <li>— Business ethics and integrity 商業道德與信譽</li> <li>— Fair and open procurement 公平公開競爭</li> <li>— Win-win cooperation 合作共贏</li> </ul>
 <b>Employees</b> 員工	<ul style="list-style-type: none"> <li>— Intranet 內部網絡</li> <li>— Regular management communication and performance appraisal 定期的管理通訊和工作表現評核</li> <li>— Employee announcement and broadcast 員工通訊和廣播</li> </ul>	<ul style="list-style-type: none"> <li>— Remuneration and benefits 薪酬與福利</li> <li>— Occupational health and safety 健康安全的工作環境</li> <li>— Career development 職業發展</li> <li>— Equal opportunities 平等晉升機會</li> </ul>
 <b>The community, NGO and media</b> 社群、非政府組織及媒體	<ul style="list-style-type: none"> <li>— Environmental, Social and Governance reports 環境、社會及管治報告</li> <li>— Charity events 慈善活動</li> </ul>	<ul style="list-style-type: none"> <li>— Environmental protection 環境保護</li> <li>— Safe and high-quality product and service 安全及優質的產品與服務</li> <li>— Giving back to society 支持公益事業</li> <li>— Open and transparent disclosure 公開透明披露</li> </ul>

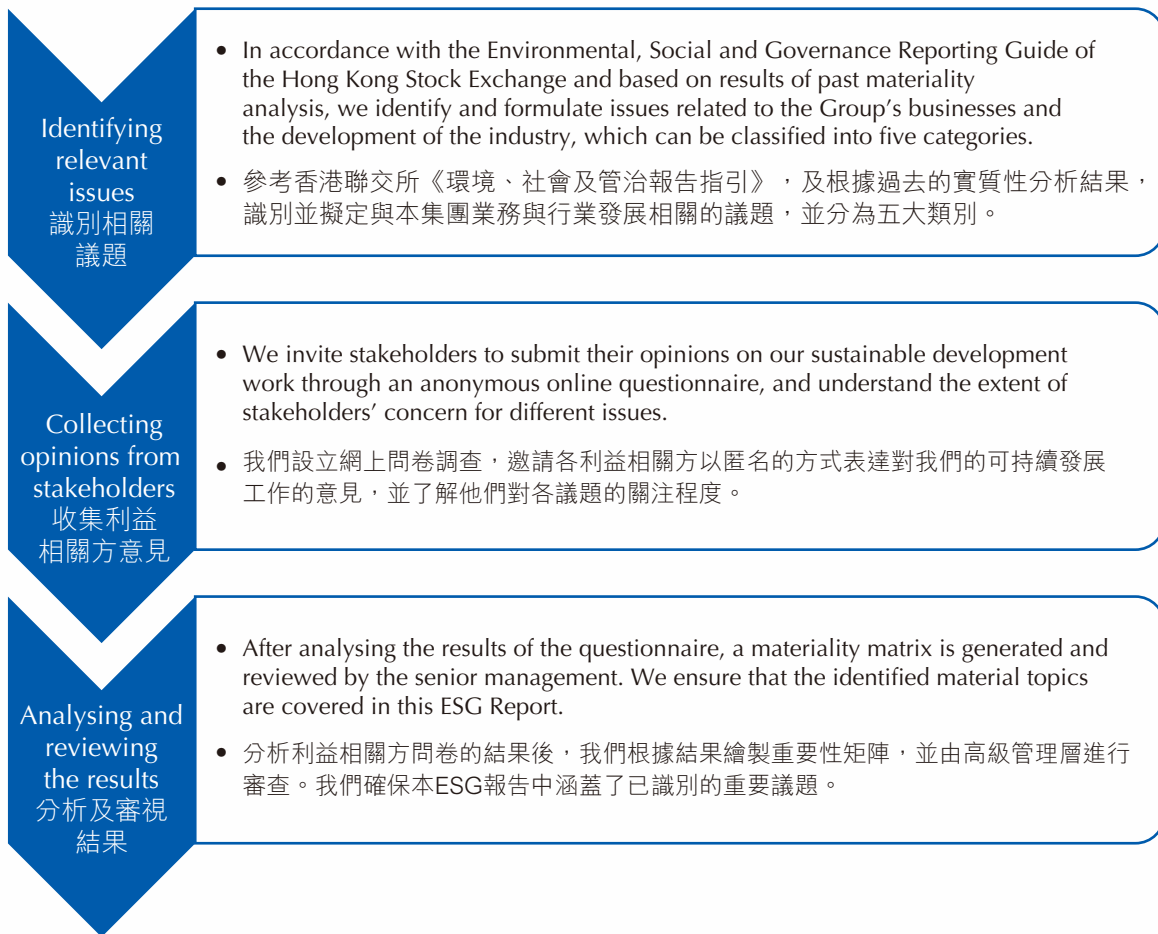


## 3.1 Identifying and Prioritising Material Issues

With reference to international, national and industrial standards, and benchmarking with leading corporates in the industry, the Group identified 16 issues that reflect the sustainable development of the business. Through online questionnaires, the Group extensively consulted with both internal and external stakeholders as to their degree of concern for each issue. A total of 936 valid questionnaires were received.

## 3.1 識別及釐定實質性議題的優先次序

集團參考國際、國內及行業標準，對比同行領先企業，識別出反映集團業務可持續發展的議題共16項，並透過線上問卷調查的方式，廣泛諮詢內外利益相關方對各個可持續發展議題的關注程度。此次問卷調查過程共收到936份有效問卷。



## 3.2 Materiality Analysis

Using the feedback and the questionnaire results from the stakeholders, the Group conducted materiality assessment and plotted the findings in the materiality matrix. The following materiality matrix shows how these 16 issues were prioritised. The closer an issue is to the upper right-hand corner, the more significant it is to the Group and the stakeholders. The closer an issue is to the lower left-hand corner, the less significant it is.

## 3.2 重要性分析

集團利用利益相關方的反饋與問卷結果對相關可持續發展議題進行重要性評核並繪製實質性矩陣。以下重要性矩陣展示了16項議題的優先次序。矩陣中越靠近右上角的議題對集團及利益相關方的重要性越高，越靠近左下角的議題重要性越低。

## 二零一九年年度環境、社會及管治報告

(continued) (續)



- |   |  |
|---|--|
| ① Prevention of Oil and Natural Gas Leakage<br>石油天然氣洩漏預防  | ⑨ Customer Privacy Protection<br>客戶隱私保護                                    |
| ② Resources Consumption (including energy consumption and water consumption)<br>資源消耗(包括能源消耗及水源消耗) | ⑩ Protection of Employees' Rights<br>保護員工權益                                |
| ③ Emissions and Pollution Control<br>控制排放及污染  | ⑪ Employee Training and Development<br>員工培訓及發展                             |
| ④ Compliance with Environment-related Laws and Regulations<br>遵守環境相關法規                            | ⑫ Caring for Employees<br>員工關愛   |
| ⑤ Safe and Stable Supply of Gas<br>安全穩定供氣   | ⑬ Safeguard Occupational Health and Process Safety<br>保障職業健康與工藝安全          |
| ⑥ Quality of Products and Services<br>產品及服務質量   | ⑭ Environmental and Social Risk Management in Supply Chain<br>供應鏈環境及社會風險管理 |
| ⑦ Customer Service Management<br>客戶服務管理   | ⑮ Corruption and Fraud Prevention<br>防止貪污及舞弊                               |
| ⑧ Reasonable Price<br>合理的價格   | ⑯ Corporate Social Responsibility<br>企業社會責任                                |

After considering their significance to China Oil and Gas Group and to stakeholders, 5 highly material issues, 8 moderately material issues and 3 less material issues were identified. While focusing on material issues, this report also responds to the major concerns of external stakeholders. The policies and management measures in all material aspects specified in the ESG Reporting Guide issued by the HKEx are set out in the relevant sections of this report. For details, please refer to the index table in the appendix.

綜合考慮對中油燃氣的重要性及對利益相關方的重要性兩個層面後，我們確立了5項高度重要議題、8項中度重要議題以及3項次要議題。本報告將在聚焦重要議題的同時，回應外部利益相關方關注的主要事宜。香港聯交所《ESG報告指引》各重要層面的政策與管理措施於本報告中的對應位置，詳見附錄中的索引表。

## 4. SAFE AND STABLE SUPPLY OF GAS

The Group upholds a strong sense of responsibility and commitment to ensure that our users enjoy a stable supply of gas and quality service. For this purpose, the Group selects suppliers rigorously to ensure a high quality of gas, gas safety inspections are conducted regularly and gas safety is communicated to the public, so as to enhance the level of safety from the supply side to the end use of gas.

### CASE 案例：

#### Ensure Gas Safety

Certified gas safety personnel use advanced equipment to conduct gas safety inspections regularly.

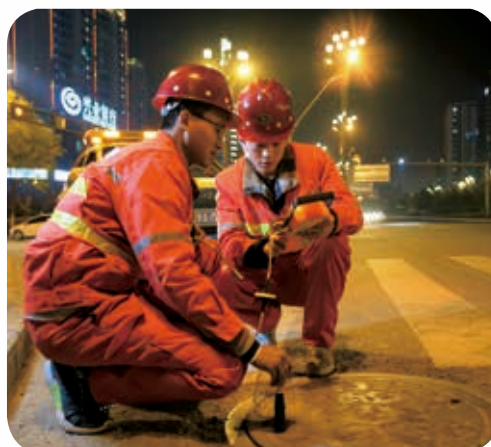


## 4. 安全穩定供氣

集團秉持高度的責任感和使命感全力確保燃氣安全穩定供應，多方面保障穩定供氣，確保各類用戶能安全及穩定地使用天然氣。為此，集團嚴格挑選供應商、確保燃氣質量，同時定期開展燃氣安全檢查、舉辦燃氣安全宣傳等，務求由供氣到用氣全方位保障燃氣安全。

#### 保障燃氣安全

持證燃氣安檢人員使用先進儀器定期展開燃氣安全檢查。





## 二零一九年年度環境、社會及管治報告

(continued) (續)

### 4.1 Procurement Management

In order to standardise the management procedures for suppliers, establish a safe and stable supplier team and prevent accidents caused by procured materials, parts, and equipment, the Group has formulated the “Measures for the Management of Material Procurement”, which is coordinated and executed by the Engineering Equipment Department. The Group aims to standardise procurement procedures through the mechanism of material procurement management. The Group also conducts audits and inspections on important suppliers regularly to examine the production process and management of suppliers. In addition, the Group has formulated the “Measures for Material Management” and established a supplier catalogue. The Group re-evaluates its suppliers every year and refrain from selecting suppliers with poor performance. To further establish a network of reliable service providers, the Group has formulated the “Measures for Market Access Management”, and requires suppliers to bid for the Market Access Permit prior to any commercial activities such as bidding, contract negotiations, etc. The Group has rigorous review and approval procedures for Market Access Permit applications, and each subsidiary is required to evaluate suppliers’ service quality, safety, environmental protection awareness, market reputation, sales performance and professional standard qualifications such as the ISO 14001 Environmental Management System to ensure the quality of the suppliers.

