



# KunLun Energy Company Limited 昆 侖 能 源 有 限 公 司

(incorporated in Bermuda with limited liability)  
(Stock Code : 00135.HK)



## Brighter Sky in Action

# 2020

Environmental,  
Social and Governance Report

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# ABOUT THIS REPORT

## • PURPOSE OF THE REPORT

This report is the “Environmental, Social and Governance Report” (referred to as **“this Report”** or **“Report”**) issued by Kunlun Energy Company Limited (referred to as **“Kunlun Energy”** or **“the Company”**). The parent company of Kunlun Energy is PetroChina Company Limited (referred to as **“PetroChina”**). The purpose of this report is to summarize Kunlun Energy’s philosophy in fulfilling its three major responsibilities of environmental, social, and governance (**“ESG”**) in 2020, the management system and related practices it follows, and the response to important issues of concern to key stakeholders.

## • REPORTING PERIOD





This Report is prepared on an annual basis, and the reporting period is from January 1, 2020 to December 31, 2020 (referred to as **“this Year”**). Part of the content in the Report extends to the beginning of 2021.

## • SCOPE OF THE REPORT

This Report covers the Company’s environmental, social and governance management policies, objectives, commitments, key projects and measures in relation to ESG matters and activities relating to the operation of the Company. For the list of the Company’s subsidiaries covered in the Report, please refer to Note 39 “Principal Subsidiaries” in the consolidated financial statements set out in the Company’s annual report 2020.

## • BASIS OF PREPARATION

This Report is prepared in accordance with the requirements of the Environmental, Social, and Governance Reporting Guide (referred to as **“ESG Reporting Guide”**) in Appendix 27 to the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited (referred to as **“Hong Kong Stock Exchange”**). This Report is prepared based on the reporting principles of materiality, quantitative, balance, and consistency, and disclosure is made with reference to the following standards:

-  GRI Sustainability Reporting Standards, Global Sustainability Standard Board (GSSB) (Referred to as **“GRI Standards”**)
-  Recommendation Report of Task Force on Climate-related Financial Disclosures, Task Force on Climate-related Financial Disclosures (TCFD)
-  Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises 4.0, China Academy of Social Sciences (CASS) (Referred to as **“CASS-CSR4.0”**)
-  ISO 26000 Guidance on Social Responsibility, International Organization for Standardization (ISO)

## • INFORMATION PREPARATION

All information disclosed in this Report is derived from the Company's internal documents, statistical data and summaries and statistics of the fulfilment of responsibilities by the subsidiaries of the Company. This Report is prepared by the ESG Preparation Committee of the Company, reviewed by the management, and approved by the Board. Unless otherwise stated, all amounts stated in this Report are in Renminbi (RMB).

## • FEEDBACK AND CONTACTS

The Company looks forward to hearing your valuable opinions and suggestions, so as to improve our sustainable development performance and enhance our ESG capability. If you have any questions about this Report or require a printed version, please contact us at through [info@kunlun.com.hk](mailto:info@kunlun.com.hk) or (852) 25222282.



# ABOUT KUNLUN ENERGY


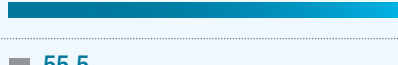









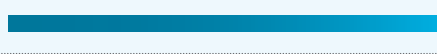


## COMPANY PROFILE

Kunlun Energy Company Limited is a comprehensive energy company incorporated in Bermuda (British), with the Company's stock listed on the Main Board of the Hong Kong Stock Exchange with the stock code 00135.HK, and controlled by PetroChina. Kunlun Energy's businesses focus in four segments: Natural Gas Sales, Sales of Liquefied Petroleum Gas (LPG), Liquefied Natural Gas (LNG) Processing and Terminal and Exploration and Production, which are important value realization links for PetroChina in the natural gas industry chain.

Kunlun Energy has become one of the largest enterprises engaged in natural gas utilization and sales of LPG in the People's Republic of China ("PRC"), with LNG and Compressed Natural Gas (CNG) terminals across the whole country. In 2020, the Company's natural gas business covered 31 provinces, autonomous regions, and municipalities directly under the central government. The annual natural gas sales volume has reached 37.76 billion cubic metres, an increase of 34.7% over the previous year, with 12.258 million natural gas users.

Kunlun Energy succeeds from PetroChina's corporate tenet of "supplying energy and creating harmony", gives full play to the advantages of business synergy, upholds the development philosophy of "adhere to green and low-carbon, achieve high-quality development, build beautiful ecology", vigorously implements the five strategies of "innovation, green operation, market, capital, low cost". Relying on the two resources and two markets in both domestic and foreign markets, the Company is committed to providing safe and stable gas supply and high quality and efficient customer service for all kinds of users, creating an impressive value for shareholders, making positive contributions to promote better economic and social development, and endeavor to build an internationally renowned and China's first-class integrated green energy provider.

