



華潤燃氣控股有限公司 China Resources Gas Group Limited

(於百慕達註冊成立之有限公司)
(Incorporated in Bermuda with limited liability)

股份代號 stock code : 1193

2022 | 環境、社會及管治報告 Environmental, Social and Governance Report



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報告導讀 About this Report



報告目的

本報告為華潤燃氣控股有限公司及其成員公司（統稱「華潤燃氣」或「本集團」）發佈的第六份獨立《環境、社會及管治報告》。本着公開、透明的原則，華潤燃氣以全面且客觀的方式向社會各界人士匯報本集團過去一年中在環境管理、社會責任及集團管治議題上的策略和承諾，同時通過數據披露詳細展示本集團在相關範圍的表現及績效考核。本報告以中文和英文發佈，如有內容不一致，請以中文版為準。同時，報告已上載至香港聯合交易所（聯交所）及本公司網站www.crcgas.com。

REPORTING PURPOSE

This report is the sixth standalone Environmental, Social and Governance Report published by China Resources Gas Group Limited and its member companies (collectively "CR Gas" or the "Group"). CR Gas reports its strategies and commitments on the topic of environmental management, social responsibility and group governance in the past year in a comprehensive and objective manner to all levels of society in the principles of being open and transparent, while disclosing and displaying in details the Group's performance and performance appraisal in the relevant areas through data. This report is published in both Chinese and English. In case of any inconsistency, the Chinese version prevails. Meanwhile, the report has been uploaded to the website of The Stock Exchange of Hong Kong Limited (the Stock Exchange) and the Company's website at www.crcgas.com.





報告範圍

本報告涵蓋本集團的核心業務，在二零二二年一月一日至二零二二年十二月三十一日（「本年度」或「年內」）的環境、社會及管治表現，個別部分內容超出上述範圍。目前，本報告覆蓋本集團所有業務（包括城市燃氣業務、綜合服務、綜合能源及交通能源業務）和營運地點。

REPORTING SCOPE

This report covers the environmental, social and governance performance of the core business of the Group during the period from 1st January 2022 to 31st December 2022 (the “Year”), with contents of certain sections exceeding the above timeframe. Currently, this report covers all business activities (including city gas business, integrated services, integrated energy and transportation energy business) and operational locations of the Group.

報告標準

本報告根據香港聯合交易所有限公司《主板上市規則》附錄二十七《環境、社會及管治報告指引》進行編製，依照「不遵守就解釋」條文規定，並以其載列的四項匯報原則：重要性、量化、平衡及一致性，作為披露的基礎。

REPORTING STANDARDS

In compliance with the “comply or explain” provisions as stipulated in the Environmental, Social and Governance Reporting Guide in Appendix 27 of the Main Board Listing Rules of The Stock Exchange of Hong Kong Limited, this report has made disclosure based on four reporting principles, namely materiality, quantitative, balance and consistency, as set out in the Guide.

報告審批

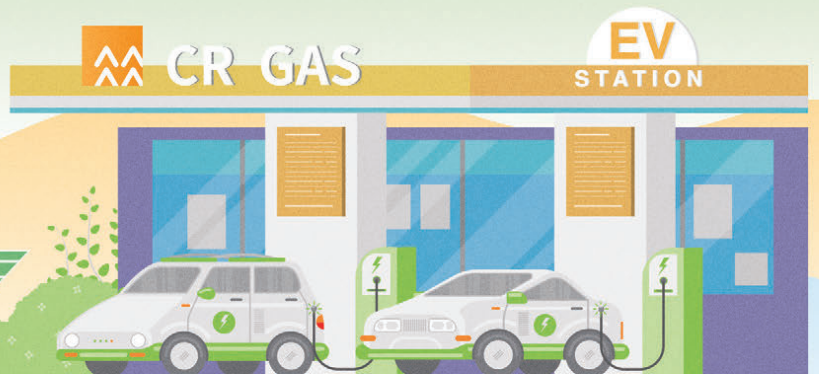
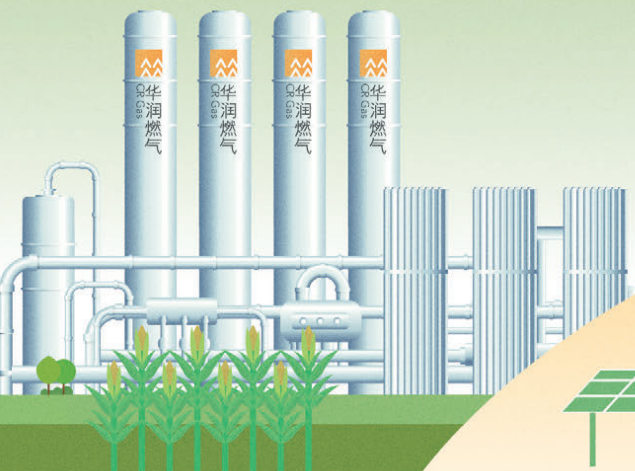
董事會負責領導、決策及監督在環境、社會及管治方面的措施、政策及程序，並於2023年3月31日審核通過此份ESG報告的發佈。

APPROVAL OF THE REPORT

The Board is responsible for leadership, decision-making and supervision of the measures, policies and processes in environmental, social and governance aspects, and reviewed and approved the issuance of this ESG report on 31st March 2023.



主席寄語
Message from the Chairman





2022年，世界能源形勢動盪，國家雙碳工作持續推進，為天然氣行業發展帶來諸多挑戰。我們深知，積極適應這一不斷變化的世界，將可持續發展融入企業經營是我們保持長久發展的關鍵。在黨的二十大召開之年，作為中國最大的城市燃氣營運商之一，華潤燃氣履行央企職責，獲得國際三大評級機構標普、惠譽、穆迪給予的行業最高評級，此外，華潤燃氣MSCI-ESG評級為A級，並於本年度入選恆生可持續發展指數系列，處於國內燃氣行業領先水平，集團ESG實踐成效明顯，彰顯央企擔當。

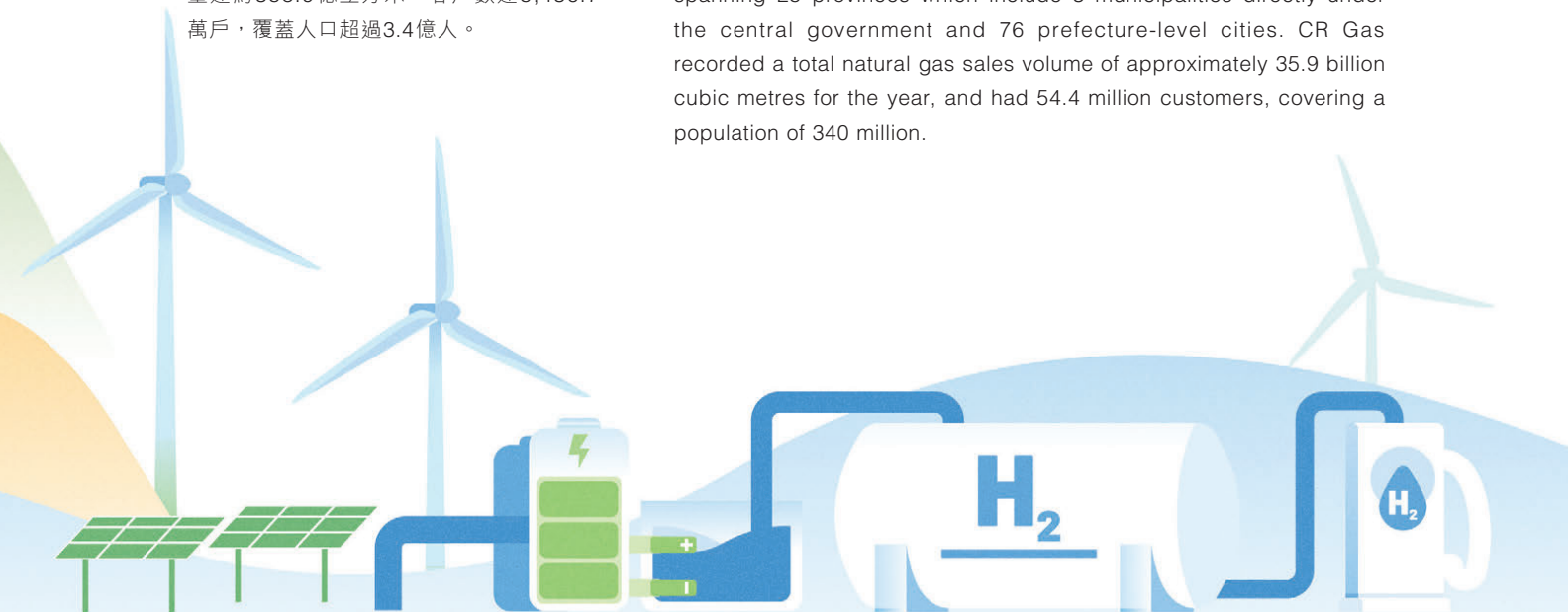
開拓多元業務，保持業務增長

本集團秉承追求卓越的進取精神，大力推動城燃項目併購，深入挖掘市場潛質，致力於營運效率的持續提升，同時緊跟國家區域協調發展戰略，積極推進京津冀、黃河流域、東北地區、長三角、粵港澳大灣區和西部地區等區域性協同發展和建設。未來，我們將持續優化經營管理舉措，打造以城市燃氣為引擎，綜合能源、綜合服務為雙驅，多種可能性並存的綜合化、數智化能源企業，持續推動本集團經營業績長久增長。截至2022年12月31日，華潤燃氣城市燃氣項目總共達273個，遍及全國25個省份其中包括：3個直轄市，76個地級市，年燃氣總銷量達約358.9億立方米，客戶數達5,436.7萬戶，覆蓋人口超過3.4億人。

In 2022, China continued to promote its carbon peak and carbon neutrality strategy amid a volatile global energy market, posing challenges to the development of the natural gas industry. We are well aware that adapting to the ever-changing world and integrating sustainability into business operations is the key to our long-term development. In the year of the 20th CPC National Congress, as one of the largest city gas operators in China, CR Gas assumed its responsibilities as a state-owned enterprise under the central government and earned the industry's highest ratings from Standard & Poor's, Fitch Ratings and Moody's, the world's top three credit rating agencies. Moreover, CR Gas received an MSCI-ESG rating of A and was selected in the Hang Seng Sustainability Index Series this year, ranking among the top in the domestic gas industry, demonstrating that the Group has undertaken its responsibility as a state-owned enterprise under the central government and achieved good results in ESG practices.

BUSINESS DIVERSIFICATION TO MAINTAIN BUSINESS GROWTH

In the spirit of pursuing excellence, the Group vigorously promoted the acquisition of city gas projects to deeply tap market potential, while striving to constantly improve operational efficiency. In the meantime, the Group closely followed the state's coordinated regional development strategy by facilitating the coordinated development and construction of the Beijing-Tianjin-Hebei region, Yellow River Basin, Northeast China, Yangtze River Delta, Guangdong-Hong Kong-Macao Greater Bay Area and western regions. In the future, we will continuously enhance operations and management measures to build an integrated, digital and smart energy company with city gas as the engine and integrated energy and services as dual drivers, with a view to driving the long-term growth of the Group's performance. By 31st December 2022, CR Gas had a total of 273 city gas projects, spanning 25 provinces which include 3 municipalities directly under the central government and 76 prefecture-level cities. CR Gas recorded a total natural gas sales volume of approximately 35.9 billion cubic metres for the year, and had 54.4 million customers, covering a population of 340 million.



聚焦國家戰略，助力綠色低碳

2022年，我國碳達峰碳中和「1+N」政策體系進一步完善，「雙碳」戰略發展脈絡愈發明晰。在此背景下，我們以「促進綠色發展、共創美好生活」為使命，制定企業綠色低碳轉型和高質量發展路線，致力於將碳管理水平提升至世界一流水準，為國家實現雙碳目標貢獻力量。2022年，我們持續完善環境管理體系建設，充分利用自身的資源優勢，強化零碳園區建設，致力於開發分佈式能源、分佈式光伏、分佈式供暖、加氫站和充電樁等綠色低碳業務，全面營造環境友好氛圍，多層次、多維度貫徹落實綠色低碳行動。

強化營運管理，築牢安全防線

華潤燃氣以「追求零事故，超越零責任」為目標，堅持將安全管理理念貫徹至企業生產營運的各個方面，持續優化安全管理體系，形成具有燃氣特色的安全管理模式，從工程建設、管網運行、場站管理、客戶端管理等全業務鏈開展安全建設，並持續加強安全風險監督管理力度以及相關方安全管理。我們通過開展「安全生產月」、全國城鎮燃氣安全排查整治工作、燃氣安全「百日行動」、燃氣隱患大排查等系列行動，提升員工安全技能，打造良好的安全生產企業文化，為所有利益相關方創造一個安全、健康的生產生活環境。2022年，公司未發生重大安全生產事故。

FOCUSING ON NATIONAL STRATEGIES TO PROMOTE GREEN DEVELOPMENT

In 2022, China's "1+N" policy system for carbon peak and carbon neutrality was further improved, forming an increasingly clear blueprint for its carbon peak and carbon neutrality strategy. In this context, with the mission of promoting green development for a better life, we developed a roadmap for low-carbon transformation and high-quality development, and set the objective to improve carbon management to world standards, in a drive to contribute to China's goals of achieving carbon peak and carbon neutrality. In 2022, we continuously improved the construction of our environmental management system, and fully leveraged our resource advantages to strengthen the construction of zero-carbon industrial parks and augment the development of green business lines such as distributed energy, distributed photovoltaic systems, distributed heating, hydrogen refuelling stations and charging piles, so as to create an eco-friendly atmosphere in all aspects and carry out green actions at multiple levels and dimensions.

STRENGTHENING OPERATIONS MANAGEMENT AND BUILDING A STRONG SAFETY DEFENCE LINE

With the goals to pursue zero accidents and incur no liability, CR Gas insists on integrating the concept of safety management into all aspects of production and operations, constantly enhances its safety management system, and has developed a safety management model with gas characteristics. We carry out safety system construction throughout the business chain from engineering construction and pipeline operations to station management and customer management, and continuously step up efforts in safety risk monitoring and management as well as safety management of stakeholders. We carried out a series of activities including Safe Production Month, the National City Gas Safety Investigation and Rectification, the Gas Safety 100-day Campaign, and the Gas Hazard Inspection to improve employees' safety skills and create a good corporate culture of production safety, with a view to building a safe and healthy production and living environment for all stakeholders. In 2022, the Company had no major production safety accidents.



堅持以人為本，真誠回饋社會

我們深知員工是企業長期穩定發展的重要財富和基礎，華潤燃氣一直以來注重為員工打造有溫度的職場氛圍，促進員工同工同酬，抵制任何存在歧視、騷擾和偏見的行為。2022年，我們通過完善人才梯隊建設培養體系、組織管理人員系列培訓、專業人員培訓考核認證、一線崗位職業技能等級認證等舉措，為公司高質量發展提供堅實的人才保障。此外，我們秉承「取之於社會，回饋於社會」的理念，持續擴大社會貢獻的參與力度，提升應對社會緊急事件的處置能力，團結社區居民抗擊新冠疫情，並通過「小桔燈」等社會責任活動積極向全社會輸出企業價值。

凝心聚力謀發展，厚積薄發譜新篇。在未來，華潤燃氣將持續開展可持續轉型，與各界夥伴攜手共進，努力成為成為大眾信賴和喜愛的世界一流能源服務企業。

UPHOLDING THE PEOPLE-ORIENTED PRINCIPLE AND GIVING BACK TO SOCIETY

We are well aware that employees are an important asset and foundation for the long-term stable development of a company. CR Gas always puts emphasis on creating a nice workplace for employees and promoting equal pay for equal work, and prohibits any discrimination, harassment and prejudice. In 2022, we provided strong talent support for the Company's quality development through measures such as improving the multi-tiered personnel training system and arranging a series of training courses for managers, training and assessment certification for professionals, and vocational skill level certification for front-line staff. In addition, in the spirit of taking from society and giving back to society, we devoted more efforts in contributing to society, enhanced the ability to deal with social emergencies, united community residents to fight COVID-19 outbreaks and delivered corporate value to society through social responsibility activities such as the Little Orange Lantern campaign.

Making concerted efforts to pursue development and building capabilities to open a new chapter CR Gas will continue to promote sustainable transformation and work with partners from all sectors in the future to achieve the vision of becoming a world-leading energy service enterprise trusted and loved by the public.





關於華潤燃氣 About CR Gas

集團介紹

華潤燃氣成立於2007年1月，2008年10月底在香港上市(1193.HK)，是中國華潤集團有限公司旗下的城市燃氣投資營運平台，主要在中國內地投資經營與大眾生活息息相關的城市燃氣業務。公司總部位於深圳，並在中國多個城市設有分支機構和子公司，是中國最大的城市燃氣營運商之一。華潤燃氣主要經營業務包括天然氣購買及銷售、管道設施建設及營運、車船用氣、冷熱電綜合能源、車輛加氫、車輛充電、燃氣綜合服務等。

憑借公司不斷提升的業務規模及質量，以及受益於國家鼓勵天然氣等清潔能源的推廣及利用，2022年，穆迪給予本集團信用評級A2、標準普爾，惠譽繼續維持本集團A-評級。反映了本集團的發展戰略及財務表現得到了市場的廣泛認可。此外，國際權威指數機構MSCI給予本集團ESG評級A級，反映了本集團綠色可持續發展工作的當期表現贏得了市場廣泛認可。

華潤燃氣致力於提供安全、可靠、環保的能源產品和服務，同時也積極推動新能源和清潔能源的發展。公司在業務拓展、技術創新和社會責任等方面取得了一系列成就和榮譽。

GROUP PROFILE

CR Gas was established in January 2007 and listed in Hong Kong (1193.HK) at the end of October 2008. It is the city gas investment and operation platform under China Resources (Holdings) Co., Ltd., mainly investing in and operating city gas business closely related to people's life in the Chinese mainland. Headquartered in Shenzhen, with branches and subsidiaries in many cities in China, the Company is one of the largest city gas operators in China. The principal businesses of CR Gas include the purchases and sales of natural gas, the construction and operation of pipeline facilities, gas for vehicles and vessels, integrated cooling, heating and power energy, vehicle hydrogen refueling, vehicle charging, and integrated gas services, etc.

Given the constantly growing business scale and improving business quality of the Company, as well as the encouragement shown by the government in the promotion and use of natural gas and other clean energies, Moody's granted the Group a credit rating of A2, Standard & Poor's and Fitch maintained the Group's rating at A- in 2022, reflecting the extensive recognition given by the market to the development strategy and financial performance of the Group. In addition, MSCI, an international authoritative index institution, granted the Group an ESG rating of A, reflecting the extensive recognition given by the market to the performance of the Group in green and sustainable development during the period.

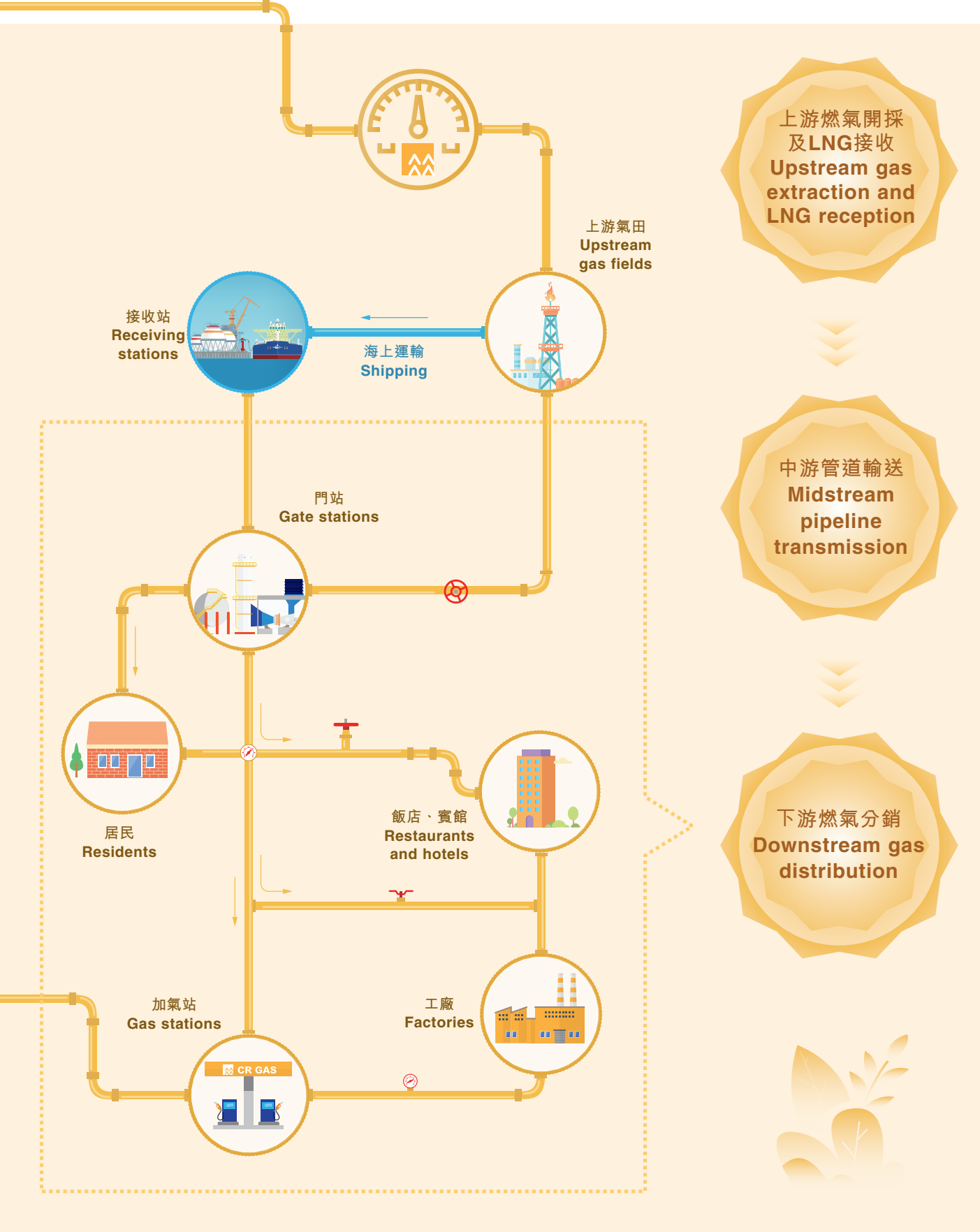
CR Gas is committed to providing safe, reliable and environmentally friendly energy products and services, while actively promoting the development of new and clean energy. The Company has obtained a series of achievements and accolades in business development, technological innovation and social responsibility.





燃氣產業鏈示意圖

Illustration of the gas industry chain





2022年華潤燃氣業務分佈圖 BUSINESS NETWORK OF CR GAS, 2022



273
城市燃氣項目
273 city gas projects



15
省會城市
15 provincial capitals



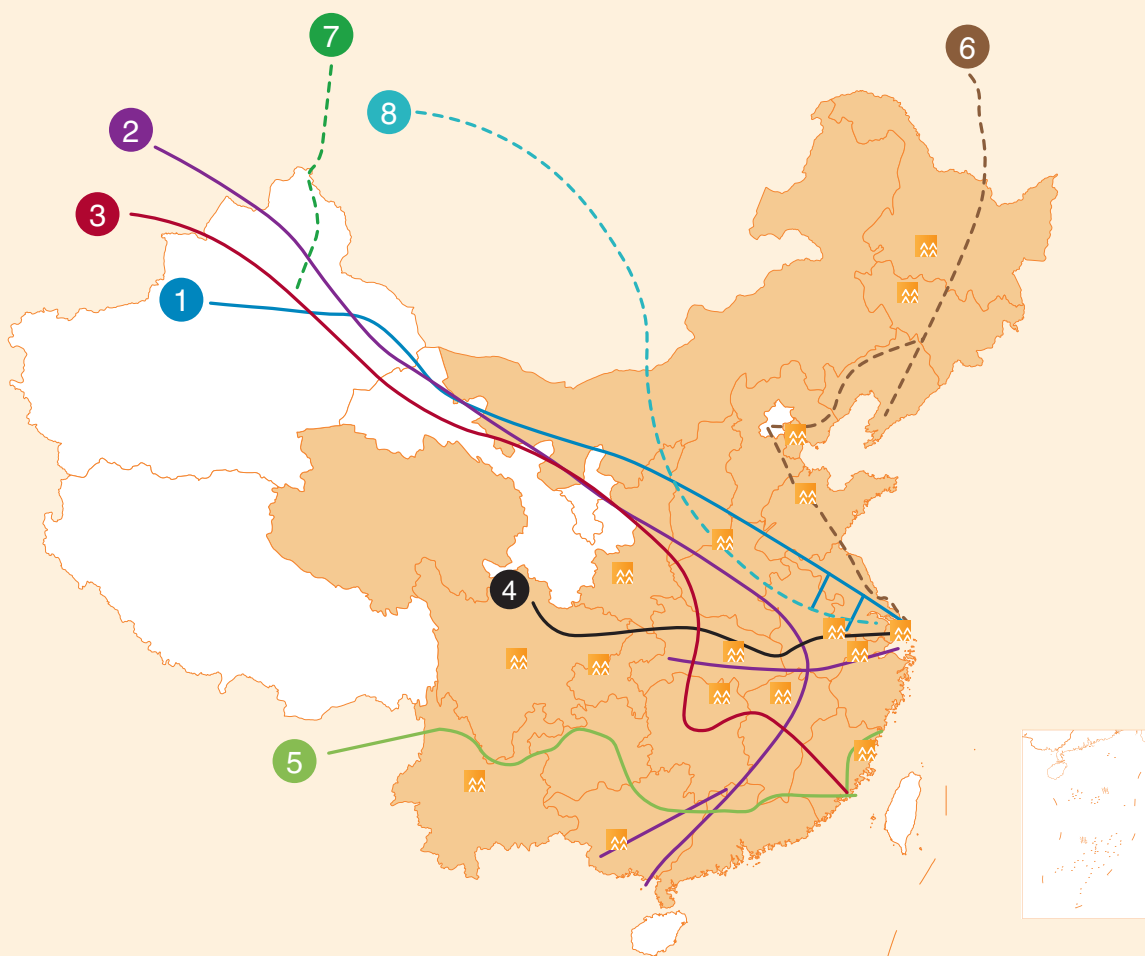
76
地級城市
76 prefecture-level cities



5437
萬戶接駁用戶
54.37 million
customers connected



29.2
萬公里管網
292,000 km pipelines



1 西氣東輸一期
"West to East 1"

2 西氣東輸二期
"West to East 2"

3 西氣東輸三期
"West to East 3"

4 川氣東送
"Sichuan to East"

5 中緬油氣
"Myanmar to China"

6 俄羅斯天然氣東線
"Russia to China" Eastern
Pipeline

7 俄羅斯天然氣西線
"Russia to China" Western
Pipeline

8 俄羅斯天然氣中線
"Russia to China"
Central Pipeline



企業文化 CORPORATE CULTURE

**企業基因
DNA**

為中華民族偉大復興而立心
Determined to realize the great rejuvenation of the Chinese nation

為創造人民幸福生活而立命
Pursue to create a happy life for the people

為實現國家經濟繁榮而立身
Strive for the economic prosperity for the country

**使命
Mission**

促進綠色發展 共創美好生活
Embrace green development and build a beautiful life together

**願景
Vision**

成為大眾信賴和喜愛的世界一流能源服務企業
Become a world-leading energy service enterprise trusted and preferred by the public

**價值觀
Value**

誠實守信 Integrity
業績導向 Performance-Oriented
業績導向 People-Oriented
合作共贏 Win-Win Collaboration

**企業精神
Spirit**

以身許國的奉獻精神
Dedicated oneself to the cause of the country

敢為人先的創新精神
Be the pioneer to be innovative

篤定前行的堅守精神
To forge ahead with perseverance

自強不息的奮鬥精神
Exert constantly for the betterment



組織氛圍 Atmosphere	真誠 Sincerity	團結 Solidarity	開放 Open-mindedness	進取 Proactivity
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榮譽獎項

ACCOLADES AND AWARDS

華潤燃氣
CR Gas



2022年香港綠色企業大獎「超卓環保安全健康獎」金獎
Hong Kong Green Awards 2022 – Environmental, Health and Safety Award – Gold



2022 (第八屆) 國企管理創新成果一等等級評定
First Prize of 2022 (8th) State-Owned Enterprise Management and Innovation Achievement Award

鄭州華潤燃氣有限公司
Zhengzhou China Resources Gas Company Limited



第十四屆「安全河南盃」特授予「安全生產、示範單位」
Model Unit for Production Safety of the 14th "Safe Henan Cup"



2022年科學技術成果證書
2022 Science and Technology Achievement Certificate

福州華潤燃氣有限公司
Fuzhou China Resources Gas Company Limited



2022年福建省燃氣行業「燃氣儲運工崗位技能競賽團體」、
「燃氣供應服務員職業技能競賽」二等獎及「優秀組織獎」
Second Prize in 2022 Fujian Gas Industry Job Skills Competition for Gas Storage and Transportation Workers – Group and Professional Skills Competition for Gas Supply Attendants as well as Excellent Institution Award



平潭華潤燃氣有限公司
Pingtan China Resources Gas
Company Limited
廈門華潤燃氣有限公司
Xiamen China Resources Gas
Company Limited

2022年福建省燃氣行業燃氣儲運工崗位技能競賽優秀組織獎、競賽團體獎
Excellent Institution Award and Group Award in 2022 Fujian
Gas Industry Job Skills Competition for Gas Storage and
Transportation Workers

安陽華潤燃氣有限公司
Anyang China Resources Gas
Company Limited

2022年河南省安全生產先進單位
2022 Excellent Unit for Production Safety of Henan Province

無錫華潤燃氣有限公司
Wuxi China Resources Gas Company
Limited

2022年江蘇省住房城鄉建設系統技能人才搖籃獎
2022 Skilled Talent Cultivation Award of the Housing and Urban-
Rural Construction System of Jiangsu Province

鎮江華潤燃氣有限公司
Zhenjiang China Resources Gas
Company Limited

2022年江蘇省住房城鄉建設系統
城鄉運行保障勞動競賽先進集體
2022 Excellent Collective in the Labour Competition for Urban and
Rural Operation Support of the Housing and
Urban-Rural Construction System of Jiangsu Province



業務回顧

主要業務

華潤燃氣主要從事下游城市燃氣分銷業務，包括管道天然氣分銷、天然氣加氣站業務及燃氣器具銷售。華潤燃氣的業務策略性地分佈於全國各地，主要位於經濟較發達和人口密集的地區以及天然氣儲量豐富的地區。

華潤燃氣全力發展天然氣供應業務，向工業、商業、居民客戶及天然氣汽車供應天然氣，並推動綜合能源、綜合服務業務快速發展。於2022年，本集團在全國多座大中城市投資發展燃氣項目273個，業務遍及全國25個省份及3個直轄市，覆蓋76個地級市。年內，公司共銷售天然氣358.9億立方米，新開發工商業用戶4.33萬戶，新開發居民用戶407.7萬戶，其中：新房接駁用戶355.9萬戶，舊房接駁用戶43.3萬戶，農村煤改氣用戶8.5萬戶。

BUSINESS REVIEW

Primary Business

CR Gas is principally engaged in downstream city gas distribution business, including pipeline natural gas distribution, natural gas filling stations operation and sales of gas appliances. Its operations are strategically located across China, mainly in areas which are economically more developed and densely populated and those with rich reserves of natural gas.

CR Gas has made every effort to develop its natural gas supply business, pipeline natural gas to industrial, commercial and residential customers as well as natural gas vehicles, and promoted the rapid development of integrated energy and integrated service business. In 2022, the Group invested in 273 gas projects in a number of large and medium cities in China, with operations spanning 25 provinces and 3 municipalities directly under the central government, covering 76 prefectural-level cities. During the Year, the Company sold a total of 35.89 billion cubic metres of natural gas. New industrial and commercial users reached 0.0433 million, and new residential users reached 4.077 million. In particular, new house connection users, existing house connection users and coal-to-gas conversion rural users reached 3.559 million, 0.433 million and 0.085 million.

2022

公司共銷售天然氣

358.9 億立方米

the Company sold a total of 35.89 billion cubic metres of natural gas.

新開發工商業用戶

4.33 萬戶

New industrial and commercial users reached 43,300

新開發居民用戶

407.7 萬戶

and new residential users reached 4.077 million.

其中：新房接駁用戶

355.9 萬戶

舊房接駁用戶

43.3 萬戶

農村煤改氣用戶

8.5 萬戶

In particular, new house connection users, existing house connection users and coal-to-gas conversion rural users reached 3.559 million, 0.433 million and 85,000.



低碳業務擴展

近年，國家整體經濟轉型向低碳發展，清潔能源的需求極速增長。為響應國家的低碳發展戰略，本集團積極利用客戶資源及技術優勢，穩步發展分佈式能源、充電樁及加氫站等新業務，供應潔淨能源來滿足客戶的用能需求，同時，拓寬集團收入來源。

在綜合能源（包含但不限於分佈式能源、分佈式供暖、分佈式光伏等）領域，累計項目數量達到202個。

新投運充電站39座，累計投運充電站171座，全年售電較同期增長20.6%至2.71億千瓦時。

新投運加氫站1座，累計批准建設加氫站15座，分佈於濰坊、襄陽、無錫、成都等地。

Low-carbon Business Development

In recent years, the state's overall economy has shifted to low-carbon development, with a significant increase in the demand for clean energy. In response to the state's low-carbon development strategy, the Group proactively leverages its customer resources and technical advantages to steadily develop new business lines such as distributed energy, charging piles and hydrogenation refuelling stations to supply clean energy to meet the energy demand of customers and expand the Group's income stream.

In the field of integrated energy (including but not limited to distributed energy, distributed heating, distributed photovoltaics), the cumulative number of projects reached 202.

A total of 171 charging stations have been in operation, including 39 new charging stations, with an annual power sales volume of 271 million kWh, representing an increase of 20.6% compared with that of the corresponding period.

One new hydrogenation refuelling station was put in operation, and 15 hydrogenation refuelling stations in aggregate were approved for construction in Weifang, Xiangyang, Wuxi, Chengdu, etc.



穩
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為發展 保駕護航

Solid Governance
Safeguarding

Development



良好的公司治理，方能行穩致遠。華潤燃氣堅守誠信經營，時刻關注企業風險管理，牢牢把握商業道德底線，建立健全科學的公司治理結構，持續改善和提升公司治理水平，促進企業持續健康發展，建設並維護合規運營、廉潔守信的經營環境。

Sound governance is the cornerstone of steady and sustained development. CR Gas steadfastly adheres to honest operations, constantly monitors enterprise risk management, firmly upholds the bottom line of business ethics, establishes and improves a scientific corporate governance structure, continuously improves corporate governance, promotes the sustainable and healthy development of the Company, and builds and maintains a business environment of compliance, integrity and trustworthiness.

2022 責任績效 2022 Responsibility Performance

資產總額

1,120.52 億港元

Total assets of HK\$112.052 billion

利潤總額

86.16 億港元

Total profit increased of HK\$8.616 billion

新增專利數

75 個

75 new patents

淨資產

525.4 億港元

Net assets of HK\$52.54 billion

研發投入

2.72 億港元

R&D Investment increased of HK\$272 million

SDGs



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



11 SUSTAINABLE CITIES AND COMMUNITIES



16 PEACE, JUSTICE AND STRONG INSTITUTIONS

1

穩健治理，為發展保駕護航

Solid Governance Safeguarding Development

1.1 強健管治，穩固發展根基

完善公司治理

華潤燃氣致力於構建科學規範、有效制衡、運作高效的現代公司治理體系。2022年，我們持續完善公司治理架構，於集團總部成立總裁辦公會，其職責為協助總裁行使董事會授權、履行日常經營管理職責；制定總裁辦公會議事規則、「三重一大」決策事項清單及黨委會前置研究討論重大經營事項清單，進一步完善總部決策會議機制。制度建設方面，我們修訂《華潤燃氣成員企業董事會事務管理制度》和《權責運行手冊》（2022年版）兩項制度，進一步規範成員企業董事會事務管理，保障經理層依法行權履責。

此外，我們監督並協助120家子公司成立董事會，制定董事會授權管理制度，完成董事會議事規則及總經理辦公會議事規則，形成總經理對董事會負責、向董事會報告的工作機制。66家子公司已完成黨建進章程、黨委會議事規則及「三重一大」決策制度建設，釐清了董事會、經理層權責。

全面防控風險

華潤燃氣高度重視風險管理，在建立重大風險管理工作機制的基礎上，持續優化風控體系建設。2022年，我們於總部成立「依法治企、風控與合規管理委員會」，負責領導全集團法律、合規及風控體系的建立健全和有效實施；設立風控合規官，與法律及風控部門共同組成合規風控工作組，定期舉行會議，研究重大風險防控措施。各大區及子公司亦須參考總部建立相應的風控管理組織。

1.1 STRENGTHENING GOVERNANCE TO SOLIDIFY DEVELOPMENT FOUNDATION

Improving Corporate Governance

CR Gas is committed to building a modern corporate governance system that is scientific and well-regulated, effectively checked and balanced, and efficiently operated. In 2022, we continued to improve our corporate governance structure and set up the President's Meeting at the Group's headquarters, with the responsibility of assisting the President to exercise the authority granted by the Board, perform daily operational and management duties; formulating the rules of procedure of the President's Meeting and the list of three major and one significant decision-making items, as well as the list of significant operational items for the Party committee's studying and discussion in advance to further improve the decision-making meeting mechanism of the headquarters. In terms of systems, we amended the CR Gas Board Affairs Management System for Member Companies (《華潤燃氣成員企業董事會事務管理制度》) and Operation Manual on Rights and Responsibilities (2022 Edition) (《權責運行手冊》(2022年版)) to further regulate the management of board affairs of member companies and ensure that managers exercise their rights and perform their duties in accordance with the law.

In addition, we supervised and assisted each of our 120 subsidiaries to establish a board of directors, formulated a board approval-based management system, completed the rules of procedure of the board of directors and the rules of procedure of the general manager's office, and formed a working mechanism in which the general manager is accountable and reports to the board of directors. A total of 66 subsidiaries have completed the incorporation of party building into their articles of association, the rules of procedure of party committees, and the establishment of a decision-making system for three major and one significant items, specifying the powers and responsibilities of the board of directors and the management.

Preventing and Controlling Risks

CR Gas attaches great importance to risk management. We continue to enhance our risk control system after establishing a major risk management working mechanism. In 2022, we established the Lawful Governance, Risk Control and Compliance Management Committee at the headquarters to be responsible for leading the establishment, improvement and effective implementation of the entire Group's legal, compliance and risk control system. We also established the position of Risk Control and Compliance Officer, who formed a compliance and risk control working group with the legal and risk control departments to study major risk prevention and control measures through regular meetings. Major regional companies and subsidiaries were required to establish risk control management bodies corresponding to those of the headquarters.