The Group strictly follows the Bidding Law of The People’s Republic of China for the selection of contractors and have formulated the “Regulations for the Bidding and Tendering Management of Project Service and Material Procurement” to ensure the quality of projects, to control project costs and to minimise procurement costs. To fulfil these requirements, the Group has established a bidding management team, which is responsible for the tendering and bidding procedures for project service and material procurement. For projects which have contracts collectively worth over RMB300,000, the process of tendering and bidding is applied. During the procurement process of raw materials for construction, price comparison methods are used in Qinghai Hongli Pipeline Construction Co., Ltd. (“Qinghai Hongli”) to select a proper supplier. In addition, the quality of the suppliers, their ability to provide supplies and supplied products’ attainment of certified standards are also being assessed to ensure the quality of materials used.

### 4.2 Safe Usage of Gas

In order to improve the safe usage of gas, all subsidiaries conduct gas safety inspections in their serving regions and regularly detect leakages through using advanced monitoring instruments, conducting safety assessments and providing regular inspections for households and residents. With the aim of building the sense of gas safety, the Group carries out activities to promote the knowledge of gas safety to the public, such as organising educational and promotional activities in communities and schools to teach the public on the proper use of gas facilities and procedures to handle gas hazards when discovered.

### 4.1 採購管理

為規範供應商管理，建立安全、穩定的供應商隊伍，防止因外購材料、零件、設備等引發的安全事故，集團制定《物資採購管理辦法》，由工程裝備事業部負責統籌及執行，通過完善物資採購管理監督機制，規範物資採購工作。同時亦對重要供應商定期進行考查，掌握供應商生產和管理情況。此外，集團制定《物資管理辦法》，並建立供應商目錄，每年對供應商進行考核，質量參差的將會被淘汰。為進一步建立可靠的服務商資源網絡，集團制定《市場准入管理辦法》，要求供應商申辦《市場准入證》方可進行招投標、洽談合同等相關的商業活動。審核《市場准入證》的過程嚴謹，各附屬公司須關注各供應商在服務品質、安全、環保、服務意識、市場信譽及業績等多方面的評價及ISO 14001環境管理相關的專業資格等，確保供應商的資質和生產質量符合集團要求。

在選擇工程項目供應商時，集團按照《中華人民共和國招標投標法》的法律法規，制定《工程服務和物資採購招投標管理實施細則》等，以確保工程品質、控制工程造價及降低採購成本。為此，集團建立招標領導小組，負責集團工程服務和物資採購招標活動。工程施工單項合同或綜合物資採購合同，金額達到30萬元人民幣以上的專案，必須啟動招標投標程序。青海宏利燃氣管道安裝工程有限責任公司（「青海宏利」）在購買建築原材料時，會根據規定採用詢價對比方式進行採購，同時亦關注供應商品質、供貨能力、產品合格證等資格信用情況，保證材料的質量。

### 4.2 用氣安全

為做好燃氣安全工作，各附屬公司在所服務地區開展燃氣安全檢查，利用先進儀器探測洩露風險及進行安全評估，為商戶及居民定期提供入戶檢查，確保用氣安全。同時開展普及燃氣安全知識的活動，包括在社區、學校舉辦宣傳活動，教授如何正確使用燃氣設施、發現燃氣隱患如何處理等基本用氣知識，共營安全用氣氛圍。

## 4.3 Process Safety

The Group has established "Policy of Safety Production Management System", "Policy of Safety Production Supervision and Inspection System", "Policy of Employee Safety Management System", "Policy of Special Vehicle Safety Management System" and other policies according to the Production Safety Law of the People's Republic of China, Regulation on the Administration of Urban Gas, and other industry standards such as Safety Technical Specification for Operation, Maintenance and Rush-repair of City Gas Facilities to prevent and reduce accidents during production or transportation processes.

Employee safety meetings, safety production management committee meetings and safety transportation meetings are held regularly to implement the laws, regulations and safety instructions from superiors, and to discuss and formulate specific work programmes. The main contents of the work programme include conducting safety inspections regularly, strengthening the ability of employees to perform safety operations, providing safety education and training and carrying out rectifications of hazardous and emergency accidents.

## 4.3 工藝安全

集團依據《中華人民共和國安全生產法》、《城鎮燃氣管理條例》等法律法規和《城鎮燃氣設施運行、維護和搶修安全技術規程》等的行業標準，制定《安全生產管理制度》、《安全生產監督檢查制度》、《從業人員安全管理制度》及《專用車輛安全管理制度》等規定，以防止和減少因生產或運輸產生的安全事故。

集團定期舉辦職工安全大會和安全生產管理委員會工作會議，運輸人員定期舉辦安全工作例會等方式，貫徹各項法律法規和上級的安全指示精神並討論制定具體工作計劃。計劃的主要內容包括：做好安全檢查、強化員工安全操作自主性、提供安全教育培訓、進行事故隱患整改及應急事故處理等。

## CASE 案例：

### Gas Leakage Emergency Drill

The Group organized a natural gas leakage emergency drill, which simulated an accident of a gas leak and combustion, aiming to improve employees' emergency response ability.

### 燃氣泄漏應急演練

集團舉辦燃氣管道事故應急救援演練，鍛煉各部門協同處置大型突發事件的能力。





## 二零一九年年度環境、社會及管治報告

(continued) (續)

The Group has also implemented the “Safety Production Liability System”. All subsidiaries are required to sign a “Safety Objectives Responsibility Statement” with the Head Office each year and two safety inspections are conducted by the “Safety Supervision Department” each year. Individuals or teams with excellent and exceptional performance will receive rewards, and the departments with unsatisfactory performances will have to improve according to rectification plans. Furthermore, the Group has formulated the “Regulation for the Management of Equipment for Tank Trucks” and “Code of Pressure Vessels Usage” in accordance with relevant laws and regulations, such as the Regulation on the Implementation of the Road Traffic Safety Law of the People’s Republic of China, Regulations on the Safety Management of Hazardous Chemicals, Provisions on the Administration of Road Transport of Dangerous Goods. The regulation and codes aim to strengthen safety management and control the transportation of dangerous chemicals, the use of traction vehicles and the use and repair of pressure vessels. According to the Code of Health, Safety and Environment (“HSE”) of the safety management system implemented, Baccalieu regularly conducts safety risk assessments, and it lists working procedures for operations with potential hazards, whilst establishing a complete monitoring mechanism. Currently, the sealed-space working system, the hot work permit system, the lock-up and signage procedures and the safe transportation of dangerous goods system have been stipulated in the Code of HSE to prevent the occurrence of major accidents.

集團亦重視落實《安全生產責任制度》。總部每年與附屬公司簽訂「安全目標責任書」，要求安全監察部每年進行兩次安全檢查，對檢查過程中表現優異的個人或班組給予獎勵，對安全檢查中不合格的部門下發整改計劃並跟進整改情況。與此同時，集團根據《中華人民共和國道路交通安全法》、《危險化學品安全管理條例》、《道路危險貨物運輸管理規定》等法律法規，制定《槽罐車設備管理規定》和《壓力容器使用管理規則》等規定，加強對危險化學品車輛運輸、牽引車輛和壓力容器使用及修理等的安全管理工作。Baccalieu公司嚴格執行企業安全管理系統中的HSE守則，其中包括定期進行安全風險評估，對有潛在重大安全危害的工序列明安全制度實施細則並制定完善的監測機制。目前健康、安全及環境（「HSE」）守則中已訂明密閉空間工作制度、熱工作許可證制度、上鎖掛牌程序、及安全運送危險品制度等，以期杜絕重大安全事故的發生。



Regular Inspection of Work Equipment  
定期設備檢查



#### 4.4 Occupational Safety

The Group attaches great importance to the health and safety of employees, and strictly complies with the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases and formulated policies, such as "Safety Management Measures" and "Employee's Position Operating Regulations" to provide guidelines on the use of protective equipment, educational training and health inspection with reference to the specific situation of each subsidiary. Instructions on the proper use of personal protection equipment are provided to ensure that the level of labour safety meets the standards set by the relevant departments in the locations of operation. Qinghai Hongli arranged safety inspections which are provided by safety management personnel during the construction period. The inspections included checking of high-risk processes, the uses of protective mask and fire extinguisher during welding and painting works, inspecting the conditions, the anti-freezing, anti-slippery functions of safety rope, the use of anti-skid measures, safety ropes, escape ladders, ventilation systems, and toxic gas emissions for the employees working in confined spaces such as trenches and wells. Currently, Qinghai COG Ganhe Industrial Park Gas Co., Ltd. is certified with Q/SY1002.1-2013 Health and Safety Environmental Management System and Qinghai COG Chaoferi is certified with OHSAS 18001 Occupational Health and Safety Management System.

During the Reporting Period, the Group was not aware of any material non-compliance with health and safety-related laws and regulations that would have a significant impact on the Group, including but not limited to Law of People's Republic of China on the Prevention and Control of Occupational Diseases, Labour Law of the People's Republic of China and Occupational Health and Safety Act of Alberta, Canada. Also, there were no work-related fatalities occurred during the Reporting Period.

Qinghai Hongli also provides clear policies regarding safety operation procedures. It ensures that on-site facilities, equipment and tools meet safety standards, a flat and barrier-free working environment and emergency escape route are provided, adequate lighting is provided for works conducted at night, anti-explosive lighting fixtures are used, distinctive warning signage is provided for works at road sides to caution pedestrians and vehicles and signal lights and on-duty personnel are provided for road side works in the dark.