## Kunlun Energy's Economic Performance

<b>Sales revenue</b> RMB in 100 millions	2019		1,017.9
	2020		1,092.5
<b>Profit attributable to owners of the Company</b> RMB in 100 millions	2019		55.5
	2020		60.6
<b>Earnings per share (basic)</b> RMB in cents	2019		66.7
	2020		70.0
<b>Sales volume of natural gas</b> 100 million cubic metres	2019		280.3
	2020		377.6
<b>Annual sales volume of LPG</b> 10,000 tonnes	2019		607.4
	2020		521.2
<b>Numbers of users</b> 1,000 users	2019		11,277.0
	2020		12,358.1
<b>Total assets</b> RMB in 100 millions	2019		1,479.0
	2020		1,549.9

## CORPORATE CULTURE

The corporate culture of Kunlun Energy has its own unique advantages, which not only inherits the excellent core culture of a petroleum corporation's spirit, but also faces the market and the world. It has an open mind of respect, equality, mutual benefit and multi-win, adheres to innovation, actively practices social responsibility, and takes lead in green development.



### Corporate tenet:

supplying energy and creating harmony



### Development concept:

adhere to green and low-carbon, achieve high-quality development, and build a beautiful ecology



### Development goal:

an internationally renowned and China's first-class integrated green energy provider



### Corporate strategy:

innovation, green operation, market, capital, low cost



### Management philosophy:

safety and environmental protection, integrity and compliance, open innovation, win-win cooperation

## HONORS IN 2020



Hong Kong Ta Kung Wen Wei Media Group (HKTKWW)  
The 10th China Securities Golden Bauhinia Award



– Outstanding Listed Company Award for the 30th Anniversary of the Capital Market



New Fortune  
New Fortune 3rd Best IR Hong Kong Stock Company Awards



– Best IR Hong Kong Stock Company



Institutional Investor magazine  
2020 All-Asia Executive Team Survey



- Most Honored Company (Power sector)
- Best CEO (first place in Power sector)
- Best CFO (first place in Power sector)
- Best Investor Relations Team (first place in Power sector)
- Best Investor Relations Program (first place in Power sector)
- Best Investor Relations Professional (first place in Power sector)
- Best ESG (first place in Power sector)



China Enterprise Culture Research Association



– “13th Five-Year” Chinese Enterprise Culture Construction Excellent Unit



Hong Kong Investor Relations Association  
HKIRA 6th Investor Relations Awards



- Best IR Company – Large Cap
- Best IR by CFO – Large Cap
- Best IRO – Large Cap



## BUSINESS DEVELOPMENT PLANS

During the “14th Five-Year” plan period, China’s economy will shift from focusing on the speed of economic growth to focusing on its quality. The new development pattern of “big cycle” and “dual cycle”, new urbanization construction, national energy transformation and clean and low-carbon development strategies provide potential for the development of the natural gas industry. In particular, the “dual carbon goals” will profoundly affect the energy structure and highlight the bridging role of natural gas as a clean energy source in this historical process. Kunlun Energy embeds its own development in the blueprint of the national “14th Five-Year” plan, with high-quality development as the theme, vigorously implementing the five strategies of “innovation, green operation, market, capital, and low cost”, and takes innovation as its primary driver. By adopting a market-oriented strategy, the Company will push forward the cooperation through joint ventures, and will put proactive efforts to build a win-win industry ecosystem, with an aim to facilitate transformation and upgrading of the local economy and energy structure. Quality and efficiency enhancement is the fundamental policy in development, and thus efforts have been made to promote cost reduction and efficiency enhancement in all aspects, so as to strengthen the core competitiveness in low-cost operation. To promote green development, the Company will smoothen the different business strategies, and expedite its transformation from a natural gas distributor into an internationally renowned and China’s first-class integrated green energy provider.

2021 marks the first year of the “14th Five-Year” plan. Focusing on the new stage of development, the Company will pay full effort to expand its market share, optimize its structure, reduce its costs, improve its service quality and enhance its cooperation through consolidation of the quality in resources, with an aim to promote the high-quality development of the natural gas business. The Company will focus on the following aspects: expanding the scale of end-user retail sales business, promoting the synergetic development of LNG industrial chain, optimizing the development of full industrial chain for LPG business and exploring new energy and non-gas businesses.

Kunlun Energy has always adhered to the safety concepts of “human-oriented, quality foremost, safety first, giving priority to environmental protection”, continuously improved the health, safety, and environmental protection management system, and thus to reduce ESG-related risks in relation to its operation. Adhering to the operating philosophy “to generate value for customers, to seek development for enterprise, to create prospect for employees”, the Company will seek its development in accordance with the development of customers, creating value for customers, enabling employees to develop, and realizing the harmonious development of the customers, enterprises and employees, to create greater return for shareholders.