華潤燃氣風險管理流程 CR Gas Risk Management Process

識別與評估 Identification and evaluation	每年初組織各部室梳理年度重大風險並提出防控建議，確保風險「看得見，管得住」 At the beginning of each year, we arrange all departments to identify major risks for the year and put forward prevention and control suggestions to ensure that risks are visible and manageable
監測與預警 Monitoring and alert	設置預警指標，在經營營運中實時監測風險變化情況，及時上報新增重大風險並採取防控措施 We have set up alert indicators. During operations, we monitor changes in risks in real time, report new major risks in a timely manner, and take prevention and control measures
監督與整改 Supervision and Rectification	對識別出的重大風險流程與環節，採取「四化五進」工作方式針對性完善內控措施，同時通過內控監督檢查程序，督促整改發現的內部控制缺陷，持續提高風險防控能力 For processes and stages with significant risks identified, we adopt the form-based, template-based, tool-based and information-based method in our work covering the five areas of establishments, processes, contracts posts and systems to improve internal control measures in a targeted manner
總結與改進 Review and improvement	編製年度風險管理工作報告，全面分析年度風險管理工作情況 We prepare an annual risk management report with comprehensive analysis on our annual risk management efforts

為進一步提升集團應對各類風險的能力，華潤燃氣持續強化內控及審計管理。在內控管理方面，2022年，我們新增《華潤燃氣控股有限公司內部控制管理制度》和《華潤燃氣內部控制缺陷認定標準》兩項制度；根據年度重大風險識別結果，調整內控監督要點：依據「總部審計三年一次，區域公司內控評價兩年一次，成員公司內控自查一年一次」的要求，開展內控體系監督檢查，覆蓋安全、財務、法律、工程、客服、市場、物質、信息、行政十個模塊。截至2022年底，我們已完成所有區域公司的內部控制體系自評價，並對發現的問題及時進行整改。

在審計體系建設方面，我們新建6個覆蓋全部大區的審計中心，並由總部委派專職審計總監進行管理；發佈《華潤燃氣控股有限公司審計中心管理辦法》《華潤燃氣控股有限公司審計中心負責人管理辦法》等管理制度，推動總部與區域兩級審計職能在計劃管理、質量管控、資源調配方面的一體化運作。此外，我們編製《華潤燃氣經濟責任審計中長期規劃》，所有成員企業五年內將實現內部審計全覆蓋。

To further enhance the Group's ability to cope with various risks, CR Gas continuously strengthens its internal control and audit management. For internal control management, in 2022, we added two new systems, namely Internal Control Management System of China Resources Gas Group Limited and Internal Control Defect Identification Standards of CR Gas. Based on the identification results of major risks for the year, we adjusted the focus of internal control supervision. According to the requirements that the headquarters must conduct audit once every three years, regional companies must conduct internal control evaluation once every two years, and member companies must conduct internal control self-inspection once a year, we carried out supervision and inspection on internal control systems covering ten segments, including safety, finance, law, engineering, customer service, market, materials, information and administration. By the end of 2022, we have completed the self-evaluation of the internal control system for all regional companies and rectified the problems found in a timely manner.

In terms of audit system, we built 6 new audit centres covering all major regions, and the headquarters appointed a dedicated audit director to manage them. We issued management rules including the Management Measures for the Audit Centre of China Resources Gas Group Limited and Management Measures for Responsible Persons of the Audit Centre of China Resources Gas Group Limited to promote the integrated operation of audit functions at the headquarters and regional levels in terms of project management, quality control and resource allocation. In addition, we compiled the Medium and Long-Term Plan for Economic Responsibility Audit of China Resources Gas. All member companies will have full coverage internal audits within five years.

2022年華潤燃氣審計工作績效

總部審計部和各審計中心共計組織開展審計項目50項，其中離任經濟責任審計37項、營運管理審計2項、專項審計11項。

「1+2+3」管理模式

「1+2+3」管理模式是華潤燃氣經過多年探索與實踐，形成的具有自身特色的企業管理體系。其中「1」指一個管理原則，即誠信合規，「2」指兩個管理方法，即行動學習和精益管理，「3」指三個管理主題，即無邊界、3C領導力、學標桿。

Audit performance of CR Gas in 2022

The audit department at the headquarters and the audit centres carried out a total of 50 audits, including 37 outgoing economic responsibility audits, 2 operation management audits and 11 special audits.

“1+2+3” Management Model

The “1+2+3” Management Model is an enterprise management system with unique features developed by CR Gas through years of exploration and practice, where “1” refers to one management principle, namely integrity and compliance; “2” refers to two management approaches, namely action learning and lean management; “3” refers to three management themes, namely borderless, 3C leadership, and benchmarking.

案例：舉辦「1+2+3」管理實踐宣貫會，強化誠實守信價值觀 Case Study: Hosting “1+2+3” Management Practices Publicity to Strengthen the Values of Integrity and Trustworthiness

2022年7月，華潤燃氣以成立15周年為契機，編寫了具有自身特色的《「1+2+3」管理實踐》，並開展「1+2+3」管理實踐宣貫及舉辦書籍發佈會。100餘名與會人員集體簽署了《誠信合規承諾書》，進一步強調華潤燃氣「誠實守信」的核心價值觀。

Leveraging its 15th anniversary, CR Gas compiled the “1+2+3” Management Practices with its features in July 2022, launched the “1+2+3” management practices publicity and held a press conference. More than 100 attendees signed the Commitment to Integrity and Compliance, further highlighting the core values of integrity and trustworthiness of CR Gas.



與會人員參與誠信合規宣誓
Attendees making a vow for integrity compliance



誠信合規

華潤燃氣始終以「誠信合規」為首要管理原則，建設高標準的企業道德文化。多年來，我們不斷從組織、人員和制度等方面優化完善，建立了公司、管理人員和員工三個層面的誠信合規體系，並在發展中不斷實踐完善，逐步形成具有自身特色的誠信合規完整體系內容。

Integrity and Compliance

CR Gas always takes integrity and compliance as its primary management principles to develop a corporate ethical culture with high standards. Over the years, we have constantly made optimization and improvements in terms of organization, personnel, and system, and have established an integrity and compliance system at the corporate level, management level, and staff level, and implemented and improved the system in the course of development to gradually develop a complete system of integrity and compliance with its own features.

華潤燃氣誠信合規體系建設 Construction of CR Gas Integrity and Compliance System		
1	強化誠信合規意識 Raising the awareness of integrity and compliance	<ul style="list-style-type: none"> 5萬名員工分批次進行誠信合規培訓，全員簽署了《誠信合規宣言》。 各級經理人全部簽署《誠信合規責任書》。 50,000 employees received training on integrity and compliance in batches, with all employees signing the Integrity and Compliance Declaration (《誠信合規宣言》)。 Managers at all levels signed the Integrity and Compliance Responsibility Statement (《誠信合規責任書》)。
2	與重點管理工作相結合 Integrating with key management efforts	<ul style="list-style-type: none"> 在工程造價、物資管理等關鍵領域，嚴格落實誠信合規體系，集採比例達到90%。 打造華潤燃氣陽光工程。 Strictly implement the integrity and compliance system in construction cost, material management, and other key areas, with a 90% collective procurement ratio. Enhancing the transparency of projects of CR Gas.
3	關鍵崗位輪崗 Job rotation among key positions	<ul style="list-style-type: none"> 工作滿6年總經理、財務總監、紀委書記原則上需要輪崗。 敏感崗位任職3至5年後必須輪崗，如工商抄表、出納、材料、工程管理等關鍵崗位要按照規定強制輪崗。 In principle, rotations are required for general managers, chief financial officers, and disciplinary committee secretaries after six years of service. Rotation is mandatory after 3 to 5 years of service for sensitive positions. For example, industrial and commercial meter reading, cashier, materials, project management, and other key positions are subject to mandatory rotation in accordance with regulations.
4	運用審計結果進行追溯調整 Retroactive adjustments by applying audit results	<ul style="list-style-type: none"> 開展專項審計：以問題為導向，積極探索開展營運審計、經責審計等多種專項審計項目。 堅持「逢離必審」：通過離任經責審計對經理人進行追溯調整，杜絕「帶病」提拔。 Carry out special audits: problem-oriented, actively explore a variety of special audit projects including operating audits and audits of responsibilities. Insist on "audit upon every departure": retrospective adjustment of managers is carried out according to the departure audit to eliminate "sick" promotions.

我們制定有《華潤燃氣誠信合規管理辦法》《華潤燃氣誠信合規專員工作制度》內部商業道德制度，並定期進行審計，確保制度的有效性。同時，我們積極開展合規誠信宣貫，提升員工商業道德意識。2022年我們共開展500餘場商業道德培訓，覆蓋40,000餘名員工。

We have established internal business ethics systems including the Management Measures for Integrity and Compliance of CR Gas (《華潤燃氣誠信合規管理辦法》), Working System of Integrity and Compliance Officer of CR Gas (《華潤燃氣誠信合規專員工作制度》), and conduct regular audits to ensure the effectiveness of the systems. Meanwhile, we actively carried out dissemination activities on integrity and compliance to enhance employees' awareness of business ethics. In 2022, we conducted over 500 business ethics training sessions in total, covering more than 40,000 employees.

案例：學習反壟斷，深化商業道德意識

Case Study: Learning Anti-trust and Enhancing Awareness of Business Ethics

在《反壟斷法》修訂後，我們及時組織專業力量進行政策法規研究與解讀，並開展專題培訓。針對投資及法律部門，開展「經營者集中申報」培訓，幫助員工掌握經營者集中申報的標準、程序、期限等核心內容；針對一線市場開發及客服人員，開展「反濫用市場支配地位」培訓，幫助員工識別並避免相關業務涉及反壟斷法相關規定。

Following the revision of the Anti-monopoly Law, we promptly arranged professionals to study and interpret the policies and regulations and conducted training thereon. Central Filing for Operators training for investment and legal departments was conducted to help employees acquire the criteria, procedures, deadlines and other core elements in central filing for operators. Anti-abusive Use of Market Dominance training for frontline market development and customer service personnel was conducted to help employees identify and avoid business involving violation of the relevant provisions of the Anti-monopoly Law.



「反濫用市場支配地位」專題培訓
Anti-abusive Use of Market Dominance training



「經營者集中申報」專題培訓
Central Filing for Operators training

行動學習和精益管理

華潤燃氣成員企業眾多，如何加快華潤文化在子企業中的融合，改變員工尤其是經理人傳統的管理理念與方式，是華潤燃氣需要解決的重要課題。為此，我們引入行動學習，運用行動學習的工具和方法宣貫華潤文化。實踐證明，行動學習不僅加快了華潤文化的融合，而且有效提升了華潤燃氣的組織能力，幫助各成員企業解決經營管理中的實際問題，提升企業效益。

Learning by Action and Lean Management

Given that there are numerous member companies of CR Gas, how to expedite the integration of the CR culture in the subsidiaries and change the conventional management concepts and approaches of employees, especially managers, have become an important issue to address. To this end, we have introduced learning by action by using the tools and approaches of learning by action to disseminate the CR culture. It is proven that learning by action not only expedites the integration of CR culture, but also effectively enhances the organizational capabilities of CR Gas, helps its member companies to address problems in their operation and management, and improves their corporate efficiency.

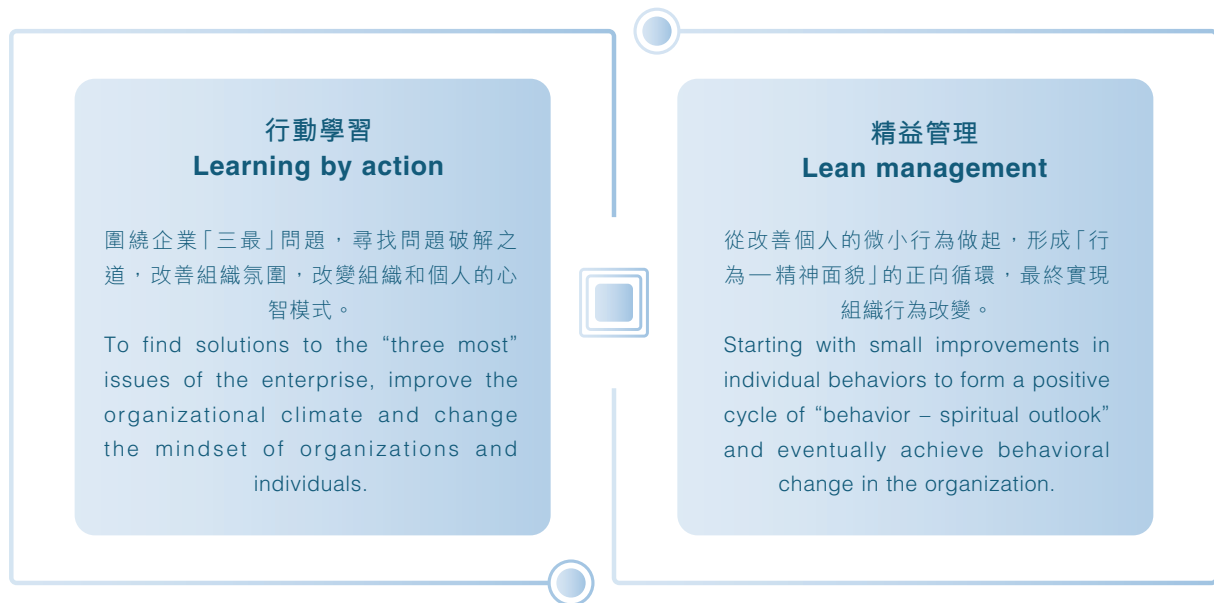


華潤燃氣自2012年開始推行精益管理，助推企業發展由外延式擴張向內涵式增長轉變，力爭邁向數字化精益營運，建設世界一流企業。通過開展精益管理，員工尤其是經理人公用事業企業的傳統思維方式得到改變，實現了管理上從「粗放」到「精益」、從「經驗」到「科學」的轉變。

行動學習和精益管理分別引領企業思想的革命和行動的革命，從思想上和行動上影響組織行為改變，對華潤燃氣組織能力的打造起到了重要的促進作用。

Since 2012, CR Gas has been implementing lean management to facilitate the enterprise's transformation from external expansion to internal growth, striving to move towards digital and lean operations and become a world-class enterprise. Through lean management, employees, especially managers, have changed their conventional mindset of a utility company, and transformed from extensive and experience-oriented management to lean and scientific management.

Learning by action and lean management spearhead the revolution in corporate mindset and action, respectively, influence changes in organizational behavior in terms of mindset and action, and play a vital role in building the organizational capacity of CR Gas.



無邊界、3C領導力、學標桿

針對快速發展中出現的組織管控問題、人才發展問題以及組織評價問題，華潤燃氣確立了無邊界、3C領導力和學標桿三大管理主題，分別圍繞組織、人才和業績三個方向為集團戰略落地提供支持保障，並成為華潤燃氣打造組織能力優勢的重要方式。

Borderless, 3C leadership, and Benchmarking

In response to issues in the management and control of the organization, the development of talents, and the evaluation of the organization arising from rapid development, CR Gas has established 3 major management themes, namely borderless, 3C leadership, and benchmarking, which are focused on organization, talent, and performance to support the implementation of the Group's strategies, and have become an important way for CR Gas to build its organizational strengths.

無邊界：解決組織管控問題

華潤燃氣成員企業地域分佈廣，且脫胎於傳統公用事業單位，組織壁壘明顯，較難採用總部直管成員企業的管理模式。為此，華潤燃氣借鑒無邊界管理精髓，創建了「總部+虛擬大區」的無邊界管理模式。虛擬大區一級人員均為兼職，由大區內職能管理水平高的人員兼任。通過崗位虛設、職責實設的形式，打破橫向及縱向邊界，形成網狀管理架構。

面對外部環境要求變高和虛擬大區管理存在的問題，華潤燃氣在無邊界虛擬大區的基礎上，深入貫徹「小總部、大基層」的管理理念，推行區域一體化管理，在業務做加法的同時，實現管理做減法。從無邊界虛擬大區到區域一體化，形成了「一虛一實、一縱一橫、三沒有」的管理特點，構建起華潤燃氣獨特的網狀化組織結構。

Borderless: Addressing management and control issues of the organization

The member companies of CR Gas distribute widely across the country and are derived from conventional public utility companies with clear organizational borders, making it difficult to adopt the management model of direct management of member companies by the headquarters. As such, CR Gas has borrowed the essence of borderless management and created the "headquarters + virtual region" borderless management model. All tier-1 staff in the virtual region are double-jobbing by high-level managers in the region. With the form of virtual positions with real responsibilities, we break the border both horizontally and vertically to form a network management structure.

To address the rising demands from the external environment and the existing issues in virtual regional management, CR Gas, based on the borderless virtual regions, deeply implements the management concept of "less emphasis on headquarters and greater emphasis on the basic level" and implements integrated regional management to achieve subtraction in management while addition in business. In the transformation from borderless virtual regions to regional integration, the management characteristics of "virtual and real, vertical and horizontal, and three withouts" have been formed to build a unique reticulated organizational structure of CR Gas.

華潤燃氣無邊界管理特點**Features of Borderless Management of CR Gas****一虛一實**

Virtual and real

- 虛：大區總和大區職能組長為兼職，不設專職崗位
- 實：任務實、責任實，抓住創造價值的關鍵事
- Virtual: Regional Chiefs and Regional Functional Team Leaders are part-time roles, instead of full-time roles
- Real: Real tasks, real responsibilities, seizing the key to create value

一縱一橫

Vertical and horizontal

- 縱：打破不同職級間的縱向邊界，實現上下無邊界溝通
- 橫：打破不同企業間的橫向邊界，實現全方位、橫向無邊界溝通
- Vertical: Break the vertical borders between different levels to achieve borderless communication between top and bottom levels
- Horizontal: Break the horizontal borders between different enterprises and achieve comprehensive, horizontal borderless communication

三沒有

Three withouts

- 沒有增加管理層級
- 沒有增加管理人員
- 沒有增加管理成本
- Without additional management levels
- Without additional managers
- Without additional management costs



3C領導力：解決人才評價與發展問題

經理人領導力是實現企業持續發展的關鍵。為科學評價、選拔、培養和儲備適合公司發展的幹部隊伍，華潤燃氣設計開發了3C領導力素質模型。該模型從「發展、管控、文化」三個維度出發，由「戰略規劃、氣源保障、政府支持、學標桿、無邊界、安全營運、忠誠擔當、堅韌不拔、以人為本、誠信合規」十個素質項組成，為華潤燃氣在管理人員團隊打造方面樹立了正確的價值觀和標準導向，明確了經理人應具備的素質、能力及必須遵循的行為準則，為華潤燃氣成員企業總經理選拔、任用、發展和評價提供了重要的基準。

基於3C領導力素質模型提供的管理人員評價標準，我們不斷深化探索，把3C領導力素質模型蘊含的價值觀和標準導向，整體貫穿到管理人員的考核評價、人才盤點、人才發展等一系列工作中，取到了良好成效，並形成具有華潤燃氣特色的人才管理體系。

學標桿：解決組織評價與發展問題

自華潤燃氣成立以來，成員企業數量、規模持續增加，加之行業外部環境的變化，華潤燃氣在組織管理上面臨多重壓力與挑戰。為此，我們於2013年開始推行「學標桿」管理，通過內外對標學習，推動成員企業持續改善提升，不斷超越自我。自推行學標桿管理以來，華潤燃氣經營業績保持快速增長，經營規模和管理水平均處於行業領先水平，並作為唯一一家城燃企業入選國務院國資委國有重點企業管理標桿創建行動標桿企業。

3C Leadership: Addressing Talent Evaluation and Development Issues

Managerial leadership is the key to achieving sustainable corporate development. To scientifically evaluate, select, train, and reserve candidates suitable for the Company's development, CR Gas has designed and developed the 3C Leadership Quality Model. The model is based on the three dimensions of "development, control and culture" and consists of ten quality items, namely "strategic planning, guaranteed gas sources, government support, benchmarking, borderless, safe operation, loyalty and commitment, perseverance, people-oriented, and integrity and compliance". It establishes the correct values and standard guidance for CR Gas in building a team of managers, specifies the qualities and abilities that managers should possess and the code of conduct they must follow, and provides an important benchmark for the selection, appointment, development, and evaluation of general managers of CR Gas member companies.

We have continuously deepened our exploration based on the evaluation criteria for managers provided by the 3C Leadership Quality Model, and have integrated the values and criteria of the 3C Leadership Quality Model into the assessment and evaluation of managers, talent appraisal, talent development, and a series of other tasks, and achieved satisfactory results and formed a talent management system with the characteristics of CR Gas.

Benchmarking: Addressing Organizational Evaluation and Development Issues

Since the inception of CR Gas, the number and size of member companies have been increasing. Coupled with changes in the external environment of the industry, CR Gas has experienced multifaceted pressure and challenges in terms of organizational management. To this end, we began to implement "benchmarking" management in 2013 to promote continuous advancement and the self-transcendence of our member companies through internal and external benchmarking. Since the implementation of benchmarking, CR Gas has maintained rapid growth in operating results, and its operating scale and management level are both industry-leading, and it has become the only city gas enterprise selected as the benchmark enterprise of the State-owned Assets Supervision and Administration Commission of the State Council's key enterprise management benchmarking initiative.

案例：《華潤燃氣學標桿管理實踐》榮獲2022（第八屆）國企管理創新成果一等獎
Case Study: “CR Gas Benchmarking Management Practices”
was awarded the First Prize of 2022 (8th) State-Owned Enterprise
Management and Innovation Achievement Award

在中國企業管理研究會、中國財政科學研究院等機構發起的全國國企管理創新成果評選活動中，《華潤燃氣學標桿管理實踐》榮獲2022（第八屆）國企管理創新成果一等等級評定（最高）。

In the National State-Owned Enterprise Management and Innovation Achievement Award initiated by the Chinese Institute of Business Administration, the Chinese Academy of Fiscal Sciences, and other institutions, “CR Gas Benchmarking Management Practices” was awarded the First Prize of 2022 (8th) State-Owned Enterprise Management and Innovation Achievement Award (the highest rating).

《華潤燃氣學標桿管理實踐》系統總結了華潤燃氣十年來以「標桿環」為方法論，系統化推進學標桿工作的實踐精華：在對標對象上，按照「規模相似、同類可比」建立內部分組對標機制，實行精準對標；在對標評價上，創設了「與自身歷史比進步、與同類企業比水平」的「雙對比」規則，從指標絕對水平和排序提升兩個維度開展評價，推動企業自我加壓、自驅成長；在職能對標上，打造總部、大區、成員公司三方共建、上下貫通、左右聯動的職能標桿基地，推動政策有效落地、標桿推陳出新。

The “CR Gas Benchmarking Management Practice” systematically summarizes the “benchmarking ring” methodology of CR Gas for the past decade and systematically advances the practical essence of benchmarking work: in terms of benchmarking targets, the internal grouping benchmarking mechanism established for precise benchmarking with similar-sized comparables; in terms of benchmarking evaluation, a “double comparison” rule established to “compare with its own past performance and compare with the performance of similar enterprises”, and the evaluation is improved in two dimensions, namely the absolute level of indicators and sequence, to promote self-driven growth of enterprises; in terms of functional benchmarking, a functional benchmarking base with top and bottom coherence and left and right linkage jointly built by headquarters, regions, and member companies is created to promote effective implementation of policies and the advancing of benchmarking.

學標桿已經成為華潤燃氣破解組織評價與發展問題行之有效的管理工具，對國有大型企業科學實施內部評價、推動企業高質量發展具有典型的借鑒意義，為探索中國式國企管理現代化提供了新方法、新範本，受到評審專家的高度讚賞。

Benchmarking has become an effective management tool for CR Gas to resolve organizational evaluation and development issues, which can be a typical reference for large state-owned enterprises to scientifically implement internal evaluation and promote high-quality corporate development, and offers a new approach and a new model for exploring the Chinese-style state-owned enterprise management modernization, which was highly appreciated by the evaluators.



廉潔建設

廉潔管理體系

華潤燃氣堅決反對任何形式的腐敗及商業賄賂行為，制定《反貪污及反賄賂政策》，釐清相關人員責任，並就識別和處理貪腐問題提供指引。董事會不定期審閱本政策，以確保相關規定符合現行法律規定及公司實際情況。

我們持續完善反腐倡廉管理機制，新增《華潤燃氣控股有限公司海外反商業賄賂合規管理制度》，並對已建立的《廉政談話實施辦法》《十大紀律》等內部制度定期進行審計，確保其有效性。我們嚴格規範員工不得以任何形式接受或要求供應商、客戶、分包商或其他與本集團業務有往來人士提供利益，以杜絕貪污、勒索、賄賂及洗黑錢等不法行為。我們亦將廉潔要求與考核延伸至供應商，相關內容請參閱「健全供應鏈管理章節」。

深化「不敢腐、不能腐、不想腐」建設

為監督集團廉政建設工作進程及防止貪污事件發生，華潤燃氣堅持全面從嚴的戰略方針，堅定不移將反腐敗鬥爭進行到底，持續深化「不敢腐、不能腐、不想腐」一體推進，堅持懲治震懾、制度約束、提高覺悟一體發力，持續營造平穩健康的發展環境和清風氣正的組織氛圍。

CLEAN ADMINISTRATION

Integrity management system

CR Gas resolutely opposes any form of corruption and commercial bribery acts. By formulating the Anti-corruption and Anti-bribery Policy, we clarify the responsibility of relevant personnels and offer guidance for identifying and handling corruption problems. The Board will review the policy from time to time to ensure that the relevant provisions comply with the existing legal requirements and the actual situation of the Company.

We consistently improve our anti-corruption management mechanism. We newly added the Overseas Anti-Commercial Bribery and Compliance Management System of China Resources Gas Group Limited (《華潤燃氣控股有限公司海外反商業賄賂合規管理制度》) and regularly audited internal systems already formulated including the Incorrupt Governance Discussion Implementation Methods (《廉政談話實施辦法》) and Ten Disciplinary Rules (《十大紀律》) to ensure their effectiveness. We strictly require that employees must not accept or solicit any benefits from suppliers, customers, sub-contractors or other persons affiliated with the Group's business operations in any form to prevent unlawful conduct including corruption, extortion, bribery and money laundering. We also extend our integrity requirements and assessments to our suppliers. For details, please refer to the section headed Improving Supply Chain Management.

Advancing the mindset of “dare not be corrupt, cannot be corrupt and do not want to be corrupt”

To supervise the Group's progress on clean administration and prevent the occurrence of corruption incidents, CR Gas adheres to the strategic policy of being strict across the board, unswervingly follows through the fight against corruption, continues to advance the unified promotion of the mindset of “dare not be corrupt, cannot be corrupt and do not want to be corrupt” and maintains the concerted efforts of imposing deterrence through punishment and restraint through systems, as well as raising awareness. It will continue to create a stable and sound environment for development and a clean and upright institutional atmosphere.

保持懲治腐敗高壓態勢，強化「不敢腐」的震懾

公司制定《信訪辦理與監督執紀工作指引》《信訪件和問題線索集中管理辦法》等內部制度，規範貪腐違規事件的處置流程，並通過建立問題線索定期督辦工作機制、各大區交叉辦案工作機制等舉措，嚴厲查處「靠企吃企」、工程建設、招標採購及違反中央八項規定精神等違規違紀問題。相關舉報案件一經查實，將根據事件影響及情節嚴重程度對涉事員工做出相應處罰，若涉及違法行為，我們將移交司法機構處理並追究法律責任。

在嚴肅查處違紀違規問題的同時，注重深化「標本兼治」，切實發揮查辦案件的治理效能。針對監督檢查、案件審查等過程中發現的問題、隱患提出建議，督促相關部門深入反思剖析、總結教訓，制定整改措施並督促整改。2022年，共計發出紀檢建議書38份，指出問題60餘項。

持續完善監督舉措，築牢「不能腐」的約束

創新監督方式，建立派駐監督工作機制。為推進全面從嚴治黨向基層延伸、向縱深發展，我們結合虛擬大區管控模式，制定《華潤燃氣控股有限公司紀委派駐紀檢專員實施方案》，建立派駐監督工作機制，向6個大區派駐紀檢專員，進一步健全監督體系，壓實監督責任。

Maintaining strict punishment for corruption and strengthening the deterrence of “dare not be corrupt”

The Company has formulated internal systems including the Guidelines for Handling Petitions and Supervision on Implementation of Disciplinary Work (《信訪辦理和監督執紀工作指引》) and Central Management Measures for Petitions and Problem Clues (《信訪件和問題線索集中管理辦法》) to regulate the handling process of corrupt and non-complying practices. Through measures such as the establishment of a regular supervision mechanism for problem clues and a cross-handling mechanism for major regions, we can strictly investigate and deal with violations of regulations and disciplines such as taking advantage of the enterprise in which one works, project construction and bidding procurement, and violation of the spirit of the eight requirements of the central government. Once the relevant reported case is verified, employees involved will be subject to internal punishment according to the impact and the severity of the incident. For unlawful acts, we will hand over the case to the judicial authorities and take legal action against the personnel involved.

While seriously investigating and dealing with violations of discipline and regulations, we will also pay attention to advancing the rectification of both the apparent and underlying causes, and earnestly give full play to the governing efficiency of investigating and handling cases. We will put forward suggestions for problems and hazards discovered in the process of supervision and inspection and case review, etc., and urge relevant departments to conduct in-depth reflection and analysis, learn lessons from the findings, formulate rectification measures and supervise the rectification. In 2022, 38 disciplinary inspection proposals in total were issued and more than 60 problems were pointed out.

Continuing to improve supervision measures and putting restraints in place so that one cannot be corrupt

We devised innovative supervision methods and set up a dispatched supervision mechanism. To promote the extension of strict Party governance to the grassroots and its in-depth development across the board, we formulated the Implementation Plan for Discipline Inspection Commissioners Dispatched by the Discipline Committee of China Resources Gas Group Limited on the basis of the virtual regional management and control model, set up a dispatched supervision mechanism and dispatched discipline inspection commissioners to the 6 major regions to further improve the supervision system and strengthen supervision responsibilities.



加強對人員崗位晉升、評優評先、資格評審等過程的廉潔監督，堅決防止「帶病提拔」。2022年先後對擬提拔人員、評優評先等人員進行廉潔審查，出具廉潔意見334件，共計1,258人次，並實現對新任經理人的任前廉政談話全覆蓋。

強化整治「靠企吃企」問題，持續開展專項監督工作。根據《經理人關聯交易管理暫行辦法》及《規範經理人對外投資入股、經商辦企業管理暫行辦法》，組織開展經理人關聯交易及對外投資入股、經商辦企業的申報工作，覆蓋了華潤集團直管幹部、華潤燃氣直管幹部及工程物資關鍵崗位人員。

加強監督「一把手」和領導成員。制定《華潤燃氣控股有限公司經理人廉潔檔案管理辦法》，完成503份華潤燃氣直管經理人廉潔檔案建檔工作，動態掌握下級「一把手」和領導成員有關情況，提高監督的針對性。

整合監督資源，建立「131」大監督體系。「131」分別指做好一個基础性監督，即各業務部門發揮業務專長履行業務監督職能；用好三個重要監督手段，即政治巡察、內部審計和考核盤點；發揮好一個專責監督的作用，即紀檢監督。通過「大監督」體系建設，切實增強監督工作的嚴肅性、協調性和有效性，打造「事前防範、事後跟蹤、事後問責」的全流程監督防範體系。同時，督促下屬各區域公司結合實際建立「大監督」工作體系，目前本公司控股的全部區域公司已實現「大監督」體系建設100%全覆蓋。

We stepped up the integrity supervision of processes such as staff promotion, evaluation, and qualification review and resolutely prevented promotion involving corrupt acts. In 2022, integrity reviews were carried out for those proposed to be promoted and those who were assessed as outstanding and advanced, and 334 integrity opinions were issued with a total of 1,258 cases, achieving full coverage of newly appointed managers for integrity talks before assuming office.

We strengthened the rectification of the problem of taking advantage of the enterprise in which one works and continued to carry out special supervision work. In accordance with the Interim Measures for the Management of Related Transactions of Managers and Interim Measures for Regulating the Management of External Investments in Shares and Running Business Entities by Managers, we arranged and carried out work on declaration of related transactions, external investments in shares and running business entities by managers, covering cadres directly managed by China Resources Group, cadres directly managed by CR Gas and personnel in key positions involving projects and materials.

We strengthened supervision of leaders and leading members, formulated the Management Measures for Integrity Files of Managers of China Resources Gas Group Limited, completed the setting up of 503 integrity files of managers directly managed by China Resources Gas to dynamically get hold of the relevant situation of leaders and leading members under us for more targeted supervision.

We consolidated resources and set up the “131” comprehensive supervision system, with “131” referring respectively to performing good basic supervision, i.e. different divisions performing business supervision functions based on their specialties by leveraging three key supervision measures of political inspection, internal auditing and assessments and giving full play to the function of dedicated supervision, i.e. discipline supervision. Through building a comprehensive supervision system, we can earnestly strengthen the seriousness, coordination and effectiveness of supervision work and establish a supervision and prevention system with a complete process of prevention, tracing and accountability. Meanwhile, we urged all subordinate regional companies to build a comprehensive supervision system for their work taking into account of their actual circumstances. Currently, all regional companies controlled by the Company have comprehensive supervision systems with 100% full coverage.

案例：華潤燃氣開展多項廉潔宣貫和培訓活動 Case Study: CR Gas conducting numerous integrity promotion and training activities

開展廉潔教育學習月

2022年10月華潤燃氣制定《廉潔教育學習月活動方案》，組織全部成員企業通過「規定活動+自選活動+創新活動」的方式，開展以「清風潤燃氣，廉潔湧萬家」為主題的廉潔教育學習月活動。

Holding integrity education and learning month

In October 2022, CR Gas formulated the Plan on Integrity Education and Learning Month Activities and arranged all member companies to hold integrity education and learning month activities with the theme of Clean CR Gas and Honest Families through "prescribed activities + optional activities + innovative activities".

各企業在做好「講授一堂廉潔黨課、組織一批廉潔談話、舉辦一次主題黨日、開展一次專項整治」的規定活動之餘，須結合區域公司實際情況從「三項自選活動」中明確本公司的自選活動；此外，我們鼓勵各公司充分依託本地資源，不斷創新工作方式，開展特色教育活動，確保「規定活動」做到位、「自選活動」有成效、「特色活動」有亮點，推動廉潔教育走深走實、入腦入心。

In addition to performing the prescribed activities of delivering a Party lecture on clean administration, arranging a series of talks on clean administration, holding a themed Party Day and carrying out a special rectification initiative, various enterprises must clearly specify their three optional activities from the optional activities offered by the Company taking into account of the actual situation of regional companies. In addition, we encouraged various companies to fully rely on local resources, continuously innovate work methods and carry out featured education activities to ensure that prescribed activities were in place, optional activities were effective and featured activities had highlights, so that integrity education was promoted in an intensive and down-to-earth manner to allow it to be easily remembered and learned by heart.

我們聚焦近年來國有企業違紀違法案例，製作《「案」理說》廉潔教育課件，供各公司廉潔黨課使用，範圍覆蓋華潤燃氣全部子公司。活動月期間，各企業開展不同類型廉潔黨課學習活動覆蓋超過4萬餘人次，開展系列談話活動覆蓋8,000餘人次，開展主題黨日活動覆蓋1萬餘人。

We focused on recent cases of state-owned enterprises' violations of discipline and law and produced "Anlishuo" integrity education courseware for all companies to deliver Party lectures on clean administration, with participants from all subsidiaries of CR Gas. During the activity month, various enterprises conducted different types of Party lecture learning activities on clean administration with more than 40,000 participants, held a series of talk activities with over 8,000 participants and carried out themed Party Day activities with more than 10,000 participants.

組織廉潔談話教育

秉持「教育在先、警示在先、預防在先」的原則，華潤燃氣組織對新任直管經理人、部分年輕員工等60餘人開展廉潔談話。會議通過傳達華潤集團警示教育大會精神，觀看警示教育短片，宣貫了廉潔從業、幹部監督的有關要求，進一步築牢新任直管經理人廉潔自律思想防線。2022年，華潤燃氣下屬各區域公司開展不同形式、不同層級的談話教育7,000餘人次。

Arranging integrity educational talks

Adhering to the principle of giving priority to education, warning and prevention, CR Gas arranged a talk on clean administration for more than 60 participants including the directly managed new managers and some young employees. The meeting conveyed the spirit of China Resources Group's warning education conference, watched the warning education video, fully promoted the relevant requirements of integrity at work and cadre supervision, and further strengthened the defensive mindset of directly managed new managers on integrity and self-discipline. In 2022, the regional companies under CR Gas carried out educational talks of different forms and at different levels for more than 7,000 participants.

開展警示教育大會

組織華潤燃氣管理團隊成員、區域公司管理團隊成員及關鍵崗位等490餘人參與華潤集團警示教育；召開2022年黨風廉政建設和反腐敗工作會暨警示教育大會，通報15起違紀違規違法典型案例，覆蓋關鍵員工2,500餘人；子公司自行開展警示教育，共計開展280餘場，覆蓋1萬餘人次。

Holding warning education conference

Over 490 people, including management team members of CR Gas, management team members of regional companies and key position staff, were arranged to participate in China Resources Group's warning education. The 2022 Work Conference on Improving Party Conduct, Building Integrity and Anti-Corruption cum Warning Education Conference was held to report 15 typical cases of violations of discipline and law, covering more than 2,500 key staff members. Subsidiaries conducted a total of more than 280 warning education sessions of their own, with more than 10,000 participants.



警示教育大會
Warning education conference



福州分公司廉潔培訓
Integrity training in Fuzhou Branch



加強廉潔文化建設，夯實「不想腐」的思想覺悟

華潤燃氣注重打造清正廉潔的文化氛圍，通過廉潔提醒、廉潔培訓、警示案例學習等活動，持續開展廉潔文化宣貫活動，夯實員工廉潔從業意識。報告期內，我們開展廉潔教育500餘次，總時長達700餘小時，覆蓋40,000餘人次。覆蓋董事及包括兼職員工在內的全體員工。

2022年廉潔培訓績效

華潤燃氣各公司開展各類型廉潔教育500餘場次，覆蓋人數近5萬人；警示教育280場，覆蓋人次1萬餘人；不同形式廉潔談話覆蓋8,000餘人次；廉潔主題黨日活動覆蓋1萬餘人。

貪腐舉報及處置

我們支持利益相關方檢舉相關貪腐行為，制定有《合規工作投訴舉報管理指引》《華潤燃氣控股有限公司紀律審查保密工作規定》，已設立貪腐違規舉報熱線、舉報郵箱及舉報信郵寄地址，任何人士均可以在保密情況下通過電話、郵件及親自上訪等方式，舉報本集團員工涉及的違規行為。我們對舉報者信息及權益保障做出嚴格要求，按照國家法律及公司內部的管理規定等，要求執行工作人員須嚴格遵守保密規定並簽署保密協議書，並將舉報材料和記錄列入密件管理，並將舉報材料和記錄列入密件管理，確保舉報內容嚴格保密。我們禁止一切打擊報復舉報者的行為，若舉報者收到威脅、打擊、報復，我們將給予相應的法律支持與保護，保護舉報人權益不受侵犯。

尊重知識產權

華潤燃氣嚴格遵守《中華人民共和國商標法》《中華人民共和國專利法》等相關法律法規，制定《知識產權管理規定》《專利維護規定》等內部制度，嚴格保護自身及他人知識產權。2022年，我們獲得專利授權75項，其中發明專利5項、實用新型專利67項、外觀專利3項。

Strengthening integrity culture development and consolidating awareness of the mindset of “do not want to be corrupt”

CR Gas attached importance to the initiative to develop a clean and incorrupt culture and consistently carried out activities to promote a culture of integrity and consolidate employees' awareness of integrity through integrity reminders, integrity training, warning case studies and other activities. During the reporting period, we provided more than 500 integrity education sessions of over 700 hours in total, attracting more than 40,000 participants, which covered directors and all employees (including part-time).