#### 4.4 職業安全

集團重視員工的安全與健康，嚴格遵循《中華人民共和國職業病防治法》和根據按各附屬公司的實際營運情況制定的《安全管理辦法》、《從業人員崗位操作規程》等規定，為所有員工提供勞動保護用品、教育培訓和健康檢查。於生產過程中，指導員工正確佩戴和使用防護用品，確保勞動安全達到營運所在地有關部門規定的標準。青海宏利於施工期間安排安全管理人員現場檢查高危工序的進行，檢查工作包括在進行焊接和刷漆作業時，檢查工人的防護面罩、滅火器佩戴情況等；高空作業時檢查安全繩佩戴情況、防凍、防滑措施的使用情況等；以及員工於溝內、井下等密閉空間作業時檢查安全繩、逃生梯、通風系統及有毒氣體排放等情況，確保員工在安全情況下工作。目前，集團附屬公司青海中油甘河工業園區燃氣有限公司獲得健康安全環境管理體系(Q/SY1002.1-2013)認證、青海中油超飛信息技術有限公司獲得職業健康安全管理体系(OHSAS 18001)認證。

於本年度，集團並不知悉任何嚴重違反健康及安全的相關法例及法規而對集團造成重大影響的情況，包括但不限於《中華人民共和國職業病防治法》、《中華人民共和國勞動法》及加拿大阿爾伯塔省的《職業健康與安全法》。本年度亦無發生任何因工作關係而死亡的事件。

青海宏利亦對施工人員的安全作業制定明確的規定，確保現場設備、工具和材料擺放等須符合安全標準；作業現場必須保持平整暢通，設置緊急逃生通道等。夜間施工場地須設置足夠的照明，並確保作業帶內使用的照明燈具符合防爆要求。路邊作業須設置明顯的安全警示標誌，提醒行人和車輛注意過路安全，防止人員或車輛誤入作業坑。天黑後路邊作業亦須設置信號燈及配備值班人員，以策安全。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

In order to strengthen the safety awareness of employees, regular hazard identification training courses are provided at LNG processing plants every year. Employees engaged in dangerous works are equipped with personal protection equipment such as gas masks, safety helmets and anti-static workwear. To further reduce the possibility of occupational hazards occurring, LNG processing plants report possible occupational hazards to the local safety production supervision bureaus regularly and implement proper mitigation measures whenever necessary. Facilities and equipment are operated by trained operators with professional qualifications. For employees responsible for the transportation of natural gas, their "Special Equipment Operator Certificate" is reviewed and audited by relevant departments every review cycle. A daily safety meeting is held in Baccalieu to monitor the safety status of the working environment, rectify the identified problems or hidden dangers immediately and provide summaries and improvement of safety management work.

為加強員工的安全意識，LNG加工廠每年定期開辦危害因素辨識課程，向從事危險工作的員工定期發放如防毒面具、安全帽、防靜電工作服等的勞動防護用品。為進一步減低職業危害發生的可能性，LNG加工廠定期向地方安全生產監督管理局進行職業危害申報工作，並對可能造成職業危害的情況採取相應的措施。設備操作人員須經過特種作業操作培訓並取得專業資格後方能獨立上崗操作；需要持有《特種設備作業人員證》的天然氣危險品運輸人員，其有關資格證明必須於每個審核週期接受有關部門覆核。Baccalieu公司也會定期舉辦安全日會，以期對作業環境的安全現狀做到實時監控，對發現的問題或隱患即時整改，並對安全管理工作做到及時總結與提升。



Fire fighting drill  
消防滅火演練



Gas leakage emergency drill  
燃氣洩漏應急演練

### 4.5 Risk Management

In order to ensure safe and stable gas supply of the Group's natural gas transmission and distribution system, and to improve the rapid response and emergency response capability in the case of major accidents in the natural gas system, the Group established risk management documents such as "Safety Production Accident Emergency Rescue Plan" and "Natural Disaster Emergency Plan" based on the "Emergency Response Law of the People's Republic of China", "Emergency Accidents for Production and Management Units: Guidelines for the preparation of the plan GB/T29369-2013", and "Measures for the Management of Emergency Plan for Production Safety Accidents" (Order No. 88 of the State Administration of Work Safety). These risk management documents formulate emergency plans and on-site emergency disposal plans for various major accidents such as leakage accidents, fire accidents, explosion accidents, force majeure, etc. in the operating area, and clarifies the responsibilities of the relevant departments and related personnel in each process.

### 4.5 風險管理

為保障集團天然氣輸配系統安全穩定地供氣，提高天然氣系統發生重大突發事故的快速反應和應急處理能力，集團依據《中華人民共和國突發事件應對法》、《生產經營單位生產安全事故應急預案編製導則》GB/T29369-2013、《生產安全事故應急預案管理辦法》(國家安全生產監督管理總局令第88號)等指導文件編製《安全生產事故應急救援預案》及《不可抗力自然災害應急預案》等風險管理文件。該等風險管理文件對經營區域內發生的泄漏事故、火災事故、爆炸事故、不可抗力等各類重大事故制訂了應急預案和現場應急處置方案，並明確了事前、事發、事中、事後的各個過程中相關部門和有關人員的職責。

The Group continues to improve its risk management system, particularly risk management of oil and gas leakages, which is the top priority of environmental management. The Group has stipulated that each subsidiary shall formulate the "Policy of Emergency Rescue Management System" according to their own business characteristics, including formulating Emergency Response Plans ("ERP"), and organising emergency trainings and annual emergency drills. Each ERP is reviewed and approved by the Safety Supervision Department of the Group to ensure that accidents are handled quickly and effectively, and the impacts of the accidents are kept to a minimum. Baccalieu has designed an emergency plan based on the Code of Health, Safety and Environment ("HSE") to ensure that environmental emergency operations can be carried out promptly and orderly in the event of an accident. As a member of the Spill Co-ops, a spill emergency response cooperation, Baccalieu often liaises closely with several agencies to ensure that Baccalieu can mobilise resources in a timely manner and conduct collaborative rescues with agencies when spills or other emergencies occur.

In the event of an emergency, the 24-hour on-duty personnel of the company's station will cut off the gas supply at the station, notify upstream distribution station to suspend transmission, and notify downstream users about the incident. The company's chief safety officer — general manager will initiate the emergency plan instructions. The company's operation and management department organizes operations personnel to conduct emergency rescue. In the case of insufficient manpower, the company's engineering project department organizes the company's construction team personnel to provide emergency support. According to the severity of the incident, the general manager of the company reports to the local gas authority, the urban management bureau, the emergency management department and the relevant government departments to request support. After completing the rescue mission, the supply of gas will be resumed under safe conditions.

集團持續完善其風險管理制度，尤其重視石油天然氣洩漏的風險管理，視之為環境管理的重中之重。集團規定各附屬公司按自身業務特點制定《應急救援預案管理制度》，包括設計應急預案（「ERP」），舉辦應急培訓及年度演練計劃等，各應急計劃需通過集團安全監察部作最後審核和批准，確保事故發生後迅速有效應對，將事故影響降至最低。Baccalieu公司根據健康、安全、環境(HSE)守則設計應急預案，確保緊急事件發生時能迅速有序地開展環境應急行動。同時，Baccalieu公司作為Spill Co-ops洩漏應急合作社的成員，經常透過合作社與個別機構保持緊密聯繫，確保發生重大洩漏事件或其他緊急情況時，Baccalieu公司能及時動員四海，發揮協作力量應急救援，攜手對抗緊急事故。

遇突發事故時，公司場站24小時值班人員第一時間切斷場站供氣，通知上游分輸站停止分輸，通知下游用戶緊急停氣，由公司安全第一負責人總經理下達啟動應急預案指令。公司運營管理部組織運營人員進行搶險，如人力不足時，由公司工程項目部組織公司施工隊人員進行緊急支援。根據事件的嚴重程度，公司總經理向當地燃氣主管部門、城管局、應急管理部門和相關政府部門進行匯報，請求支援。完成搶險任務後，在安全的情況下恢復生產。



### 5. EXCEPTIONAL QUALITY

The Group persistently operates with integrity and strictly follows national and operating location-specific standards, and strives to elevate the standard of the operational management system toward perfection. The Group strives to optimise procurement management, enhance the quality of products and services and actively boost the level of customer satisfaction in various aspects. Concurrently, the Group strictly complies with the laws and regulations relating to the protection of customer privacy, advertising, labels and intellectual property rights.

### 5. 打造卓越品質

集團堅持誠信經營，嚴守國家與營運所在地的各項標準和要求，抱著力臻完美的決心提升營運管理水平。集團努力優化採購管理，積極提升產品與服務的質量，於多方面積極提高客戶的滿意度。同時，集團嚴格遵守有關維護客戶私隱、廣告、標籤及知識產權等的法律法規。



### 5.1 Quality of Products

In order to ensure product quality, the Group demands all upstream gas suppliers to supply gas meeting the National Class 1 or Class 2 standard. In order for the Group to monitor the quality of natural gas effectively, all gas suppliers are required to provide periodical gas quality reports and specify gas composition in contracts. Subsidiaries formulate policies and regulations based on their business characteristics. For example, the quality of LNG produced and supplied by LNG processing plants must meet policies and regulations such as the “General Characteristics of LNG” and “Quality Assessment Criteria for Import and Export of LNG”; the quality of CNG supplied by CNG filling stations must meet the requirements of “Compressed Natural Gas for Vehicles”. To ensure product quality, all pipes are sent to the Binzhou Special Equipment Testing Institution for inspection before they are sold. Currently, Qinghai COG Ganhe Industrial Park Gas Co., Ltd. and Qinghai COG Chaofei Information Technology Co., Ltd. are certified with the ISO 9001 Quality Management System.

The Group pledges not to infringe others’ intellectual property rights, patents, copyrights and other rights and interests by implementing restrictions on sales and credit, and eliminating the use of false and misleading statements in the process of product promotion and trading.

During the Reporting Period, the Group was not aware of any material non-compliance with relevant laws and regulations concerning health and safety, advertising, labelling and privacy matters relating to products and services and methods of redress that would have a significant impact on the Group, including but not limited to Law of the People’s Republic of China on Protection of Consumer Rights and Interests, Product Quality Law of the People’s Republic of China, Advertising Law of the People’s Republic of China, Trademark Law of the People’s Republic of China, Patent Law of the People’s Republic of China and Personal Information Protection Act of Alberta, Canada.

### 5.1 產品質量

為保證產品的質量，集團要求上游氣源供應商提供的管道天然氣品質需符合國家標準《天然氣》中的一類氣或二類氣標準。為更有效監控天然氣的質量，集團要求氣源供應商定期提供氣質報告，並於供氣合同中列明氣體成分。各附屬公司亦會因其業務特性，制定相關的標準制度。例如LNG加工廠生產供應的液化天然氣品質需滿足《液化天然氣的一般特性》、《進出口液化天然氣品質評價標準》等的國家及行業標準；CNG加氣站供應的壓縮天然氣品質需滿足《車用壓縮天然氣》的規定等。此外，濱州設備為確保產品質量，於管道產品出售前均安排送往濱州市特種設備檢測所進行檢驗。目前，集團附屬公司青海中油甘河工業園區燃氣有限公司、青海中油超飛信息技術有限公司均獲得品質管理體系(ISO 9001：2008)認證。

集團落實執行銷售和信用管制，杜絕在產品宣傳和交易過程中使用虛假及誤導性說明的行為，承諾不侵犯他人知識產權、專利權、版權等權益。

於本年度，集團並不知悉任何嚴重違反與產品及服務相關的健康與安全、廣告、標籤及私隱事宜以及補救方法有關的法律及法規而對集團造成重大影響的情況，包括但不限於《中華人民共和國消費者權益保護法》、《中華人民共和國產品質量法》、《中華人民共和國廣告法》、《中華人民共和國商標法》、《中華人民共和國專利法》及加拿大阿爾伯塔省的《個人資料保護法》。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

### 5.2 Excellent Services

The Group has always been committed to providing excellent customer services and established a comprehensive "Customer Complaint Management System". Customers can either provide feedback or complaints through communicating with lobby managers, a 24-hour complaint hotline, fax, suggestion boxes, opinion books, company website, etc. at any given time. A standardised complaint handling procedure is followed by our customer service team once a complaint is received. Should employees handle complaints in an improper manner such as ignoring customer complaints, stalling complaint processing times without valid reasons, hiding customer complaints, fabricating false information and not reporting or taking measures promptly following a major incident, the responsible employee(s) shall be disciplined. In addition, the relevant personnel handling the complaints shall be responsible for keeping the customer information and complaints confidential.