# MESSAGE FROM CHAIRMAN



*We actively practiced the corporate mission of “supplying energy and creating harmony”, continued to focus on the material issues such as tackling climate change, enabling energy transformation, promoting industrial upgrading and serving a better life.*

Welcome to read this Report. Thank you for your support for Kunlun Energy.

In 2020, in the face of the complex domestic and global economic conditions, especially the severe impact caused by the COVID-19 epidemic, Kunlun Energy consistently maintained a high sense of responsibility to shareholders, customers, employees and the society. The Company thoroughly planned and coordinated the epidemic prevention and control while ensuring smooth production and operation, actively responded to the needs across the country, to assure steady resumption of work and production as well as household supply. As a result, our business attained high performance which was beyond expectations. We actively practiced the corporate mission of “supplying energy and creating harmony”, continued to focus on the material issues such as tackling climate change, enabling energy transformation, promoting industrial upgrading and serving a better life. In addition to achieving rapid business growth, the Company also made continuous efforts on promoting transformation, reform, innovation, risk prevention along with governance to realize sustainable corporate development in harmony with economic recovery, social stability, and environmental friendliness.

With the introduction of the “dual carbon” strategic goal, the low carbon transformation of the national energy mix has accelerated, and the role of natural gas as a bridge in this historical phase is becoming more prominent. Kunlun Energy is taking this strategic opportunity for new development, committed to building a clean, low-carbon, safe and efficient energy supply system. In the meantime, the Company is focusing on the green transformation of business, taking the initiative to seek partnerships in the field of renewable energy. The Company also established the Department of Renewable Energy Development and actively initiated projects integrating the use of natural gas and renewable energy, such as distributed energy, renewable energy power generation and gas-based peak shaving. Followed the above-mentioned strategies and measures, the Company aims to promote the strategic transformation from a natural gas distributor to an integrated green energy provider, while strengthening enhancement in energy conservation and efficiency during production and operation, saving nearly 6,000 tonnes of standard coal throughout the year.

The Company continued to advance the modernization of its corporate governance system and capability, conducted quality and efficiency improvement, “Double Hundred SOE Reform Campaign”, and the action plan for reform of state-owned enterprises. The Company also carries out regular audits, continuously promotes ethical governance and anti-corruption to effectively prevent operation and management risks. The Company strives to provide a safe environment and career development path for employees, achieving 100% compliance with QHSE standardization for all stations, maintaining “zero epidemic” in the office, and continuing to enhance the professional and technical title evaluation and professional skills assessment system to promote the development of both employees and the Company. While fulfilling our economic goals, the Company also actively undertook social responsibilities and benefited the community by aiding the poor and donating to schools. Throughout the year, Kunlun Energy carried out 33 poverty alleviation projects, invested nearly RMB20 million in poverty alleviation, of which RMB2.66 million and RMB14.55 million went towards poverty alleviation through consumption and donations to national-level impoverished counties, respectively. In addition, the Company took the initiative to respond to the concerns of the capital market, setting up the ESG working group, and integrated ESG into the whole process of corporate management and sustainable development, to continuously advance information disclosure and governance capability.

Gathering strengthen enables a prosperous industry, while a prosperous enterprise benefits the society. In the coming year, Kunlun Energy will strive for the best with faith and perseverance on the road of achieving sustainable development. By anchoring the goal of becoming an internationally renowned and China’s first-class integrated green energy provider, the Company will continue to work hand in hand with all stakeholders to provide cleaner and more efficient energy supply for national energy security, social and economic development and the construction of ecological civilization.

## Fu Bin

Chairman and Executive Director

3 June 2021



# FEATURED TOPIC: JOIN HANDS TO FIGHT THE EPIDEMIC

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## FEATURED TOPIC: JOIN HANDS TO FIGHT THE EPIDEMIC

Faced with the fight against the epidemic in 2020, Kunlun Energy followed General Secretary Xi Jinping's instruction on epidemic prevention and control as well as economic and social development by responding swiftly and providing urgent support to medical institutions in various regions. Through donations and volunteer service, the Company pulled through tough times together with the society. Meanwhile, the company has established the epidemic prevention and control mechanism of "timely detection, rapid disposal and precise control", to realize "zero epidemic" in the workplace, and has restored the production and operation order quickly to ensure the stable supply of natural gas energy.

### STRICT DEPLOYMENT TO ENSURE SUPPLY

At the beginning of the epidemic, Kunlun Energy quickly launched an emergency plan for epidemic prevention and control, establishing epidemic prevention and control working groups headed by main leaders to implement requirements of national and local government level. The responsibility of the working groups also covers the supervision and guide on implementation of epidemic prevention and control measures, major problems solving and the deployment of natural gas supply and the resumption of production.