2022 Integrity training performance

Companies under CR Gas conducted more than 500 sessions of integrity education with nearly 50,000 participants, 280 sessions of warning education with more than 10,000 participants, integrity talks of various forms with more than 8,000 participants and integrity themed Party Day activities with more than 10,000 participants.

Corruption reporting and handling

We encourage our stakeholders to report corrupt practices and have developed the “Guidelines for Complaint Reporting and Management of Compliance Work” and “Disciplinary Review Confidentiality Regulations of China Resources Gas Group Limited”, with a whistle-blowing hotline, a mailbox, and a mailing address in place for reporting corrupt and non-complying practices. Anyone can confidentially report violations concerning the Group's employees through the hotline, mailbox and personal visits. We have strict requirements on protecting whistle-blowers' information and their rights and interests. In accordance with national laws and the Company's internal management regulations, we require executive personnel to strictly abide by confidentiality requirements and sign a confidentiality agreement and whistle-blowing materials and records will be managed as confidential documents to ensure that the contents of the report are strictly confidential. All retaliations against whistleblowers are prohibited. In case a whistleblower is threatened, retaliated against, or revenged against, we will offer the corresponding legal support and protection to the whistleblower to protect the rights and interests of the whistleblower from being infringed.

Respect for intellectual property

CR Gas has strictly adhered to relevant laws and regulations including the Trademark Law of the People's Republic of China and Patent Law of the People's Republic of China and formulated internal systems including the Intellectual Property Management Regulations and Patent Maintenance Regulations to safeguard the intellectual property rights of itself and others. In 2022, we were granted 75 patents, including 5 invention patents, 67 utility model patents and 3 design patents.

1.2 ESG管理，強化企業責任

可持續發展是時代永恆的議題。華潤燃氣已形成自身的ESG理念、制定ESG戰略並構建ESG管理架構，不斷築牢華潤燃氣的可持續發展管理根基，承擔企業責任，實現國家第二個百年奮鬥目標貢獻力量。

ESG理念

為實現「成為大眾信賴和喜愛的世界一流能源服務企業」的美好願景，華潤燃氣秉承「促進綠色發展，共創美好生活」的使命，樹立「誠實守信業績導向以人為本合作共贏」的價值觀，立足集團「十四五」戰略文化理念體系，將可持續發展責任理念融入日常的營運管理中，堅持與消費者、產業鏈、員工、環境及社會協同發展。

ESG戰略

我們結合集團戰略整體發展方向和發展思路，立足於集團業務發展和日常經營的實際情況，將可持續發展融入企業經營戰略中，開展體系化、高效化的可持續發展工作和可持續發展相關議題的推進。我們將持續主動承擔社會責任，在日常經營過程中不斷推行ESG理念，從以下三個方面，努力實現經濟、環境與社會效益的均衡發展：

- 強化內部ESG意識：正確把握責任理念的核心內涵，深刻理解履行可持續發展的重要意義，高度重視ESG工作，通過ESG培訓相關和普及教育，加強員工對ESG理念的認知，努力形成踐行可持續發展的企業文化。

1.2 ESG MANAGEMENT TO STRENGTHEN CORPORATE RESPONSIBILITY

Sustainable development is a timeless topic of the times. CR Gas has formed its own ESG philosophy, formulated ESG strategies and built an ESG management structure to continuously strengthen the foundation of its sustainable development management, assume corporate responsibilities and contribute to the achievement of the country's second centenary goal.

ESG Concepts

To achieve the vision of being a trustworthy and beloved world-leading energy services enterprise, CR Gas upholds the mission of embracing green development and building a beautiful life, establishes the values of being honest and trustworthy, performance-oriented, customer-based and collaborative for mutual benefits, sets foot on the Group's 14th Five-Year Plan strategic culture system to incorporate sustainable development responsibility concepts into daily operation and management, and strives for synergistic development with consumers, industrial chains, employees, the environment and society.

ESG Strategies

We combine the Group's strategic overall development direction and development ideas and set foot on the actual situation of the Group's business development and daily operation to integrate sustainable development into corporate management strategies and carry out systematic and efficient sustainable development work and promote sustainable development-related issues. We will continue to take the initiative to assume social responsibility, continuously implement the ESG concept in our daily operations, and strive to achieve a balanced development of economic, environmental and social benefits in the following three aspects:

- Enhancing internal ESG awareness: properly grasping the core meaning of the responsibility concept, thoroughly understanding the importance of adopting sustainable development, attaching great importance to ESG work, enhancing employees' awareness of the ESG concept through ESG training-related education and striving to form a corporate culture of adopting sustainable development.



- 健全ESG管理機制：加強對可持續發展重要議題的識別、評估和管理，從ESG所涵蓋的主要方面，確定各業務板塊的工作重點及各職能部門的職責分工；不斷完善內部工作運行機制，實現重點突破及有效對接，提高管理水平。
- 加強利益相關方溝通：在與各利益相關方的溝通實踐中推動企業可持續發展，構建「日常、定期、年度」三位一體的可持續發展溝通機制，攜手股東、政府、客戶、員工、夥伴、社區等利益相關方，共同履行企業可持續發展義務。

ESG管治架構

華潤燃氣高度重視可持續發展，不斷完善社會責任組織體系，建立從決策、溝通到實際執行全流程打通的組織體系，未來我們將不斷完善這一體系，進一步明確分工與責任，為ESG工作的開展奠定紮實的基礎。

- 董事會：負責公司ESG戰略方向的領導、決策和推進，聽取、審視和檢討辦公室匯報的ESG管理的政策、治理、戰略、規劃、報告以及目標制定及完成進度等。
- ESG跨部門工作小組：以安全管理部牽頭，辦公室、營運部、人力資源部、財務部等職能部門協同的形式，開展ESG規劃、管理工作，並定期向董事會匯報ESG工作情況。
- 相關部門：各職能部門及區域公司負責落實、實施ESG跨部門工作小組相關決策與工作計劃。

- Improving ESG management mechanism: strengthening the identification, evaluation and management of material issues of sustainable development, giving priority to the work of each business segment and the division of responsibilities of each functional department from the major aspects covered by ESG; constantly improving internal work operation mechanisms, achieving key breakthroughs and effective dovetailing, and improving management.
- Strengthening communication with stakeholders: promoting sustainable development through communication with stakeholders, building a sustainable development communication mechanism for daily, regular and annual information, and working with shareholders, governments, customers, employees, partners, communities and other stakeholders to undertake corporate sustainable development obligations.

ESG Governance Structure

CR Gas highly regards sustainable development by constantly improving its social responsibility institutional system, establishing one that connects the entire process from decision-making through communication to actual implementation. In the future, we will keep improving this system, further delineating the division of labour and responsibilities and laying a solid foundation for the development of ESG work.

- The Board: responsible for the steering, decision-making, and promoting of the strategic direction of ESG of the Company, the receiving, examining and reviewing of ESG management policies, governance, strategies, plans and reports as reported by the Office, as well as goal setting, completion progress and others.
- The inter-departmental ESG working group: led by the Safety Management Department to carry out ESG planning and management by coordinating with functional departments including the Office, Operation Department, Human Resources Department and Finance Department, and to regularly report to the Board on ESG efforts.
- Related departments: all functional departments and regional companies are responsible for implementing decisions and carrying out working plans of the inter-departmental ESG working group.

董事會聲明

華潤燃氣高度重視環境、社會及管治管理，我們根據聯交所《環境、社會及管治報告指引》的披露要求，持續完善公司治理體系。

華潤燃氣董事會對環境、社會及管治事宜承擔最終責任。我們負責制定集團環境、社會及管治戰略，監督戰略執行情況；通過與利益相關方溝通，內部風險識別，結合政策實事，建立環境、社會及管治關鍵議題庫；設定環境、社會及管治目標，並定期檢討目標進度；將環境、社會及管治的關鍵風險納入風險管理體系，制定風險應對措施。

董事會將不斷加強對環境、社會及管治事務的參與力度，不斷更新完善管理及目標情況，以發揮董事會在參與監管本集團ESG事務中的領導作用，踐行可持續發展承諾。

責任溝通

華潤燃氣始終堅持與各內外外部利益相關方保持積極的雙向溝通協作，構建「日常、定期、年度」三位一體的可持續發展溝通機制，為利益相關方提供多種溝通渠道。搭建多元的內外部溝通平台，通過信息報送、專題匯報、戰略合作、股東會議、企業網站、滿意度調查、公益活動、媒體溝通等方式，傳播企業理念和履責動態，增進利益相關方對公司的理解和支持。攜手各方共同推動經濟、環境及社會的可持續發展。我們重視利益相關方的意見和建議，定期負責收集及評估利益相關方的反饋，並根據反饋調整本集團ESG工作的戰略及行動。

Board Statement

CR Gas highly regards ESG management, and we continue to improve our corporate governance system according to the disclosure requirements of the Stock Exchange's Environmental, Social and Governance Reporting Guide.

The Board of CR Gas has ultimate responsibility for ESG matters. We are responsible for developing the Group's ESG strategies and overseeing their implementation; establishing the pool of ESG issues through stakeholder communication, internal risk identification, and integrating them with policy facts; setting ESG targets and regularly reviewing their progress; and incorporating key ESG risks into the risk management system and formulating risk response measures.

The Board will consistently step up its participation in ESG affairs and constantly update and improve its management and targets to play a leading role in its participation in overseeing the Group's ESG affairs and to put into practice its commitment to sustainable development.

Responsible Communication

CR Gas is committed to maintaining active two-way communication and collaboration with internal and external stakeholders, building a three-in-one sustainable development communication mechanism for daily, regular and annual information, and providing diverse communication channels for stakeholders. A diversified internal and external communication platform was built to disseminate our corporate philosophy and performance dynamics and enhance the understanding and support of stakeholders to the Company through information reporting, thematic reports, strategic cooperation, shareholder meetings, corporate website, satisfaction surveys, charity activities, media communication and other means. Working with all stakeholders to promote the sustainable development of the economy, the environment and society. We attach importance to opinions and suggestions from stakeholders and are responsible for regularly collecting and evaluating stakeholder feedback and refining our ESG strategies and actions based on the feedback.



華潤燃氣與利益相關方的溝通方式：

Communication Channels between CR Gas and Stakeholders:

利益相關方 Stakeholder	期望與訴求 Expectations and Aspirations	華潤燃氣的回應 Response from CR Gas
 政府與監管部門 Government and regulatory bodies	依法合規經營 Compliant operation in accordance with the law 安全穩定供氣 Safe and stable gas supply 綠色低碳發展 Green and low-carbon development	建立健全風控管理組織 Established a sound risk management structure 開展安全文化建設 Carried out safety culture development 深化安全管理體系建設 Deepened development of safety management systems 環保指標滿足國家標準 Met national standards on environmental protection indicators
 股東與投資者 Shareholders and investors	獲取投資回報 Obtaining investment returns 信息公開透明 Information disclosure and transparency 保障股東權益 Protection of shareholders' rights 降低經營風險 Reducing operational risks	建立完善科學的決策及監督機制 Established and improved scientific decision-making and supervision mechanism 做好公開、透明的信息披露 Made open and transparent information disclosure 組織參與針對不同類型股東的活動 Hosted and participated in activities for different types of shareholders 加強風險管控，開展內部審計 Strengthened risk management and conducted internal audit
 用戶 Users	保障產品質量與安全 Ensuring product quality and safety 優質客戶服務 Quality customer services 保護隱私 Protecting privacy 便捷繳費 Convenient payment methods	產品質量控制 Product quality control 制訂完善的服務目標 Set comprehensive service targets 滿意度調查 Satisfaction survey 保護客戶隱私 Protected customer privacy 開通多元化繳費通道 Opened up diversified payment channels

華潤燃氣與利益相關方的溝通方式：

Communication Channels between CR Gas and Stakeholders:

利益相關方 Stakeholder	期望與訴求 Expectations and Aspirations	華潤燃氣的回應 Response from CR Gas
 員工 Employees	保障基本權益 Protection of fundamental rights 職業發展及平等晉升機會 Career development and equal promotion opportunities 健康與安全 Health and safety 人文關懷 Humanistic care	依法簽訂勞動合同 Signed labour contracts in accordance with the law 積極開展各類培訓 Proactively conducted various types of training sessions 完善人才晉升與薪酬機制 Improved talent promotion and remuneration mechanism 加強職業健康與安全管理 Strengthened occupational health and safety 推行多樣化的員工福利 Implemented diversified employee benefits
 合作夥伴及供應商 Partners and suppliers	誠信履約 Performance with integrity 資源共享 Resource sharing 共贏發展 Win-win development	依法履行合同 Performed contracts in accordance with the law 規範供應鏈管理 Regulated supply chain management 參加行業交流活動 Participated in industry exchange activities
 社區與公眾 Community and the public	抗疫防疫 Anti-epidemic and epidemic prevention 扶弱助困 Poverty alleviation 捐資助學 Donations to schools 志願服務 Volunteer services	積極參與抗疫防疫工作 Actively participated in anti-epidemic and epidemic prevention work 支持鄉村振興戰略 Supported rural revival strategy 支持教育事業發展 Supported educational development 鼓勵員工參加志願服務 Encouraged employees to participate in volunteer services
 環境 Environmental	貢獻清潔能源 Contributing to clean energy 減少溫室氣體排放 Reducing greenhouse gas emission 保護生物多樣性 Preserving biodiversity 應對氣候變化 Addressing Climate Change	發展新能源 Developed new energy 污染物達標排放 Discharged Pollutants discharge under certain standards 推進煤改氣項目 Promoted coal-to-gas projects 倡導綠色辦公 Advocated green office 加強環境信息披露 Strengthened environmental information disclosure



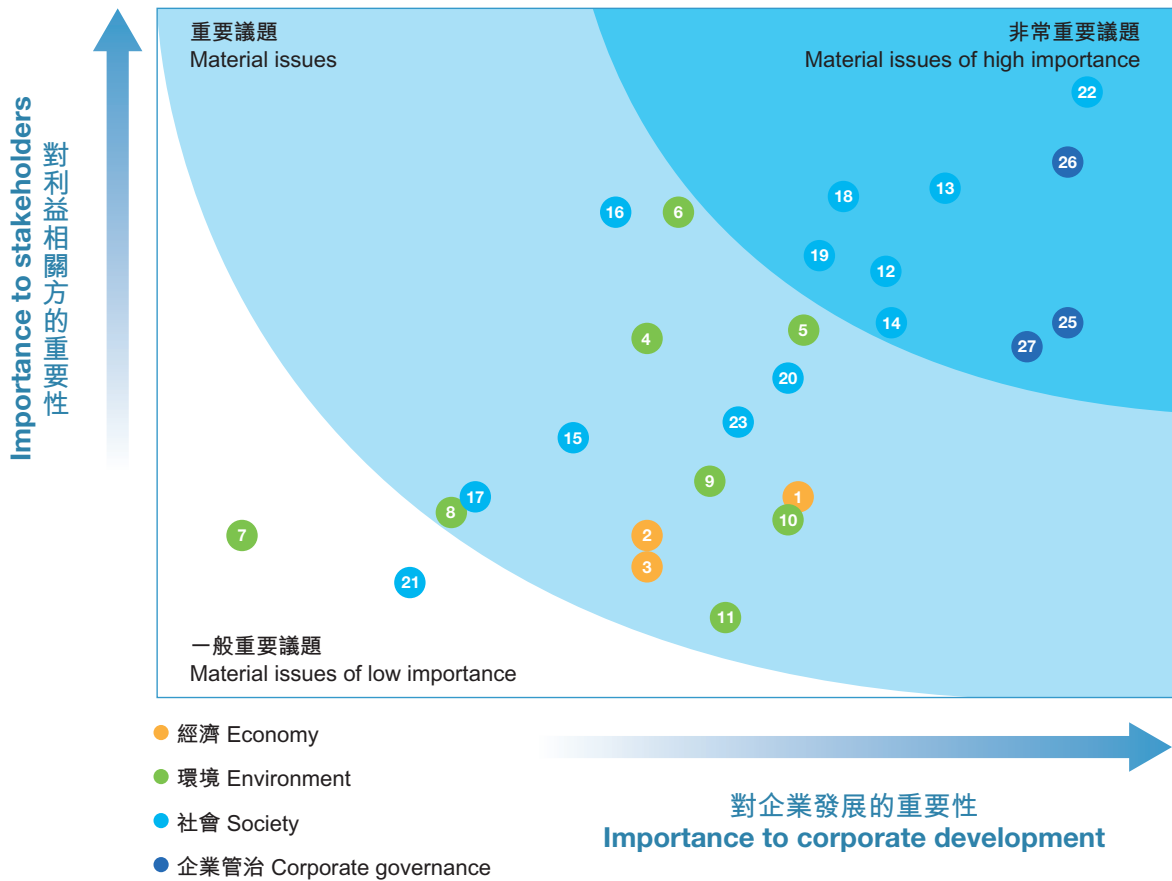
議題分析

由於華潤燃氣本年度經營業務及可持續發展管理均未發生重大變更，因此，在本年度可持續發展報告的準備過程中，我們邀請了專業顧問對年度可持續發展管理議題進行回顧及評價，確保各項議題與集團所在行業的高度關聯性。我們通過參考國內外優秀同行企業的可持續發展議題，結合資本市場等相關方對於華潤燃氣可持續發展的關注點，在上一年度重大性議題分析的基礎上，最終歸納、更新及總結了2022年度華潤燃氣各項可持續發展議題及其重要性，作為本報告的編製基礎。下表中以粗體顯示的項目為與華潤燃氣高度相關的重要性議題，有關議題將會在本報告內重點描述及討論。

Issues Analysis

As there were no major changes in the business and sustainable development management of CR Gas in the Year, professional consultants were engaged to review and evaluate the annual sustainable development management issues during the preparation of the Year's sustainability report to ensure that the issues are highly relevant to the industries in which the Group operates. By referring to the sustainable development issues of outstanding domestic and foreign peers, taking into the concerns of the capital market and other stakeholders about the sustainable development of CR Gas, and based on the analysis of the material issues of the previous year, various sustainable development issues of CR Gas in 2022 and their materiality were summed up and updated, serving as the basis for the preparation of the report. The items shown in bold in the table below represent materiality issues highly relevant to CR Gas, which will be highlighted and discussed in the report.

華潤燃氣重要性議題列表
Material Issues of CR Gas



下表中以粗體顯示的項目為與華潤燃氣高度相關的重要性議題，有關議題將會在本報告內重點描述及討論。

The items shown in bold in the table below represent material issues highly relevant to CR Gas, which will be highlighted and discussed in the report.

華潤燃氣重要性議題列表
Material Issues of CR Gas

經濟 Economy	<ol style="list-style-type: none"> 1. 持續穩定回報 Sustainable and stable return 2. 帶動本地經濟 Contribution to local economy 3. 深化自主創新 Deepening independent innovation
環境 Environment	<ol style="list-style-type: none"> 4. 倡導節能減排 Encouraging energy saving and emission reduction 5. 把握清潔能源機遇 Seizing opportunities regarding clean energy 6. 加強洩漏及廢棄物管理 Strengthening leakage and waste management 7. 促進物料回收及重複利用 Promoting recycling and repeated use of materials 8. 提升資源使用效益 Enhancing efficiency in the use of resources 9. 加強生態保護與恢復 Strengthening ecological conservation and restoration 10. 減少溫室氣體排放 Reducing greenhouse gas emission 11. 加強氣候風險管理 Strengthening climate risk management



華潤燃氣重要性議題列表
Material Issues of CR Gas

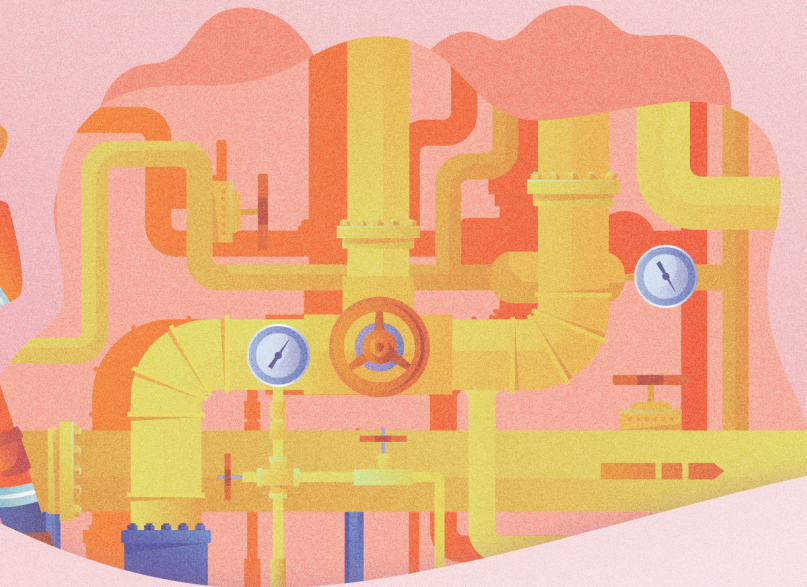
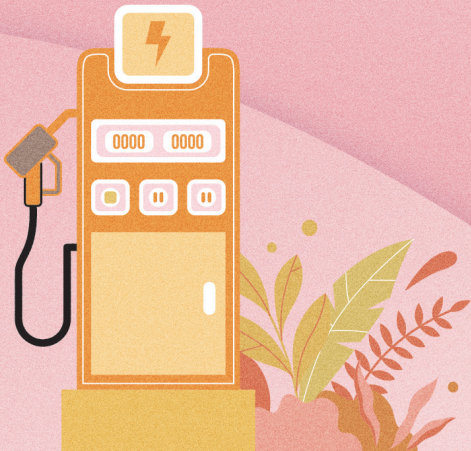
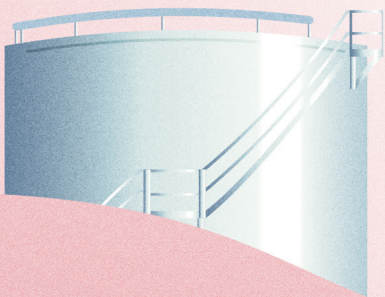
<p>社會 Social</p>	<p>12. 建立良好的勞資關係 Establishing good employer-employee relationship</p> <p>13. 員工職業安全健康 Occupational safety and health of employees</p> <p>14. 員工培訓與發展 Staff training and development</p> <p>15. 僱傭多元及平等機會 Employment diversity and equal opportunities</p> <p>16. 防止童工或強制勞工 Prohibiting employment of child labour or forced labour</p> <p>17. 尊重原住民權利 Respecting rights and interests of the natives</p> <p>18. 信息安全與客戶隱私保護 Information security and protection of customer privacy</p> <p>19. 質量管理與客戶服務 Quality management and customer services</p> <p>20. 保護知識產權 Protecting intellectual property rights</p> <p>21. 社區公益與共建 Community charity and co-building</p> <p>22. 保障安全穩定供氣 Ensuring safe and stable gas supply</p> <p>23. 供應商管理與評估 Supplier management and assessment</p>
<p>企業管治 Corporate governance</p>	<p>24. 懲治貪污腐敗 Punishment on corruption</p> <p>25. 完善公司治理 Improving corporate governance</p> <p>26. 合規守法經營 Compliant and legal operation</p> <p>27. 反對不當競爭行為 Anti-unfair competition</p>

價值創造

為生活 增添精彩

Value Creation

to Shape
a Better Life



華潤燃氣始終秉承「以客戶為導向」的服務理念，為客戶供應安全清潔的燃氣，提供專業、高效、溫暖的服務。

CR Gas always upholds the customer-oriented service philosophy to provide customers with safe and clean gas as well as professional, efficient and friendly services.

2022 責任績效
2022 Responsibility Performance

產品合格率
Product qualification rate

100%

客戶滿意度
Customer satisfaction

95.7%

SDGs



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



17 PARTNERSHIPS
FOR THE GOALS



2

價值創造，為生活增添精彩 Value Creation to Shape a Better Life

2.1 品質創新，提供優質體驗

華潤燃氣嚴格執行國家燃氣監管標準，嚴把產品質量關，以創新科技帶動產業升級，深化創新項目管理及研發。

產品質量

華潤燃氣嚴格遵守國家相關質量標準要求，符合《天然氣》(GB 17820-2018)的相關規定，確保天然氣供氣壓力和加臭劑含量符合《城鎮燃氣設計規範》(GB 50028-2020)的相關規定，以保障客戶享受到優質的燃氣服務與產品。公司從設計、施工、供應三層面嚴格把控產品質量。(供應質量管控詳見「健全供應鏈管理」。)

設計質量管控

2022年，公司發揮技術委員會技術引領和決策作用，推進設計項目標準化管理，加強重大項目管控，深化質量提升和風險防範，確保燃氣項目本質安全。

2.1 QUALITY INNOVATION TO DELIVER EXCELLENT EXPERIENCE

CR Gas strictly implements national gas standards to control product quality, drives industry upgrading with innovative technologies, and deepens innovative project management and research and development.

Product Quality

CR Gas strictly complies with relevant national quality standards including Natural Gas (GB 17820-2018) and ensures that the natural gas supply pressure and the content of odorant meet the relevant provisions of Urban Gas Design Code (GB 50028-2020), so as to ensure that customers enjoy quality gas products and services. The Company strictly controls product quality from the three levels of design, construction and supply. (For details on control of supply quality, please refer to Improving Supply Chain Management.)

Control of Design Quality

In 2022, the Company had the Technical Committee play its technical leading and decision-making role to promote the standard management of design projects, strengthen the management of major projects, and reinforce quality improvement and risk prevention, thus ensuring the intrinsic safety of gas projects.





公司全面貫徹由設計研究中心負責設計制圖、規定設計深度，通過加強設計圖紙審核審定把關，實現常規工程標準化。同時通過設置專業總工，實行跨公司項目分級評審，推進高端工程統一化。此外，持續優化項目監督檢查機制，深化整改問題並落實，達成質量監督常態化。

施工質量與管控

公司建立質量保證體系組織架構，明確人員及職責要求，並根據業務需要編製《質量安全獎懲規定》《壓力管道安裝質量保證體系作業指導書》《華潤燃氣常見工程質量通病案例集》(CRCGAS GC 23502-2015)等內部文件，強化全員質量意識，落實感控責任，提升工程質量管控水平，實現燃氣工程的高標準質量管理。

產品服務

保障穩定供氣

華潤燃氣秉持央企的責任與擔當，在2022年在氣價高，氣量少的情況下，各區域公司及時採購液化天然氣(LNG)，確保LNG儲備站儲罐滿液位，以保障LNG應急供應儲備。同時，我們秉承「民生優先」的保供原則，在必要時通過「壓非保民」(只要是民生用氣，無論是合同內外，都要無條件予以保障)措施，啟動和實施應急預案，保障民生需求，堅定履行社會責任。

數字化建設

華潤燃氣制定《華潤燃氣數字化轉型行動計劃專項實施方案》等內部規劃，通過推動智慧燃氣建設，實現十四五末關鍵業務環節數字化覆蓋率達到80%，達成資源配置的最優化和價值創造的最大化。

The Company implements a system for standard conventional engineering where the Design Research Centre is responsible for preparing design drawings and determining the design depth, and then design drawings will be subject to stringent review and approval. Meanwhile, we have professional chief engineers in place to conduct multi-level review of cross-company projects and promote the consistency of premium projects. In addition, we constantly strengthen our project supervision and inspection mechanism and deepen the rectification of problems and implementation efforts, thus achieving regular quality supervision.

Construction Quality and its Control

The Company has established a quality assurance system institutional structure to clearly specify personnel and responsibility requirements, and compiled internal documents including the Provisions on Quality and Safety Awards and Punishments, Operational Guide on Quality Assurance System for Pressure Pipeline Installation and Collection of Cases on General Quality Problems of Common Works of CR Gas (CRCGAS GC 23502-2015) based on business needs to strengthen the quality awareness of employees, enforce responsibility for monitoring and control and improve the standards of project quality control, so as to achieve high standard gas engineering quality management.

Products and Services

Ensuring Stable Gas Supply

CR Gas lives up to its responsibilities as a stated-owned enterprise directly under the central government. In 2022, given high gas prices and low gas supply, regional companies timely purchased liquefied natural gas (LNG) to ensure that storage tanks in LNG storage stations remain full, so as to be well-prepared for emergency LNG supply. In addition, we uphold the principle of giving priority to people's livelihood. If necessary, we will give priority to residents' gas supply (unconditionally guarantee gas supply to residents, whether contractually or non-contractually), launch and carry out emergency plans to ensure that residents' needs are met, so as to undertake our social responsibility.

Digital Transformation

CR Gas has developed a series of initiatives, including the Implementation Plan for the Digital Transformation Action Plan of CR Gas, to increase the digital coverage of business processes to 80% by the end of the 14th Five-Year Plan period through promoting the construction of smart gas, so as to achieve optimal resource allocation and maximal value creation.

建設數字化平台

華潤燃氣致力於打造燃氣行業首家基於雲原生架構、完全自主掌控的數字化平台。2022年，公司以潤格數字化平台為基礎進行研發建設與運行，不斷夯實數字化與智能化基礎，初步實現技術標準統一、數據集中分析利用、通用業務功能沉澱復用。以平台內嵌模塊管網數字平台為例，公司利用北斗系統精準定位，實現現場自動成圖與校核，數字化管理已經覆蓋113,143公里高中低管網。

Building a Digital Platform

CR Gas is committed to building the first self-developed digital platform based on cloud-native architecture in the gas industry. In 2022, the Company carried out R&D, construction and operations based on the Rig Digital Platform, constantly consolidated the foundation of digital and smart operations, and initially achieved the unification of technical standards, central analysis and use of data, and frequent use of general business functions. Taking the pipeline digital platform-an embedded module of the Platform as an example, the Company uses the Beidou system to achieve accurate positioning and automatic field mapping and verification, with digital management coverage of 113,143 kilometres of high, middle and low-pressure pipelines.



目標：快速響應需求、系統融合貫通、統一技術架構

Goals: Rapid Response to Demand, System Integration and Unified Technical Architecture



潤格數字化平台
Rig Digital Platform



「5G+智慧燃氣」

「5G+智慧燃氣」項目持續深入打造全業務鏈智能化場景。目前已完成包括5G無人值守場站、5G管網巡檢、5G智慧工地、5G應急指揮等所有業務場景建設，借助5G基站高效互聯科技基礎，打造從項目施工、場站監控、管線巡檢、營運監測到應急指揮聯動的智慧管理閉環。該項目獲得國家工信部5G綻放杯、中央企業數字化發展研究院2021年企業數字化轉型典型場景等行業內外的多項榮譽。

“5G+ Smart Gas”

The “5G+ Smart Gas” project continues to intensively create smart scenarios along the whole business chain and has completed the construction of all business scenarios, including 5G unattended stations, 5G pipeline inspection, 5G smart construction sites and 5G emergency command. Empowered with the efficient interconnection technology of 5G base stations, it has created a closed loop of intelligent management from project construction, station monitoring, pipeline inspection and operations monitoring to emergency command coordination. The project has won a number of accolades in and outside the industry, including an award from the Bloom Up 5G Application Competition hosted by the MIIT and the title of Classic Scenarios for Digital Transformation of Enterprises in 2021 from the China Central State-owned Companies Digital Development Academy.

5G+智慧燃氣項目建設

Construction of “5G+ Smart Gas” Project

領域 Area	內容 Description
5G基礎設施建設 5G infrastructure construction	建立5G獨享基站，場站5G專網全覆蓋，打造敏捷智能基礎設施，適配本次應用的高可靠需求。 Building exclusive 5G base stations to enable 5G private network to cover all gas stations, and creating an agile and intelligent infrastructure to meet the high reliability requirements of the application.
5G無人值守場站 5G unattended stations	基於5G+AI結合的AI視頻、AI作業行為管控、5G巡檢機器人等增強型應用，打造5G無人值守場站。 Building 5G unattended gas stations based on enhanced 5G+AI applications such as AI video, AI operational action control, 5G patrol robot, etc.
管網智能巡檢 Smart pipeline inspection	結合AI及無人機技術增強巡檢手段，建設AI無人機巡檢、密閉閥井監測，提升管網風險感知能力。 Applying AI and drone technologies to develop inspection capabilities, including AI drone inspection and closed valve well monitoring systems, so as to improve the perception of pipeline risks.
IOC大屏及數字孿生 IOC large screen and digital twin	通過數字孿生技術，實現管網及場站全局數字化動態可視，通過IOC智慧運行管理中心，全方位匯聚核心業務數據。 Using digital twin technology to enable global, digital, dynamic and visual-based pipelines and stations, and integrating core business data via the Intelligent Operations Centre (IOC).
5G應急調度指揮 5G emergency dispatch command	以高清音視頻融合通信、5G多功能應急指揮車等為載體，構建一體化應急指揮聯動。 Building an integrated emergency command system based on integrated high-resolution audio-visual communication, 5G multifunctional emergency command vehicles, etc.
工程工地AI監管 AI supervision of construction sites	通過5G+AI視頻，融合7類首創業務算法，構建實時智能感知的第三方施工監管。 Using 5G+AI video and seven types of pioneering algorithms to develop a smart system for real-time third-party construction supervision.



榮獲國家工信部5G綻放盃智慧能源賽道一等獎
Winning the first prize for smart energy from the Bloom Up 5G Application Competition hosted by the MIIT

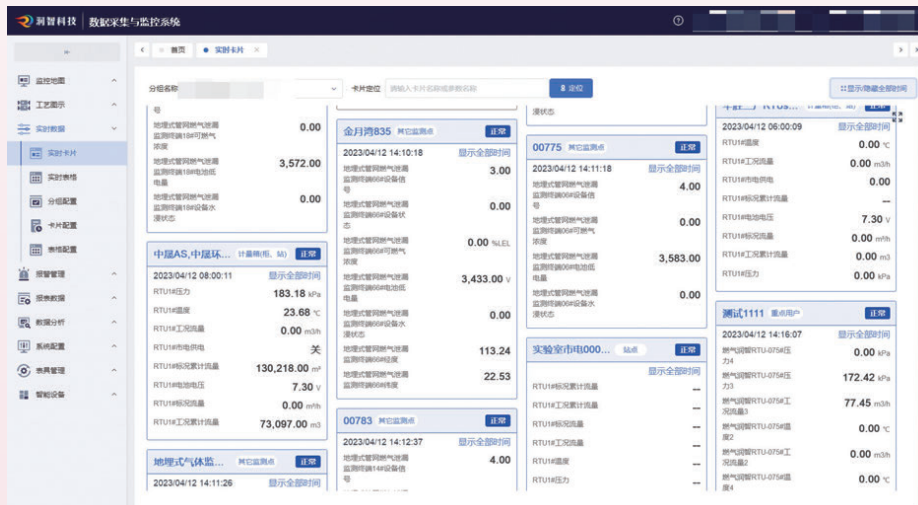


入選中央企業數字化發展研究院2021年企業數字化轉型典型場景
Being selected as Classic Scenarios for Digital Transformation of Enterprises in 2021 from the China Central State-owned Companies Digital Development Academy

案例：優化管網巡檢系統，確保居民用氣安全 Case Study: Enhancing the Pipeline Inspection System to Ensure Residential Gas Safety

華潤燃氣持續優化管網「巡檢系統」。2022年，通過對巡檢人員、車輛、工地分佈等情況24小時監控，安裝有壓力遠傳裝置5,087台，實現系統平台有效監測壓力變化、自動實現報警定位，並對發現的壓力異常問題做到及時發現、及時消除，切實提高供氣壓力穩定性，保障居民用氣安全。

CR Gas constantly enhances its pipeline inspection system. In 2022, by conducting 24-hour monitoring of inspection personnel, vehicles and construction sites and installing 5,087 pressure remote transmission devices, we achieved effective platform-based monitoring of pressure changes and automatic alarm and positioning, and enabled timely detection and elimination of pressure anomalies, thus improving the stability of gas supply pressure and ensuring residential gas safety.



管網巡檢系統
Pipeline Inspection System



產品創新

創新發展是華潤燃氣迎接挑戰的動力。公司遵循《中華人民共和國科學技術進步法》《中華人民共和國促進科技成果轉化法》等相關法律法規，制定了《華潤燃氣設計研究中心創新工作指引》《設計研究中心創新研發工作管理辦法》《研發項目管理規定》《研發成果獎勵規定》《研發人員管理規定》等內部規章制度，建立產品技術創新制度保障體系。

創新研究發展

華潤燃氣重點圍繞天然氣、光伏、氫能、充換電等核心領域開展關鍵核心技術攻關。以「天然氣+可再生能源」為基礎，「低碳技術+零碳技術」為核心，以「全方位低碳、零碳化供能方案+智能平台」為驅動，以市場需求為引領，開展「源、網、荷、儲」一體化的能源供應及管理服務，推進綠色轉型創新技術研發。2022年已發佈《華潤燃氣技術圖譜》，明確科技創新發展分階段目標及關鍵技術方向，並成功參與申報1項國家重點研發計劃。

保障知識產權

為維護及保障知識產權，華潤燃氣制定了《知識產權管理規定》《專利維護規定》等相關政策制度，增加知識產權保護力度，提高公司業務創新競爭力。截至2022年12月31日，華潤燃氣累計授權發明專利14個、實用新型專利333個、外觀設計專利5個，參與編制7項國家標準、4項行業標準。

Product Innovation

Innovative development is the driving force for CR Gas to meet challenges. In accordance with relevant laws and regulations including the Law of the People's Republic of China on Science and Technology Progress and Law of the People's Republic of China on Promoting the Transformation of Scientific and Technological Achievements, the Company has developed a series of internal rules and regulations, including the Guidelines for the Innovation Work of Gas Design Research Centre, Management Measures for the Innovative R&D of Design Research Centre, Measures for the Management of R&D Projects, Measures for Rewarding R&D Achievements and Measures for the Management of R&D Personnel, to build a product innovation system.