### 5.2 服務周到

集團一向致力提高客戶服務水平，並制定完善的《客戶投訴管理制度》，客戶可通過大堂經理、24小時投訴電話、傳真、意見箱、意見簿、公司網站等渠道，於任何時候對產品和服務提出意見或進行投訴。如收到客戶對產品或服務提出的不滿或投訴，各附屬公司的客戶服務部會啟動規範化的客戶投訴處理程序，如發現忽視客戶投訴、無故拖延投訴處理時限、隱瞞客戶投訴、編造虛假資訊、重大事件發生時未有及時報告或採取措施等情況，將會處分負責的員工。此外，對於客戶資訊及投訴內容，處理客戶投訴的相關人員負有保密責任。



Employees visit catering industry users to ensure service quality  
員工到訪餐飲業用戶，確保服務質素

Each subsidiary has set up dedicated task force to actively communicate with customers and provide comprehensive troubleshooting services, achieving the goal of "responding whenever reports are received, providing the best solutions to the problem" and hence satisfying the needs of customers. To ensure service quality, emergency repairmen set off within 5 minutes after receiving gas leakage accident warnings and arrive at the sites within 30 minutes.

各附屬公司同時成立客戶專責小組，積極與客戶溝通，並提供全天候的故障報修服務，做到「有報必到，修必修好」，滿足客戶所需。為確保服務質素，搶修人員需要在接到燃氣洩漏事故警報後的5分鐘內出發，在30分鐘內到達現場處理。



### 5.3 Protection of Customer Privacy

The Group attaches great importance to the protection of customer privacy and handles customer information with caution. The Group has formulated internal regulations on confidentiality management, under which information is managed according to its level of confidentiality. The Group strictly prohibits employees from improper access and use of confidential information. Disclosure of customer privacy or confidential information is strictly prohibited in private conversations and in public places, unless prior approval is received from customers. The Group continuously optimises information management and improves employees' awareness of information security to ensure that customer information and privacy is handled in a proper and secure manner.

## 6. DEDICATION TO GREEN DEVELOPMENT

Climate change has caused major environmental and social impacts on today's society. In order to cope with the rapid deterioration of the environment and ecosystem, the Group is dedicated to promoting the green business, aiming for the balance of long-term corporate development, economic interests and environmental protection, and improving itself to be an outstanding and sustainable corporation. Moreover, to fulfil corporate social responsibility, the Group never ceases to listen and respond to the everchanging needs of stakeholders and strives to protect the environment at all times.

### 6.1 Environmental Management

Environmental management is an inseparable part of the Group as its core business is supply and distribution of gas. The Group strictly complies with environment-related laws and regulations and industry standards in China and other locations of operation, such as the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on Environmental Impact Assessment, and the respective federal and provincial laws and regulations in Canada and Alberta. Baccalieu has developed a Corporate Safety Management System and meets and outperforms the regulations relating to the extraction, storage, and sale of oil and natural gas set forth in Canada and Alberta, whilst adhering to the regulations issued by the Alberta Energy Regulator ("AER"). In 2017, Qinghai COG Chaofei Information Technology Co., Ltd. ("Qinghai COG Chaofei"), a subsidiary of the Group, was certified with the ISO 14001 Environmental Management System.

During the Reporting Period, the Group was not aware of any material non-compliance with relevant laws and regulations relating to air and greenhouse gas ("GHG") emissions, discharges into water and land, and generation of hazardous and non-hazardous waste that would have a significant impact on the Group, including but not limited to Environmental Protection Law of the People's Republic of China, Law of the People's Republic of China on the Prevention and Control of Water Pollution, Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste and Environmental Protection and Enhancement Act of Alberta, Canada.

### 5.3 保障客戶私隱

集團高度重視客戶私隱保護，謹慎處理客戶信息。集團已制定內部保密管理的規定，就資料的保密程度分級管理。集團嚴禁員工不當存取及使用保密資料，規定員工不可在私人交往和通訊中提及客戶資料，或在公共場所談論集團商業秘密。集團不斷優化信息管理，持續提升員工的信息安全意識，確保客戶信息和私隱得到妥善的保護和管理。

## 6. 深耕綠色發展

氣候變化為現今社會帶來重大的環境及社會問題。為應對環境及生態系統的急劇惡化，集團致力推動綠色事業，以平衡企業的長遠發展、經濟利益及環境保護為目標，使集團成為可持續發展的優秀企業。與此同時，集團細心聆聽各利益相關方的訴求，積極回應利益相關方不斷變化的需要，力求時刻保護環境，勇於承擔企業社會責任。

### 6.1 環境管理

集團作為一間以燃氣供應銷售為主營業務的企業，環境管理是企業立足之本。集團嚴格遵守中華人民共和國及其他營運所在地有關環境保護的法律法規和行業標準，例如《中華人民共和國環境保護法》、《中華人民共和國環境影響評價法》、加拿大聯邦及阿爾伯塔省級法律法規等。Baccalieu公司制定企業安全管理制度(Corporate Safety Management System)，務求符合併高於加拿大聯邦及阿爾伯塔省級有關石油和天然氣開採、儲存和出售的規定，同時亦恪守阿爾伯塔能源監管機構("AER")頒佈的各項規定。2017年，集團附屬公司青海中油超飛信息技術有限公司獲得環境管理體系(ISO 14001)認證。

於本年度，集團並不知悉任何嚴重違反有關空氣及溫室氣體("溫室氣體")排放、向水及土地排污以及有害及無害廢棄物的產生的法例及法規而對集團造成重大影響的情況，包括但不限於《中華人民共和國環境保護法》、《中華人民共和國環境保護法》、《中華人民共和國水污染防治法》、《中華人民共和國大氣污染防治法》、《中華人民共和國固體廢物污染環境防治法》及加拿大阿爾伯塔省的《環境保護與改善法》。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

### 6.2 Air Emissions Control

The Group perseveres in promoting the concept of environmental protection and works towards development in green, low-carbon, environmental protection and energy saving aspects. As the Group is concerned about the air emissions generated from its business operations, it has established a monitoring system and used advanced technologies to control emissions. Low-energy and high-efficiency equipment is used in the production of LNG in Qinghai COG Pipeline Gas Co., Ltd. ("LNG processing plant"), such as the use of 13X molecular sieves to adsorb the small amount of water and carbon dioxide in natural gas, the use of expansion cooling technology to reduce energy input and the use of a simplifying processing system to reduce reliance on heating furnaces. In addition, Baccalieu is dedicated to implementing emission controls according to air pollution emission standards from the AER Directive 60 for oil wells and facilities of upstream companies in the oil industry.

The Group upholds the concept of green development and is wary of GHG emissions. Baccalieu continues to closely monitor GHG emissions to ensure compliance with federal and provincial laws and regulations, as well as regulations issued by the AER. Flare combustion and electricity consumed in crude oil extraction are the two main sources of Baccalieu's GHG emissions, and the use of boilers and electricity consumption are the main sources of LNG processing plant's GHG emissions. In order to save energy and reduce consumption, advanced technologies are used in the LNG processing plant to recycle flash gas generated during the liquefaction of natural gas. Since the main component of flash gas is methane, direct emissions are potentially hazardous and are a form of energy wastage. In view of this, the LNG processing plants have commenced the recovery of flash gas and the transfer of this gas with other expanded gas to municipal gas pipeline networks. In addition, the Group pays close attention to international trends and actively seeks for lower carbon, more energy-saving and environmentally-friendly technologies to achieve the goal of sustainable development. Through the implementation of the above-mentioned measures, employees' awareness of reducing GHG emissions has increased.

### 6.2 空氣治理

集團始終堅持環保理念，推進綠色、低碳、環保及節能的發展方向。集團關注業務營運中大氣污染物的排放情況，建立完善的監測系統並積極利用先進技術控制排放。為減少大氣污染物的排放，青海中油管道燃氣有限公司（「LNG加工廠」）於液化天然氣的生產過程中積極投入能耗低且效能高的設備，如採用13X分子篩吸附天然氣中少量的水分和二氧化碳；採用膨脹製冷工藝減少能源投入，透過簡化處理系統減少對加熱爐的依賴，從而減少大氣污染物的排放。此外，Baccalieu公司根據AER指引60 (AER Directive 60)執行石油上游企業油井及設施省級標準中對大氣污染物的排放標準，致力控制排放。

集團秉持綠色發展理念，關注集團溫室氣體的排放情況。Baccalieu公司一直密切監察溫室氣體的排放，確保其排放符合聯邦及省級法律法規以及AER頒佈的各項規定。Baccalieu公司所產生的溫室氣體排放主要來自於放空火炬的燃燒及原油開採過程中電力的消耗。另外，LNG加工廠所產生的溫室氣體排放主要源於使用鍋爐及電力。為實現節能減耗，LNG加工廠使用先進的技術回收於天然氣液化過程中產生的閃蒸氣體，其主要成分為甲烷，直接排放既存在潛在的危險，亦是一種能源的浪費。有見及此，LNG加工廠開展回收閃蒸氣體工作，使其隨膨脹氣體回送城市燃氣管網。此外，集團時常留意國際動向，積極尋找更低碳、節能及環保的技術，帶領企業實現可持續發展的目標。通過實施上述措施，員工對減少溫室氣體排放的意識得以提高。

### 6.3 Handling of Waste

The Group strictly monitors waste generated in its daily operations and handles it in accordance with local laws and regulations. Through a comprehensive waste management system, the Group implements source and process control to reduce the disposal of land-borne and water-borne wastes. Generated hazardous wastes are sent to qualified treatment facilities for further handling. Other types of wastes are also disposed in accordance with national and location-specific discharge standards. With regards to gas pipe installations, the Group strictly monitors the management and handling of waste generated from construction sites. Qinghai Hongli strictly implements waste management policies according to the Code of HSE, including: 1) Domestic waste and industrial waste shall be treated separately, and the recyclables such as plastic bags, water bottles, etc. shall be sorted and collected; 2) Particulates shall be cleaned from pipelines prior to their full operation, waste products generated from the use of anticorrosive materials in repairing pipelines shall be removed and waste sand generated by sandblasting and rust removal shall all be collected and treated; 3) Specific recycling equipment shall be set up to collect liquid wastes such as industrial oil, used oil, antifreeze and sewage, which shall then be transported to a specialised treatment plant for processing; and 4) Other domestic waste shall be sent to designated disposal sites near construction sites. If there are no disposal sites near construction sites, domestic waste shall be buried in permitted landfills to a depth of at least 1-meter. Since most of the Group's construction projects involved external contractors, it is difficult to quantify the amount of waste generated from operations across construction sites. Therefore, the corresponding data from external contractors cannot be reflected in this report. In the future, the Group will establish a data collection system for the handling of construction waste.