In response to the complex context of epidemic prevention and control, gas supply in winter and resumption of production, Kunlun Energy actively coordinated the resources from upstream and downstream, domestic and international to improve the supply guarantee plan during the epidemic. Multiple measures were taken to ensure sufficient gas sources and safe operation during special periods, including leaders on duty and 24-hour duty system, enhance operational risk management and control, strengthen site inspections and pipeline patrols.

While managing the prevention and control of the epidemic, Kunlun Energy strove to ensure a stable supply of natural gas in winter with the same price. As the main operator of natural gas in Hubei, Kunlun Energy strengthened its cooperation with the local authorities responsible for public hygiene and energy to implement policies of unlimited gas supply to important medical institutions and large enterprises catering for people's basic needs. The needs of designated hospitals and key pharmaceutical manufacturers were also prioritized. As of May 2020, Kunlun Energy supplied 11 million cubic metres of gas to 20 manufacturers of protective supplies in Hubei, contributing to the fight against COVID-19.

With traffic control and community closures across the country, Kunlun Energy innovated customer service by installing self-service bill payment machines on maintenance and repair vehicles to provide door-to-door service to customers, reducing the risk of epidemic infection while safeguarding the end-use of gas. Security inspections were conducted through WeChat video or distributing self-test instruction videos. Users were instructed to conduct self-tests at home for general gas problems, with the number of reported repairs reducing by two-thirds compared to the past.



Gansu branch ensured customer service during epidemic



Production and Operation Center staff was taking inspection at night





Jiangsu branch staff was checking the pressure gauge



Jiayuguan subsidiary staff was taking inspection



### Ensure the service and supply in Hubei during the epidemic

61 gas filling stations of Hubei branch, with round-the-clock supply, guaranteed the normal operation of 138 bus lines and refueling more than 120,000 vehicles. 18 subsidiaries, with 1,259 employees on duty, investigated and dealt with faults and hidden hazards for customers at home for 17,900 times, and made 710 emergency trips to handle on-site emergencies, ensuring uninterrupted service with high standards during the epidemic.



Xianning subsidiary transported self-service recharge machines to the district for door-to-door service



## STRICT CONTROL OF EPIDEMIC TO RESUME WORK AND PRODUCTION

In accordance with national and local government policies on epidemic prevention and control, Kunlun Energy has developed differentiated, dynamic and precise prevention and control strategies, timely improved the epidemic prevention and control system to optimize epidemic prevention and control measures. The Company developed and updated management manuals such as “Guidance Manual for Prevention and Control of COVID-19 Epidemic” (four editions) and “Epidemic Normalization Prevention and Control Program” (two editions), and carried out epidemic prevention and control approaches according to different region, level and time, which ensured the health of employees and the stable supply of natural gas.

In terms of personnel management, Kunlun Energy raised employees’ awareness of personal protection, controlled the flow of personnel in medium and high-risk areas, and ensured adequate supply and reasonable use of epidemic prevention materials. The Company conducted comprehensive inspection of employees and their families, organizing nucleic acid testing of employees according to the necessity and their willingness and recorded in information timely. The Company also controlled the epidemic in production sites strictly, reasonably arranging the personnel in key positions and production lines, and upgrading the epidemic prevention standards for personnel in key areas, key sites and window positions.

Under the strict and scientific organization of epidemic prevention and control, Kunlun Energy has resumed work and production in all 130 production sites and 47 construction projects affected by the epidemic before 8 April, 2020. While the whole country was resuming production, Kunlun Energy responded actively to the national call, mapping out the situation of customers in various regions to meet the needs of customers, coordinating the deployment of natural gas resources to ensure the production of medical supplies and spring fertilizer enterprises through “point-to-point” docking, contributing to the recovery of local economy.

For the epidemic prevention and control of personnel in Hong Kong, Macao, Taiwan and overseas institutions, Kunlun Energy’s Hong Kong-based institution carried out the epidemic prevention and control following the instructions of PetroChina’s international department, overseas region coordination group and foreign-related enterprises. It also donated 150,000 masks to the Liaison Office of the Central People’s Government in the S.A.R., and supplied melt-blown nonwovens to Hong Kong patriotic groups and partners of the Hong Kong Federation of Education Workers. Kunlun Energy’s Thailand project has developed and strictly implemented the “Prevention and Control Plan for COVID-19 in Thailand Project”, “Management Plan for Local Staff during the COVID-19 Epidemic (Bilingual)” and other plans, providing sufficient epidemic prevention materials for Chinese and Thai staff. The Thailand project has conducted several epidemic prevention and control trainings online and offline and donated masks, protective clothing and other epidemic prevention materials to local medical institutions. In 2020, no Chinese or foreign employee in Hong Kong and Thailand projects has been infected by the epidemic.