Innovative Research and Development

CR Gas has researched key core technologies in natural gas, photovoltaics, hydrogen energy, battery charging and swapping, and other core areas. Integrated energy supply and management services of "source, grid, load and storage" were carried out with "natural gas + renewable energy" as the foundation, "low-carbon technology + zero-carbon technology" as the core, and "all-round low-carbon and zero-carbon energy supply solutions + intelligent platform" as the driver, and market demand as the guidance, and advanced the research and development of green transformation and technology innovation. In 2022, CR Gas released the "CR Gas Technology Map" to clarify the phased targets and key technology directions for scientific innovation development and successfully participated in the application of 1 National Key R&D Program.

Protection of Intellectual Property

In order to maintain and protect intellectual property rights, CR Gas has formulated relevant policies and measures, such as the Intellectual Property Management Regulations and Patent Maintenance Regulations, to strengthen the protection of intellectual property rights and improve its competitiveness in business innovation. As at 31st December 2022, CR Gas has been granted a total of 14 invention patents, 333 utility model patents, and 5 design patents, and participated in the compilation of 7 national standards and 4 industry standards.

2.2 竭誠服務，創造美好生活

華潤燃氣以真誠、負責的服務維護客戶合法權益，以專業、親切的服務不斷提升客戶滿意度，成就高品質生活。

客戶權益保護

華潤燃氣秉持以客戶為導向的服務理念，遵循國家《消費者權益保護法》，不斷完善服務管理，全方位維護客戶合法權益，為客戶提供專業、高效、親切的服務。

保護信息安全

公司嚴格遵守國家《網絡安全法》和關鍵信息保護等相關法律法規，制定《華潤燃氣數據安全管理指引》《華潤燃氣客戶隱私保護工作指引》《華潤燃氣網絡安全管理辦法》等制度。

我們建立網絡安全與信息化領導小組，構建公司信息安全保障設施體系，公司通過要求各級員工簽署《保密協議》，加密用戶敏感信息，設置分級審批和權限管理要求，每年開展獨立第三方審計及網絡安全風險評估等舉措，確保網絡信息安全，並獲得ISO27001信息安全認證。

集團於本報告期內沒有出現侵犯客戶信息與隱私的投訴事件。

負責任營銷

華潤燃氣嚴格遵循《中華人民共和國廣告法》《反不正當競爭法》等法律法規要求，主動配合相關政府部門對經營範圍內產品和服務的特徵、價格、質量等有關信息進行公開。

公司持續加強公平營銷管理，規範營銷人員在廣告發佈、售電過程中以及合同簽署等環節的行為，嚴禁出現傳播誤導性、歧義性的產品信息和過度承諾現象，保障客戶的知情權。

2.2 SINCERE SERVICES TO CREATE A BETTER LIFE

CR Gas safeguards the legitimate rights and interests of customers with sincere and responsible services, and continuously improves customer satisfaction with professional and friendly services, in an effort to deliver quality life.

Protection of Customers' Rights and Interests

CR Gas fully protects the legitimate rights and interests of customers in accordance with the Law of the PRC on the Protection of Consumer Rights and Interests, and upholds the customer-oriented service concept to constantly improve service management and provide customers with professional, efficient and friendly services.

Protection of Information Security

The Company strictly abides by relevant laws and regulations including the Cybersecurity Law and Regulations on the Protection of Critical Information Infrastructure, and has developed the Guidelines of CR Gas for Data Security Management, Guidelines of CR Gas for Customer Privacy Protection and Measures of CR Gas for Cybersecurity Management, etc.

We have set up a cybersecurity and information technology leading team, built the Company's information security assurance system. The Company takes a variety of measures, including requiring employees at all levels to sign the Confidentiality Agreement, encrypting sensitive user information, setting hierarchical approval and authority management requirements, and engaging an independent third party to conduct an audit and a cybersecurity risk evaluation each year, so as to ensure network information security, and obtained ISO 27001 information security certification.

During the reporting period, the Group received no complaints of infringement of customer information and privacy.

Responsible Marketing

CR Gas strictly complies with relevant laws and regulations including the Advertising Law of the People's Republic of China and Anti-Unfair Competition Law, and cooperates with government authorities to disclose the characteristics, prices, quality and other relevant information of products and services within its scope of business.

In an effort to strengthen fair marketing management, the Company regulates the acts of marketing personnel in the process of advertising release, power sales and contract signing, and prohibits the dissemination of misleading or ambiguous product information and over-commitment to protect customers' right to know.



ISO27001 認證
ISO 27001 certification

客戶服務

華潤燃氣堅持從客戶需求出發，積極傾聽客戶意見與反饋，暢通服務渠道，認真落實服務承諾，有效提升客戶滿意度。

實行貼心售後

華潤燃氣秉持做好服務客戶的「最後一公里」，提升客戶服務效率的理念，按照國家規定、行業相關規範主動為客戶提供上門抄表、安全用氣檢查、維修搶修等售後服務。2022年公司啟動客戶服務標準升級工作，更新《華潤燃氣控股有限公司客戶服務標準手冊》等內部規章制度，規範服務禮儀、客服中心、呼叫中心、安檢、抄表、安裝及維修的服務標準，為客戶提供標準化、專業化服務。

積極處理投訴意見

2022年公司啟動客戶投訴管理升級工作，修訂《華潤燃氣控股有限公司客戶投訴管理指引》，進一步規範客戶投訴管理工作，發揮區域一體化監督管理作用，縮短投訴處理時限，提高服務質量。

此外，公司非常注重屬地化社會輿情動態，深入一線了解客服服務訴求。2022年，78家區域設置「專人專崗」進行動態監測、處理、反饋，做到日常輿情監管，及時跟進和處理客戶的訴求意見，確保投訴得到及時有效處理。

Customer Service

Upholding the principle of putting customer needs first, CR Gas listens to customers' opinions and feedback, maintains smooth service channels and earnestly implements service commitments, thereby improving customer satisfaction.

Considerate After-sales Service

CR Gas adheres to the principle of delivering last-mile services to customers and improving customer service efficiency, and provides customers with after-sales services such as door-to-door meter reading, gas safety inspection, repair and maintenance in accordance with national regulations and relevant industrial standards. In 2022, the Company upgraded customer service standards by updating relevant internal rules and regulations including the Customer Service Standard Handbook of China Resources Gas Group Limited to unify the service standards of service etiquette, customer service centre, call centre, security inspection, meter reading, installation and maintenance, so as to provide customers with standard and professional services.

Efficient Handling of Complaints

In 2022, the Company upgraded customer complaint management by revising the Guidelines for Customer Complaint Management of China Resources Gas Group Limited to further unify customer complaint management, play the supervisory and managerial role of regional integration and shorten the time limit for complaint handling, so as to improve service quality.

In addition, the Company takes the dynamics of local public opinions seriously and goes to the front line to learn about customer service needs. In 2022, 78 regional companies had dedicated personnel in place to dynamically monitor and cope with public opinions and collect feedback, and promptly follow up and deal with customers' demands and opinions, thus ensuring that complaints are handled in a timely and effective manner.

華潤燃氣客戶投訴處理流程
Customer Complaint Handling Process of CR Gas

投訴處理流程 Complaint handling process	投訴受理 Complaint acceptance	投訴受理渠道包括但不限於客服中心、客服熱線、客戶經理、客戶信函、手機營業廳(華潤燃氣通APP)、媒體辦等。 Complaint acceptance channels include but are not limited to customer service centre, customer service hotline, account managers, customer letter, mobile service hall (CR Gas Connect app), media office, etc.
	投訴轉辦 Complaint transfer	根據事件的涉及範圍，立即轉到相關責任部門跟進調查，客戶服務監督管理部門負責監督處理的過程。 Based on the scope of the incident, a complaint will be promptly transferred to the responsible department for follow-up investigation, and the customer service supervision department will be responsible for supervising the handling process.
	調查處理 Investigation and handling	根據事件真相分類，並按服務承諾的投訴處理時間完成處理。依託投訴處理系統確認各環節責任人。 We will classify the complaint based on the facts of the incident, and handle it within the time frame as promised. The persons in charge concerned will be identified based on the complaint handling system.
	跟蹤回訪 Follow-up call-back	採用電話回訪等形式，了解客戶對公司投訴處理情況的意見。 We will obtain the customer's feedback on the complaint handling results by phone call or other means.
	歸檔考評 Archiving and evaluation	填寫投訴處理的總結評語，並進行分類整理，再轉成員公司歸檔考評。 We will fill in a summary of complaint handling, sort it out, and then transfer it to the relevant member company for archiving and evaluation.

提升客戶滿意度

華潤燃氣積極開展投訴管理服務標準專項，通過強化維修改造與通氣點火服務，以及協同營業廳與線上渠道的服務，為客戶提供良好的辦事體驗，從而提高客戶滿意度。

2022年，華潤燃氣採用集團微網廳實時評價工具開展客戶滿意度調研，客戶滿意度得分為95.7分。

Improving Customer Satisfaction

CR Gas refines handling management service standards, and provides customers with a good service experience by strengthening the maintenance, renovation, gas supply and ignition services under the coordination of service halls and online channels, so as to improve customer satisfaction.

In 2022, CR Gas conducted a customer satisfaction survey using the real-time evaluation tool on the Group's WeChat business platform, with a customer satisfaction score of 95.7.



案例：着力打造「智能化服務」，實現便捷化用氣繳費 Case Study: Developing Smart Services to Enable Convenient Gas Bill Payment

華潤燃氣積極完善線上線下服務办理流程，提升客戶使用體驗。

CR Gas proactively improves online and offline service processes to enhance customer experience.

優化新客戶報裝流程：依託「微網廳」掌上平台，實現電子合同簽訂、網上繳納工程款、電子發票開具等服務業務掌上辦。公司全面承擔客戶工程紅線外市政手續辦理工作，提高用氣的便利度。

Enhancing the new customer sign-up process: The mobile platform “Weiwangting” (微網廳) enables electronic contract signing, online payment of project funds, electronic invoicing and other services on mobile devices. The Company goes through municipal formalities outside the red lines of projects for customers to improve the convenience of gaining access to gas.

提供客戶便捷繳費方式：開展IC卡下牆工作，改變客戶繳費方式，同時對擴頻表預付費用戶開通支付寶、微信自動繳費功能，提升客戶體驗感。

Providing convenient payment options: We have started the phasing out of IC cards to change customer payment methods, and introduced Alipay and WeChat automatic payment functions for prepaid users of spread spectrum meters, so as to improve customer experience.

升級優化燃氣公眾號、微網廳功能：重點展示說明公眾號年度重點工作；微網廳功能實現業務線全覆蓋；開通「我要留言」(諮詢與建議)功能，進一步增加用戶諮詢反饋問題的渠道。

Upgrading the functions of the WeChat Official Account and “Weiwangting” of CR Gas: We highlighted the annual key work of the WeChat Official Account; enabled the functions of “Weiwangting” to cover all lines of business; and introduced the function of “I Want to Leave a Message” (consultation and advice) to add a channel for user consultation and feedback.



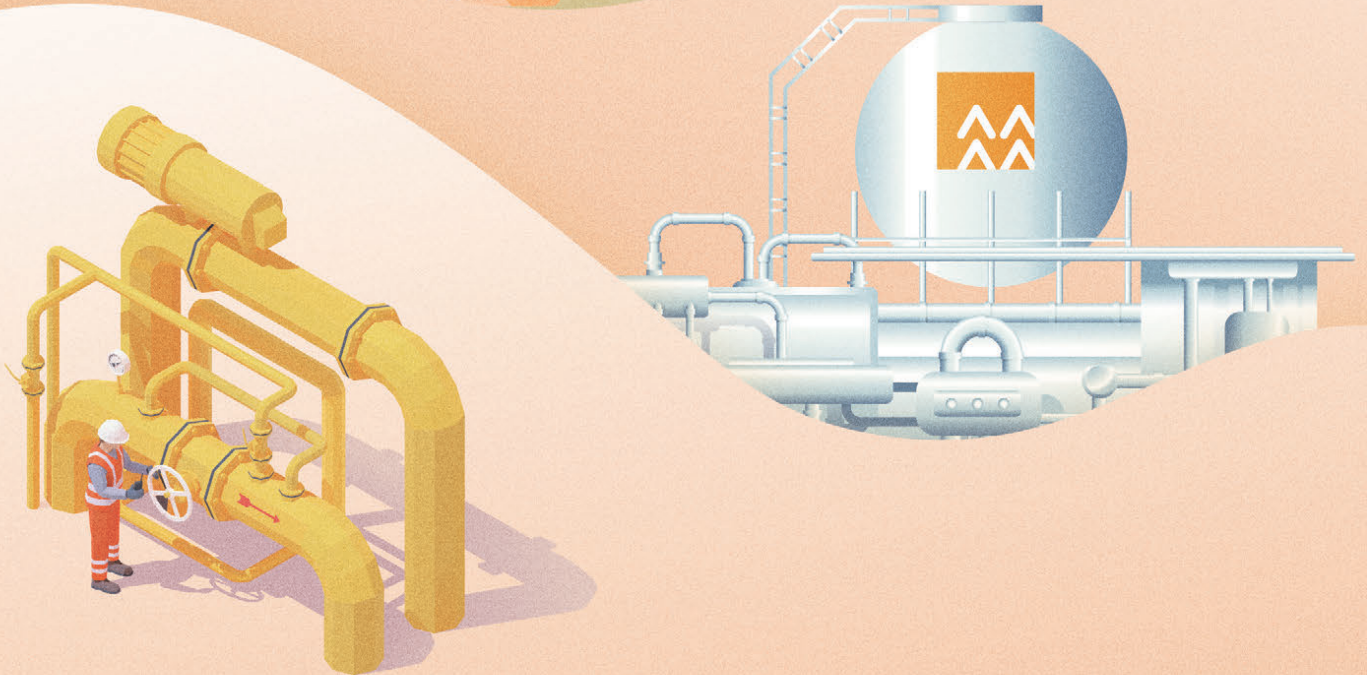
微網廳掌上平台
Mobile platform “Weiwangting”

勇
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任

為社會 傳遞溫暖

Undertaking Social
Responsibility

to Pass on Warmth



華潤燃氣致力於營造安全的燃氣使用環境，確保公眾得到安全與質量可靠的燃氣服務，並始終秉持回饋社會、奉獻社會的使命感與責任感，不斷提升應對社會緊急事件處置能力，努力成為值得社會信任與託付的責任企業。

CR Gas devotes itself to creating a safe gas environment to ensure that the public have access to safe and reliable gas services, and always upholds the mission and responsibility of giving back to society to constantly improve its ability to cope with social emergencies, in an effort to become a responsible company worthy of social trust.

2022 責任績效 2022 Responsibility Performance

安全生產投入

94,515.47 萬港元

Investment in production safety:

HK\$ 945.1547 million

安全管理人員持證人數

4,456 人

Number of licensed safety

management personnel: 4,456

參與公益志願服務

76,429 人次

Attendance of participation in volunteer

services: 76,429

公益志願服務總時長

252,808 小時

Total number of volunteer

hours: 252,808

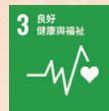
SDGs



1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



3

勇擔責任，為社會傳遞溫暖

Undertaking Social Responsibility to Pass on Warmth

3.1 安全生產，守護萬家煙火

華潤燃氣堅持將安全管理理念貫徹至企業生產營運的各方面，不斷完善企業內部安全政策制度，致力於構建完善的安全網絡，保障員工的職業健康安全與生產經營安全，為所有利益相關方創造一個安全的環境。

構建安全管理體系

本集團嚴格遵守《中華人民共和國安全生產法》、《中華人民共和國消防法》及《中華人民共和國職業病防治法》等國家法律法規，制定了《華潤燃氣崗位EHS責任制度》《華潤燃氣EHS應急管理指引》《華潤燃氣安全生產事故綜合應急預案》等安全、環保、職業健康、應急有關的制度標準。2022年度，我們修編了適用於承包商的《華潤燃氣控股有限公司相關方安全管理制度》《華潤燃氣控股有限公司危險作業管理制度》《華潤燃氣控股有限公司EHS事故事件管理辦法》等，進一步強化相關方安全管理及燃氣行業危險作業管理，有效管控安全風險；進一步規範事故事件管理及責任追究。報告期內，華潤燃氣未發生員工人身傷亡事故及有責的生產安全事故。

根據《華潤燃氣崗位EHS責任制度》，華潤燃氣EHS委員會作為華潤燃氣最高安全管理機構，在集團董事會的領導下，貫徹國家安全管理法律法規和行業標準、規範，研究安全工作中的重大舉措，協調、解決安全管理中的重大問題，指導全集團安全工作開展，針對安全管理中帶有普遍性和傾向性的問題提出指導性意見，實現對所屬區域公司及下屬成員企業安全集中管理。

華潤燃氣集團EHS委員會主任由集團總裁擔任，副主任由分管安全工作的副總裁擔任，成員由分管業務副總裁、總部各部室負責人擔任。華潤燃氣至少每季度召開1次EHS委員會會議。

3.1 PRODUCTION SAFETY FOR ALL

CR Gas adheres to the concept of safety management in all aspects of production and operations, constantly improves its safety policies and measures, and builds a well-established safety network to ensure the occupational health and safety of employees and production and operational safety, with a view to creating a safe environment for all stakeholders.

Building a Safety Management System

The Group strictly complies with national laws and regulations including the Production Safety Law of the People's Republic of China, the Fire Protection Law of the People's Republic of China, and the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases, and has formulated the safety, environmental protection, occupational health and emergency-related systems and standards such as the EHS Responsibility System of CR Gas, Guidelines for EHS Emergency Management of CR Gas, and Comprehensive Emergency Plan for Production Safety Accidents of CR Gas. In 2022, we revised the Safety Management Measures for Stakeholders of China Resources Gas Group Limited, Management Measures for Hazardous Operations of China Resources Gas Group Limited, and Management Measures for EHS Accidents and Incidents of China Resources Gas Group Limited and other measures which apply to contractors to further strengthen the safety management of stakeholders and hazardous operations management in the gas industry to effectively control safety risks; and further standardize incident management and accountability. During the Reporting Period, there were no casualties involving employees of CR Gas and production and safety incidents for which CR Gas was accountable.

According to the EHS Responsibility System of CR Gas, the EHS Committee of CR Gas is the highest safety management body of CR Gas. Under the leadership of the Board of the Group, it ensures compliance with national safety laws and regulations and industry safety standards and specifications, develops major safety measures, coordinates and addresses major problems in safety management, guides the safety efforts within the Group, and puts forward guiding opinions on the common and predisposed issues in safety management. It has achieved the centralized safety management of all business units.

The Group's Chief Executive Officer serves as the chairman of the EHS Committee of China Resources Gas Group, the vice president in charge of safety works as the vice-chairman and the vice president in charge of operations and department heads of headquarters as committee members. CR Gas holds EHS Committee meetings at least once a quarter.



安全目標與責任

我們與所屬企業簽訂安全生產責任書，並制定涵蓋承包商的「追求零事故，超越零責任」的目標，將安全生產責任分解至各級單位與崗位，並將健康與安全表現與相關業務單位主管高等責任人的績效薪酬相關聯，建立完善的績效獎金與安全表現掛鉤的管理機制。

為實現以上安全目標，在不斷完善安全管理制度的同時，我們設立安全專項檢查，對有毒有害作業場所進行建檔、分級管理及檢測，定期組織員工進行健康檢查，排查安全風險，並至少每三年邀請有資質的外部機構對包括安全現狀、安全生產標準化達標認證、職業危險有害因素等在內的所有業務安全風險進行排查。此外，我們並透過定期開展安全培訓，每年開展「安全生產月」等系列行動，提升燃氣安全管理水平。

相關方安全管理

針對相關方成員，我們制定《華潤燃氣相關方安全管理制度》，明確公司的職業健康與安全政策同樣適用於外部供應商和承包商，設立相關方准入門檻，將職業健康安全納入資格預審評分項目，定期開展安全審核工作，並從安全職責、目標管理、監督考核等方面對全過程進行管理。

Safety Goals and Responsibilities

We have signed the Statement of Responsibility for Production Safety with our affiliated companies and developed the goals to pursue zero accidents and incur no liability, which include contractors, divided the responsibility for production safety to units and positions at all levels, and linked the health & safety performance to the pay for performance of executives and other responsible persons of the relevant business units, establishing a sound management mechanism linking performance bonuses with safety performance.

In order to achieve the above safety goals while improving safety management measures, we conduct special safety inspections to record, hierarchically manage and detect toxic and harmful workplaces, regularly arrange employees to receive health examination, screen out safety risks, and invite qualified external organizations at least once every three years to evaluate all operations' risks, including the safety status quo, certification of standardization of safety production, and vocational hazardous and harmful factors. In addition, we conduct regular safety training and carry out a series of activities including the Safe Production Month each year to improve gas safety management.

Safety Management of Stakeholders

For stakeholders, we have formulated the CR Gas Safety Management Measures for Stakeholders, making clear that the Company's occupational health and safety policy is also applicable to external suppliers and contractors, and establishes the access criteria for stakeholders. In accordance with such measures, we incorporate occupational health and safety into the pre-qualification scoring items, conduct regular safety audits, and carry out whole-process management from the aspects of safety responsibility, target management, supervision, performance evaluation, etc.



健全安全管理體系

華潤燃氣持續健全安全管理體系，夯實安全管理基礎，對標國內外優秀經驗做法，編製發佈了《華潤燃氣EHS管理體系》包括1個管理手冊、60個制度標準，融入了ISO 45001、ISO14001、ISO9001、安全生產標準化等國內外標準，並積極開展職業健康管理體系認證工作。截至報告期末，公司獲得相關認證情況如下：

Building a Well-established Safety Management System

In an ongoing effort to improve its safety management system and consolidate the foundation of safety management, CR Gas has benchmarked against the excellent experience and practices at home and abroad and prepared and issued the EHS Management System of CR Gas, which includes a management handbook and 60 standards and incorporates domestic and international standards such as the OHSAS 45001, ISO 14001, ISO 9001 and the measures for standard production safety. In addition, we make efforts to obtain occupational health management system certification. By the end of the reporting period, the Company had obtained the following certifications:

認證類型	Type of certification	企業數量 (家)	Number of companies	覆蓋比例 (%)	Coverage (%)
ISO45001認證	ISO 45001 certification	105	105	38.46%	38.46%
安全生產標準化認證	Standard production safety certification	108	108	39.56%	39.56%



邯鄲華潤燃氣有限公司
ISO45001體系認證
ISO 45001 certification of Handan
China Resources Gas Co., Ltd.

鄭州華潤燃氣有限公司
ISO45001體系認證
ISO 45001 certification of Zhengzhou
China Resources Gas Co., Ltd.

安陽華潤燃氣有限公司
ISO45001體系認證
ISO 45001 certification of Anyang
China Resources Gas Co., Ltd.



強化安全監察

基於員工傷亡人數等安全績效指標，我們開展各項安全檢查活動，以排除生產過程中可能出現的各項風險。我們持續優化分級分類審核機制，定期開展安全審核工作，檢視健康安全政策及執行情況。對於安全審核結果相對較差的成員公司，我們將對其進行有針對性地對口幫扶提升。

我們制定《企業總經理安全檢查制度》，各層級安全檢查頻次遵循：

- 總部業務部室總經理每兩月一次；
- 安全管理部室總經理每月一次；
- 大區總經理每季度一次；
- 區域公司總經理每月一次。

本年度，華潤燃氣繼續組織開展華潤燃氣特色的EHS審核工作，並同步開展班組安全考評。本年度克服疫情影響，共開展38家區域公司EHS審核，審核平均分88.35分，較2021年提升1.9分，發現隱患3,121個，其中一級隱患85個，依據海因里希法則有效避免了10起重大事故。

Strengthening Safety Supervision

Based on the safety performance indicators including the number of casualties, we carry out safety inspection activities to eliminate risks that may arise in the production process. We constantly enhance the hierarchical and classified audit mechanism and regularly conduct safety audits to review the health and safety policies and implementation. For member companies with relatively poor safety audit results, we will provide targeted support to help them make improvements.

We have developed the System for Safety Inspections by General Managers, pursuant to which the frequency of safety inspections at each level is as follows:

- once every two months by the general manager of the Business Department of the headquarters;
- once a month by the general manager of the Safety Management Department;
- once a quarter by the general manager of each region;
- once a month by the general manager of each regional company.

During the year, CR Gas continued to conduct EHS audits with its features and conducted squad safety assessments simultaneously. During the year, despite the impact of the epidemic, a total of 38 regional companies received EHS audits, with an average audit score of 88.35, an increase of 1.9 from that of 2021, and 3,121 hazards (including 85 first-class hazards) were found, avoiding 10 major hazards according to Heinrich's Law.

案例：開展2022年度「安全生產月」活動暨安全大檢查活動 Case Study: 2022 Safe Production Month and Safety Overhaul

2022年，華潤燃氣各成員企業詳細對照安全大檢查範圍清單，包括安全生產標準化創建和雙重預防機制構建情況、EHS要素化管理體系應用情況等十項內容進行安全大檢查，安全生產月期間，200餘家成員企業共開展各層級安全大檢查837次。

In 2022, all member companies of CR Gas conducted a safety overhaul against the safety inspection checklist which covers 10 areas, including standard production safety, construction of double-prevention mechanism and application of the EHS element management system. During the Safe Production Month, more than 200 member companies carried out a total of 837 safety inspections at all levels.



安全大檢查活動
Safety overhaul

提升安全技能

為提升員工安全意識、增強企業安全文化認同感，華潤燃氣為員工提供多元的安全培訓計劃與課程，通過開展安全知識宣貫、競賽、推廣崗位明白卡等形式，提高各層級員工的EHS素質和能力，進一步保障員工職業健康安全。

Improving Safety Skills

In order to boost employees' safety awareness and their recognition of our corporate safety culture, CR Gas provides employees with a variety of safety training schemes and courses. We enhance the EHS quality and capabilities of employees at all levels through activities such as safety knowledge publicity and competition and promotion of position description cards, so as to ensure the occupational health and safety of employees.



案例：開展常態化安全教育培訓工作

Case Study: Regular Safety Education and Training

為持續提升各級管理人員安全管理水平和一線作業人員業務能力，華潤燃氣依託集團EHS管理系統培訓模塊的功能，開展全員安全教育培訓工作及其他教育認證類工作。2022年對區域公司總經理、分管業務副總經理和業務部門負責人以及專兼職安全管理人員共計10類崗位人員開展了系列培訓工作，培訓內容覆蓋法律法規、企業重點規章制度、燃氣專業知識等內容。每月定期開展學習和考核，累計參與15,263人次，參與率98.62%，平均分93.53分。

In order to continuously improve the safety management capacity of management personnel at all levels and the professional skills of front-line personnel, CR Gas leveraged the functions of the training module of the Group's EHS management system to carry out safety education and training for all staff and other education certification efforts. In 2022, a series of training was carried out for a total of 10 categories of personnel, including general managers, vice presidents in charge of operations, business department heads, as well as full-time and part-time safety management personnel, covering laws and regulations, key corporate rules and regulations, and gas professional knowledge. Monthly studies and assessments were conducted regularly, with a total attendance of 15,263, a participation rate of 98.62%, and an average score of 93.53.

案例：開展「新安法知多少」網絡知識競賽

Case Study: Online Knowledge Contest on the New Production Safety Law

2022年，華潤燃氣結合安全生產月活動安排，積極部署和開展「新安法知多少」網絡知識競賽，全集團300餘個公司積極參與，累計獲得積分近160萬分，人均積分達90.27分，營造了良好的學法、知法、守法氛圍。

In 2022, CR Gas conducted an online knowledge contest on the new Production Safety Law based on the arrangement for the Safe Production Month. More than 300 companies within the Group participated in the contest and accumulated a total of nearly 1.6 million points, representing an average score of 90.27 per capita. This event created a good atmosphere of learning, knowing and observing the law.

案例：深入推廣崗位明白卡

Case Study: Promotion of Position Description Cards

為進一步提升員工操作和應急技能，使員工成為「知規矩、守規範」的明白人，2022年5月，華潤燃氣進一步加強崗位明白卡的推廣和使用。督促各公司並將崗位明白卡配發至一線員工、勞務派遣人員及相關方人員，並通過年度EHS審核、安全檢查等，抽查崗位明白卡的配發、使用及熟知情況。截至2022年底，員工崗位明白卡推廣率達100%，勞務派遣人員推廣率達100%，相關方人員推廣率達98%。

In order to further improve the operational and emergency skills of employees and ensure that they know and observe the rules, CR Gas intensified the promotion and use of position description cards in May 2022. We urged all companies to distribute position description cards to front-line employees, dispatched workers and personnel of stakeholders, and conducted spot checks on the distribution, use and familiarity of position description cards through annual EHS audit and safety inspection. By the end of 2022, the penetration rate of position description cards was 100% among employees, 100% among dispatched workers and 98% among the personnel of stakeholders.

调压岗位明白卡

序号	步骤	操作说明
1	工作准备	着装穿戴整齐，工具设备准备齐全。
2	停气操作	按停气时间切断气源（关闭阀门或调压器），开启放散阀进行放散，放散时要控制放散压力，要有专人监控，防止闲杂人员进入作业区，放散完毕关闭放散阀门。
3	保压试验	关闭调压器进气阀门，管道充压后，在调压器低压放散口处安装U形压力表，缓慢打开放散阀，确认压力符合检测压力。
4	保压时间	保压时间不能低于10分钟，观察U形水柱尺有无压降，无下降则不漏气，保压试验结束。
5	送气操作	关闭放散阀阀门，拆卸测压装置，缓慢打开调压器进口阀门，观看调压器进出口压力是否正常。
6	压力测试	送气后对调压设施末端进行灶前压力测试，最高压力不得 $\geq 2800\text{Pa}$ ，最低压力不得 $\leq 1500\text{Pa}$ 。
7	工作汇报	恢复送气后半小时内，申请单位电话汇报生产调度中心。停气施工在特殊情况下如不能按计划时间完成，应及时汇报生产调度中心，施工结束后严禁夜间送气。
8	调压巡视	调压设施按“四色”管理和保养规定进行巡查和日常维护保养。
9	填写表单	填写停、送气、巡视、维护保养等记录。

调压岗位危险源告知

- ◆ 路面湿滑，遵守交通规则
- ◆ 为保生命安全，严禁携带火种进入作业区
- ◆ 现场工具多造成绊倒摔伤，工具摆放整齐
- ◆ 打扫现场容易磕碰受伤，处处小心谨慎
- ◆ 工具正确使用，以免划伤
- ◆ 带气维修气体对人体的伤害
- ◆ 维修空间狭窄颈腰椎易扭伤
- ◆ 阀门使用时间过长出现搬不动情况手腕易扭伤
- ◆ 维修时遇交通高峰不能及时到现场容易造成燃气事故
- ◆ 带气作业时群众太多，易发生火灾
- ◆ 高空坠物容易砸伤
- ◆ 开启箱体时候风大被门撞伤
- ◆ 没保压送气、造成中压入户。

※ 应急处置 ※

发现漏气莫慌张，关闭通风开门窗；
别动电器和开关，户外报警不能忘。

岗位明白卡

Position description card



為確保員工的健康安全，華潤燃氣為員工配備個人防護裝備，並定期為全體員工安排健康檢查；對任職高危崗位的員工實行輪替和強制休假；設置專職人員負責安全檢查如季度安全標兵和安全人員，以調動更多員工投身安全建設工作。

In order to ensure the health and safety of employees, CR Gas equips employees with personal protective equipment and regularly arranges health examination for all employees; implements shift work and compulsory leave policies for employees in high-risk positions; and sets up dedicated personnel in charge of safety inspection, such as quarterly safety pacesetters and safety personnel, in order to motivate more employees to participate in safety efforts.

2022年，公司在安全培訓方面共投入3,320.2萬港元，開展安全培訓726,934小時，共計357,763人次參與，安全培訓覆蓋率達100%。

In 2022, the Company spent a total of HK\$33.202 million to carry out 726,934 hours of safety training, with a total attendance of 357,763 and a safety training coverage of 100%.

指標	Indicator	單位	Unit	2022	2021	2020
安全培訓投入	Safety training investment	萬港元	HK\$'0,000	3,320.2	2,804.77	2,194
安全培訓總時數	Total hours of safety training	小時	hours	726,934	740,816	699,939
安全培訓參與人次	Attendance of safety training	人次	attendance	357,763	338,874	273,253
安全培訓覆蓋率	Safety training coverage	百分比	%	100	100	100

強化應急管理能力

建立應急預案體系

華潤燃氣編製了《生產安全事故綜合應急預案》《突發環境事件綜合應急預案》《生產安全事故管理制度》等內部安全制度，建立了四級應急預案體系，基於集團綜合應急預案的指導，各成員企業分別制定公司級綜合應急預案，各部門針對管網、場站、客戶和自然災害等制定近20個專項應急預案，各班組結合一線實際編製近110個現場處置方案。

Strengthening Emergency Management Capabilities

Establishing an Emergency Plan System

CR Gas has prepared internal safety systems such as the Comprehensive Emergency Plan for Production Safety Incidents, Comprehensive Emergency Plan for Environmental Emergencies, and Management Measures for Production Safety Accidents, and has established a four-level emergency plan system. Guided by the Group's comprehensive emergency plans, member companies have developed company-level comprehensive emergency plans, and various departments have developed nearly 20 special emergency plans for pipelines, stations, customers and natural disasters. Furthermore, project teams have prepared nearly 110 on-site emergency response plans based on front-line situations.



應急演練

華潤燃氣要求成員企業每三年至少聯合地方政府有關部門進行1次綜合應急演練，每年至少開展1次公司級專項應急演練。2022年，華潤燃氣下屬各單位共開展應急演練4,508次，參演45,197人次，其中安全生產月期間，共200餘家成員企業開展了應急演練，參演總人數約10,125人。

Emergency Drills

CR Gas requires member companies to conduct comprehensive emergency drills in collaboration with relevant local government authorities at least once every three years, and carry out company-level emergency drills at least once a year. In 2022, the subordinate units of CR Gas carried out a total of 4,508 emergency drills with a total attendance of 45,197. During the Safe Production Month, more than 200 member companies conducted emergency drills, with a total attendance of approximately 10,125.



安全生產月成員企業應急演練
Emergency drills of member companies in the Safe Production Month

公共應急管理

華潤燃氣高度重視基於城市公共安全的燃氣應急管理。廈門公司與廈門市公共安全管理領導小組辦公室對接，開放「雪亮工程」中1,000多個視頻監控點的視頻資源，提供廈門公司用於第三方施工影響燃氣管道安全的識別管控，共同守護城市燃氣設施安全。成都公司開展網格化安全管理，與當地政府網格化管理實現分級對接，把燃氣安全和應急管理落實到物業、社區、學校。

Public Emergency Management

CR Gas attaches great importance to gas emergency management for urban public safety. Our Xiamen company collaborated with the Xiamen Public Safety Management Leading Group Office to gain access to the video resources of over 1,000 video surveillance points under the Sharp Eye Project and provide them with the identification and control of third-party construction that affects gas pipeline safety, to jointly safeguard the safety of city gas facilities. Our Chengdu company carried out grid-like safety management and collaborated with the local government on grid-like management at different levels to integrate gas safety and emergency management into properties, communities, and schools.



應急技術和裝備

華潤燃氣根據各成員企業的業務特點和實際需要，鼓勵成員企業不斷加大應急裝備的投入，配備行業內先進的燃氣應急裝備，持續提升成員企業的應急處置能力。

Emergency Technology and Equipment

According to the business characteristics and actual needs of member companies, CR Gas encourages them to continuously increase investment in emergency equipment, equip themselves with advanced gas emergency equipment in the industry, and constantly improve their emergency response capabilities.



應急技術和裝備

Emergency technology and equipment

創新安全技術

華潤燃氣關注本質安全，從工程建設、管網運行、場站管理、客戶端管理等全業務鏈開展安全建設。我們致力於實現智慧管理，以先進技術賦能安全高效營運，投入大量的資金和力量建立了覆蓋燃氣工程、場站、管網、客服等全業務鏈的信息化系統，有力提升了安全管理效率與效果。

Safety Technology Innovation

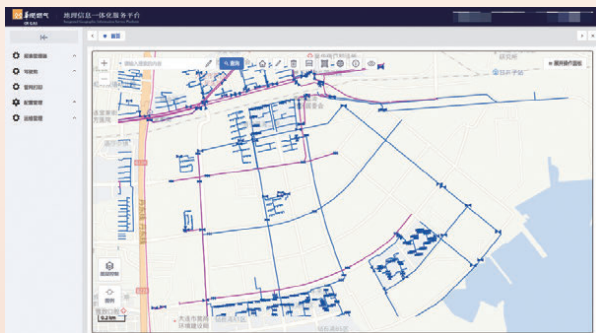
CR Gas takes intrinsic safety seriously and carries out safety system construction throughout the business chain, covering engineering construction, pipeline operations, station management, customer management, etc. We are committed to achieving smart management and enabling safe and efficient operations with advanced technology, and have invested a lot of money and efforts to establish an information system covering the entire business chain including gas engineering, stations, pipelines and customer service, thus effectively improving the efficiency and effectiveness of safety management.

案例：優化集團統建系統，保障隱患處理快捷透明

Case Study: Enhancing the Group's Systems to Ensure Quick and Transparent Handling of Hazards

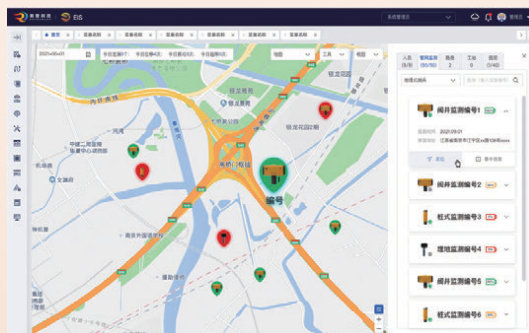
2022年，華潤燃氣持續優化自主開發的雲地理信息系統(IGIS)和易作業巡檢系統(EIS)，在管網巡查、檢漏、維保和末端檢測等核心環節線上化、隱患整改閉環管理，一線作業人員全方位管理的基礎上，新增了設備二維碼掃描、單兵和工地監護等在線監測設備接入，優化了APP查詢設備、工地共享等功能，優化解決25項需求，通過5家公司試點，順利完成系統迭代升級，在顯著提升工作效率的同時，保障隱患處理快捷透明。

In 2022, CR Gas continued to enhance its independently developed cloud-based geographic information system (IGIS) and Easy Inspection System (EIS). On the basis of online management of core processes such as pipeline inspection, leak detection, maintenance and terminal testing, closed-loop management of hazard rectification, and comprehensive management of front-line personnel, we added online monitoring equipment access such as device QR code scanning, solo monitoring and construction site monitoring, enhanced functions such as app-based checking of devices and construction site sharing, addressed 25 pain points and piloted the systems with 5 companies, thereby completing the system upgrading successfully. The upgrading not only significantly improves work efficiency, but also enables the rapid and transparent handling of hazards.