Baccalieu strictly enforces waste disposal requirements set in the Code of HSE regarding processes in light crude oil extraction in Alberta, Canada. Oil-based drill cuttings and water-based drill cuttings generated during the extraction, as well as solid and liquid waste generated in storage tank areas, are required to be stored according to the Alberta Transportation Guidelines, treated according to the AER regulations and subsequently transported to government approved landfill sites. In addition, Binzhou CCNG Gas Equipment Manufacturing Co., Ltd ("Binzhou Equipment"), which specialises in the manufacture of gas pipelines, instrumentation, and pipeline-related products, mostly generates polyethylene pipe waste during its operations and all pipe waste are regularly recycled by a qualified third party.

### 6.3 廢物處理

集團嚴格監控日常營運中所產生的廢棄物，並按照國家及營運所在地的法律法規進行處理。集團通過完善的廢棄物管理，實行源頭治理和過程控制以減少向土地和水體等排放廢棄物。集團營運中產生的危險廢棄物均委託有資質的單位進行處理，其他廢棄物亦按照國家及營運所在地的排放標準進行處理。在燃氣管道鋪設工程方面，集團嚴格監管施工現場廢棄物的管理和處置。青海宏利嚴格執行集團HSE管理文件中有關廢棄物管理的政策，包括：1)生活垃圾與工業廢棄物分開處理，對可再利用的廢棄物如塑料袋、礦泉水瓶等分類收集並統一回收；2)管道投產及清管作業清出的污物、施工現場對管線進行防腐補口時產生的廢棄防腐材料、噴砂除銹產生的廢砂等，均需進行集中回收處理；3)設置專用回收裝置收集施工過程中產生的工業油污、廢機油、防凍液和污水等廢液，並運到專門處理廠進行處理；4)其他生活垃圾送到施工現場附近指定的處理場。如無處理場，生活垃圾會被埋入當地有關部門許可的填埋地，並保證填埋深達到1米或以上。由於集團大部分的建設工程均聘請外部承包商，故難以對工程產生的廢棄物數量作出統計，因此有關數據未能在本報告反映。未來，集團將建立工程廢棄物排放數據收集體系。

Baccalieu公司在加拿大阿爾伯塔省的輕質原油開採過程中，嚴格執行HSE守則中關於廢棄物處理的要求。對於開採過程中產生的油基鑽屑和水基鑽屑以及儲油罐區產生的廢棄物和廢液等，均需按照阿爾伯塔省運輸準則(Alberta Transportation Guidelines)進行儲存以及按AER頒佈的各項規定進行處置，方可運輸至核准的省政府填埋場。此外，濱州中油中泰燃氣設備製造有限責任公司(「濱州設備」)專營燃氣管道、儀表及管道相關產品的製造，營運過程中主要產生的廢棄物為聚乙烯管材廢料，濱州設備將管材廢料定期交由合資格的第三方回收處理。



## 二零一九年年度環境、社會及管治報告

(continued) (續)

Wastes generated in the daily operation of the Group's offices, including paper, batteries, ink cartridges and other recyclables, are collected by property management companies for recycling. Other office wastes are disposed of by local municipal departments. Sewage generated from the office are discharged directly to the municipal pipe networks without polluting local water resources. In contrast to the traditional paper-based office, the Group has implemented an Office Automation System ("OA System") to minimise paper waste; it encourages employees to use duplex printing and to use environmentally-friendly papers to print publications and leaflets; unused leaflets are stored for later use and other related measures are taken to save resources. Through the implementation of the above-mentioned measures, employees' awareness of waste management has increased.

### 6.4 Utilisation of Resources

The Group places the good use of resources at the core of its business and it constantly reviews its management of natural resources; it also pays strong attention to source control to enhance the efficiency of resource usage. During the Reporting Period, no violations of laws and regulations relating to resource usage at the federal, provincial and AER level were reported in Baccalieu. During Baccalieu's operation of crude oil wells and battery sites, electricity is the major energy resource used, followed by natural gas and liquefied petroleum gas. In addition, Baccalieu recycles and treats wastewater from hydraulic fracturing during light oil exploit works, and subsequently reuses treated wastewater from oil and natural gas extraction to both reduce the use of water and reduce the generation and storage of wastewater. Baccalieu also pledges that 100% of wastewater is recycled in crude oil well areas. The Group did not encounter any problem in sourcing water that was fit for purpose.

集團辦公室收集日常營運中產生的廢棄物，包括廢紙、廢電池、廢墨盒等可循環再利用的廢棄物交由物業管理公司回收處理，其他的辦公室垃圾則由當地市政部門統一處置。辦公室產生的生活污水直接排入市政管網，堅持不讓排放物污染當地的水資源。集團亦推行電子辦公系統(OA System)以取代傳統的紙張化辦公；鼓勵員工雙面打印紙張、使用環保紙張打印出版物和宣傳單；將未發放完的宣傳單留作下次使用等節約資源措施。通過實施上述措施，員工的廢物處理意識得以提高。

### 6.4 善用資源

集團以善用資源為核心，時刻審視天然資源管理制度，同時重視源頭管控，提升資源使用效率。本年度，Baccalieu公司並無發現違反聯邦及省級及AER頒佈有關資源使用的法律法規。在營運石油井區及儲油罐區過程中，Baccalieu公司主要的資源使用為電力，其次為天然氣和液化石油氣。同時，Baccalieu公司會對輕質石油開採過程中水力壓裂產生的廢水進行回收處理，並重複利用於萃取石油及天然氣的過程中，既可減少水資源使用，亦可減少廢水量的產生及儲存。Baccalieu公司亦承諾在石油井區的污水回收利用率是100%。集團在獲取適用水資源時並無遇到任何問題。



Recycling wastewater from hydraulic fracturing  
對水力壓裂產生的廢水進行回收處理

Qinghai Hongli requires employees to turn off the power supply of mechanical equipment to reduce energy consumption during intermittent periods of operation. With regard to the daily operation of its offices, the Group has installed energy saving features such as T5 fluorescent lamps and light-emitting diode (LED) lamps in offices, and has installed water-saving faucets, dual flush urinals and water closets in the washrooms. Moreover, the Group promotes a green office and encourages employees to turn off their computers, printers, lights, drinking fountains and other equipment during non-office hours. The temperature of air-conditioning is controlled at approximately 25 degrees Celsius. Messages are communicated via emails, posters, the intranet and other means to conserve resources. Through the implementation of the above-mentioned measures, employees' awareness of energy and water conservation has increased.

### 6.5 Caring for the Environment

As a responsible energy company, the Group has always attached importance to the protection of the environment and endeavors to eliminate major environmental pollution and damage to the ecological environment. Qinghai Hongli implements the measures listed below to protect the local ecological environment and to avoid environmental pollution at construction sites: 1) Piles of soil which cannot be transported immediately during excavation are covered with dust nets and sprayed with water to suppress dust emission; 2) For construction projects located in areas with vegetative cover, trees and turf are transferred with protection and replanted after the construction process; 3) Soil in situ are used for backfilling after the construction work to maintain the characteristics of landforms. Extra soil is taken from the facilities prescribed by the local authorities for backfilling; 4) During sidewalk construction, mud sedimentation tank is set up to prevent mud water from entering the river; 5) Crossover or directional drilling techniques are used for the construction of river courses; 6) When repairing mechanical equipment at construction sites, mats are placed under mechanical equipment to prevent oil, lubricant or other materials from infiltrating into soil or water; and 7) Education relating to water and soil conservation are provided to construction workers to increase their awareness. Baccalieu has also adopted environmental protection measures during oil extraction, which mainly includes the use of batch drilling technology to reduce the number of machines engaged with drilling, reduce the frequency of drilling, and avoid largescale land destruction. Baccalieu also pledges not to operate in ecologically vulnerable areas.

青海宏利要求員工在各機械設備間斷性施工期間，及時關閉其電源以減少能源消耗。日常辦公室營運方面，集團安裝T5熒光燈及發光二極管(LED)燈具等節能設備，並於衛生間安裝具有節水功能的水龍頭、雙沖水的小便器和馬桶等。同時，集團倡導綠色辦公，鼓勵員工在非辦公時間關閉電腦、列印機、電燈、飲水機等設施，並將空調溫度控制於約攝氏25度，以及透過電郵、海報、內聯網等方式，呼籲節約資源。通過實施上述措施，員工對節約能源和節約用水的意識得以提高。

### 6.5 愛護環境

作為負責任的能源企業，集團一直重視環境保護，致力杜絕重大環境污染和生態破壞事故的發生。對於施工項目，青海宏利採取以下措施保護當地生態環境，避免施工現場發生環境污染：1)開挖作業時對不能及時運走的堆土進行防塵網覆蓋，現場進行灑水降塵。2)植被覆蓋地作業時，對林木、草皮覆蓋層等進行保護性轉移，待施工完畢後進行種植。3)施工完畢後盡量使用原土回填，保證地貌的原有性，額外回填的泥土需在當地有關部門規定的取土場上取土。4)人行道施工時，充分考慮環保要求，設置剩餘泥漿沉澱池，防止泥漿水進入河道。5)遇河道施工時，採用隨橋跨越或定向鑽技術。6)在施工現場進行機械設備維修時，需在機械設備下鋪墊以防燃油、機油、潤滑油或其他材料流入土壤或水中。同時，7)各施工單位對職工進行水土保持知識教育，提高員工水土保持的意識。Baccalieu公司在石油開採過程中亦採取有關環境保護的措施，主要包括：使用批量鑽井技術以減少投入鑽井的機械，減少鑽土次數和避免大面積的土地破壞。同時，Baccalieu公司承諾不在生態易受破壞的地區運作。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

Regarding noise pollution, equipment such as compressors, expanders, pumps, etc generate a certain level of noise during LNG's production processes. The Group compiles construction plans for urban pipelaying operations for the prevention and control of noise pollution. The measures taken mainly include, installation of silencers at the point of noise emission; regularly conducting occupational hazard assessments by qualified institutions and providing annual occupational health checks to employees exposed to noise hazards; prioritising and arranging the ordering of construction sections according to traffic conditions; fencing construction sites; banning the use of equipment which generate high volumes of noise at rest hours during the day and at night; and making traffic adjustment plans and announcement plans.