**130**  
production sites

**47**  
construction projects

resumed work  
and production

Donated  
**150,000**  
masks



Gansu branch staff conducted disinfection

For LNG and LPG receiving and unloading operation, special plans are developed according to the situation of different ships and vehicles. Multiple strict measures were taken to ensure full protection and zero contact. During the epidemic, a total of 47 imported LNG ships were received. While ensuring the resumption of production and the use of gas for residents, the Company has achieved “zero import and zero epidemic” in the receiving and unloading of foreign-related ships and safeguarded the sea gate of “The Belt & Road” Initiative, keeping the smooth flow of international energy channels.



Daqing company conducted nucleic acid testing for staff in the selling area



Inner Mongolia branch staff disinfected the vehicles



Body temperature of foreign staff on the ship was monitored



Thailand project COVID-19 prevention and control training



Thailand project donated epidemic prevention materials to local medical institutions in Thailand



Chinese and foreign staff worked together at a safe distance at Jiangsu LNG terminal



Jiangsu LNG terminal staff operated the unloading arm by remote control



## TIMELY CONTRIBUTION TO SUPPORT THE SOCIETY

At the beginning of 2020, Kunlun Energy took the responsibility of relocating the underground gas pipelines of Wuhan Huoshenshan Hospital in Hubei, and quickly deployed the emergency plan, organizing site investigation and formulating technical plans. It took only 9 hours to relocate the pipelines and ensure gas transmission. Kunlun Energy laid 1,802 metres of temporary gas supply lines for designated hospitals in Shiyan and Huangshi, serving six designated hospitals, including Shiyan Maternity and Child Health Care Hospital, Xiantao People's Hospital and Huangshi Hospital for Epidemic Prevention, which gained time and create conditions for the treatment of patients.



Xiantao subsidiary went to Xiantao City People's Hospital to connect users with natural gas



The maintenance team of Heze subsidiary guarded the gas safety of 60,000 residents 24 hours a day

Employees of Kunlun Energy's affiliated units also participated in the local battle against the epidemic with their own actions. The Xinjiang branch organized 15 young volunteers and local community staff to adhere to the front-line duty 24 hours a day. The volunteering tasks included personnel registration, temperature measuring, persuading foreign vehicles to leave, and services such as grocery delivery, shopping, patient transportation and garbage collection. The South China branch organized voluntary blood donation initiative "Solidarity and Love", with 14 people donating 4,300 ml of blood, which effectively relieved the blood pressure of the local blood bank.



Young volunteers provided temperature measurement services every morning during the epidemic



Hubei branch was awarded the advanced group of the central enterprises of the State-owned Assets Supervision and Administration Commission in the fight against the COVID-19

# 1. STRICT MANAGEMENT BUILDS THE CORNERSTONE OF RESPONSIBILITY

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# 1. STRICT MANAGEMENT BUILDS THE CORNERSTONE OF RESPONSIBILITY



*Kunlun Energy actively improves the sustainable development management system, continuously strengthens ESG risk management, and actively engages in various forms of communication with stakeholders to identify sustainable development issues that are closely related to itself, and listens to the voices of all parties to achieve the goal of win-win sustainability for all.*