雲地理信息系統(IGIS)

IGIS



易作業巡檢系統(EIS)

EIS



案例：開展智能硬件設備開發與試點

Case Study: Development and Piloting of Smart Hardware

根據燃氣數智化發展和業務需求，華潤燃氣組織研發4款智能硬件，包括密閉空間燃氣洩漏監測終端、小工商業獨立式報警器、廠站RTU、遠程壓力變送器，對管網輸配設施壓力、溫度、流量、洩漏等實時數據採集，並編製試點方案，在長沙、中山和棗莊等5家公司啟動試點各100台設備。

Based on the digital and smart transformation of gas facilities and its business needs, CR Gas carried out the development of four smart devices, i.e. gas leakage monitoring terminal in confined space, small independent alarm for industrial and commercial, station RTU and remote pressure transmitter to collect real-time data on pressure, temperature, flow and leakage of pipeline transmission and distribution facilities, prepared a pilot scheme and started to pilot 100 devices in each of five companies including our Changsha, Zhongshan and Zaozhuang companies.



場站管理智能化

Intelligent station management

未來，華潤燃氣將持續致力於新技術的開發與運用，推出更多安全產品，保障各利益相關方的健康與用氣安全。

In the future, CR Gas will continue to develop and apply new technologies and launch more safety products to ensure the health and gas safety of all stakeholders.

宣傳安全知識

華潤燃氣積極組織各類安全教育活動，向員工普及安全知識，我們動員各區域公司員工參與公司的安全知識宣傳相關活動，如「安全教育片觀看」、「安全知識學習」、「安全反思日」等，鼓勵員工與公司一起守護職業健康安全。

Dissemination of Safety Knowledge

CR Gas conducts various safety education activities to disseminate safety knowledge to employees. We motivate employees of regional companies to participate in the Company's safety knowledge publicity activities, such as watching safety education films, safety knowledge learning and safety reflection day, and encourage employees to work with the Company to protect occupational health and safety.

案例：開展事故警示教育活動 Case Study: Learning Lessons from Accidents

華潤燃氣各成員企業積極組織員工觀看警示教育片，包括2022年典型重大事故案例盤點、燃氣安全典型事故案例警示教育宣教片、高處墜落典型事故案例警示教育宣教片等，累計觀看人數32,076人，觀看時長96,228小時。與此同時，我們採取案例講解、頭腦風暴、事故複盤、模擬處置等方式學習和剖析典型事故事件案例，以案說法引導員工深刻吸取教訓，強化員工安全風險意識。

Member companies of CR Gas arranged employees to watch educational films, including a film reviewing typical major accidents in 2022, an educational film drawing lessons from typical cases of gas safety accidents, and another educational film about typical cases of falling accidents, which gained 32,076 views and 96,228 watch hours in total. In the meantime, we studied and conducted analysis on typical accident cases through means such as case explanation, brainstorming, accident review and simulated handling to guide employees to learn lessons from the cases and enhance their awareness of safety risks.



事故警示教育活動現場

Sites of learning lessons from accidents



華潤燃氣同樣關心大眾用氣安全，各成員企業積極協同政府監管部門創新開展群眾喜聞樂見、形式多樣、線上線下相結合的燃氣安全宣傳諮詢活動，將燃氣安全宣傳納入公益宣傳，在全社會大力營造安全使用燃氣和強化燃氣設施保護的濃厚氛圍。同時結合年度安全宣傳計劃及入戶安全檢查計劃，推動燃氣安全宣傳進企業、進農村、進社區、進學校、進家庭的「五進」活動，不斷向員工及大眾宣傳及普及燃氣安全知識，提升公眾安全意識和應急處置能力。

CR Gas also cares about public gas safety. Our member companies collaborated with government regulatory authorities to carry out innovative gas safety publicity and consultation activities for the public in various forms via online and offline channels, and incorporated gas safety publicity into charity publicity, in an effort to create a strong atmosphere of ensuring gas safety and strengthening the protection of gas facilities. Meanwhile, according to our annual safety publicity plan and on-site safety inspection plan, we advanced the “Approaching Five Targets” activities of accessing companies, rural areas, communities, schools and families for gas safety promotion, constantly promoted gas safety knowledge to employees and the public, so as to enhance the safety awareness and emergency response capacity of the public.



積極開展安全宣傳「五進」活動

“Approaching Five Targets” safety publicity activities

榮譽獎項及績效表現

榮譽獎項

經過多年的實踐和發展，華潤燃氣提煉形成了緊密結合燃氣特色的安全管理模式，有力推動了燃氣行業安全管理水平提升。多次榮獲「香港綠色企業大獎—超卓安全環保健康獎金獎」，多家下屬公司也榮獲了「安全生產示範單位」「安全生產先進單位」「安全明星企業」「『安康盃』競賽活動先進集體」等榮譽稱號。

Accolades, Awards and Performance

Accolades and Awards

After years of practice and development, CR Gas has developed a safety management model based on the characteristics of gas, which helps improve the safety management of the gas industry. We won the Hong Kong Green Awards – Environmental, Health and Safety Award – Gold for multiple times, and a number of our subordinate companies also received honorary titles such as Production Safety Demonstration Unit, Advanced Unit for Production Safety, Safety Star Enterprise, Advanced Unit of the Safety and Health Cup Competition, etc.



香港綠色企業大獎
Hong Kong Green Awards



績效表現

Performance

指標	Indicator	單位	Unit	2022	2021	2020
安全生產投入	Investment in production safety	萬港元	HK\$'0,000	94,515.47	70,645	62,445
安全應急演練次數	Number of safety emergency drills	次	drills	4,508	4,278	3,052
安全生產事故次數	Number of production safety accidents	次	accidents	0	0	0
員工傷亡人數	Number of employee casualties	人	persons	0	0	0
因工傷損失工作日數	Lost days due to work injury	天	days	0	0	未披露 Undisclosed
安全管理人員持證人數	Number of licensed safety management personnel	人	persons	4,456	3,513	2,321
註冊安全工程師人數	Number of registered safety engineers	人	persons	1,057	1,003	958
損失工作日事故率(LTIFR)－員工	Lost time injury frequency rate (LTIFR) of employees	%	%	0	0	未披露 Undisclosed
損失工作日事故率(LTIFR)－承包商	Lost time injury frequency rate (LTIFR) of contractors	%	%	0	0	未披露 Undisclosed

3.2 愛心奉獻，情暖社區鄰里

華潤燃氣始終秉持回饋社會、奉獻社會的使命感與責任感，積極投身社會公益，為社區提供契合實際的公益幫扶，同時制定了一系列內部條例，如《華潤燃氣權責運行手冊》《華潤燃氣對外捐贈管理辦法》等，以指導切實履行社會責任。

與此同時，我們不斷提升應對社會緊急事件的處置能力，團結社區居民抗擊新冠疫情，充分保護人民群眾的生命財產安全，助力維護穩定、和諧的社會秩序。2022年度，本集團參與公益志願服務76,429人次，公益志願服務總時長252,808小時，對外實際捐贈493.71萬港元。

熱心社會公益

2022年，本集團積極參與公益事業，貢獻自身力量，促進經濟困難地區發展。我們通過捐贈慈善資金、開展公益行動等形式，踐行央企社會責任，盡最大努力解決群眾實際困難，促進和諧社會建設。

3.2 DEDICATION TO CREATING A WARM SOCIETY

Upholding the mission and responsibility of giving back to society, CR Gas actively participates in charity undertakings to render practical assistance to the community, and has developed a series of internal regulations, including the Operation Manual for Powers and Responsibilities of CR Gas and Management Measures for External Donations of CR Gas, to guide the performance of social responsibility.

In addition, while improving our ability to cope with social emergencies, we united community residents to fight the COVID-19 epidemic and fully protected people's lives and property, helping maintain a stable and harmonious social order. In 2022, the Group provided volunteer services with a total of 76,429 participants, contributed a total of 252,808 volunteer hours and donated HK\$4.9371 million.

Charity Enthusiasm

In 2022, the Group took an active part in charity undertakings and contributed to promoting the development of economically disadvantaged areas. We undertook our social responsibility as a state-owned enterprise directly under the central government by making philanthropy donations and carrying out charity activities, and did our utmost to solve the difficulties of the masses and promote the construction of a harmonious society.





案例：開展「小桔燈」社會責任活動

Case Study: Carrying out Little Orange Lantern Social Responsibility Campaign

華潤燃氣華東大區開展「小桔燈」社會責任活動，推出「小桔燈」社會責任公益品牌，併發佈「小桔燈」線上愛心公益平台，以良善之心關愛貧困孩童，以堅持之態開展公益活動，以傳承之名關注青年成長成才，踐行「有華潤，多美好」的企業宣言。

The East China division of CR Gas launched the Little Orange Lantern social responsibility campaign and released the Little Orange Lantern online charity platform to care for poor children with kindness and support the growth of the youth in the name of inheritance, in an effort to undertake the corporate proposition of "How Wonderful It is to have China Resources".

2022年，「小桔燈」愛心公益平台在「未來之星」新員工訓練營廣泛應用，將新員工的愛心傳遞給孩子們，培養青年的愛心公益意識。

In 2022, the Little Orange Lantern charity platform was widely used in the Future Star orientation training camp to pass on the love of new employees to children and cultivate the charity awareness of young people.



新員工訓練營「小桔燈」活動現場照片

Little Orange Lantern activity in the orientation training camp

訓練營期間，我們以「小桔燈」共享平台為依託開展愛心捐助，號召營員到平台主動認領心願，滿足孩子們的微心願，並在捐贈愛心卡片上寫下對孩子們的祝福和認領的微心願。

During the training camp, we conducted charity donations based on the Little Orange Lantern sharing platform by calling on the campers to actively claim and satisfy children's small wishes on the platform and write down their blessings to the children and the small wishes claimed on the donation cards.



「小桔燈」平台心願清單及動態追蹤
Wish lists and dynamic tracking of wishes on
the Little Orange Lantern platform

未來，我們將積極組建社會責任團隊，對區域內貧困地區孩童進行走訪調研，確定具體幫扶方案，每年策劃「小桔燈」社會責任活動，維護「小桔燈」共享平台穩定運行。同時通過深度挖掘活動中的工作亮點和優秀事跡，進一步擦亮「小桔燈」公益品牌，持續擴大「小桔燈」影響力。

In the future, we will establish a social responsibility team to visit and survey children in poverty-stricken areas in the region, determine specific assistance schemes, plan Little Orange Lantern social responsibility activities every year and maintain the stable operation of the Little Orange Lantern sharing platform. Meanwhile, we will further promote the charity brand Little Orange Lantern and expand its influence by unearthing the highlights and extraordinary deeds in its activities.

應急搶險救災

為提升應對社會緊急事件處置能力，華潤燃氣建立健全重大突發事件下穩定運行機制，優化保供、保安全、保服務的有效措施，有效提升了應對社會緊急事件的處置能力，致力於成為在關鍵時刻、緊要關頭值得信任與託付的責任企業。

Emergency Rescue and Disaster Relief

In order to improve its ability to address social emergencies, CR Gas has established a sound operation mechanism for major emergencies and refined the measures of ensuring supply, safety and services to better cope with social emergencies, with a view to becoming a responsible company worthy of trust at critical moments.



案例：佛岡公司防汛防控

Case Study: Flood Prevention by Fogang Company

2022年6月，廣東省江門市佛岡縣突降暴雨到大暴雨。面對多處險情，佛岡公司迅速應對、緊急部署，組織應急搶險隊伍，調配防汛物資，全力以赴投入到抗汛救災中，及時妥善處置各類燃氣管網險情。強降雨結束後，佛岡華潤燃氣立即組織巡檢、應急隊伍，啟動了隱患排查行動，對燃氣管網、調壓計量站、架空管、過橋管、閘門井等設備設施進行全面巡檢，並展開修復處置工作，成功將災害影響降到最低。

In June 2022, sudden bursts of rainstorm and heavy rainstorm occurred in Fogang County, Jiangmen City, Guangdong Province. Faced with dangers in many places, Fogang company made swift responses and urgent preparations, arranged emergency rescue teams, deployed flood prevention materials and spared no effort in flood prevention and disaster relief, and timely and properly deal with various gas pipeline network dangers. After the heavy rainfall ended, Fogang CR Gas immediately arranged inspection and emergency teams, launched hazard investigation operations and conducted thorough inspections of equipment and facilities including gas pipeline networks, pressure regulation and metering stations, overhead pipes, bridge pipes and valve wells. It also carried out repair and disposal work, successfully reducing the impact of the disaster.



佛岡公司汛後隱患排查行動

Hazard inspection by Fogang Company after the flood

共抗新冠疫情

在疫情時發的2022年，華潤燃氣絲毫不怠慢，在疫情爆發時快速響應、積極行動，加入抗疫陣營，向疫情嚴重地區伸出援手，詮釋企業的責任與擔當，共同守護城市健康平穩。

Fighting COVID-19

In 2022, we saw sporadic COVID-19 outbreaks. Whenever a COVID-19 outbreak happened, CR Gas quickly responded and joined the fight against it by extending a helping hand to the areas affected, thereby undertaking its social responsibility and jointly safeguarding the health and stability of the city affected.

案例：馳援重點場所建設，助力政府做好疫情防控

Case Study: Assisting to Safeguard Key Facilities and Helping the Government with COVID-19 Prevention and Control

2022年11月，重慶再次爆發新冠疫情，市政府加快了方艙醫院和隔離點的建設和改造，重慶燃氣下屬南岸、沙坪壩、九龍坡等分公司聞令而動，抽調精兵強將組成突擊隊日以繼夜、加班加點先後圓滿搶建完成了各轄區方艙醫院和隔離點的燃氣安裝和通氣工作，為隔離人員搭建起溫飽無憂的臨時之家，用實際行動為政府堅決打贏疫情殲滅戰提供了可靠的配套設施和不竭動能。

In November 2022, there was a new wave of COVID-19 outbreak in Chongqing. The municipal government accelerated the construction and renovation of shelter hospitals and quarantine sites. As ordered, Nan'an, Shapingba and Jiulongpo branches of Chongqing Gas dispatched elite teams to work around the clock on gas installations. They managed to complete the works in time and enabled gas supply to the shelter hospitals and quarantine sites in each district, thus building a temporary home for the quarantined people and providing reliable supporting facilities for the government to win the fight against COVID-19.



南岸分公司分挑燈夜戰搶建方艙醫院
施工現場

Nan'an branch was burning the
midnight oil to help with shelter hospital
construction



沙坪壩分公司8個晝夜完成600餘間防疫
隔離用房燃氣改造任務

Shapingba branch completed the gas
retrofit of more than 600 quarantine
rooms in eight days and nights



案例：「疫」無反顧，黨員幹部下沉社區參與志願服務
Case Study: Party Cadres' Participation in Community Volunteer Activities during COVID-19 Outbreak

疫情期間，重慶各地亟需社會力量的支持與幫助。在這關鍵時刻，重慶燃氣黨員挺身而出，中心城區90%居家辦公黨員幹部積極下沉到社區參與核酸檢測、卡口值守、掃樓擴面、搬運分發、宣傳服務等工作，匯聚成了一股強勁的有生力量。重慶公司表現出的責任擔當與實幹表現，得到了政府、媒體、人民群眾的一致肯定和贊譽。

During COVID-19 outbreak, Chongqing needed support and help from society. At such critical moment, Party members of Chongqing Gas stepped forward to help, and 90% of the Party cadres who worked from home in the central urban area participated in nucleic acid testing, checkpoint duty, door-to-door service, carrying and distributing supplies, and publicity activities in the community, serving as a strong force in the fight against COVID-19. Such performance of social responsibility by Chongqing company was appreciated and praised by the government, the media and the people.



重慶燃氣員工下沉社區參與志願服務
 Employees of Chongqing Gas participated in community volunteer activities

綠色發展

為自然 創造美好

Green Development
to Maintain
the Beauty of Nature



華潤燃氣以「改善環境質量、提升生活品質」為使命，持續完善環境管理體系建設，提升管理水平；全方位管控環境影響，持續保護生態環境。同時，華潤燃氣主動應對氣候變化，識別相關風險並制定應對措施；積極響應國家「雙碳」戰略，把握清潔發展機遇，推進自身綠色轉型，同時助力國家達成「雙碳」目標。

With the mission of improving environmental quality and quality of life, CR Gas continuously improves the construction of an environmental management system to improve its management, and controls environmental impact in all aspects to protect the ecological environment. Meanwhile, CR Gas proactively addresses climate change by identifying relevant risks and taking countermeasures. In an effort to follow and support China's goals of achieving carbon peak and carbon neutrality, CR Gas seizes opportunities of clean development to promote its green transformation.

2022 責任績效
2022 Responsibility Performance

環保總投入

4,479.85 萬港元

Total environmental investment:
HK\$44.7985 million

綜合能源消費量

4.212 萬噸標準煤

Total energy consumption:
42,120 tonnes of standard
coal

環保培訓參與人次

201,625 人

Participants of environmental
protection training: 201,625

碳排放強度

0.0149 噸／萬港元

Carbon emission intensity:
0.0149 tonnes/HK\$10,000

新建項目執行環境和社會影響
評估的比率

100%

Percentage of new projects
subject to environmental
and social impact
assessment: 100%

SDGs



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



4

綠色發展，為自然創造美好

Green Development to Maintain the Beauty of Nature

4.1 生態文明，建設綠水青山

華潤燃氣堅持生態保護優先，在生產營運中不斷強化環境管理，持續優化資源使用，減少污染物排放，切實踐行綠色發展。

環境管理

華潤燃氣恪守國家及營運所在地的環境法律法規，制定《華潤燃氣全面做好生態環境保護工作方案》《節能減排管理制度》《用水、用電、用油管理標準》等內部規範制度，並依據公司實際營運情況及時進行更新。同時，我們積極推進環境管理體系認證工作，截至目前，已有12家成員公司取得ISO 14001認證。

華潤燃氣EHS委員會負責統籌協調環境管理相關工作。我們將能源節約、生態保護等環保指標納入年度工作計劃，並及時跟蹤能源消耗、溫室氣體排放等情況；通過EHS管理系統，統計分析月度環保數據，若有異常波動出現，將及時查找原因，制定並落實糾偏措施。

4.1 CIVIL ECOLOGY TO PROTECT LIMPID WATER AND LUSH MOUNTAINS

In a drive to adopt green development, CR Gas insists on giving priority to ecological protection, continuously strengthens environmental management in production and operations, enhances the use of resources and reduces pollutant emissions.

Environmental Management

CR Gas abides by the environmental laws and regulations of the countries/regions where it operates, has developed a series of internal rules and regulations such as the Work Plan of CR Gas for Comprehensive Environmental Protection, Management Measures for Energy Conservation and Emission Reduction and Management Standards for the Use of Water, Electricity and Oil, and updates them in a timely manner according to its actual operations. In the meantime, we vigorously promote the certification of environmental management systems. to date, 12 member companies have obtained ISO 14001 certification.

The EHS Committee of CR Gas is responsible for coordinating environmental management efforts. We incorporate environmental indicators such as energy conservation and ecological protection into our annual work plan, and keep track of energy consumption and greenhouse gas emissions. Through the EHS management system, we conduct statistical analysis of monthly environmental data. In case of abnormal fluctuations, we will find out the causes in time, and develop and implement corrective measures.

案例：華潤燃氣環境保護相關榮譽

Case Study: Accolades of CR Gas Related to Environmental Protection

- 華潤燃氣連續多年在「中國大陸企業香港股市排行榜」中榮獲「最績優企業大獎」和「環保新能源企業大獎」
CR Gas won the Best Performing Enterprise Award and Eco-Friendly New Energy Enterprise Award in the Chinese Mainland Enterprises Listed in Hong Kong Ranking for many consecutive years
- 華潤燃氣多次榮獲「香港綠色企業大獎—超卓安全環保健康獎金獎」
CR Gas has won the Hong Kong Green Awards - Environmental, Health and Safety Award - Gold for multiple times
- 華潤燃氣榮獲2022年「香港綠色企業大獎『超卓環保安全健康獎』金獎」
CR Gas received the Hong Kong Green Awards 2022 - Environmental, Health and Safety Award - Gold



突發環境事件應對

針對突發環境事件，華潤燃氣建立了完善的管理架構與應急預案。我們依據影響程度，將突發環境事件分為紅色、橙色、黃色和藍色四級預警，分別對應I級、II級、III級和IV級應急響應措施；嚴格督促各單位建立環境風險監測監控系統，明確責任部門和責任人。報告期內，華潤燃氣未發生任何涉及環境污染的突發事件。

污染防治

廢氣管理

華潤燃氣注重維護大氣環境的清潔健康，採取多種措施有效管理廢氣排放。在生產營運中，我們積極推行新工藝、新設備，取代產能低、有污染的落後設備，降低業務營運產生的廢氣；在項目建設中，我們通過設置圍欄圍牆、合理堆放及運輸建築材料、建立灑水噴淋系統等措施，減少施工過程中的揚塵、粉塵及廢氣排放。此外，我們大力推進「煤改氣」「油改氣」等工程，以清潔高效的天然氣替代煤炭、燃油等傳統能源進行供能，以減少二氧化硫、煙塵等污染物排放。

廢棄物管理

華潤燃氣致力於實現廢棄物「減量化、資源化、無害化」。我們依據國家《危險廢棄物貯存污染控制標準》識別危險廢棄物的產生環節及所屬公司，進行重點管控，納入考核管理。所有清管廢渣、過濾濾液、過濾器濾芯等危險廢棄物全部委託具有資質的單位進行回收或無害化處理，其餘固體廢棄物如生活垃圾等，則交由環保部門及時清運，保證日常生產營運中產生的所有固體廢棄物均實現綜合利用或安全處置。

Environmental Emergency Response

For environmental emergencies, CR Gas has established a sound management framework and emergency plan. According to the degree of impact, we divide environmental emergencies into four levels of early warning: red, orange, yellow and blue, corresponding to Level I, II, III and IV emergency response measures, respectively. We also strictly require all units to establish an environmental risk monitoring system and specify the responsible department and personnel in this regard. During the reporting period, there were no emergencies involving environmental pollution within the Group.

Pollution Prevention and Control

Exhaust Gas Management

CR Gas puts emphasis on maintaining the cleanliness and health of the atmospheric environment and takes various measures to manage exhaust emissions. In production and operations, we promote new processes and equipment to replace outdated, polluting equipment with low capacity, so as to reduce waste gas from business operation. During project construction, we reduce dust and exhaust emissions from construction through measures such as setting up fences, reasonably stacking and transporting building materials and establishing a sprinkler system. In addition, we vigorously promote "coal-to-gas" and "oil-to-gas" initiatives to replace coal, oil and other traditional energy sources with clean and efficient natural gas for energy supply to reduce the emissions of pollutants such as sulphur dioxide and soot.

Waste Management

CR Gas is committed to the reduction, recycling and harmless treatment of waste. In accordance with the Pollution Control Standard for Hazardous Waste Storage, we identify the production processes and affiliated companies generating hazardous waste, conduct oversight on them and include them in performance evaluation management. All hazardous wastes such as pigging residue, filter filtrate and filter element are transferred to qualified agencies for recycling or harmless treatment, and other solid wastes, such as domestic garbage, are handed over to the environmental sanitation authority for timely transportation, so as to ensure that all solid wastes generated in daily production and operations are comprehensively used or safely disposed of.

此外，我們同樣重視產品廢棄物的減量化、資源化。通過建立廢氣燃氣管道、到期燃氣表等產品的回收利用機制，促進廢棄物資源化；加強設備維護，延長使用壽命、採用可降解或可回收包裝物等措施，實現廢棄物源頭減量化。

目標：有害廢棄物100%妥善處置；2025年，無害廢棄物處置達標率達到100%並維持

水資源管理

華潤燃氣一向重視水資源保護，致力於在2025年實現用水強度（報告期萬元營業收入用水量）較2020年減少15%。我們通過優化用水系統，推廣應用節水器具，安裝雨水、生產用水（如消防噴淋）回收裝置，減少水資源耗用；對於業務營運產生的廢水，設置配套預處理設施，經處理達標後排入市政污水管網，避免造成水資源污染。

生態保護

華潤燃氣積極踐行生態環境保護，所有項目在施工建設前務必完成環境影響和社會影響評估報告；在建設及營運過程中，嚴格落實「三同時¹」制度和各項生態環境保護措施，確保將生態影響降至最低。

In addition, we also attach importance to the reduction and recycling of product waste. We promote the recycling of waste by establishing a mechanism for recycling of waste gas pipelines, expired gas meters and other products; and reduce waste from the source through measures such as strengthening equipment maintenance, extending service life, adopting biodegradable or recyclable packaging, etc.

Goals: Properly dispose of 100% of hazardous waste; enable the up-to-standard rate of non-hazardous waste disposal to reach and remain at 100% by 2025

Water Resource Management

CR Gas always takes the protection of water resources seriously, and aims at achieving a 15% reduction in water consumption intensity (water consumption per RMB10,000 of revenue during the reporting period) by 2025 compared with that of 2020. We reduce the consumption of water resources by improving the water system, promoting the application of water-efficient appliances, installing rainwater and production water (such as fire sprinkler) recycling facilities, etc. The wastewater generated from business operations will be treated up to standard by pre-treatment facilities before being discharged into the municipal sewage network, so as to avoid water pollution.

Ecological Protection

In an effort to implement ecological protection, CR Gas requires that all projects are subject to environmental and social impact assessment before construction. In the process of construction and operation, we strictly implement the "Three Simultaneities¹" system and various environmental measures to reduce the environmental impact.

1 「三同時」制度：建設項目中的污染防治設施，必須與主體工程同時設計、同時施工、同時投入使用。

"Three Simultaneities" system: Pollution prevention and control facilities in a construction project must be designed, constructed and put into operation simultaneously with the main construction works.



綠色文化

華潤燃氣倡導並傳遞低碳環保、綠色生活理念，從多方面貫徹落實綠色低碳行動，全面打造綠色環保的環境友好氛圍。

Green Culture

CR Gas advocates and promotes the concepts of low-carbon environmental protection and green living, and takes green actions from various aspects to create a green and eco-friendly atmosphere.

綠色辦公 Green office:

- 辦公建築使用綠色電力，採用節能燈具，安裝節水器具
- 提高辦公用品利用率，取消一次性用具和包裝
- 落實無紙化辦公，實現信息管理系統全覆蓋，推進線上會議與培訓，降低通勤出差頻率
- Use green power, adopt energy-efficient lamps and install water-efficient appliances in office buildings
- Boost the efficient use of office supplies and eliminate disposable articles and packaging
- Implement paperless office, enable the information system to cover everything, promote online meetings and training sessions, and reduce the frequency of commuting and business trips

綠色交通 Green transport:

- 在基礎設施和交通工具中廣泛應用大數據、5G、人工智能等創新技術，推動建設電氣化、智能化和共享化的交通系統
- 在公共領域全面推廣新能源汽車，推進充電樁、換電站、加氫站建設
- 合理選擇運輸工具和路線，避免迂迴和重複運輸，減少交通排放
- Widely apply big data, 5G, AI and other innovative technologies in infrastructure and vehicles to promote the construction of electrified, intelligent and shared transportation systems
- Promote new energy vehicles in the public sector, and advance the construction of charging piles, battery swap stations and hydrogen refuelling stations
- Wisely choose transportation vehicles and routes to avoid circuitous and overlapping routes and reduce traffic emissions

綠色建築 Green building

- 在辦公建築中引入綠色電力供應
- 通過翻新和使用高質量的建築材料延長建築物使用壽命，降低建築物的隱含碳排放
- Introduce green power supply in office buildings
- Carry out renovation works and use quality building materials to extend the service life of buildings, so as to reduce potential carbon emissions of buildings

4.2 清潔能源，應對氣候變化

氣候變化風險與機遇

華潤燃氣深明氣候變化帶來的廣泛影響，我們主動識別氣候變化相關風險與機遇，制定應對措施，以有序應對氣候變化影響，實現可持續發展。

我們參考TCFD建議，從實體風險與轉型風險入手，識別出如下與公司密切相關的氣候變化風險。

4.2 CLEAN ENERGY TO ADDRESS CLIMATE CHANGE

Climate Change Risks and Opportunities

CR Gas is keenly aware of the extensive impact of climate change. We actively identify the risks and opportunities related to climate change and develop countermeasures to address the impact of climate change in an orderly manner, so as to achieve sustainable development.

With reference to the TCFD recommendations, we have identified the following climate change risks closely related to the Company from the perspective of physical and transition risks.

氣候變化相關風險 Risks related to climate change	潛在影響 Potential impact	應對措施 Countermeasures
<p>實體風險 Physical risks</p> <p>↓</p> <p>急性風險 Acute risks</p> <p>↓</p> <p>極端天氣 Extreme weather</p>	<ul style="list-style-type: none"> 破壞營運管網和設備設施，影響供氣穩定性 Destroy the pipelines, equipment and facilities in operation, and affect the stability of gas supply 增加設備營運維護成本 Increase equipment operation and maintenance costs 威脅客戶及供應商安全，導致可能因業務中斷等問題涉及違約、賠償及法律責任 Threaten the safety of customers and suppliers, and may constitute breach of contract and be subject to compensation and legal liability due to business interruption and other issues 增加員工健康風險 Increase employee health risks 	<ul style="list-style-type: none"> 優化管網設計及管材選用 Improve pipeline design and pipeline material selection 制定極端天氣應急預案 Develop emergency plans for extreme weather 制定極端天氣救援預案 Formulate rescue plans for extreme weather 開展極端天氣預防與應急研究 Conduct research on defence against and response to extreme weather
<p>實體風險 Physical risks</p> <p>↓</p> <p>慢性風險 Chronic risks</p> <p>↙ ↘</p> <p>海平面上升 Sea level rise</p> <p>氣候變暖 Climate warming</p>	<p>海平面上升 Sea level rise</p> <ul style="list-style-type: none"> 破壞現有營運管網和設備設施 Destroy the pipelines, equipment and facilities in operation 從沿海城市向內陸遷移，影響現有市場格局 Forced to move from coastal cities to inland areas, which will affect the existing market landscape <p>氣候變暖 Climate warming</p> <ul style="list-style-type: none"> 增加熱浪、乾旱、火災等極端天氣風險 Increase the risk of extreme weather such as heat wave, drought and fire 冬季供氣設施的減少 Reduce gas supply facilities in winter 	<ul style="list-style-type: none"> 持續監控海平面上升趨勢 Continue to monitor the rising trend of sea level 開展氣候變暖相關預防與應急研究 Conduct research on preventive and emergency measures for climate warming



氣候變化相關風險 Risks related to climate change	潛在影響 Potential impact	應對措施 Countermeasures
<div data-bbox="209 922 454 1261" style="border: 1px solid green; padding: 5px; margin-bottom: 10px;"> <p style="text-align: center;">政策與法規風險 Policy and regulatory risk</p> </div> <div data-bbox="225 1052 440 1129" style="border: 1px solid green; border-radius: 10px; padding: 5px; margin-bottom: 10px; text-align: center;"> <p style="text-align: center;">轉型風險 Transition risks</p> </div> <div data-bbox="209 1164 454 1261" style="border: 1px solid green; padding: 5px;"> <p style="text-align: center;">市場風險 Market risk</p> </div>	<div data-bbox="512 562 940 623" style="border: 1px solid green; padding: 5px; margin-bottom: 10px;"> <p>政策與法規風險 Policy and regulatory risk</p> </div> <ul style="list-style-type: none"> • 未來長期國家能源結構將轉向非化石能源，能源結構呈低碳化 Long-term shift of national energy structure to low carbon, non-fossil energy • 配合雙碳目標，宣佈提高碳定價，收緊市場碳配額或徵收碳稅，增加營運成本及戰略風險 Announce to increase carbon pricing and limit carbon quota or levy carbon tax based on the goals of achieving carbon peak and carbon neutrality, which will increase operating costs and strategic risks • 需要有效管理業務環境表現並確保合規，否則會面臨訴訟風險 Need to effectively manage the environmental performance of business and ensure compliance, otherwise litigation risk will arise <div data-bbox="512 1306 756 1366" style="border: 1px solid green; padding: 5px; margin-top: 10px;"> <p>市場風險 Market risk</p> </div> <ul style="list-style-type: none"> • 市場及下游客戶對綠色低碳能源解決方案需求增加 The market and customers have a growing demand for green energy solutions • 市場及下游客戶愈加追捧綠色經濟和電氣化產品 The market and customers increasingly prefer green electrified products 	<ul style="list-style-type: none"> • 推進清潔、可再生能源的使用 Promote the use of clean and renewable energy • 研究並推廣節能減排新型和替代技術 Research and promote new and alternative technologies for energy conservation and emission reduction • 積極配合各地政府持續推進能源結構優化、多能互補及「煤改氣」政策 Collaborate with local governments to continuously promote energy structure enhancement, multi-energy complementation and the "coal-to-gas" policy • 推進清潔能源業務，提供低碳產品與服務 Develop clean energy business to provide low-carbon products and services

氣候變化相關風險 Risks related to climate change	潛在影響 Potential impact	應對措施 Countermeasures
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> 商譽風險 Reputational risk </div> <div style="background-color: #4CAF50; color: white; padding: 5px; margin-bottom: 10px;"> 轉型風險 Transition risks </div> <div style="border: 1px solid black; padding: 5px;"> 技術風險 Technical risk </div> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> 商譽風險 Reputational risk </div> <ul style="list-style-type: none"> 未能成功管理碳排放可能導致品牌形象受損 Failure to manage carbon emissions may damage the brand image <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> 技術風險 Technical risk </div> <ul style="list-style-type: none"> 企業在踐行低碳生產和新能源業務過程中，將加大節能減排技術的開發，增加人力、資金成本投入 Low-carbon production and new energy business development entail greater R&D spending on the development of energy conservation and emission reduction technologies, which will increase labour and capital costs 競爭對手如若優先掌握關鍵減排技術，可能快速佔領市場優勢，導致華潤燃氣市場份額受損 If competitors master key emission reduction technologies first, they may quickly dominate the market, resulting in a loss of market share by CR Gas 	<ul style="list-style-type: none"> 完善自身碳排放管理 Improve carbon emission management 開展綠色低碳技術研究 Conduct research on green and low-carbon technologies





我們相信氣候變化同樣會為企業帶來新的發展機遇。對此，我們不斷推進電氣與可再生能源融合，立足城燃業務，積極佈局綜合能源服務，開展新能源技術研究，牢牢把握「雙碳」轉型帶來的清潔能源發展機遇。

氣候變化行動

在氣候危機的大背景下，社會低碳轉型迫在眉睫，我國已明確將「碳达峰、碳中和」納入國家發展規劃。華潤燃氣積極承擔環境責任，響應國家戰略部署，亦將「碳达峰、碳中和」目標納入集團發展規劃，制定減排目標。我們已從持續優化能源結構、加強碳排放管理、推進節能減排等方面入手，制定自身綠色低碳轉型和高質量發展路線，為國家實現雙碳目標貢獻力量。

減排目標

我們依據國家十四五規劃，結合自身發展，制定了以2020年為基準年的減碳目標：

- 到2025年：綠色低碳項目實施和綠色低碳技術研發、推廣應用取得積極進展，華潤燃氣萬元營業收入可比價綜合能耗比2020年下降13.5%，二氧化碳排放強度比2020年下降18%。
- 到2030年：華潤燃氣全面綠色低碳轉型取得顯著成效，萬元增加值可比價綜合能耗、二氧化碳排放強度大幅下降，碳排放量預計於2035年整體達到峰值。

We believe that climate change will also bring new development opportunities for enterprises. Accordingly, we continuously promote the integration of electrification and renewable energy, vigorously develop comprehensive energy services based on our city gas business and conduct research on new energy technologies, with a view to capturing opportunities for clean energy development arising from the transition towards carbon peak and carbon neutrality.

Climate Change Action

In the context of climate crisis, the low-carbon transformation of society is imperative. China has explicitly incorporated carbon peak and carbon neutrality into its national development plans. CR Gas assumes environmental responsibility and follows the national strategy by incorporating the goals of achieving carbon peak and carbon neutrality into the Group's development plan and setting emission reduction targets. We have developed a roadmap for green transformation and quality development from the aspects of enhancing energy structure, strengthening carbon emission management, and promoting energy conservation and emission reduction, with a view to contributing to the achievement of China's goals of carbon peak and carbon neutrality.

Emission Reduction Targets

Based on the 14th Five-Year Plan and our development, we have set the following carbon reduction targets with 2020 as the base year:

- By 2025: Make progress in the implementation of low-carbon projects and the development, promotion and application of green technologies to cut the overall energy consumption per RMB10,000 of revenue (at comparable price) by 13.5% compared with that of 2020 and lower the carbon dioxide emission intensity by 18% compared with that of 2020.
- By 2030: Achieve remarkable results in the comprehensive green transformation of CR Gas with a significant decline in overall energy consumption per RMB10,000 of revenue (at comparable price), carbon dioxide emission intensity; carbon emissions are expected to peak by 2035.

完善碳排放管理

華潤燃氣持續完善能源及碳排放管理，致力不晚於2035年，將碳管理水平提升至世界一流水準。

目前，我們已制定《華潤燃氣低碳發展考核評價辦法》《華潤燃氣碳資產統計與報送制度及碳資產管理辦法》等制度，規範碳排放管理相關工作；未來，將進一步成立碳排放管理委員會，負責統籌低碳發展工作，同時設立工作領導小組和下屬企業碳排放管理與執行機構，建立自上而下的部門協調機制和反饋機制，形成完善的華潤燃氣碳排放管理機構。

針對集團下屬成員企業，我們要求其嚴格強化用油、用電、自用氣等能源消耗的管理，梳理完善符合企業實際的能源管理制度和辦法；將節能減排目標分解至各級子公司，並納入年度績效指標，進行嚴格考核。

Improving Carbon Emission Management

CR Gas constantly refines energy and carbon emission management, with an aim to improve carbon management to the world-class standard by 2035.

To date, we have developed relevant measures, including the Measures for Performance Evaluation of Low-carbon Development of CR Gas, and Carbon Asset Statistics and Reporting System and Carbon Asset Management Measures of CR Gas, to regulate the work related to carbon emission management. In the future, we will establish a carbon emission management committee to coordinate low-carbon development efforts, and set up a work leading group and managerial and executive bodies for carbon emissions in our affiliated companies, with a view to building a top-down departmental coordination and feedback mechanism and forming a sound institutional structure for carbon emission management.

For the member companies of the Group, we require them to strictly strengthen the management of energy consumption including oil, electricity and gas consumption, and work out and improve energy management measures in line with their actual conditions. Our energy conservation and emission reduction targets are broken down to subsidiaries at all levels and included in the annual performance indicators for strict evaluation.