### 7. CARING FOR EMPLOYEES

The Group values employees as our most valuable assets and is devoted to protecting the rights of our labour and actively strives to improve employee welfare. The Group has established a diverse work team, respects employees from different cultural backgrounds and protects their privacy. The Group hopes to provide employees with an ideal career development pathway, while creating a healthy and pleasant working environment to nurture a rich and warm cultural life.

#### 7.1 Employee Rights

The Group strictly complies with the Labour Law of the People's Republic of China and the Labour Contract Law of the People's Republic of China and has established a comprehensive human resources management system. Employment policies are formally documented in China Oil and Gas Group Office Administration Manual. The Group takes pride in its diverse work team and adheres to the principle of anti-discrimination. Employees of different races, nationalities, beliefs, genders, ages, marital statuses, and those with special legal protection, are treated equally during recruitment, training, promotion and salary adjustment processes to offer equal opportunities for development. During recruitment processes, the human resources department verifies identity documents of persons to be employed and eliminates the use of child labour. If an employee violates the policies and regulations of the Group or the law, the Group retains the right to terminate the labour contract. The Group provides employees with opportunities for promotion, salary adjustment or reward based on performance and contribution, and provides employees with benefits such as pensions, medical care, work-related injury insurance, maternity insurance, housing funds and holiday expenses in accordance with local laws and regulations.

環境噪音方面，在LNG生產過程中，壓縮機、膨脹機、泵等生產設備運行會產生一定強度的噪音，針對噪音污染的防治，集團編製城區敷管作業施工方案，措施主要包括：於噪音排放源加裝消音器等設施；定期請有資質的機構做職業病危害因素檢測，對接觸噪音危害的人員提供年度職業健康檢查。在方案中根據各路段的交通情況協調各施工段的先後順序，對施工場地進行圍封，嚴禁高噪聲設備在夜間和中午休息時間使用，並做好交通調整計劃、公告計劃等。

### 7. 關注員工需求

集團一直視員工為最寶貴的資產，致力保障員工依法享有勞工權益，並積極爭取改善勞工待遇。集團專注建設多元化的人事團隊，尊重來自不同文化背景的員工，並注重保障員工的私隱。集團期望能為員工提供理想的職業發展，同時營造健康愉快的工作環境，締造豐富溫馨的文化生活。

#### 7.1 員工權益

集團嚴格遵守《中華人民共和國勞動法》、《中華人民共和國勞動合同法》等政策法規，並以此建立完善的人力資源管理制度。僱傭政策正式編製在《中油燃氣集團行政辦公管理手冊》內。集團以多元化的人事團隊為傲，堅守反歧視的原則，在招聘、培訓、晉升和薪酬制定等流程中，堅持對不同種族、國籍、信仰、性別、年齡、婚姻狀況及受特殊法律保護的員工一視同仁，確保所有員工享有平等的發展機會。在招聘的過程中，人力資源部會核實擬錄用人員的身份證件，杜絕僱用童工。如員工違反集團規章制度或違法犯罪，集團有權與其解除勞動合同。集團根據績效和貢獻給予員工晉升、調薪或獎勵的機會，並依照營運所在地的相關法律法規為員工提供養老、醫療、工傷、生育社會保險、住房公積金、過節費等福利。



In terms of working hours, the Group has implemented three types of working hour systems, namely the standard working hours system, the irregular working hours system and the integrated working hours system. Each subsidiary may, after receiving approval from the Human Resources Department, have the flexibility to arrange a suitable working hour system for employees based on their operational characteristics and requirements, and shall resolutely ban forced labour. Each subsidiary must also arrange compensatory time off or overtime pay for employees in accordance with the laws and regulations of China or Canada and the policies of the Group. With respect to holidays, employees are entitled to sick leave, casual leave, marriage leave, bereavement leave, maternity leave, work-related injury leave, annual leave and statutory holidays. During the Reporting Period, the Group was not aware of any material non-compliance with employment-related laws and regulations relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination and other benefits and welfare that would have a significant impact on the Group, including but not limited to Labour Law of the People's Republic of China, Labour Contract Law of the People's Republic of China and Employment Standards Code of Alberta, Canada.

Child and forced labour are strictly prohibited during the recruitment process as prescribed by laws and regulations. The Group strictly complies with local laws and does not provide employment to children until they reach the legal age to work as defined by the related laws and regulations which will be stated in the following. Personal data such as identification cards will be collected to verify the identity of the interviewee during the recruitment process. Should violation occur, it will be dealt with in the light of circumstances. No employee shall be compelled to work against his or her will through force or intimidation of any form or be subjected to corporal punishment or coercion of any type related to work.

During the Reporting Period, the Group was not aware of any material non-compliance with child and forced labour-related laws and regulations that would have a significant impact on the Group, including but not limited to Labour Law of the People's Republic of China, Labour Contract Law of the People's Republic of China and Employment Standards Code of Alberta, Canada.

## 7.2 Platform for Growth

The importance of employee training is emphasised in the Group and we treat talent as the driving force for corporate sustainable development. The Group actively promotes various forms of talent training, lays a development path for employees and actualises the mindset of growing together with employees. The human resources department of the Group sets a well-rounded employee training program each year and provides continuous training and diversified development opportunities for employees.

工作時數方面，集團實行標準工時制、不定時工時制和綜合計算工時制3種工時制度。各附屬公司可根據業務特點和崗位需要，經人力資源部審批並同意後，彈性為員工安排適合的工時制，同時堅決拒絕強制勞工工作。各附屬公司亦須為加班員工安排補休或按國家、集團規定支付加班費。在假期方面，員工依法享有病假、事假、婚假、喪假、產假、工傷假、年假及法定節假日。於本年度，集團並不知悉任何嚴重違反僱傭的相關法例及法規而對集團造成重大影響的情況，包括但不限於《中華人民共和國勞動法》、《中華人民共和國勞動合同法》及加拿大阿爾伯塔省的《勞工法例》。

根據法律及法規規定，在招聘過程中嚴格禁止童工及強制勞工。集團嚴格遵守本地法律，不會聘用未達到下文所述的相關法例及規例所界定法定工作年齡的兒童。身份證等個人資料將於招聘過程中被收集，以核實面試人的身份。倘發生違規行為，本集團將按情況處理。不得以任何形式的武力或恐嚇，或與工作相關的任何類型的體罰或脅迫強制僱員違背意願工作。

於本年度，集團並不知悉任何嚴重違反勞工準則的相關法例及法規而對集團造成重大影響的情況，包括但不限於《中華人民共和國勞動法》、《中華人民共和國勞動合同法》及加拿大阿爾伯塔省的《勞工法例》。

## 7.2 成長平台

集團重視員工培訓，視人才為企業可持續發展的推動力。集團積極推進各項人才培訓，注重為員工鋪排發展的道路，實現員工與集團共同成長的理想。集團人力資源部每年均會制定完善的員工培訓計劃，按員工的職業生涯提供持續培訓和多元化的發展機會。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

Thematic courses are provided in each subsidiary for employees in different job positions. During the Reporting Period, the Group held resources and market development training, 6S Management training, crisis public relations training, project management training and project cost management training to enhance the management team's ability in operations management.

Safety training is a key part of the Group's training programme. In offering effective and diverse training methods of different levels and types, and adopting various measures, the awareness of safety and responsibilities among employees at all levels can be promoted. The Group stipulates that new frontline employees must participate in various aspects of safety education and training. During the Reporting Period, subsidiaries of the Group held various training activities including production safety training, "coal-to-gas conversion" safety supervisor training, fire safety training and emergency drill. To guarantee the depth of knowledge on safety management for employees in safety management positions, the Group requires all subsidiaries to conduct safety tests regularly to ensure employees possess adequate safety knowledge, improve their theoretical knowledge and enhance their awareness of safety.

各附屬公司亦根據實際需要為不同崗位的員工提供專項及專題培訓，於本年度舉辦了資源與市場開發培訓、6S管理培訓、危機公關培訓、建設工程管理培訓以及工程造價管理培訓，加強管理層的經營管理能力。

安全培訓是集團培訓課程中重要的一環，集團提供有效且多元化的培訓方法，通過分級分類的培訓並採取多項措施，提升各級員工的安全意識和責任意識。集團規定新入職的一線員工須參加多方面的安全教育培訓。各附屬公司於本年度舉辦了安全生產專題培訓、“煤改氣”安全員培訓、消防安全培訓以及應急演練等活動。集團為切實維持安全管理人員的安全管理水平，要求各附屬公司定期舉辦安全知識考試，保證員工時刻掌握安全知識，提高安全理論知識，增強安全文化素質。



Employees participating in vocational skills competition  
員工參加職業技能競賽

## 8. PRACTICE INTEGRITY

The Group considers the culture of integrity as an inseparable part of corporate development. The Group abides by laws and regulations such as the Criminal Law of the People's Republic of China, Anti-Corruption Law of the People's Republic of China and Anti-Money Laundering Law of the People's Republic of China and eliminates any form of benefit transfer, corruption and bribery. In the bidding and tendering process for engineering services and materials procurement, the Group strictly abides by the Bidding Law of the People's Republic of China and formulated the "Regulations for the Bidding and Tendering Management of Project Service and Material Procurement", which stipulates that the tendering and bidding activities shall be conducted in an open, fair and impartial manner. Rules and policies are set for the procedures of bid invitation, bid evaluation and bid determination. For example, bidders are prohibited from pressuring the tenderers during the process of tendering to eliminate any form of corruption or bribery. In addition, the executives of the Group must sign and obey the "Letter of Commitment for Anti-Corruption" and promise to firmly resist any form of bribery, extortion, fraud, intentionally making transactions with improper parties, money laundering, etc. If employees violate their commitments, they must take responsibility for breach of contract and legal consequences.

Baccalieu has formulated management practices concerning commercial conduct and ethics to regulate conflicts of interest, receiving bribery, privacy confidentiality, etc. Baccalieu has also developed a whistle-blowing mechanism to encourage the reporting of any illegal or unethical behavior. If violations are found, the board will take control of the cases. During the Reporting Period, the Group was not aware of any material non-compliance with relevant laws and regulations of bribery, extortion, fraud and money laundering that would have a significant impact on the Group, including but not limited to Anti-Unfair Competition Law of the People's Republic of China and Criminal Law of the People's Republic of China and Criminal Code of Canada. Also, there were no concluded legal cases regarding corrupt practices during the Reporting Period.