## 1.1 SUSTAINABLE DEVELOPMENT GOVERNANCE

### 1.1.1 Governance Structure

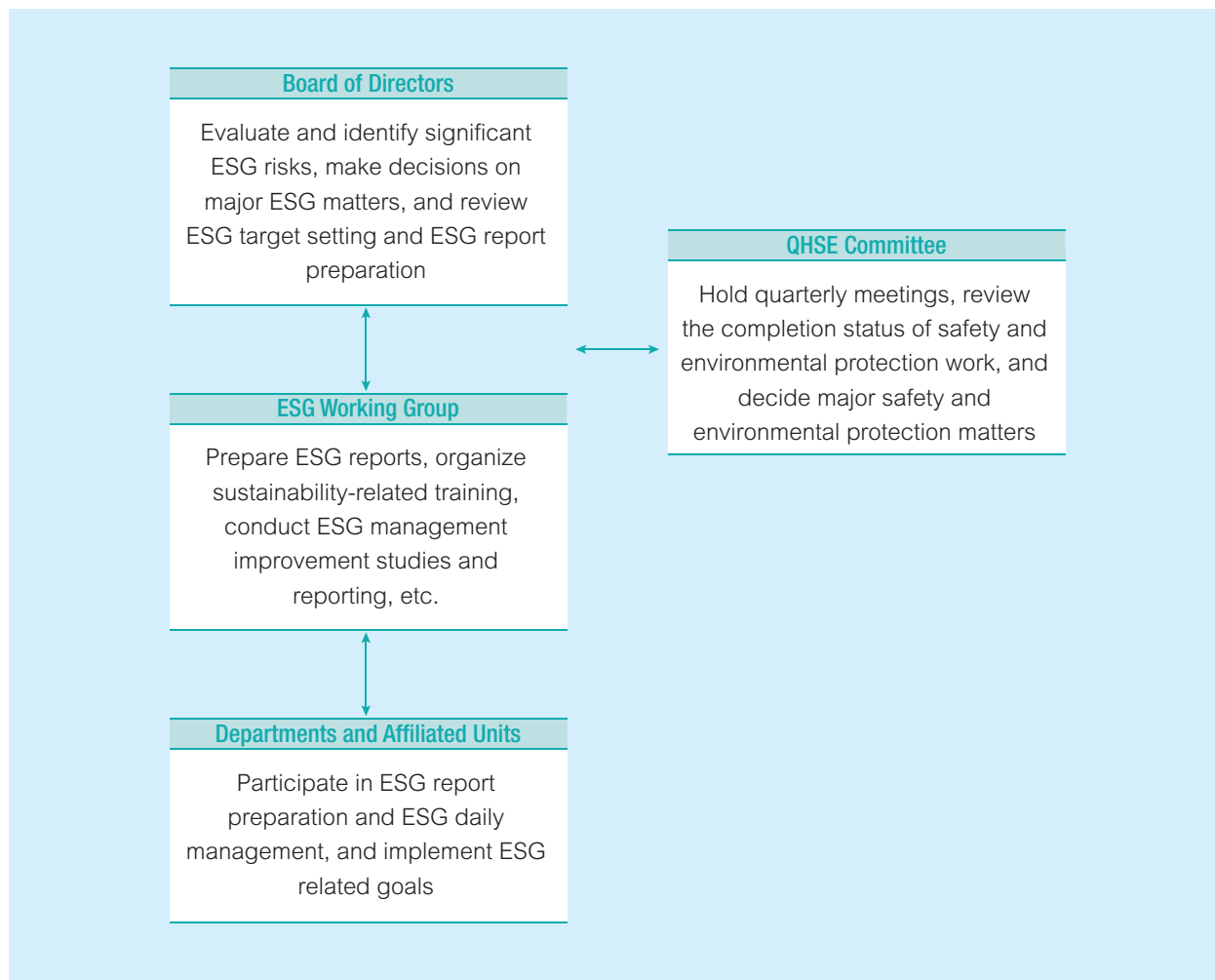
Kunlun Energy strictly complies with the Rules Governing the Listing of Securities and the provisions of the Company's articles of association, the Securities and Futures Ordinance and other securities laws and rules, regulating the responsibilities of governance entities and strengthening compliance and risk control to enhance the level of corporate governance.

As of 31 December 2020, the Board of the Company consisted of seven members, including four executive directors and three independent non-executive directors. Three committees — the audit committee, remuneration committee and nomination committee, have been established under the Board to oversee specific corporate affairs and support the Board's decision-making. For details on corporate governance, please refer to the "Corporate Governance Report" in the Company's 2020 Annual Report.

The ESG working group is responsible for ESG-related work, including ESG management improvement, ESG report preparation and sustainable development related training etc., and reports the ESG reporting and working progress to the management and the Board every year. In 2020, the ESG working group was chaired by Mr. Zhong Wenxu, deputy manager of Kunlun Energy, while each of 24 relevant departments assigned a member of its management to act as vice chairman and an employee to be a working member of the group.

Kunlun Energy has established the QHSE Committee to continuously improve the management of quality, health, environment and safety issues under the guidance of "human-oriented, quality foremost, safety first, giving priority to environmental protection". The Company strengthened accountability assessment, and continued to reduce the operational risks that stakeholders are most concerned about. The Company's chairman serves as committee chairman, while the general manager and deputy general manager in charge of production safety act as vice chairmen. Department heads are members of the committee. This committee holds quarterly meetings, reviews the completion status of safety and environmental protection work, and decides major safety and environmental protection matters.





### 1.1.2 Sustainable Development Strategies

Kunlun Energy implements the development concept of “adhere to green and low-carbon, achieve high-quality development, build beautiful ecology” and vigorously implements green development strategy. Externally, the Company actively integrates into the national major environmental protection strategy, serving the local government’s “coal-to-gas conversion” project, and supporting the “2+26” city<sup>1</sup> air pollution prevention plan in the north. Internally, the Company takes energy conservation and emission reduction as its priority, strengthens energy conservation and efficiency improvement of production and operation, and promotes energy-saving renovation of existing sites. Meanwhile, Kunlun Energy is actively exploring the high-quality wind power and photovoltaic projects to accelerate the transformation from a natural gas distributor to an internationally renowned and China’s first-class integrated green energy provider.