華潤燃氣碳排放管理機構主要職責

Main Responsibilities of the Carbon Emission Management Committee of CR Gas

- 研究制定碳管理相關制度和發展戰略；
To research and formulate measures and development strategies related to carbon management;
- 加強外部溝通，積極與政府相關主管部門溝通，爭取獲得更多配額；
To strengthen external communication, especially with relevant government authorities, and seek more quota;
- 開展碳盤查試點及普查管理工作，制定配額分配方案，研究碳資產管理模式；
To carry out carbon audit pilot and census management, develop quota allocation schemes and study carbon asset management models;
- 積極推進碳排放權的交易，密切跟蹤國際和國內碳交易市場進展的情況；
To promote carbon emission trading and closely monitor the developments of carbon markets at home and abroad;
- 建立企業碳管理信息系統並維護運行。
To establish and maintain a carbon management information system.



2022年華潤燃氣節能減排目標達成情況 Achievement of Energy Conservation and Emission Reduction Targets for 2022 by CR Gas						
指標	Indicator	指標單位	Unit	2022年目標 (較2020年 下降幅度) Target for 2022 (Decrease compared with that of 2020)	達成情況	Achieved or not
萬元營業收入 可比價綜合能耗	Overall energy consumption per RMB10,000 of revenue (at comparable price)	噸標準煤/萬元	tonnes of standard coal/RMB10,000	4.00%	已達成	Achieved
二氧化碳排放強度	Carbon dioxide emission intensity	噸/萬元	tonnes/RMB10,000	4.00%	已達成	Achieved

華潤燃氣「十四五」期間節能減排目標 Energy Conservation and Emission Reduction Targets of CR Gas for the 14th Five-year Plan Period						
指標	Indicator	指標單位	Unit	2023年目標 (以2020年 為基準) Target for 2023 (Decrease compared with that of 2020)	2024年目標 (以2020年 為基準) Target for 2024 (Decrease compared with that of 2020)	2025年目標 (以2020年 為基準) Target for 2025 (Decrease compared with that of 2020)
萬元營業收入 可比價綜合能耗	Overall energy consumption per RMB10,000 of revenue (at comparable price)	噸標準煤/萬元	tonnes of standard coal/RMB10,000	6.00%	8.00%	10.00%
二氧化碳排放強度	Carbon dioxide emission intensity	噸/萬元	tonnes/RMB10,000	6.00%	8.00%	10.00%

推進節能減排

華潤燃氣致力於降低營運過程中的能源消耗和輸配系統的甲烷逸散，最大限度降低業務開展過程的碳排放。營運過程的節能措施，請參考「綠色文化」章節。

作為中國油氣企業甲烷控排聯盟的成員單位，我們承諾力爭於2025年實現生產過程中的甲烷排放強度降低至0.25%以下。我們不斷加強甲烷控排技術研發與應用，目前已開發出甲烷高精度檢測車，並實現PPB量級甲烷洩漏檢測技術與設備的應用，同時強化對輸配端和用戶端的甲烷逸散管控。

- 輸配端管控：

在LNG、CNG場站設計環節，融入BOG回收、排污回收等工藝設計，實現系統零排放或微排放；在管網管理上，推廣應用不停輸技術，減少不必要的甲烷逸散，同時加強調壓設施維保，盡量避免超壓放散；在管網巡檢、施工監護等過程中，通過燃氣管網在線洩漏監測等智慧化手段，提高甲烷逸散預警能力，同時配備高精度甲烷檢測儀器，提高巡檢精確度及顆粒度，有效發現洩漏並及時處置，減少管網甲烷排放。

- 用戶端管控：

應用灶具連接專用軟管、自閉閥等安全設備設施，杜絕用戶端燃氣逸散的發生；在管理上提高入戶安檢率，降低戶內洩漏發生情況；採用激光檢測儀對戶外公共管道進行檢測，全力避免用戶端甲烷逸散的可能性。

Promoting Energy Conservation and Emission Reduction

CR Gas is committed to reducing energy consumption in the course of operation and methane escape in the transmission and distribution system, so as to reduce carbon emissions in the process of business development. Please refer to the Green Culture section for energy conservation measures in operations.

As a member of the China Oil and Gas Enterprises Methane Emission Control Alliance, we undertake to reduce methane emission intensity in production to below 0.25% by 2025. We continuously strengthen the research, development and application of methane emission control technologies. Up to now, we have developed a high-precision methane detection vehicle, and achieved the application of PPB-level methane leak detection technology and equipment. Furthermore, we intensify the control of methane escape from transmission and distribution facilities and user terminals.

- Control over transmission and distribution facilities:

In the design of LNG and CNG stations, we incorporate BOG recycling, sewage recycling and other processes to achieve zero or micro emissions of the system. In pipeline management, we promote the application of continuous transmission technology to reduce unnecessary fugitive methane emissions, and reinforce the maintenance of pressure regulating facilities to avoid overpressure emissions as much as possible. In pipeline inspection and construction monitoring, we apply intelligent approaches such as online leak monitoring of gas pipelines to improve the ability of detecting and warning against methane escape, and put in place high-precision methane detection instruments to improve the inspection accuracy and granularity, thus enabling timely leak detection and handling and reducing methane emissions from pipelines.

- Control over user terminals:

We adopt safety equipment and facilities such as special stove hoses and self-closing valves to prevent gas escape from user terminals; increase the indoor safety inspection rate to reduce indoor gas leak; and use laser detectors to inspect outdoor public pipelines, in an effort to reduce the possibility of methane escape from user terminals.



能源清潔轉型

優化能源配置、推廣清潔能源是實現低碳發展的主要途徑之一，華潤燃氣致力於開發分佈式能源、分佈式光伏、分佈式供暖、加氫站和充電樁等綠色低碳業務，助力客戶端優化能源結構，實現節能減排。此外，我們在自身營運中亦積極推廣使用新能源，不斷提升新能源電力使用量佔總電量的比例，逐步構建清潔低碳，安全高效的能源結構。

Transition to Clean Energy

Enhancing energy allocation and promoting clean energy are some of the major ways to achieve low-carbon development. CR Gas is dedicated to developing low-carbon business such as distributed energy services, distributed photovoltaic systems, distributed heating, hydrogen refuelling stations and charging piles to help end customers enhance their energy structure to achieve energy conservation and emission reduction. In addition, we also actively promote the use of new energy in our own operations and continuously increase the proportion of new energy power usage in total electricity consumption, in an effort to gradually build a clean, low-carbon, safe and efficient energy structure.

案例：綜合能源解決方案助力工業園區能源結構優化 Case Study: Integrated Energy Solutions to Help Enhance the Energy Structure of an Industrial Park

湖北省襄陽市高新區汽車工業園主要發展汽車及零部件、新能源汽車等產業，能源需求多元化，涉及電力、蒸汽、熱水和採暖。

The Automobile Industrial Park of Xiangyang Hi-Tech Industry Development Zone in Hubei Province is mainly focused on the development of automobile and parts and new energy vehicle industries with diverse energy needs, involving electricity, steam, hot water and heating.

華潤燃氣結合當地的資源特點，制定了增量配電網、燃氣蒸汽聯合循環機組、燃氣鍋爐及分佈式光伏的綜合能源解決方案，將其熱能和電力產生的碳排放降低超50%。待該項目建成後，工業園區總體二氧化碳減排率達到57.6%。

Based on the characteristics of local resources, CR Gas developed integrated energy solutions, including incremental power distribution network, gas-steam combined cycle unit, gas-fired boilers and distributed photovoltaic systems, to reduce the carbon emissions from thermal energy and electricity by more than 50%. After the project is completed, the overall reduction rate of carbon dioxide emissions of the industrial park will reach 57.6%.



襄陽市高新區汽車工業園

Automobile Industrial Park of Xiangyang Hi-Tech Industry Development Zone

案例：光伏發電推進能源清潔轉型

Case Study: Photovoltaic Power Generation Promoting Clean Energy Transformation

華潤燃氣於江門粵玻實業公司廠區投資建設光伏發電項目。本項目採用晶硅太陽能電池技術，在33,142平方米的屋頂上建設2.5MW光伏系統，通過「自發自用，餘量上網」的方式接入電網系統。項目整體年均發電量約為250萬kWh，減少二氧化碳排放約1,600t。

This project adopts crystalline silicon solar cell technology, to build a 2.5MW photovoltaic system on a roof of 33,142 square metres and connects to the power grid system through the approach of self-generation for self-use with the surplus fed to the grid. The overall average annual power generation capacity of the project is about 2.5 million kWh, reducing carbon dioxide emissions by about 1,600 tonnes.



粵玻實業公司廠區屋頂光伏系統

Roof Photovoltaic System in the Factory Area of Yuebo Industrial Co., Ltd.



低碳技術研究

引入創新技術是實現碳達峰、碳中和目標的重要步驟。為此，華潤燃氣積極開展低碳技術研究，並應用於主要業務領域。

- 城市燃氣供應系統摻氫研究：研究既有城市燃氣供應系統在不改造末端燃具且保證性能與安全的前提下摻氫的比例範圍，對城市燃氣供應系統的各個環節，包括管道、接口、洩漏檢測、安全運行等方面形成一套摻氫後的技術解決方案。
- 天然氣高效利用：針對不同用戶場景的天然氣高效利用解決方案，通過燃氣冷／熱／電聯供機組、燃氣全預混冷凝模塊鍋爐、燃氣熱泵等設備實現熱能的梯級及高效利用，對於熱源或生產線末端排放的高溫廢氣、廢水、廢蒸汽等具有餘熱回收價值的排放物，可通過燃氣吸收式熱泵對其餘熱進行回收，補給到熱源端，綜合能源利用效率可提高到80%以上，相較傳統方式節能率可達30%以上。同時探索天然氣深化利用，緊密跟進液態金屬催化天然氣裂解制氫和石墨烯技術創新示範項目，孵化綠色制氫&碳先進技術；開展天然氣在船舶領域的技術研發與利用推廣。

Low-carbon Technology Research

Introducing innovative technologies is an important step to achieve the goals of carbon peak and carbon neutrality. For this end, CR Gas energetically conducts research on low-carbon technologies and applies them to major business areas.

- Hydrogen Doping Study for City Gas Supply System: We study the percentage and applications of hydrogen doping in the existing city gas supply system under the premise of without modifying the terminal gas appliance and ensuring performance and safety and develop a set of post-hydrogen doping technical solutions for all aspects of the city gas supply system, including pipelines, connections, leak detection, safe operation.
- Efficient utilization of natural gas: We achieve the graded and efficient utilization of thermal energy through the gas-fired combined cooling/heating/electricity units, the gas-fired fully premixed condensing module boilers, the gas-fired heat pumps, and other equipment with efficient utilization solutions of natural gas for different user scenarios. For the high-temperature exhaust gas, wastewater, waste steam, and other emissions with residual heat recovery value emitted from the heat sources or the production line terminals, we recover the residual heat with gas-absorbing heat pumps for replenishment to the heat sources. The integrated energy utilization efficiency can be improved to more than 80%, which is more than 30% more energy efficient as compared with the conventional ways. We also explore the further utilization of natural gas, closely follow up on the demonstration projects of hydrogen production by liquid metal-catalyzed natural gas cracking and graphene technology innovation, and incubate green hydrogen production & carbon advanced technology; carry out the technology R&D and use promotion of natural gas in the field of vessels.

- 耦合可再生能源：研究應用天然氣+可再生能源的多能互補、協同耦合的能源供應方式，優化多能系統配置及營運策略，在節能降碳、降本增效的同時，提高能源保障的安全性。
- 綜合智慧能源管控：研發智慧能源管理平台，通過規劃預測、大數據分析、能耗監測、智能調控、碳排放管理等方式實現園區能源設計、建設、營運等全流程、全生命周期管理，保障園區穩定、高效、低碳用能。
- Coupling Renewable Energy: We investigate the energy supply methods applying the multi-energy complementation and synergistic coupling energy supplying of natural gas + renewable energy, optimize the multi-energy system allocation and operation strategy, and enhance the reliability of energy supply while saving energy, reducing carbon, reducing costs and improving efficiency.
- Integrated smart energy control: We develop a smart energy management platform to achieve the whole process and full life cycle management of park energy design, construction, and operation through planning and forecasting, big data analysis, energy consumption monitoring, smart regulation and control, carbon emission management, and other ways to ensure stable, efficient and low-carbon use of energy in the park.

未來，我們將進一步加強綠色低碳人才培養，並就高效節能設備研究，碳捕捉、收集和利用技術等方面與研究機構進行深度合作與研發。

In the future, we will further strengthen the cultivation of talents for green and low-carbon development, and carry out in-depth cooperation with research institutions on the research of highly energy-efficient equipment and the development of carbon capture, sequestration and usage technologies.

案例：昆明分公司開展二氧化碳捕捉與利用 Case Study: Carbon Dioxide Capture and Utilisation by Kunming Branch

昆明華潤燃氣有限公司聯合百威（昆明）啤酒有限公司，在昆明市晉寧區寶峰工業園，投資建設二氧化碳捕捉與利用項目。

該項目以「分佈式捕集+管道輸配系統」為思路，收集、提純百威工廠生產過程中排放的部分二氧化碳，作為「氣肥」，運輸給附近花卉種植基地使用。項目一期約收集1,800t/a啤酒釀造過程產生的二氧化碳，二期捕集天然氣鍋爐尾氣中的二氧化碳約3,280t/a。

Kunming China Resources Gas Co., Ltd. and Budweiser (Kunming) Beer Co., Ltd. jointly invested in the construction of a carbon dioxide capture and usage project in Baofeng Industrial Park, Jinning District, Kunming.

Based on the idea of distributed capture plus pipeline transmission and distribution system, the project collects and purifies part of the carbon dioxide emitted in the production process of Budweiser factory, and then transports it to the nearby flower planting base as 「gas fertiliser」. The first phase of the project collects approximately 1,800 t/a of carbon dioxide generated from beer brewing, and the second phase captures approximately 3,280 t/a of carbon dioxide from the tail gas of natural gas boilers.



打造零碳園區

園區是城市人口和產業的重要聚集區，在當前「雙碳」大背景下，已成為實現能耗雙控、雙碳目標的主戰場。華潤燃氣作為中國最大的城市燃氣營運商，充分利用自身的資源優勢，開展零碳園區業務。我們依託主業，採用「天然氣+可再生能源」的總體技術架構，通過低碳技術、零碳技術、調劑／增匯手段三大方式開展零碳園區能源建設。

截至2022年12月31日，華潤燃氣共開發零碳園區項目31個、開展零碳園區試點項目8個，其中1個試點項目已經建成投運。

Building Zero-carbon Industrial Parks

Under the current overall backdrop of achieving carbon peak and carbon neutrality, industrial parks, which are important clusters of urban population and industries, have become the main battlefield to achieve the goals of energy consumption and intensity control as well as carbon peak and carbon neutrality. As the largest city gas operator in China, CR Gas fully leverages its resource advantages to develop zero-carbon industrial park business. Based on our principal business, we adopt the overall technical framework of “natural gas + renewable energy” to build zero-carbon industrial parks through the application of low-carbon and zero-carbon technologies and carbon sink regulation/expansion.

By 31st December 2022, CR Gas had developed 31 zero-carbon industrial park projects and carried out 8 zero-carbon industrial park pilot projects, of which one pilot project has been completed and put into operation.

案例：大亞灣零碳場站實現電力零碳供應

Case Study: Daya Bay Zero-carbon Station Achieving Net Zero Emissions During Power Supply

該場站是惠州大亞灣公司LNG儲備站和L-CNG加氣站，具有光照資源充足的天然優勢，以及「5G+智慧燃氣」項目的智能物聯基礎。華潤燃氣充分利用場站現有優勢，設置分布式光伏發電系統，同時搭配電儲能系統和充電樁系統，完成光儲充一體化建設，實現場站電能自給自足零碳化。

This station serves as an LNG storage station and L-CNG filling station of our Huizhou Daya Bay company. It is naturally endowed with abundant sunlight, and boasts the intelligent IoT foundation under the “5G + Smart Gas” project. CR Gas makes full use of the existing advantages of the station by setting up a distributed photovoltaic power generation system and building an electric energy storage system and a charging pile system to form an integrated solar, storage and charging system, enabling the station to achieve power self-sufficiency and zero carbon emissions.

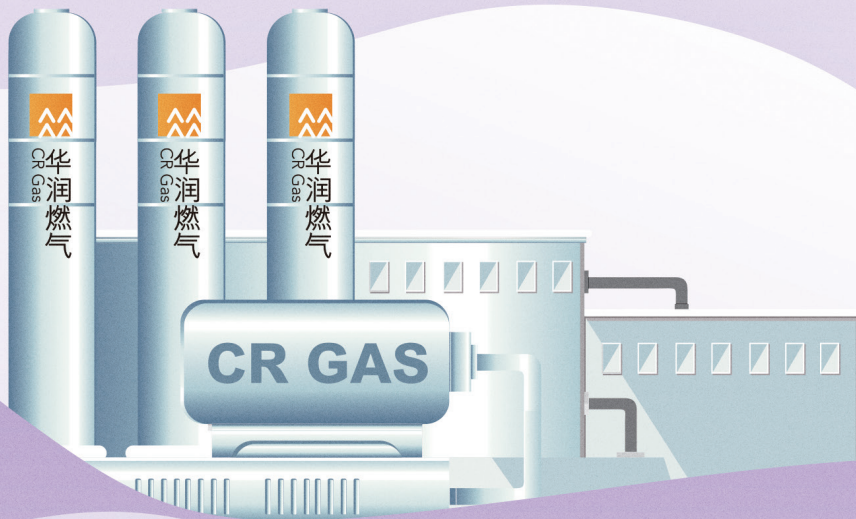


零碳場站現場
The site of zero-carbon station

以人為本

為員工 成長加油

Being people-oriented,
**fuelling the growth
of employees**



華潤燃氣始終堅持「以人為本」的責任理念，秉承「尊重人的價值、開發人的潛能、升華人的心靈」的宗旨，充分考慮人才的多元化和機會平等。

CR Gas always adheres to the responsibility concept of being people-oriented and the purposes of respecting people's value, developing people's potential and sublimating people's soul, and fully considers the diversity of talents and equal opportunities.

2022 責任績效 2022 Responsibility Performance

人均培訓投入
Training investment per person
817.94 港元/ HK\$

員工培訓覆蓋率
Total percentage of employees trained
100%

人均培訓時長
Training hours per person
12.8 小時/ Hour

SDGs



5

以人為本，為員工成長加油

Being people-oriented, fuelling the growth of employees

5.1 權益保護，打造健康職場

華潤燃氣尊重和保障員工權益，為每一個員工提供安全、包容、開放和多元的工作環境。

員工僱傭

華潤燃氣嚴格遵守《中華人民共和國勞動法》、《中華人民共和國勞動合同法》，規範執行勞動用工制度，與員工經平等自願、協商一致簽訂勞動合同，勞動合同簽訂率和續訂率均為100%。公司通過多元招聘渠道，積極吸引高端優質人才，2022年度華潤燃氣通過校招官網、微信公眾號、校招專欄、聯合國投網等網站發佈招聘信息，有效觸達學生端，並積極履行社會責任，創造就業崗位，積極推行就業本地化，本地化用工比例超過70%。

員工權益

反歧視

公司嚴格遵守《中華人民共和國勞動法》《中華人民共和國勞動合同法》《中華人民共和國未成年保護法》等法律法規，堅持員工招聘公開、公平、公正原則和平等僱傭原則，依法簽訂勞動合同，杜絕一切形式的用工歧視。公司面向殘疾人提供就業崗位，截至2022年底，公司殘疾人僱用人數達92人，並保障其各項福利待遇。

在遵守營運所在地法律法規的前提下，公司遵循《世界人權宣言》和中華人民共和國中央人民政府所批准認可的國際勞工公約在內的有關國際人權文書的精神，反對強迫勞工，禁止僱用童工，並建立性別、民族、信仰、年齡無差別的招聘、發展及晉升體系。

集團於本報告期內沒有發現僱用童工的違法違規事件。

5.1 PROTECTION OF RIGHTS AND INTERESTS TO CREATE A HEALTHY WORKPLACE

CR Gas respects and protects employees' rights and interests, and provides all employees with a safe, inclusive, open and diverse work environment.

Employee Employment

CR Gas has strictly abided by the Labour Law of the People's Republic of China (《中華人民共和國勞動法》), Labour Contract Law of the People's Republic of China (《中華人民共和國勞動合同法》), regulated the labour employment system and signed labour contracts with employees after just and voluntary negotiations to reach consensus, with a 100% coverage of labour contracts and renewed labour contracts. The Company takes active steps to attract high-end quality talents through diversified recruitment channels. In 2022, CR Gas released recruitment information through its official campus recruitment website, WeChat Official Account, campus recruitment board, Lianhe Guotou website and other websites to effectively reach out to students, and actively performs its social responsibility to create jobs and keenly promotes local employment, with more than 70% local employees.

Employees' Rights and Interests

Anti-discrimination

The Company has strictly abided by the laws and regulations such as the Labour Law of the People's Republic of China (《中華人民共和國勞動法》), Labour Contract Law of the People's Republic of China (《中華人民共和國勞動合同法》) and Law of the People's Republic of China on the Protection of Minors, adhered to the principles of openness, fairness and impartiality in the recruitment of employees and the principle of equal employment, signed labour contracts in accordance with the law and eliminated all forms of employment discrimination. The Company provides employment opportunities for the disabled. As at the end of 2022, the Company has hired 92 disabled employees, and guaranteed their welfare and benefits.

Subject to compliance with the laws and regulations of the regions where it operates, the Company follows the spirit of the Universal Declaration of Human Rights and relevant international human rights instruments including the International Labour Conventions ratified by the Central People's Government of the People's Republic of China, and opposes forced labour, prohibits child labour, and establishes a recruitment, development and promotion system without discrimination against gender, race, religion and age.

During the reporting period, there were no cases of child labour violations in the Group.



同工同酬

華潤燃氣秉承「內部公平性、外部競爭性、為崗位付薪、為績效付薪、為能力付薪」的薪酬理念與原則，在招聘、幹部選聘、薪酬福利、職業培訓等方面均堅持業績導向、能力導向，設立內部制度系統規範管理。

為保障員工的價值貢獻被給予公正的評價和公平的回報。截至2022年12月31日，公司共推動8家企業開展薪酬體系梳理，幫助其建立科學的薪酬體系，由總部指導推動實施，確保薪酬管理理念落實到位。

溝通舉報

華潤燃氣尊重每一名員工的訴求及意見，持續加強內部溝通體系的建設，營造關愛、融洽、正向的良好氛圍。公司通過設立多種渠道，優化員工諮詢及問題投訴處理，提升反饋速度，使問題管理呈現系統性、體制性的改善，實現員工訴求的閉環管理。

公司在總部層面建立了「信、訪、電、網」四位一體受理信訪舉報的機制。任何員工可以通過信件、上訪、電話和郵件的方式及時舉報不公平或涉及歧視的行為，從而確保員工權益保障體系及機制的良好運行。

尊重員工

華潤燃氣按照《中華人民共和國勞動法》及華潤集團的相關規定要求，實行法定節假日帶薪休假與帶薪年休假制度，嚴格執行工作時間和休息休假制度。公司嚴格落實孕產期女員工的休假規定，依法維護和保障每一位員工享有平等的合法權益。

員工福利

華潤燃氣秉承「人本精神」，提供完善的基礎福利保障體系，為員工購買醫療保險、意外傷害保險等商業保險，提供職業健康免費體檢、職業健康培訓。此外，公司每年為員工繳納企業年金，為受災或重大疾病、重大變故等的員工發放慰問，並設有哺乳假、公益假等合法員工權益，為員工提供節假日禮品、食宿等額外福利。

Equal pay

Adhering to the compensation concepts and principles of internal fairness, external competitiveness, pay for post, performance and ability, CR Gas adheres to recruitment, cadre selection and hiring, compensation and benefits, and vocational training in a performance-oriented and ability-oriented manner, and sets up internal systems to regulate the management of relevant matters.

To ensure that employees lead a normal life and that their value contribution has been given fair evaluation and return, by 31st December 2022, the Company had helped sort out the compensation systems in 8 enterprises for the establishment of a scientific compensation system, which was promoted under the guidance of the headquarters to ensure the effective implementation of the compensation management concepts.

Communication and whistleblowing

CR Gas respects the requests and opinions of all employees, continues to work on strengthening the construction of internal communication systems, and creates a caring, harmonious and positive atmosphere. The Company has set up various channels to streamline the handling of employee consultations and complaints and accelerate feedback, thereby improving issue management systematically and institutionally and implementing closed-loop management of employee requests.

The Company has established a four-in-one petition and report handling mechanism to allow employees to timely report unfair or discriminatory cases via letter, petition, telephone and email, thus ensuring the smooth operation of the employee rights protection system and mechanism.

Respecting employees

CR Gas implements the paid leave policy for statutory holidays and paid annual leave in accordance with the Labour Law of the People's Republic of China and the relevant regulations and requirements set out by China Resources Group, and strictly enforces the working hours and rest and leave policy. The Company strictly implements the leave provisions for pregnant and maternal female employees, and safeguards and protects the equal and legitimate rights and interests of every employee in accordance with the law.

Employee Benefits

Adhering to the people-oriented spirit, CR Gas has a comprehensive fundamental benefits protection system, providing employees with medical insurance, accidental injury insurance and other commercial insurance, as well as free occupational health check-ups and occupational health training. In addition, the Company pays corporate annuity for its employees every year, and grants consolation funds to employees affected by disasters or major epidemics, or major changes. It also assures the legal rights and interests of employees such as lactation leave and leave for participating in charity undertakings, offering holiday gifts, board and lodging and other additional benefits to employees.

民主管理

華潤燃氣貫徹《中華人民共和國工會法》和《中華人民共和國勞動法》中關於勞動者依法參加和組織工會法規，在法定程序及制度上落實勞資集體談判的權利，同時就勞動報酬、勞動安全、保險福利、職業技能培訓等事項開展集體協商並形成集體合同草案，對維護與保障職工權益、充分響應職工訴求起到積極的建設性作用。

5.2 能力發展，燃放青春之歌

人才是公司最大的財富。華潤燃氣秉承「尊重人的價值、開發人的潛能、升華人的心靈」的宗旨，以人才發展為中心，推動組織和員工的「內涵式增長」。

員工培訓

華潤燃氣不斷為員工發展提供優質培訓服務，打造人才多元發展平台。華潤燃氣持續加大培訓資源的投入，面向新入職員工、專業崗位員工及中高層管理人員，均設定了科學系統的培訓體系和多元化的系列培訓課程。

培訓體系

華潤燃氣學創中心將從推動戰略落地出發，以「成為國內一流的學習與創新中心」為願景，秉持「專業、開放、藝術」的工作理念，以「人才培養、業務促進」為核心，根據《燃氣學院培訓體系規劃》《燃氣學院管理章程》《華潤燃氣員工學習積分管理辦法》等制度，不斷優化人才培育及發展體系，重點發展人才培育核心項目，創建學習型組織，最大限度地為燃氣集團的發展提供必要的智力支持與人才保障，助力集團早日成為新時代世界一流能源服務企業的中國樣板。

Democratic Management

CR Gas resolutely implements the Trade Union Law of the People's Republic of China and the Labour Law of the People's Republic of China regarding provisions in relation to workers to participate in and form trade unions in accordance with the law, implements the right to collective bargaining between employers and employees in terms of legal procedures and systems, and also conducts collective bargaining and forms draft collective contracts on labour remuneration, labour safety, insurance and benefits, and vocational skills training, which play a positive and constructive role in safeguarding and protecting employees' rights and interests and fully responding to their requests.

5.2 CAPACITY DEVELOPMENT, SINGING THE SONG OF YOUTH

Talent is the greatest asset of the Company. CR Gas adheres to the purposes of respecting people's value, developing people's potential and sublimating people's soul, focuses on talent development to promote the "endogenous growth" of the Company and the employees.

Employee Training

CR Gas constantly provides quality training services for employee development and creates a diverse development platform for talents. CR Gas has continuously increased its investment in training resources and set up a scientific and systematic training system and a diverse series of training courses for new employees, professional employees and middle and senior managers.

Training system

Aimed at promoting strategic implementation, CR Gas Learning and Innovation Center pursues the vision of "becoming a first-class learning and innovation center in China", upholds the work philosophy of "professional, open and artistic", and focuses on "talent training and business promotion". Pursuant to regulations such as the Gas Institute Training System Plan, Gas Institute Management Charter, Management Measures for Performance Points of CR Gas Employees and other, it continuously optimizes its talent cultivation and development system, places particular emphasis on the development of core talent cultivation projects and strives to create a learning-oriented organization, thereby providing essential intellectual support and talent guarantees for the development of CR Gas, helping it to become a model of world-class energy service enterprise in China in the new era.



華潤燃氣培訓體系
CR Gas Training System

培訓計劃

公司不斷修繕《培訓管理制度》，根據集團和成員公司的培訓需求調研結果，制定按職級劃分的年度培訓計劃和目標，包括培訓項目、形式、主題、對象和費用等。2022年公司通過問卷調查以及面談方式開展年度培訓需求調研，共收集103份問卷。根據需求調研的結果，梳理出各部室、大區、區域培訓計劃，共計660項。

Training plan

The Company has continuously improved the Training Management System. According to the needs research findings of the Group and its member companies, the Company has formulated annual training plans and targets by employment categories, including the schemes, forms, subjects, targets and costs of training. In 2022, the Company conducted annual training demand research by means of interviews, collected 103 questionnaires and sorted out 660 training schemes for departments, regions, and areas.



2022年培訓需求調研分析及培訓計劃
2022 Training needs research and analysis and training plan

培訓活動

華潤燃氣充分發揮互聯網平台優勢，積極開展未來之星訓練營、新員工「UP」加速成長計劃培訓班等系列線上線下學習活動，圓滿交付第二期年輕幹部培訓班、職業技能等級試點認證工作以及職業技能標準建設等重點項目。2022年華潤燃氣累計承辦培訓會議152場次，服務14,028人次。

Training activities

CR Gas fully exploited its advantages in the Internet platform to proactively carry out a series of online and offline learning activities such as the Future Stars Training Camp and the "UP" training courses on accelerated growth plan for new employees, and successfully delivered key projects such as the second training course for young cadres, the pilot certification of vocational skills levels and the construction of vocational skills standards. In 2022, CR Gas hosted 152 training sessions serving 14,028 participants.

案例：打造體驗式素質拓展活動，助力企業團隊融合與建設

Case Study: Creating Experiential Outward Bound Activities to Facilitate the Integration and Construction of Corporate Teams

2022年，「易點」素拓團隊打造不同層級的體驗式培訓項目，學員範圍覆蓋集團高層經理人、各利潤中心不同層級人才、以及合作政府單位員工近1,300人，圍繞黨的建設、華潤歷史與文化、燃氣成立十五周年、對口扶貧等不同主題自主開發方案，匹配個性化項目。

In 2022, Yidea Outward Bound team provided experiential training schemes at different levels, covering senior managers of the Group, talents at different levels from profit centres and nearly 1,300 employees from partnering government units and independently develop schemes in different themes, including party building, history and culture China Resources, CR Gas 15th anniversary and poverty alleviation, tailoring to specific projects.

為豐富體驗式素質拓展內涵，賦能員工引導式教練技術，改善團隊組織氛圍，進一步夯實企業健康高速發展基石，華潤燃氣於7月20日至22日在南京開展了第七期「易點」新素拓師認證培訓，學員覆蓋六個大區、重燃、津燃、潤智及財務共享中心，共計41人，整體滿意度達4.97分。

To enrich the connotation of experiential outward bound, empower employees with guided coaching techniques, improve the atmosphere of the team, and further consolidate the cornerstone of healthy and rapid development of the enterprise, CR Gas conducted the 7th certified training for new outward bound teachers of Yidea in Nanjing during 20th to 22nd July, covering the six regions, Chongran, Jinran, Runzhi and the Financial Shared Service Centre, with a total of 41 participants and overall satisfaction of 4.97.



體驗式素質拓展活動
Experiential outward-bound activities



課程開發

華潤燃氣成立「藍精靈」電子課程開發團隊，成員選拔自企業內部有特長的優秀青年人才，現擁有112名成員。團隊在電子課程開發製作、學習工具研發、學習項目視覺推廣、知識沉澱等方面構建了實戰應用型團隊核心技能。

「藍精靈」團隊針對客戶要求提供定制化服務，如宣傳片拍攝製作、宣傳冊設計、微課開發等內容。2022年「藍精靈」調用307人次，完成線上課程製作198門，7,879分鐘，支持首屆人才培養評優表彰、華潤燃氣未來之星項目、專業序列課程製作、「1+2+3」管理實踐線上課程製作、M5年輕幹部培訓班等學習項目。

職業發展

華潤燃氣着力建立公平、公正的用人機制，提供完善的員工職級晉升通道。

人才培養體系

守正出新，繼往開來，華潤燃氣以服務企業戰略發展為目標，以人才發展規劃為指引，持續完善MPSN四大人才培養序列（管理序列、專業序列、技能序列、新人序列），建立起以管理、專業、技能三大序列為主的人才發展「三通道」，推動員工職業發展與企業發展相統一、職業發展與薪酬待遇相統一。

管理序列：公司着力搭建成體系、分層次、有針對性且高質量的管理序列人才梯隊培養體系，構建總部、大區及區域三級聯動機制。2022年，共開展10個各層級培訓項目，整體項目覆蓋近3,700人，開展課程及活動共計300個課時。

Curriculum Development

CR Gas has established a Smart Sprite team for electronic curriculum development which owns 112 members selected from excellent young talents with special skills in the Company. The team possesses the core skills as a practice- and application-oriented team in the development and production of electronic courses, research and development of learning tools, visual promotion of learning projects and knowledge accumulation.

The team offers bespoke services tailored to customers' requirements, such as shooting and production of promotional videos, brochure design, micro-class development, etc. In 2022, the team completed 198 online courses which lasted 7,879 minutes with 307 participants, thus supporting the first ceremony for talent training and commendation, CR Gas Future Star project, production of professional sequence courses, production of "1+2+3" management practice online courses, M5 young cadre training class and other learning projects.

Career Development

CR Gas strives to establish a fair and impartial employment mechanism and provide a well-established channel for staff promotion.

Talent Training System

We carry on our good traditions and innovate to create a better future. Aimed at serving our strategic development and guided by our talent development plan, CR Gas continues to improve the four MPSN talent training sequences (management sequence, professional sequence, skill sequence and new employee sequence). We have established three channels for talent development including management, professional and skill sequences to align employees' career development with the Company's development and with their remuneration.

Management sequence: The Company strives to build a systematic, hierarchical, targeted and quality training system for management sequence talents, and a three-level joint-action mechanism combining the headquarters, regions and sub-regions. In 2022, a total of 10 training schemes at all levels were launched, covering nearly 3,700 people and 300 class hours of courses and activities.

案例：組織「鴻鵠研修班」，激勵管理層實現目標

Case Study: Holding Lofty Aspirations Seminar to Motivate the Management to Achieve Objectives

鴻鵠研修班」第二期以「黨建引領·提升能力·增創實效」為主題，以精品課程和主題活動相結合的方式，關注團隊建設、能力提升，激勵中高層管理者帶領各部門有效推動和落實公司業績目標達成。

With the theme of improving ability and boosting effectiveness guided by Party building, Phase II of the seminar took the form of quality courses and themed activities, and focused on team building and ability improvement. In this way, middle and senior managers were encouraged to lead the respective departments to boost the achievement of the Company's performance targets.

本次培訓通過徒步、參觀黨建文化長廊等活動，以及《貝爾賓團隊》、《時間管理》、《高效能員工的七個習慣》等課程和讀書分享，重點關注團隊建設、能力提升的理論模型及演練成效，為推動企業高質量發展、爭創一流提供堅實的政治保證和人才保障。

The training included activities such as hiking, visiting cultural corridors of Party building, as well as courses and book sharing like Belbin's theory of team role, time management and the seven habits of highly effective employees, with a focus on the theoretical model and implementation effectiveness of team building and capability improvement, so as to provide solid political and talent assurance for promoting our quality development and turning CR Gas into a leading company.



鴻鵠研修班中高層管理者培訓

Training for middle and senior managers of Lofty Aspirations Seminar



專業序列：為拓寬員工職業發展通道，公司根據《華潤燃氣專業序列員工職業技能通道建設指引》，於2022年全面推廣實施專業技術員工等級認證工作，覆蓋9大專業序列、6個專業層級、6個大區，共計70餘家區域公司，識別選拔出一批優秀的專業人才和專家評委，暢通專業人才發展通道，明晰專業水平提升方向。

一季度組織開展專業序列課程開發培訓及理論考試，其中開發、上線專業序列課程72門，培養專業序列課程講師60人，應知應會理論考試覆蓋8,687人，考試通過率65%。

在理論考試的基礎上，由總部組織各序列專業總監認證，經區域公司推薦、大區審核、總部部室審核後，共計107人進入現場答辯環節，最終19人通過認證，被認為具備專業總監資格。同時，6個大區、12個區域公司組織開展高級師、資深師以及中級師認證，共計147人通過認證。

Professional sequence: In order to broaden the career development path of employees, the Company has promoted the implementation of the certification of professional and technical staff in a total of more than 70 regional companies in 2022 in accordance with the Guidelines for the Construction of Vocational Skill Channel for CR Gas Professional Sequence Employees, covering 9 professional sequences, 6 professional levels, and 6 regions. The purpose is to identify and select a number of excellent professional talents and experts who will serve as adjudicators to clear the hurdles for the development of professional talents and point out the direction to improve professionalism.

In the first quarter, we held development training and theoretical examinations on professional sequence courses, during which 72 professional sequence courses were developed and launched, and 60 lecturers of professional sequence courses received training, with 8,687 examinees taking theoretical tests about basic knowledge and 65% of them passing the tests.

In addition to the theoretical examination, the headquarters arranged for the certification of chief executives of each professional sequence. Having been recommended by regional companies and reviewed by regional and headquarters departments, a total of 107 candidates were shortlisted for on-site defense. Finally, 19 candidates passed the certification and were acknowledged as being qualified for chief executives. Besides, the certification of senior, experienced, and intermediate titles was carried out in 6 regions and 12 regional companies, and a total of 147 candidates passed the certification.



專業序列課程講師培養認證
Training certification for lecturers of professional sequence courses

技能序列：公司着力開展華潤燃氣職業技能培訓及考核標準建設，通過職業技能等級標準建設工作坊等形式，輸出技能等級標準建設。截至2022年12月31日，完成3個職業9個工種的標準建設。為豐富技能人才學習資源，公司採購國標課程1,112門，含9,741分鐘視頻以及38,528道題庫，並上線至集團在線學習應用平台「潤學堂」。此外，公司開展實操培訓基地調研，確定4家公司為華潤燃氣職業技能等級認定中心，並且制定技能等級試點認定工作計劃，組織開展300餘人次技能等級認定。

Skill sequence: The Company puts efforts into holding CR Gas vocational skill training and setting up assessment standards. To set up level standards for vocational skills, we take the form of workshops. As at 31st December 2022, standards for 3 occupations and 9 work types were formulated. To enrich the learning resources available to skilled talents, the Company purchased 1,112 courses on national standards, including 9,741 minutes of video and a test bank containing 38,528 questions, which were made available on the online learning application of the Group. In addition, the Company conducted a survey on practical training bases, and identified four companies as the CR Gas Certification Center for Vocational Skill Level. We developed a work plan for pilot certification of skill level, and organized more than 300 skill level certifications.