## 8. 廉潔從業

集團把廉潔文化視為企業建設的重要部分。集團恪守《中華人民共和國刑法》、《中華人民共和國反貪污賄賂法》、《中華人民共和國反洗錢法》等法律法規，杜絕任何形式的利益輸送和貪腐賄賂的行為。在工程服務及物資採購招投標中，集團嚴格遵守《中華人民共和國招標投標法》並制定《工程服務和物資採購招投標管理實施細則》，當中訂明招投標活動應當遵循公開、公平、公正和誠實信用的原則。於開標、評標、定標過程中訂立多項規定，如投標人在投標審查、澄清、評價、比較及評標的過程中，禁止對招標人施加壓力，以杜絕任何形式的貪污受賄行為。另外，集團規定高管人員上任時須簽署《反舞弊承諾書》，承諾堅決抵制任何形式的賄賂、勒索、欺詐、故意與不當關聯方交易、進行洗黑錢行為等；承諾書上亦訂明如員工違反承諾，需要承擔違諾責任和法律後果。

Baccalieu已公司制定有關商業行為和道德規範的管理辦法，規範利益衝突、收受賄賂、私隱保密等事宜。Baccalieu公司並制定舉報機制，鼓勵舉報任何非法或不道德行為。如發現違規事件，將交由董事會處理。於本年度，集團並不知悉任何嚴重違反賄賂、勒索、欺詐及洗錢的相關法例及法規而對集團造成重大影響的情況，包括但不限於《中華人民共和國反不正當競爭法》、《中華人民共和國刑法》及加拿大的《刑法典》。本年度亦無任何已審結的貪污訴訟案件。



### 9. ENGAGING WITH THE COMMUNITY

In response to the target set forth in the “Transforming our world: the 2030 Agenda for Sustainable Development” by the United Nations, we immersed ourselves in understanding the needs of different groups in the society, spread warmth and took concrete actions to contribute to the improvement of social welfare. The Group and its employees demonstrated their kind-hearted spirit and dedication by establishing the COG Volunteering Team and participating in voluntary activities, including visits to the elderly, supporting disaster relief and other activities. The Group also periodically organises seminars regarding the safety of gas in communities and schools to raise awareness of gas safety amongst the public. Baccalieu encourages its employees to enrol in volunteering organisations and actively supports charitable activities in Calgary and other locations of operation. In the future, the Group will continue to shoulder the mission of serving society, accomplishing great love with good deeds, and contributing to society.

#### CASE 案例：

##### Voluntary Blood Donation

The Group established COG Volunteering Team and encourages employees to participate in voluntary blood donation, contribute to society and spread warmth by taking concrete actions.



### 9. 溫暖同行

集團積極回應聯合國《2030年可持續發展議程》目標倡議，切身處地體會社會不同人士的需要，致力回饋社會，傳播溫暖，並付諸實際行動，全方位發展公益事業。集團成立中油燃氣義工隊，鼓勵員工參加義務工作，包括慰問老人、協助救災等活動，展現企業和員工的愛心和奉獻精神。同時，本集團不定期到社區及學校舉辦燃氣安全知識講座，提高用戶的燃氣安全意識。Baccalieu公司亦鼓勵員工加入義工組織，積極支持卡加利地區和其他營運所在地的社區慈善活動。未來，集團將繼續肩負服務社會的使命，以點滴善行成就大愛，回饋社會。

##### 義務獻血

集團成立中油燃氣義工隊，鼓勵員工義務獻血，用實際行動展現企業和員工的愛心和奉獻精神。



## 10. PERFORMANCE IN 2019

The Group formulated this performance summary according to the HKEx ESG Reporting Guidelines. Since the Group outsourced most of its construction projects during the Reporting Period, the performance in this aspect was difficult to obtain. In the future, the Group will establish an environmental performance management system and collect the relevant data of construction projects.

## 10. 2019年度績效數據

集團根據香港聯交所之《環境、社會及管治報告指引》制定以下績效數據匯總表。由於集團大部分建設工程均聘請外部承包商，本年度難以提供工程建設方面的環境績效數據。未來，集團將積極收集工程建設環境數據，並建立環境績效管理系統。

Environmental Performance <sup>1</sup> 環境表現 <sup>1</sup>	Unit 單位	Quantity 數量	Intensity (Unit/hundred million HKD Revenue) <sup>2</sup> 密度(單位／億港元營業額) <sup>2</sup>
<b>Resources Consumption</b> 資源耗用			
<b>Direct Energy Consumption</b> 直接能源消耗	<b>MWh</b> 兆瓦時	<b>98,923.41</b>	<b>964.17</b>
Diesel <sup>3</sup> 柴油 <sup>3</sup>	MWh 兆瓦時	3,464.42	33.77
Petrol <sup>3</sup> 汽油 <sup>3</sup>	MWh 兆瓦時	236.98	2.31
Natural Gas 天然氣	MWh 兆瓦時	95,076.69	926.67
Liquefied Petroleum Gas ("LPG") 液化石油氣(「液化石油氣」)	MWh 兆瓦時	145.32	1.42
<b>Indirect Energy Consumption</b> 間接能源消耗	<b>MWh</b> 兆瓦時	<b>26,930.97</b>	<b>262.49</b>
Purchased Electricity 外購電力	MWh 兆瓦時	26,930.97	262.49
<b>Total Energy Consumption</b> 能源消耗總量	<b>MWh</b> 兆瓦時	<b>125,854.38</b>	<b>1,226.66</b>
Total Water Consumption 水源消耗總量	m <sup>3</sup> 立方米	115,747.54	1,128.14
Wastewater 廢水量	m <sup>3</sup> 立方米	80,672.00	786.28

<sup>1</sup> Data of Environmental Performance are from the Group's 4 selected divisions.

<sup>2</sup> During the Reporting Period, the Group's revenue was approximately 102.6 hundred million HKD. This data is used for calculation of intensity.

<sup>3</sup> During the Reporting Period, the Group's actual consumption amount of diesel and petrol are approximately 323,680.11 litres and 24,452.84 litres respectively.

<sup>1</sup> 環境表現的數據來自集團選定的4家事業部。

<sup>2</sup> 於本年度，集團的營業額為約102.6億港元。該數據用於密度的計算。

<sup>3</sup> 於本年度，集團的柴油和汽油的實際消耗量分別約為323,680.11升和24,452.84升。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

Environmental Performance <sup>1</sup> 環境表現 <sup>1</sup>	Unit 單位	Quantity 數量	Intensity (Unit/hundred million HKD Revenue) <sup>2</sup> 密度(單位／億港元營業額) <sup>2</sup>
<b>Wastes Disposal</b> 廢棄物棄置			
<b>Hazardous Wastes</b> 有害廢棄物	<b>tonnes</b> 噸	<b>11,051.18</b>	<b>107.71</b>
Oil-based Drill Cutting <sup>4</sup> 油基鑽屑 <sup>4</sup>	tonnes 噸	11,051.10	107.71
Ink Cartridge 墨盒	tonnes 噸	0.08	0.0008
Battery 電池	tonnes 噸	0.002	0.00002
<b>Non-hazardous Wastes</b> 無害廢棄物	<b>tonnes</b> 噸	<b>3,780.52</b>	<b>36.85</b>
Water-based Drill Cutting <sup>4</sup> 水基鑽屑 <sup>4</sup>	tonnes 噸	3,780.00	36.84
Paper 紙張	tonnes 噸	0.50	0.005
Office Wastes 辦公室廢物	tonnes 噸	0.02	0.0002
<b>Air Pollution Emissions<sup>5</sup></b> 大氣污染物排放量 <sup>5</sup>			
Nitrogen Oxides (NO <sub>x</sub> ) 氮氧化物(NO <sub>x</sub> )	tonnes 噸	2,523.14	24.59
Sulphur Dioxide (SO <sub>x</sub> ) 硫氧化物(SO <sub>x</sub> )	tonnes 噸	0.01	0.0001
Particulate Matter (PM) 顆粒物(PM)	tonnes 噸	0.26	0.0026
Volatile Organic Compounds (VOCs) 揮發性有機化合物(VOCs)	tonnes 噸	72.00	0.70

<sup>4</sup> Oil-based and water-based drill cutting were generated from Baccalieu's operations. Other waste was generated from the Group's office.

<sup>5</sup> The calculation method and respective emission factor of air emissions were based on *How to prepare an ESG report – Appendix II: Reporting Guidance on Environmental KPIs* issued by the Stock Exchange and the *4430 Thermal Production and Supply Industries (including Industrial Boilers)* published by the Ministry of Environmental Protection of the PRC.

<sup>4</sup> 油基鑽屑和水基鑽屑屬於加拿大業務的廢棄物，其他廢棄物為辦公室廢棄物。

<sup>5</sup> 廢氣排放的計算方法及相關排放系數計算乃根據聯交所發佈的《如何準備ESG報告 – 附錄二：環境關鍵績效指標匯報指引》、中華人民共和國環境保護部環境標準研究所發佈的《4430熱力生產和供應行業(包括工業鍋爐)》所制訂。



# Environmental, Social and Governance Report 2019

(continued) (續)

Environmental Performance 環境表現	Unit 單位	Quantity 數量	Intensity (Unit/hundred million HKD Revenue) 密度(單位/億港元營業額)
<b>GHG Emissions</b> 溫室氣體排放			
<b>Direct GHG Emissions (Scope 1)<sup>6</sup></b> 直接溫室氣體排放(範圍一) <sup>6</sup> – Natural Gas and LPG Consumption 天然氣及液化石油氣消耗 – Vehicles Usage 車輛使用 – Refrigerant Consumption 製冷劑消耗 – Direct Emissions <sup>7</sup> 直接排放 <sup>7</sup> – Hydrocarbons Venting and Flaring <sup>8</sup> 碳氫化合物排放及燃燒 <sup>8</sup>	tCO <sub>2</sub> e 噸二氧化碳當量	215,515.62	2,100.54
<b>Energy Indirect GHG Emissions (Scope 2)<sup>9</sup></b> 能源間接溫室氣體排放(範圍二) <sup>9</sup> – Purchased Electricity 外購電力	tCO <sub>2</sub> e 噸二氧化碳當量	17,578.21	171.33
<b>Total GHG Emissions</b> 溫室氣體排放總量	tCO <sub>2</sub> e 噸二氧化碳當量	233,093.83	2,271.87
<b>Hydrocarbons Venting and Flaring</b> 碳氫化合物排放及燃燒			
Hydrocarbons (Vented) 碳氫化合物排放量	'000 m <sup>3</sup> 千立方米	610.10	5.95
Hydrocarbons (Flared) 碳氫化合物燃燒量	'000 m <sup>3</sup> 千立方米	1,181.00	11.51

<sup>6</sup> The calculation method and respective emission factor of direct GHG emissions (Scope 1) were based on 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2 Energy issued by the Intergovernmental Panel on Climate Change and How to prepare an ESG report – Appendix II: Reporting Guidance on Environmental KPIs issued by the Stock Exchange.

<sup>7</sup> Direct emissions refer to the CH<sub>4</sub> emissions generated from oil storage tank venting, pneumatic instruments, and compressor seals.

<sup>8</sup> The calculation method and respective emission factor of GHG emissions for hydrocarbons venting and flaring were based on 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2 Energy issued by the Intergovernmental Panel on Climate Change.

<sup>9</sup> The calculation method and respective emission factors of energy indirect GHG emissions (Scope 2) were based on the 2017 Baseline Emission Factors for Regional Power Grids in China published by the Ministry of Ecology and Environment of the PRC.