<sup>1</sup> “2+26” cities refer to Beijing and Tianjin, and 26 prefecture-level cities under the jurisdiction of these two provincial municipalities and 4 provinces within the radius of 700 kilometres.

## 1.2 COMMUNICATION WITH STAKEHOLDERS

### 1.2.1 Stakeholder Categories

Kunlun Energy's major stakeholders include customers, governmental and regulatory authorities, suppliers, employees, communities, media, and shareholders/investors. Their support and trust are a prerequisite for the Company's sound and long-term development. The Company thus strives to maintain good communications with stakeholders, listening to their opinions, and taking appropriate action in response to their expectations.

#### "Beautiful Cloud • Natural Gas Travel for Miles"

Kunlun Energy has held corporate open days for three consecutive years, building a platform for direct communication with stakeholders through the media. In 2020, the corporate open day event adopted the online approach, under the theme of "Beautiful Cloud • Natural Gas Travel for Miles". The event lasted for 5 days, linking 16 provinces and cities, and 29 sites across the country to fully display the highlights of Kunlun Energy's achievements in production, customer service, technological innovation, poverty alleviation and epidemic fighting. A total of 109 media have participated in the open day activities and published reports, with the online live broadcast attracting a total of 46.68 million viewers.






Sichuan branch corporate open day's anchor and mascot






Hebei branch corporate open day performance



## 1.2.2 Stakeholders' Focusing Issues and Communication

Stakeholders	Focus issues	Communication mechanisms	Key actions
 <p>Customers</p>	<ul style="list-style-type: none"> <li>Protection safety</li> <li>Stable price</li> <li>Quality of service and response time</li> <li>Supply steadiness</li> <li>Privacy protection</li> </ul>	<ul style="list-style-type: none"> <li>Conduct customer satisfaction surveys</li> <li>Carry out consumer care activities</li> </ul>	<ul style="list-style-type: none"> <li>Further strengthen users security checks and increase public promotion of safety in gas use</li> <li>Set reasonable sales prices</li> <li>Ensure a stable supply of resources</li> <li>Strengthen information security protection</li> </ul>
 <p>Governmental and regulatory authorities</p>	<ul style="list-style-type: none"> <li>Implementation of government energy strategies</li> <li>Compliance with regulatory requirements</li> <li>Employment promotion</li> <li>Tax payment in accordance with the law</li> <li>Environmental protection</li> <li>Tackle climate change</li> <li>Supply steadiness</li> </ul>	<ul style="list-style-type: none"> <li>Share corporate experience</li> <li>Pay attention to social feedback</li> <li>Communicate with relevant authorities to enhance cooperation</li> <li>Participate in government agency meetings and forums</li> </ul>	<ul style="list-style-type: none"> <li>Take multiple measures to ensure stable supply of resources</li> <li>Strict control of energy consumption in accordance with annual targets</li> <li>Set emission reduction targets</li> <li>Strictly implement the "Three Simultaneities" Management Procedures for Safety, Environmental Protection and Occupational Health in Construction Projects</li> <li>Pay taxes in accordance with the law</li> </ul>
 <p>Suppliers</p>	<ul style="list-style-type: none"> <li>Equilibrium of resource inventory, demand, and supply</li> <li>Fair and transparent procurement</li> <li>Win-win cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Hold a quarterly meeting to address to resource supply</li> <li>Strengthen the communication and collaboration with upstream and downstream</li> <li>Conduct on-site inspection and communication with suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Actively sourcing resources to ensure a balance between supply and demand</li> <li>Centralized procurement of bulk materials through public bidding</li> </ul>