職業技能等級標準建設工作坊

Workshop on setting up the level standards for vocational skills



全國行業職業技能競賽

National industry-specific vocational skills competition



案例：舉辦職工技能大賽，提升一線隊伍技能水平

Case Study: Holding Competitions to Improve the Skills of Front-line Staff

4月24日－27日，成都區域開展百萬職工技能大賽調壓工比賽，比賽由成都市總工會、成都市人力資源和社會保障局主辦，市交通建設工會、武侯區總工會、成都大運會執委會辦公室承辦，旨在貫徹落實習近平總書記關於推進產業工人隊伍建設改革的重要指示精神，加快培養和選拔高技能人才，持續提升燃氣行業職工技能，全面保障「世界大學生運動會」期間燃氣安全平穩供氣，提升一線隊伍操作水平，營造技能創新氛圍。

From 24th to 27th April, the contest of pressure regulating workers under the Skills Competition for Millions of Workers was held in Chengdu. The competition was sponsored by Chengdu Federation of Trade Unions and Chengdu Human Resources and Social Security Bureau, and hosted by Chengdu Communications and Construction Trade Union, Wuhou District Federation of Trade Unions and Chengdu Universiade Executive Committee Office. Guided by General Secretary Xi Jinping's important instructions on promoting the build-up and reform of the industrial workforce, the competition was aimed at accelerating the training and selection of highly skilled talents and improving the skills of workers in the gas industry. By doing so, safe and stable gas supply could be ensured during the Universiade, and the operational skills of front-line workers could be enhanced, creating an atmosphere of skill innovation.



成都百萬職工技能大賽
Skills Competition for Millions of Workers in Chengdu

新人序列：多措並舉甄選優秀人才，2022屆校園招聘簽約515人，其中管培生15人。以三年培養計劃為框架，打造在線平台跟進新人培養，開展「管培生」「春筍計劃」等培養項目，激發青年人才活力。其中，「未來之星」訓練營榮獲「金太陽花」獎，實現五連冠。

New employee sequence: Multiple measures were taken to select outstanding talents. In 2022, the Company signed contracts with 515 graduates in campus recruitment, including 15 management trainees. Based on the three-year training plan, we created an online platform to follow up on the cultivation of new employees, and carried out training projects such as the Management Trainee and Spring Shoot Plan to stimulate the vitality of young talents. Among them, the Future Star training camp has won five Golden Sun Flower awards in a row.



新員工三年培養計劃宣貫
Promotion and implementation of the three-year training plan for new Employees



案例：開展新員工「青橙」培訓班，實現新角色切換

Case Study: Holding Green Orange Training Classes to Help New Employees Adapt to New Roles

2022年6月24日至29日，大連區域開展「新員工青橙培訓」。培訓以ASK課程模型為核心，圍繞態度、技能、知識三個維度，通過設置黨建、企業文化、制度介紹、安全教育、人才培養體系、思維與創新等板塊內容，增強新員工對崗位工作、對職業化的理解，助力於新員工角色的轉換，使其能快速實現從「校園人－社會人－燃氣人」的轉變，增強歸屬感，利於其穩定發展，並快速勝任崗位，助力新員工快速實現從「校園人－社會人－燃氣人」的角色轉變，推動個人發展與組織能力發展相匹配，為企業高質量發展提供強勁的人才動能。

From 24th to 29th June 2022, the Green Orange Training for New Employees was launched in Dalian Region. Focusing on the ASK curriculum model, the training was divided into sectors such as Party building, corporate culture, system introduction, safety education, talent training system, and thinking and innovation from the three dimensions of attitude, skills and knowledge. The aim was to enhance the understanding of new employees on job and professionalism, assist new employees in change of roles, enable them to quickly switch from students to workers and then to CR Gas staff, and enhance their sense of belonging. This was conducive to their stable development and rapid gain of competence. It could help new employees quickly transition from students to workers and to CR Gas employees, and align personal development with the Company's ability development, thus providing strong talent supports for our high-quality development.



新員工「青橙」培訓班

Green Orange Training Classes for New Employees

5.3 員工關愛，創建溫馨氛圍

公司構建豐富的員工關懷體系，努力為員工創造溫馨包容的生活和工作環境，不斷提升員工的工作幸福感。為營造和諧職場氛圍，公司組織各式各樣的節日主題文化活動，通過開展職工運動比賽、運動打卡、公眾開放日等趣味活動，緩解員工壓力，豐富員工的業餘生活，增強員工凝聚力。

5.3 CARING FOR EMPLOYEES AND CREATING A PLEASANT WORKING ENVIRONMENT

Having built a rich employee care system, the Company strives to create a pleasant and inclusive living and working environment for employees, and constantly improves their sense of happiness at work. In order to create a harmonious atmosphere at the workplace, the Company hosts a variety of festival-themed cultural activities. Through sports competitions, workout routine, open days and other fun games, we hope to help employees relieve stress, enrich their spare time, and in turn enhance the cohesion of our workforce.

案例：趣味活動 Case Study: Fun Games

江門區域公司開展職工趣味運動會

Our Jiangmen Regional Company held Staff Fun Games

為增強員工身體素質，加強區域內部的溝通交流，提升團隊凝聚力，1月17日，江門區域公司組織區域內9家成員企業開展職工趣味運動會。

本次活動共設有眾星捧月、妙筆生花、鐵架戰車、智慧漢諾塔、力拔山河等5個項目，採用積分制，每個項目的得分累計為每支參賽隊的最終總分，按總分高低依次確定排名。當天氣溫驟降，寒風裹挾著涼意，但這並沒有減少運動員們的比賽熱情，他們奮力拼搏，團結協作，緊張激烈的比賽現場不時傳出陣陣歡聲笑語。最終，開平公司“鼠我最燃隊”以總分第一的成績奪得比賽第一名，第二、三名則由鶴山公司“勇者無敵隊”、江門公司“鐵騎勇士隊”分別獲得。

To promote the physical fitness of employees, strengthen communications within the region and improve team cohesiveness, on 17th January, Jiangmen Regional Company held Staff Fun Games for 9 member companies in the region.

The team-building activities consisted of 5 games, namely Stars Surrounding the Moon, Magic Pen, Iron Chariot, Wisdom Tower of Hanoi, and Tug of War. A point system was used, with the score of each game accumulated as the final total score of each team, and the participants ranked accordingly. Despite the sudden drop in temperature and the chilly wind, the enthusiasm of the athletes was not dampened, and they strived hard and showed solidarity, with laughter and joy echoing out from time to time during the intense competition. The Mouse on Fire Team of our Kaiping Company was the champion with the highest score, and the Unstoppable Warriors Team of our Heshan Company and the Cavalry Warriors Team of our Jiangmen Company were the first and second runner-ups, respectively.



江門區域公司組織職工趣味運動會
Staff Fun Games organized by Jiangmen Regional Company

鄭州公司：多彩文化生活 致敬“她”力量

Our Zhengzhou Company: Colourful cultural life to tribute the She power

為豐富女員工的精神文化生活，在國際“三八”婦女節來臨之際，鄭州公司以華潤燃氣15周年“燃夢十五載 逐夢再出發”為主題，開展創意工藝作品徵集和“花點時間 享受生活”插花活動，展示員工對華潤燃氣未來發展的祝福和期許，展示女員工才藝風采，繪製美好畫卷，振奮前進精神，一起向未來。

To enrich the spiritual and cultural life of female employees, on the International Women's Day, our Zhengzhou Company took the “A 15-Year Pursuit, Starter of A New Journey” theme of the 15th anniversary of CR Gas and organized a collection of creative handicrafts and the “Taking Time to Enjoy Life” flower arrangement activity to showcase employees' blessings and expectations for the future development of CR Gas and the talents of female employees, inspiring the future.



鄭州公司開展婦女節特色活動
Women's Day activities organized by Zhengzhou Company



守護員工職業健康

公司全力守護員工身心健康，公司建設企業內部心理隊伍，引導員工運用科學方法疏解心理壓力，在保證員工隱私的基礎上，通過現場入駐、電話接線、危機干預等方式，實現專業人員對員工心理的診斷、建議和諮詢等，幫助員工以積極的心態面對生活與工作。

Keeping Employees Healthy at Work

Committed to keeping employees healthy both physically and mentally, the Company sets up an internal psychological counselling team to assist employees in using scientific methods to relieve pressure. On the premise of ensuring employee privacy, professionals can make diagnosis and give advice on employees' mental state and offer them consultation by means of on-site service, telephone connection, crisis intervention, etc. By doing so, we aim at helping employees live and work in a positive way.

案例：開展員工心理輔導，關愛員工心理健康 Case Study: Conducting Psychological Counselling for Employees to Care for Their Mental Health

為呵護員工心靈，引導員工正確地進行心理調節，華潤燃氣各級工會主動開展員工心理諮詢工作，讓員工更加積極地投身到自己的工作中。2022年重慶燃氣集團工會榮獲「2022年重慶市職工心理服務體系建設示範單位」。

To take care of employees' mental health and help them make psychological adjustment in the correct way, CR Gas trade unions at all levels actively carried out psychological counselling for employees, so that they could commit to their work more passionately. In 2022, the trade union of Chongqing Gas Group was awarded the title of 2022 Chongqing Demonstration Unit for the Construction of Psychological Service System for Employees.

同時，公司專門組建華潤燃氣「潤心大使」的專業團隊，組織潤心大使開展心理健康專業知識技能訓練，在部分下屬公司開展身心健康理念宣貫，對有需要的員工提供初步情緒處理、職場問題心理諮詢等幫助，以求建立「上下同欲」、互助共贏的組織氛圍。

Furthermore, the Company has specially set up a professional team named CR Gas Ambassadors. CR Gas Ambassadors carry out professional knowledge and skills training on mental health, and promote knowledge about physical and mental health in certain subsidiaries. They also offer basic emotional treatment, psychological counselling on workplace-related problems and other assistance to employees in need, in an attempt to create a company-wide atmosphere of helping each other to achieve common goals and mutual benefits.



心理輔導疏導
Psychological counselling

關愛女性職工

華潤燃氣積極維護和保障女職工權益，讓女職工更有獲得感、幸福感、安全感。

公司在法定福利基礎上為女職工提供個性化福利，如每月發放衛生費、提供健身卡、組織三八節主題活動等。疫情期間加大力度關愛女員工，各公司組織開展了「浸潤書香，享閱快樂」、「立足自身，爭做最美巾幗」等的主題活動，為女職工送鮮花、提供在線才藝課程等。

此外，公司積極改善女職工勞動安全衛生條件，對女職工進行勞動安全衛生知識培訓，積極維護女職工權益。

Caring for Female Employees

CR Gas actively protects and safeguards the rights and interests of female employees to give them a sense of gain, happiness and security.

On top of statutory benefits, the Company provides female employees with tailored benefits, such as monthly menstrual allowances, fitness cards and themed activities on Women's Day. During the pandemic, efforts were intensified to care for female employees. Our branches hosted themed activities such as Enjoying Immersive Reading and Becoming a Virtuous Woman, during which female employees received flowers and were provided with online art courses.

In addition, the Company actively improves the working conditions in terms of safety and health for female employees, and conducts training on knowledge about safety and health at work for female employees to protect their rights and interests.





案例：關注職場媽媽困境，增設哺乳室、提供補貼

Case Study: Paying Attention to the Plight of Working Mothers by Adding Nursing Rooms and Providing Subsidies

成都公司為孕期及哺乳期女職工設置哺乳場所－媽咪寶貝屋，屋內配備了冰箱、洗漱池、洗護台、休息椅等個性化設施設備，最大程度保證了孕期及哺乳期女職工的便利。

Chengdu Company set up Mommy and Baby Room, a nursing room for pregnant and breast-feeding female employees, which is equipped with tailored facilities and equipment such as refrigerators, washbasins, nursing tables and chairs to provide them with the most convenience.

同時，積極為雙職工子女家庭申請疫情期間雙職工子女看護補貼，緩解雙職工子女看護難的問題。

Moreover, Chengdu Company proactively applied for children nursing allowances for two-earner families during the pandemic to alleviate the difficulty in nursing children.



公司設置母嬰室
Maternity Room of the Company



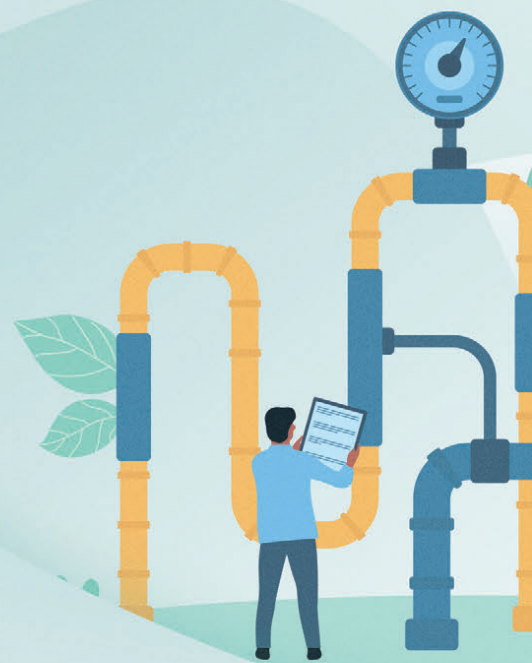
母嬰室內設
Inside the Maternity Room

產業
協作

為行業 發展賦能

Industry Collaboration

to empower
its development



華潤燃氣緊跟國家區域協調發展戰略，充分依託自身優勢，加大力度投資、佈局城市燃氣項目。為推動華潤燃氣與相關方的共同發展，我們積極開展合作，促進行業良性發展。與此同時，我們始終注重供應鏈管理，遵守法律法規要求，致力於打造負責任的供應鏈，構建供應鏈風險預防機制，形成高效的供應鏈管理鏈條。

CR Gas has stepped up investment in and made overall planning for its urban gas projects closely in line with China's coordinated regional development strategy and with full support of its own advantages. To boost the common development between CR Gas and related parties, we have carried out collaboration proactively to facilitate the healthy development of the industry. Meanwhile, we always keep our focus on supply chain management and comply with laws and regulations, with an aim to build a responsible supply chain and a mechanism for preventing supply chain risks for creating an efficient chain that manages our supply chain.

2022 責任績效 2022 Responsibility Performance

供應商評價考核

166家

Suppliers reviewed and
appraised: 166

責任採購比例

100%

Percentage of responsible
procurement : 100%

新簽綜合能源項目

58個

Integrated energy projects newly
signed: 58

SDGs



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



11 SUSTAINABLE CITIES
AND COMMUNITIES



17 PARTNERSHIPS
FOR THE GOALS



6

產業協作，為行業發展賦能

Industry Collaboration to empower its development

6.1 合作共贏，共創行業發展

能源行業，是華潤燃氣的生存依託。我們致力於與政府、同行、合作夥伴、供應商攜手促進行業發展，守護行業內公正、平等的合作與發展氛圍，與行業利益相關方共同走向互利共贏，行穩致遠的可持續發展道路。

深化戰略合作

華潤燃氣積極與各方開展合作，建立並不斷深化戰略夥伴關係，持續加強與各方在產業、人才、研發、服務等方面的合作，實現關鍵資源優勢互補，加強核心競爭力。

政企合作

華潤燃氣堅持「用重兵、全方位、大掃蕩、只爭朝夕」的投資策略，主動對接政府資源，推動深化合作。2022年，為進一步優化區域天然氣資源配置，鞏固和保障能源安全，華潤燃氣積極與政府合作，加快推進投資佈局氣源項目，優化華潤燃氣氣源結構，提升居民用氣調峰保障能力。

6.1 WIN-WIN COLLABORATION MAKES THE INDUSTRY GROW TOGETHER

Energy is the industry CR Gas lives by. We are committed to joining hands with the government, peers, partners, and suppliers to promote the development of the industry, safeguarding a fair and equal environment for cooperation and development within the industry, and, together with industry stakeholders, achieving stable and long-last sustainable development towards mutual benefit and win-win results.

Deepen Strategic Collaboration

CR Gas plays an active role in collaborating with all parties by establishing and deepening strategic partnership and strengthening collaboration with all parties on an ongoing basis in industries, personnel training, R&D, services and other aspects to complement each other's advantages in key resources and reinforce core competitiveness.

Collaboration between government and CR Gas

CR Gas adheres to the investment strategy aimed at building a strong team, working in an all-round way, carrying out large-scale operation and seizing every minute to connect itself to government resources and boost deepened collaboration. In 2022, for the purpose of further enhancing the allocation of regional natural gas resources as well as consolidating and assuring energy security, CR Gas collaborated proactively with the government in stepping up investment in and making overall planning for gas source projects, improving the composition of the gas sources of CR Gas and enhancing its capability to assure peak shaving in the use of gas by residents.





亮點案例：投資佈局氣源項目，加強調峰保供能力

Case Study Highlight: Investment in and Overall Planning for Gas Source Projects to Enhance the Capability for Assuring Peak Shaving and Supply during Peak Periods

2022年9月23日，華潤燃氣與江蘇如東洋口港經濟開發區管理委員會、江蘇洋口港建設發展集團有限公司簽署如東洋口港LNG接收站項目投資落戶協議。該項目規劃建設6座20萬方LNG儲罐、1座8-26.7萬方LNG專用泊位以及配套工藝、公用工程等設施，年接卸能力650萬噸，遠期將達到1,000萬噸。項目預計2026年正式投產營運，屆時將進一步增強對江蘇、安徽、山東、浙江等省天然氣資源配置，鞏固和保障能源安全，同時優化華潤燃氣氣源結構，提升居民用氣調峰保障能力。

On 23rd September 2022, CR Gas signed an agreement with Jiangsu Rudong Yangkou Port Economic Development Zone Management Committee and Jiangsu Yangkou Port Construction Development Group Co., Ltd. on the investment and location of the Rudong Yangkou Port's LNG receiving station project. Under the project, we plan to build six LNG storage tanks with a capacity of 200,000 m³, one special LNG berth with a capacity of 80,000 m³-267,000 m³, supporting technology, public works and other facilities, with an annual loading and unloading capacity of 6.5 million tonnes and a long-term capacity of 10 million tonnes. The project is expected to commence operation officially in 2026. By that time, the allocation of natural gas resources in Jiangsu, Anhui, Shandong, Zhejiang and other provinces will be further enhanced to consolidate and assure energy security, while the composition of the gas sources of CR Gas will be improved to enhance the capability for assuring peak shaving in the use of gas by residents.



如東洋口港LNG接收站項目
Rudong Yangkou Port's LNG receiving station project

企企合作

華潤燃氣秉持「合作共贏」的發展理念，利用自身平台及業務優勢，積極與多家企業建立戰略夥伴關係，同時積極推動跨行業的企業合作，發揮各自優勢，實現資源共通、優勢互補、共同發展，促進產業轉型發展，帶動區域經濟增長。

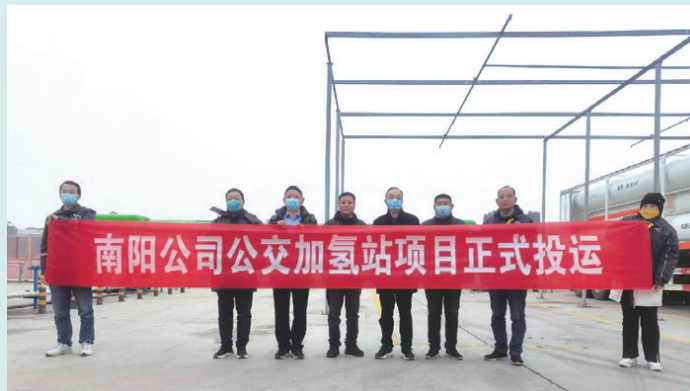
Collaboration between Enterprises

Upholding the win-win collaboration development concept, CR Gas establishes more strategic partnerships with a number of enterprises by using its own platform and business advantages, while boosting further collaboration between cross-industry enterprises and expanding their respective advantages to share resources, complement each other's advantages and grow together for facilitating industrial transformation and development, and boosting regional economic growth.

亮點案例：華潤燃氣與南陽公交形成全方位戰略合作 Case Study Highlight: CR Gas and Nanyang Bus Formed all-round Strategic Collaboration

2022年12月1日，南陽公司公交加氫站項目順利投運，與南陽公交形成「加氣、加氫、充電」業務的全方位戰略合作。公交公司高度認可華潤燃氣在南陽地區的品牌實力和服務質量，為加氫項目推進打下堅實基礎。南陽公司結合業務實際積極與公交展開溝通，深入開展市場調研，從氫源管理、運輸管理、設備管理等全業務流程控制製成本，確保經濟分析可行，雙方經過多輪磋商確定移交營運方案，最終達成合作。加氫站正式投運後，南陽公司正式形成「加油、加氫、加氣、充電」綜合交通能源全業務經營格局，同時將持續開展攻堅，力爭在交通綜合能源領域取得更大成效。

On 1st December 2022, the hydrogen refuelling station project of our Nanyang company commenced operation successfully, establishing our all-round strategic collaboration with Nanyang Bus in the gas refuelling, hydrogen refuelling and charging business. The bus company's high recognition of the brand strength and service quality of CR Gas in Nanyang area laid a solid foundation for us to proceed with the hydrogen refuelling project. Our Nanyang company proactively communicated with Nanyang Bus about business practices, carried out in-depth market research and kept costs under control during the whole business process, covering hydrogen source management, transportation management and equipment management, etc., to ensure that the economic analysis was feasible. After several rounds of negotiations, the two parties decided on a transfer-operate proposal, and agreed on collaboration finally. Upon official commencement of the operation of the hydrogen refuelling station, our Nanyang company will formally create an integrated transportation and energy full-service business pattern featuring refuelling, hydrogenation, gas refuelling and charging. It will continue to tackle challenges, striving to make greater success in the integrated transportation and energy field.



南陽公司公交加氫站項目
Nanyang company's hydrogen refuelling station project



校企合作

我們深知國家推進產學研合作的初心和意義。為助力各高校燃氣行業人才提升科研能力，華潤燃氣以強大的技術優勢與充分資源投入的科學平台，支持科研人員不斷向行業輸出具有前瞻性、創新性的研究，深化行業人才隊伍建設。

我們積極研究和儲備前沿減排技術建立產學研一體機構，從能源智能管理平台開發，新能源業務拓展，高效節能設備研究，碳捕捉、收集和利用技術等方面與科研院校和相關企業進行深度合作與研發，2022年，我們與中國石油大學、江蘇科技大學等高校建立產學研合作關係，深入探索用戶端本質安全應用、甲醇燃料船舶試驗技術等前沿領域，發揮優勢互補，助力各高校人才發展，促進燃氣領域產學研合作模式的發展。

Collaboration between Universities and CR Gas

We are well aware of China's original intention and significance to push forward with industry-university-research collaboration. To help the experts at colleges and universities who are engaged in the gas industry to enhance their scientific research capabilities, CR Gas encourages scientific researchers to continuously export forward-looking and innovative research to the industry by leveraging strong technical advantages and a scientific platform with sufficient resources to deepen the build-up of a talent team for the industry.

We carried out a lot of research on and reserved more cutting-edge emission reduction technologies for the purpose of establishing an industry-university-research institution. We conducted in-depth collaboration and R&D with scientific research institutes and relevant companies on the build-up of an intelligent energy management platform; development of new energy business; research on high-efficiency energy-saving equipment; as well as carbon capture, collection and usage technologies, etc. In 2022, we established an industry-university-research partnership with China University of Petroleum, Jiangsu University of Science and Technology as well as other colleges and universities to look deeply into various cutting-edge fields such as user-side intrinsic safety applications and technology in the test of methanol fuel for vessels, as to complement each other's advantages, assist in personnel development in colleges and universities, and facilitate the development of the industry-university-research collaboration model in the gas field.



中國石油大學(華東)用戶端本質安全應用研究

Research on user-side intrinsic safety application at China University of Petroleum (East China)



促進行業進步

開展行業交流

華潤燃氣積極推動行業發展建設，利用數字化技術賦能業務創新和變革，為客戶提供更精準、更加多樣化的能源服務。2022年，華潤燃氣設計研究中心、潤智科技有限公司、無錫華潤燃氣有限公司積極參與由中燃氣智氣委組織的《中國城鎮智慧燃氣發展報告（2022）》的編製工作，有效推動燃氣行業數字化建設。

此外，華潤燃氣積極參加行業交流，攜手行業協會、同行企業共同助推燃氣行業高質量發展。2022年，我們參與由中國城市燃氣氫能發展創新聯盟組織的「中荷燃氣行業氫能轉型路徑交流研討會」、由中燃協智氣委組織的「第八屆中國智慧燃氣發展論壇」、以及由中國石油學會組織的「中國石油石化產業智能電氣與綠色發展技術交流大會」等，共同探討燃氣相關技術最新進展，促進信息共享。

健全供應鏈管理

華潤燃氣嚴格遵守《中華人民共和國招標投標法》《中華人民共和國招標投標法實施條例》等法律，並結合自身發展狀況制定了《華潤燃氣採購管理制度》《集中聯合採購管理規定》等內部制度，持續健全供應鏈管理系統，倡導與利益相關方建立積極健康的合作關係，攜手社會各界共同構建合作共贏的行業生態。

Accelerating Industry Progress

Carrying out industry exchanges

CR Gas actively promotes the development and construction of the industry, uses digital technology to empower business innovation and change, and provides customers with more accurate and diverse energy services. In 2022, CR Gas Design and Research Center, Runzhi Technology Company Limited and Wuxi China Resources Gas Company Limited actively participated in the preparation of the "China Urban Smart Gas Development Report (2022)" organized by the China Gas Smart Gas Committee, effectively promoting the digitalization of the gas industry.

In addition, CR Gas actively participated in industry exchanges and joined hands with industry associations and peer companies to promote the high-quality development of the gas industry. 2022, we participated in the "China-Dutch Workshop on Hydrogen Energy Transformation Paths in the Gas Industry" organized by the China City Gas Hydrogen Energy Development Innovation Alliance, and the "8th China Smart Gas Development Committee" organized by the China Gas Smart Gas Association. "The 8th China Smart Gas Development Forum" organized by the China Petroleum Association, and the "China Petroleum and Petrochemical Industry Smart Electric and Green Development Technology Exchange Conference" organized by the China Petroleum Association, etc., to discuss the latest progress in gas-related technologies and promote information sharing.

Improving Supply Chain Management

CR Gas strictly complies with various laws and regulations such as the Law of the People's Republic of China on Invitation and Submission of Tenders (《中華人民共和國招標投標法》) and Implementation Rules of the Law of the People's Republic of China on Invitation and Submission of Tenders (《中華人民共和國招標投標法實施條例》), and formulated various internal policies, such as the CR Gas Procurement Management Policy (《華潤燃氣採購管理制度》) and Central and Joint Procurement Management Regulations (《集中聯合採購管理規定》) based on its current development status. It improves its supply chain management policy on an ongoing basis, advocates the establishment of a positive and healthy partnership with stakeholders, and works together with all sectors of society to build a win-win industrial ecology.



規範流程管理

供應商管理流程

為規範公司的供應商管理業務，提高管理水平，防範採購風險，我們建立「網上報名、資格初審、性能測試、現場考察、綜合評審、結果公示」的供應商選拔機制，要求所有供應商達到集團在政策中列出的對環境保護、員工健康與安全、勞工準則等方面的規定，並對供應商篩選、准入、考核設置明確標準。我們每年組織區域公司對供應商進行評價，評價結果將作為考核供應商准入、退出的重要依據。

華潤燃氣採用集中聯合採購主要工程物資的方式，為此設置了完善的集採入圍招標評審流程，統一管理從入庫到退出的全部流程。對於入圍的供應商，我們實施動態管理，包括但不限於飛行檢查、第三方送檢、遠程監造等方式，並對考核標準進行不定時更新，以滿足負責任供應鏈的要求。2022年，我們對166家供應商開展了評價考核。

供應商數據

Regulating process management

Suppliers Management Process

To regulate the Company's supplier management service, raise management standard and prevent procurement risks, we have established a supplier selection mechanism that comprises online registration, preliminary qualification review, performance test, on-site inspection, comprehensive review and result announcement. All suppliers are required to meet the requirements set out in Group's policies for environmental protection, employee health and safety, labour standards, etc. Clear standards are set for supplier selection, admission and assessment. Regional companies are arranged to evaluate suppliers every year, and the evaluation results serve as an important basis for assessing supplier admission and exit.

CR Gas carries out central and joint procurement of major project materials. For this purpose, we have established a complete set of procedures for central procurement, shortlisting, tender invitation and review, and managed the entire process on a central basis for delivery to and from warehouses. We carried out dynamic management of shortlisted suppliers, including but not limited to unannounced inspections, third-party inspections, remote monitoring of manufacturing, etc. We will update the assessment standards from time to time to meet the requirements of a responsible supply chain. In 2022, 166 suppliers were evaluated and assessed.

Supplier Data

地區	Region	單位 Unit	數目 Number
中部地區	Central China	家supplier	395
華西地區	West China	家supplier	419
華東地區	East China	家supplier	665
北方地區	Northern areas	家supplier	232
東南地區	Southeast areas	家supplier	476
華南地區	South China	家supplier	428
其他地區(含天津、重慶等)	Other regions (including Tianjin, Chongqing, etc.)	家supplier	37
供應商總數	Total number of suppliers	家supplier	2,652

**供應鏈風險管理**

2022年，我們開展年度重大風險識別工作，識別出包含市場供應風險在內的十大年度重大風險，通過將風險管控融入供應鏈的管理中，持續完善供應鏈風險管理相關制度，打造可持續供應鏈。

Supply Chain Risk Management

We identified ten major risks, including a market supply risk, in the annual identification of major risks carried out in 2022. By integrating risk control into our supply chain management, we improve the policy related to the management of supply chain risks on an ongoing basis to build a sustainable supply chain.

風險描述**Risk Description**

由於生產材料或設備的供應價格、質量以及供需關係的不利變動甚至供應的中斷而導致經營目標存在不確定性

Uncertain business objectives due to adverse changes in the supply price, quality and supply-demand relationship of production materials or equipment, or due to even supply interruptions

管控措施**Management Measures**

構建資源池，豐富氣源來源、價格體系，合理配置各類型資源比例，優化資源池結構

Built a resource pool, diversified gas sources and pricing policy, allocated a reasonable proportion of various types of resources and enhanced the composition of the resource pool

積極向中石油、中石化、中海油爭取更多合同內氣量；接洽國內外各級資源商

Strived to secure more contracted gas volume from PetroChina, Sinopec and CNOOC; approached domestic and foreign resource providers at all levels

持續引導用戶簽訂順價合同，及時傳遞風險

Offered ongoing guide to users to sign contracts where prices at which goods are sold are higher than the prices at which they were acquired, and transferred risks in a timely manner

充分搜集、挖掘市場數據，分析、研判市場走勢，提前為爭取冬季資源做準備

Collected and mined sufficient market data, conducted analysis and judged market trends, and prepared for securing winter resources in advance

可持續供應鏈建設

為倡導可持續供應鏈建設，我們鼓勵供應商提供環保產品，並將環境、職業安全健康、質量等體系認證納入資格預審評分項目，推動供應商加強環境和勞工權益管理。2022年，與集團合作的供應商通過質量、環境和職業健康安全管理体系認證率為100%。

Building a Sustainable Supply Chain

To advocate the build-up of a sustainable supply chain, we encourage suppliers to provide environment-friendly products and incorporate environmental, occupational safety and health, quality and other system certification into the pre-qualification scoring items to encourage suppliers to strengthen environmental and labour rights management. In 2022, 100% of our suppliers were certified in terms of quality, environmental, occupational health and safety management systems.



踐行責任採購

華潤燃氣嚴格落實責任採購，始終將廉潔作為與供應商合作的前提和基礎，要求雙方均嚴格遵守廉潔有關規定，我們致力於打造廉潔供應鏈，於《華潤燃氣採購管理制度》中明確要求供應商在入圍過程、採購合作過程中簽訂誠信合規宣言，宣導誠信合規文化；要求參加供應商實地考察的人員100%簽訂《物資考察陽光宣言》，並將誠信合規條款嵌入集中聯合採購框架協議和採購合同，開通工程物資誠信跟蹤郵箱，做好日常監督工作，並檢驗其合規性。2022年，華潤燃氣共聘用251家供應商，公司責任採購比例為100%。

促進能力提升

華潤燃氣堅持與供應鏈合作夥伴共同成長的理念，重視供應鏈可持續發展能力的培養，在內外協作中關注夥伴的核心訴求，我們通過「雙向互評」制度，拓寬供應商溝通渠道，組織合作供應商與華潤燃氣成員企業針對誠信合規、業務水平等方面互相進行評價監督。與此同時，我們不定期組織對供應商進行飛行檢查，產品第三方送檢，進行年度評價，並反饋質量、售後服務等評價情況，提出改善建議，幫助供應商提升產品質量和服務水平。

Carrying out Responsible Procurement

CR Gas carries out responsible procurement stringently and consistently takes integrity as a prerequisite and basis for collaboration with suppliers, requiring both parties to strictly comply with integrity-related regulations. We are committed to building an incorruptible supply chain, and suppliers are explicitly required in the CR Gas Procurement Management Policy (《華潤燃氣採購管理制度》) to sign a declaration of integrity and compliance to advocate a culture based on integrity and compliance, and 100% of the suppliers' staff attending onsite inspection are required to sign a Declaration of Investigation of Goods in a Transparent Manner (《物資考察陽光宣言》). Integrity and compliance clauses are incorporated into the central and joint procurement framework agreements and procurement contracts; an integrity tracking mailbox is set up for project materials to improve routine monitoring and verify compliance. In 2022, CR Gas engaged a total of 251 suppliers and achieved 100% of responsible procurement.

Capacity building

CR Gas adheres to the concept of growing together with supply chain partners, acknowledges the importance of cultivating the sustainability of our supply chain, and are concerned about the core demands of our partners during internal and external collaboration. By means of a two-way mutual evaluation policy, we broaden the communication channels for suppliers, and arrange our suppliers and CR Gas member companies to evaluate and monitor each other in terms of integrity, compliance and business standards. At the same time, we conduct unannounced inspections of suppliers on an irregular basis, third-party product inspections, annual evaluations as well as feedback on quality and after-sales services, and recommend improvements to help our suppliers raise their product quality and service standards.

6.2 區域建設，服務國家戰略

打造區域性發展新格局

華潤燃氣緊跟國家區域協調發展戰略，積極推進京津冀、黃河流域、東北地區、長三角、粵港澳大灣區和西部地區等區域性協同發展和建設，加大投資力度，以創新為引領全面塑造發展新優勢。以西部大開發為例，華潤燃氣在西部地區共投資各類燃氣項目13個，包括德陽燃氣項目、廣漢燃氣項目、渝西天然氣管網項目、宜賓港東燃氣項目、彭州川港等項目，共計投資約19億元人民幣。

同時，華潤燃氣踐行生態優先和綠色發展理念，聚力發展綜合能源市場，2022年簽約共58個綜合能源項目，包括天府國際機場健康服務中心綜合能源項目、昆明理工大學熱水供應項目等，不斷加強自身核心競爭力，迎接新的發展機遇。

6.2 REGIONAL BUILD-UP TO CATER FOR NATIONAL STRATEGIES

Create a New Pattern of Regional Development

CR Gas follows China's coordinated regional development strategy closely by playing an active role in carrying out the coordinated regional development and build-up of the Beijing-Tianjin-Hebei region, the Yellow River Basin, Northeast China, the Yangtze River Delta, the Guangdong-Hong Kong-Macao Greater Bay Area and Western China, and by stepping up investment to create new advantages comprehensively that are led by innovation. Taking the large-scale development of China's western region as an example, CR Gas has invested in 13 various gas projects in the western region, such as Deyang Gas Project, Guanghan Gas Project, Yuxi Natural Gas Pipeline Network Project, Yibin Gangdong Gas Project, Pengzhou Chuangang Project, etc., involving a total investment of approximately RMB1.9 billion.

Moreover, CR Gas applies the concept of giving priority to ecological conservation and green development, with a focus on developing the integrated energy market. In 2022, contracts for a total of 58 integrated energy projects were signed, such as the integrated energy project at the health service centre of Tianfu International Airport and the hot water supply project of Kunming University of Science and Technology, etc. CR Gas strengthens its core competitiveness on an ongoing basis to embrace new development opportunities.





亮點案例：燃氣與新能源互補，助力綠色校園建設

Case Study Highlight: Gas and New Energy Complementing Each Other to Help Build a Green Campus

2022年，華潤燃氣開啟昆明理工大學社區中心學生公寓熱水改造項目，項目採用能源託管模式，熱水系統擬採用太陽能集熱結合天然氣鍋爐保供的方式，預計每年為學校節約用熱水費用約200萬元。該項目是昆明區域取得的首個高校綜合能源項目，與主業協同性強，經濟效益好，並具有一定的體量和示範意義，昆明區域將全力以赴將其打造為學校類綜合能源項目標桿。

In 2022, CR Gas kicked off the hot water renovation project for the student dormitory in the community centre of Kunming University of Science and Technology. Based on an energy-cost trust contract, the project plans to collect solar heat together with natural gas boilers for the hot water system to assure supply, which is expected to save approximately RMB2 million in hot water costs for the university every year. This project is the first integrated energy project for colleges and universities secured in the Kunming area. It has strong synergy with our principal business, good economic benefits as well as a certain project size and significance for a project model. We will dedicate ourselves to building this project into an integrated energy project benchmark for colleges and universities in Kunming.



昆明理工大學社區中心學生公寓熱水改造項目

Hot water renovation project for the student dormitory of the community centre, Kunming University of Science and Technology

推動「一城一網」區域整合

華潤燃氣緊跟所在地區的發展動態，充分依託自身優勢，加大力度投資、佈局城市燃氣項目，全力支持政府整合燃氣市場，規範燃氣行業發展，推動「一城一網」區域整合，打造「一張網、大市場、多氣源」的嶄新天然氣供應格局，全面提升氣源保供能力、優化客戶服務和營運管理，為各地能源結構提檔升級貢獻央企力量。

Boost Regional Integration of “One City One Grid”

CR Gas steps up investment in and makes overall planning for its urban gas projects closely in line with the development trends in the place where it is located, and with full support of its own advantages. We fully support the government in integrating the gas market; regulates the development of the gas industry; boosts the regional integration of “one city, one grid” and create a brand new natural gas supply pattern featuring one grid, a large market and multiple gas sources. We also enhance our overall capability to assure gas source supply; and improve customer service and operation management to contribute, as a state-owned enterprise directly under the central government, to the upgrade of energy composition in various regions.