<sup>6</sup> 直接溫室氣體排放(範圍一)的計算方法及相關排放系數計算乃根據、政府間氣候變化專門委員會(IPCC)發佈的《2006年IPCC國家溫室氣體清單指南第2卷能源》、聯交所發佈的《如何準備ESG報告—附錄二：環境關鍵績效指標匯報指引》所制訂。

<sup>7</sup> 直接排放是指儲油罐通風口、氣動儀器和壓縮機密封件產生的甲烷排放。

<sup>8</sup> 碳氫化合物排放及燃燒的溫室氣體排放的計算方法及相關排放系數計算乃根據政府間氣候變化專門委員會(IPCC)發佈的《2006年IPCC國家溫室氣體清單指南第2卷能源》所制訂。

<sup>9</sup> 能源間接溫室氣體排放(範圍二)的計算方法及相關排放系數計算乃根據中華人民共和國生態環境部發佈的《2017年度減排專案中國區域電網基準線排放因數》所制訂。

## 二零一九年年度環境、社會及管治報告

(continued) (續)

Employment Disclosures 僱傭披露	Unit 單位	Quantity 數量
<b>Information of Employment</b> 僱傭資料		
Total Number of Employees 員工總數	No. of Persons 人數	3,693
<b>Proportion of Employees by Gender</b> 按性別分類的員工比例		
Male 男性	% 百分比	65.39%
Female 女性	% 百分比	34.61%
<b>Proportion of Employees by Age Group</b> 按年齡組別分類的員工比例		
Aged 30 or Below 30歲或以下	% 百分比	29.76%
Aged 31 to 50 31歲至50歲	% 百分比	58.38%
Aged 51 or Above 51歲或以上	% 百分比	11.86%
<b>Proportion of Employee by Types of Business</b> 按業務類型分類的員工比例		
Supply of Pipeline Gas 管道燃氣供應	% 百分比	81.45%
Logistics and Transportation 物流運輸	% 百分比	1.63%
LNG Production LNG生產	% 百分比	1.92%
Exploitation and Production of Crude Oil and Natural Gas 開採及生產原油及天然氣	% 百分比	0.32%
Others: Energy Equipment, Financial Leasing, Real Estate, etc. 其他：能源裝備、金融租賃、房地產等	% 百分比	14.68%
<b>Proportion of Employee by Employment Type</b> 按僱傭類型分類的員工比例		
Full-time 全職	% 百分比	98.84%
Part-time 兼職	% 百分比	1.16%
<b>Employee Turnover Rate by Gender</b> 按性別分類的員工流失率		
Male 男性	% 百分比	8.90%
Female 女性	% 百分比	8.76%

## Employment Disclosures

### 僱傭披露

## Unit

### 單位

## Quantity

### 數量

## Employee Turnover Rate by Types of Business

### 按業務類型分類的員工流失率

Supply of Pipeline Gas	%	8.88%
管道燃氣供應	百分比	
Logistics and Transportation	%	8.33%
物流運輸	百分比	
LNG Production	%	8.45%
LNG生產	百分比	
Exploitation and Production of Crude Oil and Natural Gas	%	8.33%
開採及生產原油及天然氣	百分比	
Others: Energy Equipment, Financial Leasing, Real Estate, etc.	%	8.86%
其他：能源裝備、金融租賃、房地產等	百分比	

## Employee Turnover Rate by Age Group

### 按年齡組別分類的員工流失率

Aged 30 or Below	%	8.55%
30歲或以下	百分比	
Aged 31 to 50	%	8.63%
31歲至50歲	百分比	
Aged 51 or Above	%	10.73%
51歲或以上	百分比	



## 二零一九年年度環境、社會及管治報告

(continued) (續)

### APPENDIX: HKEX ESG REPORTING GUIDE INDEX 附錄：香港聯交所之《環境、社會及管治報告指引》 索引

General Disclosures and KPIs 一般披露及 關鍵績效指標	Description 描述	Section 本報告有關章節 或其他說明	Page 相關頁碼
<b>Environmental 環境範疇</b>			
<b>Aspect A1: Emission 層面A1：排放物</b>			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste	6	P.26-31
一般披露	有關廢氣及溫室氣體排放、向水及土地的排污、有害及無害廢棄物的產生等的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料	6	P.26-31
KPI A1.1	The types of emissions and respective emissions data 排放物種類及相關排放數據	10	P.36-40
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility) 溫室氣體總排放量(以噸計算)及(如適用)密度(如以每產量單位、每項設施計算)	10	P.36-40
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility) 所產生有害廢棄物總量(以噸計算)及(如適用)密度(如以每產量單位、每項設施計算)	10	P.36-40
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility) 所產生無害廢棄物總量(以噸計算)及(如適用)密度(如以每產量單位、每項設施計算)	10	P.36-40
KPI A1.5	Description of measures to mitigate emissions and results achieved 描述減低排放量的措施及所得成果	6	P.26-31
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved 描述處理有害及無害廢棄物的方法、減低產生量的措施及所得成果	6	P.26-31

## General Disclosures and KPIs

一般披露及  
關鍵績效指標

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或其他說明

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### Aspect A2:

### Use of Resources

### 層面A2：資源使用

General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials	6	P.26-31
一般披露	有效使用資源(包括能源、水及其他原材料)的政策	6	P.26-31
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility)	10	P.36-40
	按類型劃分的直接及／或間接能源(如電、氣或油)總耗量(以千個千瓦時計算)及密度(如以每產量單位、每項設施計算)	10	P.36-40
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility)	10	P.36-40
	總耗水量及密度(如以每產量單位、每項設施計算)	10	P.36-40
KPI A2.3	Description of energy use efficiency initiatives and results achieved	6	P.26-31
	描述能源使用效益計劃及所得成果	6	P.26-31
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved	6	P.26-31
	描述求取適用水源上可有任何問題，以及提升用水效益計劃及所得成果	6	P.26-31
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	N/A <sup>7</sup>	
	製成品所用包裝材料的總量(以噸計算)及(如適用)每生產單位佔量	不適用 <sup>7</sup>	

### Aspect A3:

### The Environment

### and Natural Resources

### 層面A3：環境及天然資源

General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources	6	P.26-31
一般披露	減低發行人對環境及天然資源造成重大影響的政策	6	P.26-31
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	6	P.26-31
	描述業務活動對環境及天然資源的重大影響及已採取管理有關影響的行動	6	P.26-31

## 二零一九年年度環境、社會及管治報告

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General Disclosures and KPIs 一般披露及 關鍵績效指標	Description 描述	Section 本報告有關章節 或其他說明	Page 相關頁碼
<b>Social 社會範疇</b>			
<b>Aspect B1: Employment 層面B1：僱傭</b>			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare	7	P.31-33
一般披露	有關薪酬及解僱、招聘及晉升、工作時數、假期、平等機會、多元化、反歧視以及其他待遇及福利的：	7	P.31-33
KPI B1.1	(a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料 Total workforce by gender, employment type, age group and geographical region	10	P.36-40
	按性別、僱傭類型、年齡組別及地區劃分的僱員總數	10	P.36-40
KPI B1.2	Employee turnover rate by gender, age group and geographical region 按性別、年齡組別及地區劃分的僱員流失比率	10	P.36-40
<b>Aspect B2: Health and Safety 層面B2：健康與安全</b>			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards	4	P.16-22
一般披露	有關提供安全工作環境及保障僱員避免職業性危害的：	4	P.16-22
	(a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料		
KPI B2.1	Number and rate of work-related fatalities.	4	P.16-22
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored 描述所採納的職業健康與安全措施，以及相關執行及監察方法	4	P.16-22
<b>Aspect B3: Development and Training 層面B3：發展及培訓</b>			
General Disclosure	Policies on improving employee knowledge and skills for discharging duties at work. Description of training activities	7	P.31-33
一般披露	有關提升僱員履行工作職責的知識及技能的政策。描述培訓活動	7	P.31-33



General Disclosures and KPIs 一般披露及 關鍵績效指標	Description 描述	Section 本報告有關章節 或其他說明	Page 相關頁碼
<b>Aspect B4:</b>			
<b>Labour Standards</b>			
<b>層面B4：勞工準則</b>			
General Disclosure	Information on:	7	P.31-33
	(a) the policies; and		
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.		
一般披露	有關防止童工或強制勞工的：	7	P.31-33
	(a) 政策；及		
	(b) 遵守對發行人有重大影響的相關法律及規例的資料		
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour	7	P.31-33
	描述檢討招聘慣例的措施以避免童工及強制勞工	7	P.31-33
KPI B4.2	Description of steps taken to eliminate such practices when discovered	7	P.31-33
	描述在發現違規情況時消除有關情況所採取的步驟	7	P.31-33
<b>Aspect B5: Supply Chain Management</b>			
<b>層面B5：供應鏈管理</b>			
General Disclosure	Policies on managing environmental and social risks of the supply chain	4	P.16-21
一般披露	管理供應鏈的環境及社會風險政策	4	P.16-21
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored	4	P.16-21
	描述有關聘用供應商的慣例，向其執行有關慣例的供應商數目、以及有關慣例的執行及監察方法	4	P.16-21
<b>Aspect B6:</b>			
<b>Product Responsibility</b>			
<b>層面B6：產品責任</b>			
General Disclosure	Information on:	5	P.23-26
	(a) the policies; and		
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.		
一般披露	有關所提供產品和服務的健康與安全、廣告、標籤及私隱事宜以及補救方法的：	5	P.23-26
	(a) 政策；及		
	(b) 遵守對發行人有重大影響的相關法律及規例的資料		
KPI 6.4	Description of quality assurance process and recall procedures	5	P.23-26
	描述質量檢定過程及產品回收程序	5	P.23-26
KPI 6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored	5	P.23-26
	描述消費者資料保障及私隱政策，以及相關執行及監察方法	5	P.23-26

## 二零一九年年度環境、社會及管治報告

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<b>Aspect B7: Anti-corruption 層面B7：反貪污</b>			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	8	P.34
一般披露	有關防止賄賂、勒索、欺詐及洗黑錢的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料	8	P.34
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases	8	P.34
	於本年度內對發行人或其僱員提出並已審結的貪污訴訟案件的數目及訴訟結果	8	P.34
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored	8	P.34
	描述防範措施及舉報程序，以及相關執行及監察方法	8	P.34
<b>Aspect B8: Community Investment 層面B8：社區投資</b>			
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests	9	P.35
一般披露	有關以社區參與來了解營運所在社區需要和確保其業務活動會考慮社區利益的政策	9	P.35
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	9	P.35
	專注貢獻範疇	9	P.35
KPI B8.2	Resources contributed (e.g. money or time) to the focus area	9	P.35
	在專注範疇所動用資源	9	P.35