亮點案例：整合燃氣市場，推動「一城一網」建設

Case Study Highlight: Integration of the Gas Market to Boost the Build-up of “one city, one grid”

- 2022年，華潤燃氣推動全面整合天津能源集團26家燃氣類企業股權及2項燃氣類資產，項目總投資34億元，天津能源集團燃氣板塊全部納入華潤燃氣合資公司管理，實現了燃氣業務的統一規劃、統一建設、統一管理、統一調度，充分發揮施工、設計、商貿、表具製造等輔業資源優勢，激發產業鏈企業活力，釋放協同效應，促進集約化發展。

In 2022, CR Gas promoted the full integration of the equity interest of 26 gas companies and 2 gas assets of Tianjin Energy Group with a total investment of RMB3.4 billion. The gas segment of Tianjin Energy Group was fully incorporated into the management of a joint venture company of CR Gas to become a single gas business in terms of planning, construction, management and scheduling to expand the advantages of auxiliary business resources such as construction, design, commerce and gas meter manufacturing, stimulate the vitality of industrial chain enterprises, unleash synergy and facilitate intensive development.

- 2022年，華潤燃氣在昆山項目投資13.83億元，通過「一張網」模式，整合昆山華潤與昆山利通的股權及經營區域，基本統一昆山市燃氣市場，逐步提升整體規模、效益與服務質量。

In 2022, CR Gas invested RMB1.383 billion in a project in Kunshan. By means of a “one grid” model, the equity interest and business areas of Kunshan China Resources and Kunshan Litong were integrated to make the market in Kunshan become a single one, which helps enhance their overall scale, efficiency and service quality gradually.



燃氣項目合資合作簽約儀式

Contract signing ceremony for a joint venture gas project



附錄 Appendix

可持續發展績效指標

環境績效

SUSTAINABILITY PERFORMANCE INDICATORS

ENVIRONMENTAL PERFORMANCE

指標	Index	單位 Unit	2022	2021	2020	2019	2018
環保總投入	Total environmental investment	萬港元 HK\$'0,000	4,479.85	4,417.69	2,827.69	2,839.66	2,903.55
節能減排技術改造投入	Investment in technological upgrade for energy saving and emission reduction	萬港元 HK\$'0,000	4,243.87	4,202.99	2,722.42	2,729.56	2,745.47
環保培訓參與人次	Participants of environmental protection training	人次 Attendance	201,625	191,127	161,425	143,242	139,416
環保培訓總時長	Total hours of environmental protection training	小時 Hour	354,579	348,967	292,267	251,726	242,712
環保培訓總投入	Total investment in environmental protection training	萬港元 HK\$'0,000	182.07	174	131.84	110.1	111.95
新建項目執行環境和社會影響評估的比率	Ratio of new construction projects conducting environmental and social impact assessment	百分比 %	100	100	100	100	100

A1：排放物 Emissions

A1.1：排放物種類及相關排放數據 Types of emissions and respective emissions data

硫氧化物排放總量	Total sulphur oxides emissions	千克 kg	89.99	96.06	92.43	96.59	115.23
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A1.2：直接（範圍1）及能源間接（範圍2）溫室氣體排放量 Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions

溫室氣體排放總量 ⁽¹⁾	Total greenhouse gas emissions ⁽¹⁾	噸二氧化碳當量 tonnes CO ₂ e	140,442.6	145,608.5	202,226.577	243,086.402	252,784.778
溫室氣體直接排放量 （範圍一） ⁽²⁾	Direct greenhouse gas emissions (scope 1) ⁽²⁾	噸二氧化碳當量 tonnes CO ₂ e	35,559.8	35,494.20	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed
溫室氣體間接排放量 （範圍二） ⁽³⁾	Indirect greenhouse gas emissions (scope 2) ⁽³⁾	噸二氧化碳當量 tonnes CO ₂ e	104,882.75	110,114.30	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed
溫室氣體排放密度	Greenhouse gas emission density	噸二氧化碳當量／萬港元 營業額 tonnes CO ₂ e/revenue of HK\$'0,000	0.0149	0.0186	0.0362	0.0435	0.0494

A1.3：有害廢棄物總量及密度 Total hazardous waste produced and intensity

有害廢棄物排放總量	Intensity of hazardous waste produced	噸 tonnes	10.77	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed
有害廢棄物產生密度	Intensity of hazardous waste produced	噸／萬元 tonnes / HK\$'0,000	0.0004	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed

A1.4：無害廢棄物總量及密度 Total non-hazardous waste produced and intensity

無害廢棄物排放總量	Total non-hazardous waste produced	噸 tonnes	183.12	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed
無害廢棄物產生密度	Intensity of non-hazardous waste produced	噸／萬元 tonnes / HK\$'0,000	0.0174	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed

指標	Index	單位 Unit	2022	2021	2020	2019	2018
A2：資源使用 Use of Resources							
A2.1：直接、間接能源總耗量及密度 Direct/indirect energy consumption and intensity							
綜合能源消耗折算標準煤總量	Total overall energy consumption (converted to standard coal)	萬噸標準煤 '0,000 tonnes of standard coal	4.212	4.3147	4.0116	4.6947	4.8368
綜合能耗折算標準煤密度	Overall energy consumption density (converted to standard coal)	萬噸標準煤/ 億港元營業額 '0,000 tonnes of standard coal/revenue of HK\$'00 million	0.0045	0.0055	0.0072	0.0084	0.0095
萬港元營業收入綜合能耗(可比價)	Overall energy consumption per HK\$'0,000 revenue (at comparable price)	噸標準煤/萬港元 tonnes of standard coal/ HK\$'0,000	0.0036	0.0046	0.0052	0.0062	0.007
萬港元增加值綜合能耗(可比價)	Overall energy consumption per HK\$'0,000 value added (at comparable price)	噸標準煤/萬港元 tonnes of standard coal/ HK\$'0,000	0.0183	0.0167	0.0181	0.023	0.0238
柴油消耗量	Diesel consumption volume	噸 tonnes	874.36	852.92	816.52	987.53	1,200.03
柴油消耗量密度	Diesel consumption density	噸/億港元營業額 tonnes/revenue of HK'00 million	0.75	1.091	1.462	1.769	2.345
汽油消耗量	Gasoline consumption volume	噸 tonnes	3,721.25	3,917.10	3,892.13	3,910.35	4,549.89
汽油消耗量密度	Gasoline consumption density	噸/億港元營業額 tonnes/revenue of HK'00 million	3.193	5.011	6.967	7.003	8.893
天然氣消耗量	Natural gas consumption volume	萬標準立方米 '0,000 standard m ³	988.953	966.323	839.67	954.996	961.229
天然氣消耗量密度	Natural gas consumption density	萬標準立方米/ 億港元營業額 '0,000 standard m ³ / revenue of HK'00 million	0.849	1.236	1.503	1.71	1.879
外購電力消耗量	Externally purchased power consumption volume	萬千瓦時 '0,000 kWh	18,298.24	18,952.56	17,921.94	22,014.73	22,083.15
外購電力消耗密度	Externally purchased power consumption density	萬千瓦時/ 億港元營業額 '0,000 kWh/revenue of HK'00 million	15.701	24.244	32.081	39.428	43.16
A2.2：總耗水量及密度 Total water consumption and intensity							
水資源耗用量	Water consumption	噸 tonnes	1,531,400	1,483,700	1,368,613	未披露 Undisclosed	未披露 Undisclosed
用水強度	Water consumption intensity	噸/萬港元營業收入 tonne/HK10,000 operating revenue	0.160	0.190	0.245	未披露 Undisclosed	未披露 Undisclosed



指標	Index	單位 Unit	2022	2021	2020	2019	2018
A2.5 : 製成品所用包裝材料的總量 Total packaging material used for finished products							
燃氣具包裝材料	Packaging materials of gas appliances	噸 tonnes	1,537.30	1,208.03	957	387.6	374.48

社會績效

SOCIAL PERFORMANCE

指標	Index	單位 Unit	2022	2021	2020	2019	2018
安全培訓 Safety training							
安全培訓投入	Safety training investment	萬港元 HK\$'0,000	3,320.20	2,804.77	2,194	2,246	2,032
安全培訓總時長	Total hours of safety training	小時 Hour	726,935	740,816	699,939	596,897	594,970
安全培訓參與人次	Participants of safety training	人次 Attendance	357,763	338,874	273,253	263,187	249,812
安全培訓覆蓋率	Coverage of safety training	百分比 %	100	100	100	100	100
安全應急演練次數	Number of safety emergency response drills conducted	次 Number of times	4,508	4,278	3,052	2,885	2,816
安全生產 Safe production							
安全生產投入	Safe production investment	萬港元 HK\$'0,000	94,515	70,645	62,445	63,923	43,620
安全生產事故數	Number of safe production accidents	次 Number of times	0	0	0	0	0
B1 : 僱傭 Employment							
B1.1 : 按性別、僱傭類型、年齡組別及地區劃分的僱員總數 Total workforce by gender, employment type, age group and geographical region							
員工總人數	Total number of employees	人 Person	56,114	52,354	48,205	48,570	48,031
按性別劃分的僱員總數 Total workforce by gender							
女性員工人數	Number of female employees	人 Person	19,864	18,324	16,969	15,542	16,330
男性員工人數	Number of male employees	人 Person	36,250	34,030	31,236	33,028	31,701
按年齡劃分的僱員總數 Total workforce by age							
20-30歲員工人數	Number of employees aged 20-30	人 Person	8,032	8,473	8,689	10,703	12,204
31-40歲員工人數	Number of employees aged 31-40	人 Person	20,766	21,808	19,410	17,452	16,027
41-50歲員工人數	Number of employees aged 41-50	人 Person	16,409	16,392	13,670	14,478	14,309
>50歲員工人數	Number of employees aged > 50	人 Person	10,907	5,681	6,436	5,937	5,491

指標	Index	單位 Unit	2022	2021	2020	2019	2018
按受僱職級劃分的僱員總數 Total workforce by employment rank							
管理層員工人數	Number of management staff	人 Person	1,042	1,777	1,097	1,111	1,067
中層員工人數	Number of middle-level staff	人 Person	3,198	3,581	2,969	3,137	3,181
基層員工人數	Number of elementary staff	人 Person	51,874	46,996	44,139	44,322	43,783
按地區劃分的僱員總數⁽⁴⁾ Total workforce by geographical region⁽⁴⁾							
中部地區員工人數	Number of employees from Central areas	人 Person	12,005	-	-	-	-
華西地區員工人數	Number of employees from West China	人 Person	8,128	-	-	-	-
華東地區員工人數	Number of employees from East China	人 Person	8,549	-	-	-	-
北方地區員工人數	Number of employees from Northern areas	人 Person	4,517	-	-	-	-
東南地區員工人數	Number of employees from Southeast areas	人 Person	6,199	-	-	-	-
華南地區員工人數	Number of employees from South China	人 Person	3,034	-	-	-	-
其他地區(天津、重慶等)員工人數	Number of employees from other regions (including Tianjin, Chongqing, etc.)	人 Person	13,682	-	-	-	-
B1.2: 按性別、年齡組別及地區劃分的僱員流失比率 Employee turnover rate by gender, age group and geographical region							
員工流失率	Employee turnover rate	百分比 %	3	3	5	5	6
按性別劃分的僱員流失比率 Employee turnover rate by gender							
男性員工流失率	Male employee turnover rate	百分比 %	3	3	4	4	5
女性員工流失率	Female employee turnover rate	百分比 %	2	2	6	6	7
按年齡劃分的僱員流失比率 Employee turnover rate by age							
20-30歲員工流失率	Turnover rate of employees aged 20-30	百分比 %	5	6	6	7	8
31-40歲員工流失率	Turnover rate of employees aged 31-40	百分比 %	2	2	3	3	3
41-50歲員工流失率	Turnover rate of employees aged 41-50	百分比 %	1	2	2	2	3
>50歲員工流失率	Turnover rate of employees aged > 50	百分比 %	1	2	17	15	17



指標	Index	單位 Unit	2022	2021	2020	2019	2018
按受僱職級劃分的員工流失比率 Employee turnover rate by employment rank							
管理層員工流失率	Turnover rate of management staff	百分比 %	0.38	1	4	4	2
中層員工流失率	Turnover rate of middle-level staff	百分比 %	1	1	2	3	3
基層員工流失率	Turnover rate of elementary staff	百分比 %	2	3	5	5	6
按地區劃分員工流失比率⁽⁴⁾ Employee turnover rate by geographical region⁽⁴⁾							
中部地區員工流失率	Turnover rate of employees from Central China	百分比 %	3	-	-	-	-
華西地區員工流失率	Turnover rate of employees from West China	百分比 %	2	-	-	-	-
華東地區員工流失率	Turnover rate of employees from East China	百分比 %	3	-	-	-	-
北方地區員工流失率	Turnover rate of employees from Northern areas	百分比 %	4	-	-	-	-
東南地區員工流失率	Turnover rate of employees from Southeast areas	百分比 %	3	-	-	-	-
華南地區員工流失率	Turnover rate of employees from South China	百分比 %	3	-	-	-	-
其他地區(天津、重慶等)員工流失率	Turnover rate of employees from other regions (including Tianjin, Chongqing, etc.)	百分比 %	4	-	-	-	-
B2：健康與安全 Health and Safety							
B2.1：過去三年(包括匯報年度)每年因工亡故的人數及比率 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year							
員工傷亡人數	Employee fatalities	人 Person	0	0	0	0	0
B2.2：因工傷損失工作日數 Lost days due to work injury							
因工傷損失工作日數	Work days lost due to injury	天 Day	0	0	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed
損失工作日事故率 (LTIFR)-員工	Lost time injury frequency rate (LTIFR)- Employee	百分比 %	0	0	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed
損失工作日事故率 (LTIFR)-承包商	Lost time injury frequency rate (LTIFR)- Contractor	百分比 %	0	0	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed



指標	Index	單位 Unit	2022	2021	2020	2019	2018
B3：發展及培訓 Development and Training							
B3.1：按性別及僱員類別（如高級管理層、中級管理層）劃分的受訓僱員百分比 The percentage of employees trained by gender and employee category (e.g. senior management, middle management)							
按性別劃分的受訓僱員百分比 The percentage of employees trained by gender							
男	Male	百分比%	59	63	58	100	83.8
女	Female	百分比%	59	59	61.5	100	94.6
按受僱職級劃分的受訓僱員百分比 The percentage of employees trained by employment rank							
管理層	Management staff	百分比%	44	35	56	100	82.3
中層員工	Middle-level staff	百分比%	69	63	60	100	80.2
基層員工	Elementary staff	百分比%	59	62	58	100	88.1
B3.2：按性別及僱員類別劃分，每名僱員完成受訓的平均時數 The average training hours completed per employee by gender and employee category							
培訓總時數	Total hours of training	小時 Hour	524,086	790,471	1,076,438	3,267,600	3,110,294
人均培訓投入	Training investment per person	港元 HK\$	817.94	1,315.21	1,398	2,100	2,076
人均受訓時長	Training hours per person	學時 Hour	12.8	24.5	38.2	77.8	64.8
員工培訓覆蓋率	Employee training coverage	百分比 %	100	100	100	100	100
按性別劃分的人均受訓時數 Average training hours per person by gender							
男	Male	學時 Hour	21.5	24.1	37.6	74.7	60.6
女	Female	學時 Hour	17.9	25.4	39.2	80.9	72.9
受僱職級劃分的人均受訓時數 Average training hours per person by employment rank							
管理層	Management staff	學時 Hour	15.4	47.4	24	56.3	46.1
中層員工	Middle-level staff	學時 Hour	19.3	25.9	26	52.9	43.3
基層員工	Elementary staff	學時 Hour	13.7	23.9	113	68.4	66.8



指標	Index	單位 Unit	2022	2021	2020	2019	2018
B5 : 供應鏈管理 Supply Chain Management							
B5.1 : 按地區劃分的供貨商數目⁽⁴⁾⁽⁵⁾ Number of suppliers by geographical region⁽⁴⁾⁽⁵⁾							
中部地區	Central China	家 Supplier	495	-	-	-	-
華西地區	West China	家 Supplier	419	-	-	-	-
華東地區	East China	家 Supplier	665	-	-	-	-
北方地區	Northern areas	家 Supplier	232	-	-	-	-
東南地區	Southeast areas	家 Supplier	476	-	-	-	-
華南地區	South China	家 Supplier	428	-	-	-	-
其他地區(含天津、重慶等)	Other regions (including Tianjin, Chongqing, etc.)	家 Supplier	37	-	-	-	-
供應商總數	Total number of suppliers	家 Supplier	2,652	2,960	2,247	2,306	1,872
B6 : 產品責任 Product Responsibility							
B6.2 : 產品及服務投訴 Product and service complaints							
產品合格率(百尊)	Rate of qualified products (percentage)	百分比%	100	100	100	100	100
客戶滿意度	Customer satisfaction	百分比%	95.7	95.0	94.0	93.2	91.7
B8 : 社區投資 Community Investment							
B8.2 : 社區投入 Community investment							
困難員工幫扶投入	Investment in employees in hardships	萬港元 HK\$'0,000	326.10	273.56	304.87	287.84	468.91
救助困難員工投入	Investment in employees in difficulty	萬港元 HK\$'0,000	73.1	35.5	44.77	42.69	147.2
走訪慰問困難員工家庭投入	Investment in visits and comforts delivered to families of employees in difficulty	萬港元 HK\$'0,000	57.9	50	59.06	54.33	106.84
資助困難員工子女入學投入	Investment in the education of children of employees in difficulty	萬港元 HK\$'0,000	6.98	7.4	7.42	6.86	75.98
社會捐贈總額	Total social donations	萬港元 HK\$'0,000	493.71	511	778.25	907.5	633.6
公益志願服務投入總時長	Total hours devoted to charity and volunteer service	萬小時 0'000 Hours	25.3	25.4	未披露 Undisclosed	未披露 Undisclosed	未披露 Undisclosed
員工志願活動人次	Participants of volunteer activities	人次 Attendance	76,429	98,000	12,000	28,630	23,483
扶貧專項資金投入	Special funds for poverty alleviation	萬港元 HK\$'0,000	237.40	446.54	312.18	488.23	311.22



指標	Index	單位 Unit	2022	2021	2020	2019	2018
綜合績效指標 Overall performance indicator							
安全管理人員持證人數	Number of licensed safety management personnel	人 Person	4,456	3,513	2,321	2,685	2,978
註冊安全工程師人數	Number of registered safety engineers	人 Person	1,057	1,003	958	935	892
供應商通過質量、環境和職業健康安全體系認證的比例	Percentage of certified suppliers under the quality, environmental and occupational health and safety management systems	百分比%	100	100	100	96	95
供應商受到經濟、社會或環境方面處罰的個案數量	Number of suppliers being imposed with economic, social or environmental penalties	個 Number	0	0	0	0	0
責任採購比率	Responsible procurement coverage	百分比%	100	100	92	93.9	85.1
新增就業人數	Number of newly employed employees	人 Person	2,551	2,051	2,071	539	6,020
女性管理者比例	Ratio of female managers	百分比%	24.59	23.19	15.5	24.9	27
殘疾人僱傭人數	Number of disabled persons employed	人 Person	92	86	81	61	94
少數民族員工人數	Number of ethnic minorities employed	人 Person	1,601	1,634	1,700	1,388	1,102
接收應屆畢業生人數	Number of fresh graduates employed	人 Person	750	485	545	592	785
勞動合同簽訂率	Coverage of labour contracts	百分比%	100	100	100	100	100
社會保險覆蓋率	Coverage rate of social insurance	百分比%	100	100	100	100	100
人均帶薪休假天數	Average paid leave days per person	天 Day	11	11	11	11	11
員工平均工資水平	Average salary of employees	萬港元 HK\$'0,000	10.96	12.95	9.79	10.39	10.27
年度新增職業病和企業累計職業病	New occupational disease and accumulative occupational disease during the year	例 Case	0	0	0	0	0
體檢及健康檔案覆蓋率	Coverage for physical examination and health archiving	百分比%	100	100	100	100	100



註：

1. 參考國家發改委委託國家應對氣候變化戰略研究和國際合作中心編製的《工業其他行業企業溫室氣體排放核算方法與指南報告》(試行)和《中國石油和天然氣生產企業溫室氣體排放核算方法與報告指南》(試行)對華潤燃氣2022年度溫室氣體排放進行核算。
2. 溫室氣體範圍一排放量，根據汽油、柴油、天然氣總消耗量進行計算，相關排放因子來自《中國石油和天然氣生產企業溫室氣體排放核算方法與報告指南》(試行)中「常見化石燃料特性參數缺省值」附錄。
3. 範圍二碳排放量由集團淨購入電力(即外購電力消耗量剔除集團光伏自用及對外供電量)計算得到，計算所用外購電力的排放因子選取2022年3月10日中國生態環境部辦公廳發佈的《關於做好2022年企業溫室氣體排放報告管理相關重點工作的通知》中對其他行業企業溫室氣體排放核算要求明確的全國電網排放因子，即0.5810tCO₂/MWh。
4. 2022年華潤燃氣為提升對區域及子公司的管理能效，對原有的8個大區(北方、中西、華北、華中、華東、東南、西南、華南)進行合併、撤銷及重組，調整為「6+2」管控模式，即現有北方大區、東南大區、華東大區、華南大區、華西大區、中部大區6個大區及重慶區域和天津區域。因區域重組於報告期內完成，相關區域數據統計管理機制仍在持續完善，基於清晰性及可靠性原則，本報告暫不披露最新區域口徑下過往年份對應的員工人數、員工流失率及供應商數目。
5. 2021年公司調整供應商數目披露口徑，由僅統計「物資及設備供應商」數目變更為統計「物資及設備供應商、工程承包商、服務提供商、上游供應商」數目；2022年繼續沿用此口徑，並對2018-2020年供應商總數進行重述。

Note:

1. The greenhouse gas emissions of CR Gas in 2022 were calculated with reference to the Accounting Method and Reporting Guide for Greenhouse Gas Emissions from Industry and Other Sectors (for Trial Implementation) (《工業其他行業企業溫室氣體排放核算方法與指南報告》(試行)) and the Accounting Method and Reporting Guide for Greenhouse Gas Emissions from Chinese Petroleum and Natural Gas Production Enterprises (for trial implementation) (《中國石油和天然氣生產企業溫室氣體排放核算方法與報告指南》(試行)) developed by the National Climate Change Strategy Research and International Cooperation Center under the engagement of the National Development and Reform Commission.
2. Scope 1 emissions of greenhouse gases were calculated based on the total consumption of gasoline, diesel and natural gas, and the relevant emission factors were derived from the Appendix "Default Values of Special Parameters of Common Fossil Fuel" of the Accounting Method and Reporting Guide for Greenhouse Gas Emissions from Chinese Petroleum and Natural Gas Production Enterprises (for trial implementation) (《中國石油和天然氣生產企業溫室氣體排放核算方法與報告指南》(試行)).
3. Scope 2 carbon emissions are calculated from the Group's net purchased electricity (i.e. purchased electricity consumption excluding the Group's PV self-consumption and external power supply), and the emission factor of purchased electricity used in the calculation is selected from the "Notice on the key work related to the management of enterprise greenhouse gas emission reporting in 2022" issued by the General Office of the Ministry of Ecology and Environment of China on March 10, 2022 for the greenhouse gas emission of enterprises in other industries. The national grid emission factor specified in the accounting requirements, i.e. 0.5810tCO₂/MWh.
4. In 2022, to improve the management efficiency of its regions and subsidiaries, CR Gas rezoned by combining and revoking the existing 8 regions (Northern areas, Midwest areas, North China, Central China, East China, Southeast areas, Southwest areas, and South China) into the "6+2" control model (i.e. the existing 6 regions namely, Northern areas, Southeast areas, East China, South China, West China, and Central China, as well as Chongqing and Tianjin). Besides, since the regional reorganization was only completed during the Reporting Period, the statistical management mechanism of the relevant regional data are still required for improvement, for the sake of clarity and reliability, this report refrains from disclosing the number of employees, the turnover rate of employees, and the number of suppliers in the previous years under the current statistical caliber.
5. In 2021, the company adjusted the disclosure caliber of the number of suppliers, changing from counting only the number of "material and equipment suppliers" to "material and equipment suppliers, engineering contractors, service providers and upstream suppliers"; this caliber continues to be used in 2022, and the total number of suppliers from 2018 to 2020 has been restated.

《環境、社會及管治報告指引》
內容索引

ESG REPORTING GUIDE CONTENT INDEX

環境、社會及管治指標索引 Reference Table of ESG Indices		披露章節 Chapter/Section of Disclosure	披露頁碼 Page of Disclosure
主要範疇A：環境 Subject Area A: Environmental			
A1： 排放物 Emissions	一般披露 General Disclosure 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 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	綠色發展， 為自然創造美好 Green Development to Maintain the Beauty of Nature	P78-93
	A1.1 排放物種類及相關排放數據 The types of emissions and respective emissions data	綠色發展， 為自然創造美好 可持續發展指標 Green Development to Maintain the Beauty of Nature Sustainability Indicators	P125
	A1.2 直接（範圍1）及能源間接（範圍2）溫室氣體排放量（以噸計算）及（如適用）密度（如以每產量單位、每項設施計算） Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	可持續發展指標 Sustainability Indicators	P125
	A1.3 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） Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	可持續發展指標 Sustainability Indicators	P125
	A1.4 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） Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	可持續發展指標 Sustainability Indicators	P125
	A1.5 描述減低排放量的措施及所得成果 Description of measures to mitigate emissions and results achieved	綠色發展， 為自然創造美好 Green Development to Maintain the Beauty of Nature	P85-93
	A1.6 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 Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved	綠色發展， 為自然創造美好 Green Development to Maintain the Beauty of Nature	P79-80



環境、社會及管治指標索引 Reference Table of ESG Indices		披露章節 Chapter/Section of Disclosure	披露頁碼 Page of Disclosure
A2 : 資源使用 Use of Resources	一般披露 General Disclosure 有效使用資源(包括能源、水及其他原材料)的政策。 Policies on the efficient use of resources, including energy, water and other raw materials	綠色發展， 為自然創造美好 Green Development to Maintain the Beauty of Nature	P78
	A2.1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) 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)	可持續發展指標 Sustainability Indicators	P126
	A2.2總耗水量及密度(如以每產量單位、每項設施計算) Water consumption in total and intensity (e.g. per unit of production volume, per facility)	可持續發展指標 Sustainability Indicators	P80, P126
	A2.3描述能源使用效益計劃及所得成果 Description of energy use efficiency initiatives and results achieved	綠色發展， 為自然創造美好 Green Development to Maintain the Beauty of Nature	P87
	A2.4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 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved	綠色發展， 為自然創造美好 Green Development to Maintain the Beauty of Nature	P80, P126
	A2.5製成品所用包裝材料的總量(以噸計算)及(如適用)每生產單位估量 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	可持續發展指標 Sustainability Indicators	P127
A3 : 環境及天然資源 The Environment and Natural Resources	一般披露 General Disclosure 減低發行人對環境及天然資源造成重大影響的政策 Policies on minimising the issuer's significant impact on the environment and natural resources	綠色發展， 為自然創造美好 Green Development to Maintain the Beauty of Nature	P79
	A3.1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 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	綠色發展， 為自然創造美好 Green Development to Maintain the Beauty of Nature	P79-80



環境、社會及管治指標索引 Reference Table of ESG Indices		披露章節 Chapter/Section of Disclosure	披露頁碼 Page of Disclosure
A4 : 氣候變化 Climate Change	一般披露 General Disclosure 識別及應對已經及可能會對發行人產生影響的重大氣候相關事宜的政策 Policies on identification and handling of significant climate-related issues which have impacted, and those which may impact, the issuer	清潔能源， 應對氣候變化 CLEAN ENERGY TO ADDRESS CLIMATE CHANGE	P82-85
	A4.1描述已經及可能會對發行人產生影響的重大氣候相關事宜，及應對行動 Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them	清潔能源， 應對氣候變化 CLEAN ENERGY TO ADDRESS CLIMATE CHANGE	P82-85
主要範疇B：社會 Subject Area B: Social			
B1 : 僱傭 Employment	一般披露 General Disclosure 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： (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 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	權益保護， 打造健康職場 PROTECTION OF RIGHTS AND INTERESTS TO CREATE A HEALTHY WORKPLACE	P96-98
	B1.1按性別、僱傭類型（如全職或兼職）、年齡組別及地區劃分的僱員總數 Total workforce by gender, employment type and geographical region	可持續發展指標 Sustainability Indicators	P127-128
	B1.2按性別、年齡組別及地區劃分的僱員流失比率 Employee turnover rate by gender, age group and geographical region	可持續發展指標 Sustainability Indicators	P128-129



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B2 : 健康與安全 Health and Safety	一般披露 General Disclosure 有關提供安全工作環境及保障僱員避免職業性危害的： (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 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	安全生產， 守護萬家煙火 PRODUCTION SAFETY FOR ALL	P54-57, P61
	B2.1過去三年（包括匯報年度）每年因工亡故的人數及比率 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year	可持續發展指標 Sustainability Indicators	P129
	B2.2因工傷損失工作日數 Lost days due to work injury	可持續發展指標 Sustainability Indicators	P129
	B2.3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 Description of occupational health and safety measures adopted, how they are implemented and monitored	安全生產， 守護萬家煙火 PRODUCTION SAFETY FOR ALL	P54-75
B3 : 發展與培訓 Development and Training	一般披露 General Disclosure 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 Information on policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities	能力發展， 燃放青春之歌 CAPACITY DEVELOPMENT, SINGING THE SONG OF YOUTH	P98-107
	B3.1按性別及僱員類別（如高級管理層、中級管理層）劃分的受訓僱員百分比 The percentage of employees trained by gender and employee category (e.g. senior management, middle management)	可持續發展指標 Sustainability Indicators	P130
	B3.2按性別及僱員類別劃分，每名僱員完成受訓的平均時數 The average training hours completed per employee by gender and employee category	可持續發展指標 Sustainability Indicators	P130



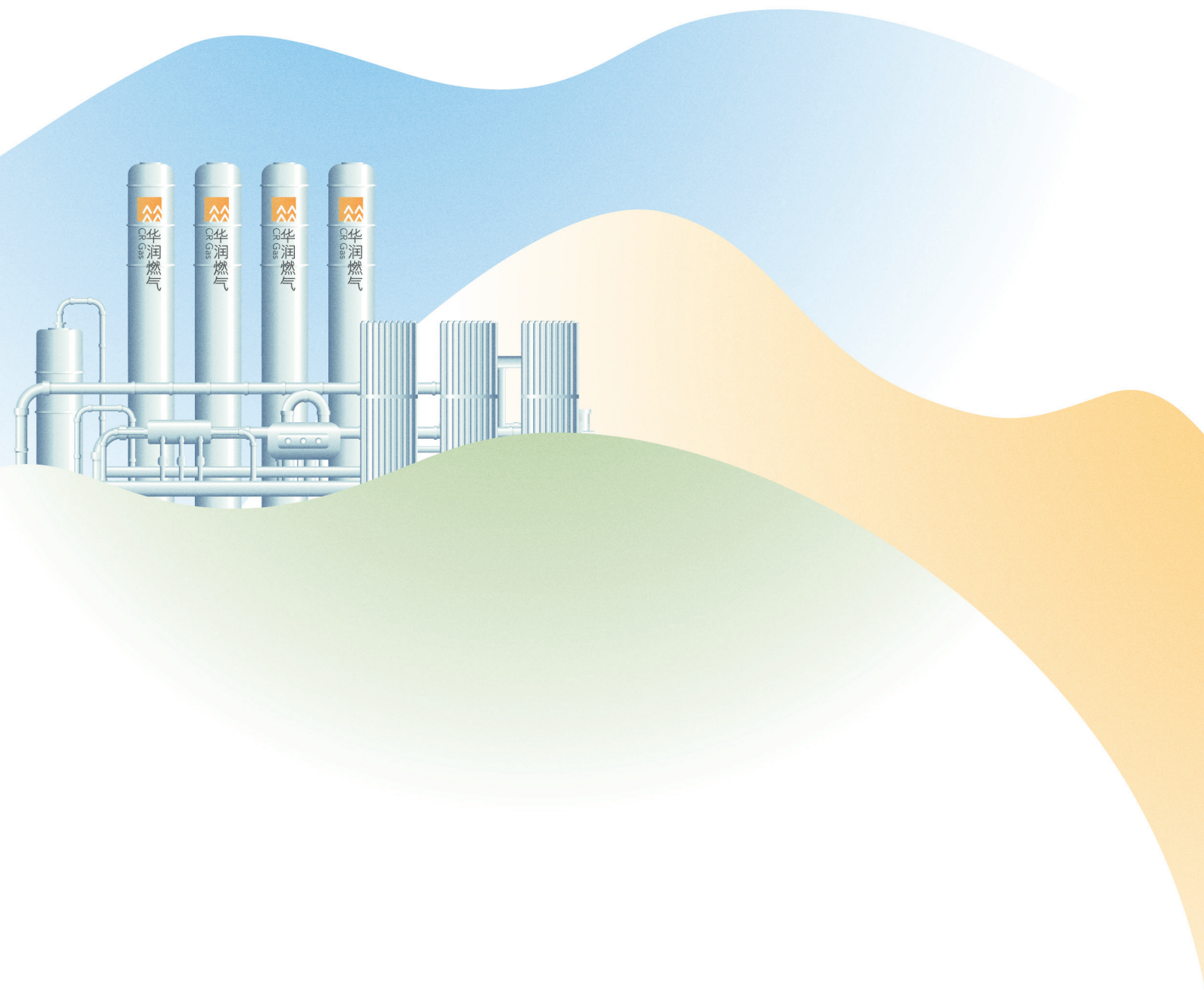
環境、社會及管治指標索引 Reference Table of ESG Indices		披露章節 Chapter/Section of Disclosure	披露頁碼 Page of Disclosure
B4 : 勞工準則 Labour Standards	一般披露 General Disclosure 有關防止童工或強制勞工的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour	權益保護， 打造健康職場 PROTECTION OF RIGHTS AND INTERESTS TO CREATE A HEALTHY WORKPLACE	P96-97
	B4.1描述檢討招聘慣例的措施以避免童工及強制勞工 Description of measures to review employment practices to avoid child and forced labour	權益保護， 打造健康職場 PROTECTION OF RIGHTS AND INTERESTS TO CREATE A HEALTHY WORKPLACE	P96-97
	B4.2描述在發現違規情況時消除有關情況所採取的步驟 Description of steps taken to eliminate such practices when discovered	未出現使用童工及強制勞工的情況，不適用 Not applicable because there were no cases of child and forced labour	
營運管理 Operating Practices			
B5 : 供應鏈管理 Supply Chain Management	一般披露 General Disclosure 管理供應鏈的環境及社會風險政策 Policies on managing environmental and social risks of the supply chain	合作共贏， 共創行業發展 WIN-WIN COLLABORATION MAKES THE INDUSTRY GROW TOGETHER	P118
	B5.1按地區劃分的供貨商數目 Number of suppliers by geographical region	可持續發展指標 Sustainability Indicators	P131
	B5.2描述有關聘用供貨商的慣例，向其執行有關慣例的供貨商數目、以及有關慣例的執行及監察方法 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored	合作共贏， 共創行業發展 WIN-WIN COLLABORATION MAKES THE INDUSTRY GROW TOGETHER	P118-121
	B5.3描述有關識別供應鏈每個環節的環境及社會風險的慣例，以及相關執行及監察方法 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored	合作共贏， 共創行業發展 WIN-WIN COLLABORATION MAKES THE INDUSTRY GROW TOGETHER	P118-121
	B5.4描述在揀選供應商時促使多用環保產品及服務的慣例，以及相關執行及監察方法 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored	合作共贏， 共創行業發展 WIN-WIN COLLABORATION MAKES THE INDUSTRY GROW TOGETHER	P118-121



環境、社會及管治指標索引 Reference Table of ESG Indices		披露章節 Chapter/Section of Disclosure	披露頁碼 Page of Disclosure
B6 : 產品責任 Product Responsibility	一般披露 General Disclosure 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： (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 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress	價值創造， 為生活增添精彩 Value Creation to Shape a Better Life	P42
	B6.1已售或已運送產品總數中因安全與健康理由而須回收的百分比 Percentage of total products sold or shipped subject to recalls for safety and health reasons	主營業務不適用 Not applicable to the major business operations	
	B6.2接獲關於產品及服務的投訴數目以及應對方法 Number of products and service related complaints received and how they are dealt with	價值創造， 為生活增添精彩 Value Creation to Shape a Better Life	P48-50
	B6.3描述與維護及保障知識產權有關的慣例 Description of practices relating to observing and protecting intellectual property rights	價值創造， 為生活增添精彩 Value Creation to Shape a Better Life	P47
	B6.4描述質量檢定過程及產品回收程序 Description of quality assurance process and recall procedures	主營業務不適用 Not applicable to the major business operations	
	B6.5描述消費者數據保障及隱私政策，以及相關執行及監察方法 Description of consumer data protection and privacy policies, and how they are implemented and monitored	價值創造， 為生活增添精彩 Value Creation to Shape a Better Life	P48



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B7 : 反貪污 Anti-Corruption	一般披露 General Disclosure 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 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing bribery, extortion, fraud and money laundering	強健管治， 穩固發展根基 STRENGTHENING GOVERNANCE TO SOLIDIFY DEVELOPMENT FOUNDATION	P21, P27-29
	B7.1於匯報期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 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	強健管治， 穩固發展根基 STRENGTHENING GOVERNANCE TO SOLIDIFY DEVELOPMENT FOUNDATION	P28
	B7.2描述防範措施及舉報程序，以及相關執行及監察方法 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored	強健管治， 穩固發展根基 STRENGTHENING GOVERNANCE TO SOLIDIFY DEVELOPMENT FOUNDATION	P28
	B7.3描述向董事及員工提供的反貪污培訓 Description of anti-corruption training provided to directors and staff	強健管治， 穩固發展根基 STRENGTHENING GOVERNANCE TO SOLIDIFY DEVELOPMENT FOUNDATION	P30-31
社區 Community			
B8 : 社區投資 Community Investment	一般披露 General Disclosure 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 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	愛心奉獻， 情暖社區鄰里 DEDICATION TO CREATING A WARM SOCIETY	P70
	B8.1專注貢獻範疇（如教育、環境事宜、勞工需求、健康、文化、體育） Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	愛心奉獻， 情暖社區鄰里 DEDICATION TO CREATING A WARM SOCIETY	P70-75
	B8.2在專注範疇所動用資源（如金錢或時間） Resources contributed (e.g. money or time) to the focus area	可持續發展指標 Sustainability Indicators	P131



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