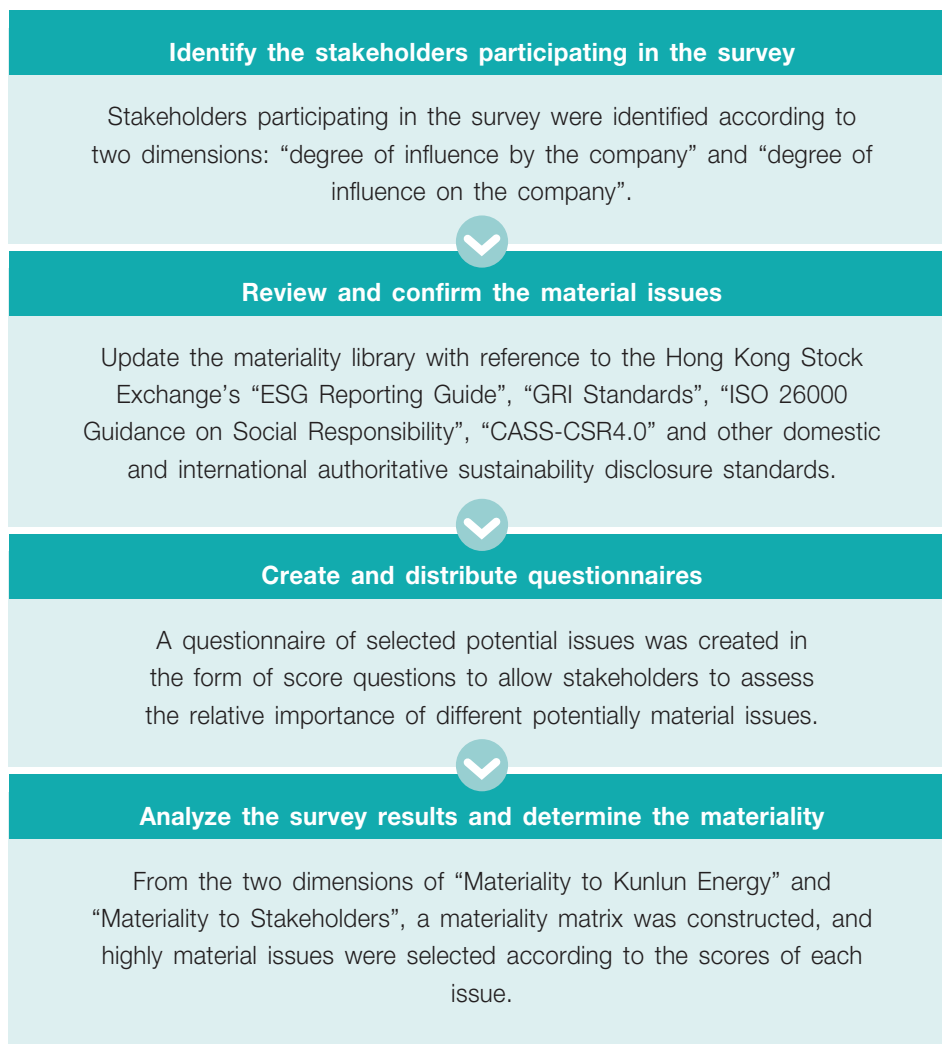
Stakeholders	Focus issues	Communication mechanisms	Key actions
 Employees	<ul style="list-style-type: none"> <li>• Legal rights</li> <li>• Career path</li> <li>• Compensation and benefits</li> <li>• Healthy and safe working environment</li> </ul>	<ul style="list-style-type: none"> <li>• Regularly hold staff representative meetings</li> <li>• Establish trade union organizations headed by main leaders</li> <li>• Set up complaint and feedback mailboxes</li> </ul>	<ul style="list-style-type: none"> <li>• Employ according to the law and protect workers' rights</li> <li>• Pay all social insurance for employees</li> <li>• Develop multi-level, multi-angle and full-coverage training programs</li> <li>• Strictly prevent and control epidemics, conduct occupational protection, employee medical checkups, and employee care</li> </ul>
 Community	<ul style="list-style-type: none"> <li>• Protection of the local ecological environment</li> <li>• Support of charity work</li> <li>• Creation of jobs for the community</li> <li>• Contribution to local economic development</li> </ul>	<ul style="list-style-type: none"> <li>• Active visits and conversations in local communities</li> <li>• Carry out project social and environmental assessments</li> <li>• Enhance information disclosure</li> </ul>	<ul style="list-style-type: none"> <li>• Strictly implement the "Three Simultaneities" Management Procedures for Safety, Environmental Protection and Occupational Health in construction projects</li> <li>• Carry out community welfare and volunteer services</li> <li>• Actively participate in the poverty alleviation</li> </ul>
 Investors/ shareholders	<ul style="list-style-type: none"> <li>• Good return on investment</li> <li>• Protection of rights and interests</li> <li>• Information disclosure</li> <li>• Corporate risk management</li> </ul>	<ul style="list-style-type: none"> <li>• Regularly convene shareholders meetings, the Board meetings and professional committee</li> <li>• Participate in online investor summits</li> <li>• One-on-one investor/analyst meetings to establish a daily communication mechanism</li> <li>• Information disclosure, performance reports and other announcements</li> </ul>	<ul style="list-style-type: none"> <li>• Arranged shareholder meetings, the Board meetings and professional committee meetings for 12 times, resulting in 50 motions</li> <li>• Participated in 15 online investor summits and communicated with 172 institutional investors online</li> <li>• 288 one-on-one investor/analyst meetings and daily communication</li> <li>• Strengthened information disclosure and issued 43 announcements on changes in directors and performance reports</li> </ul>

## 1.3 MATERIALITY ASSESSMENT

### 1.3.1 Materiality Assessment Process




To understand the impact of different sustainability issues on stakeholders and Kunlun Energy, the Company conducted a survey and analyzed the materiality of sustainability issues in 2020, with 843 valid questionnaires collected, covering 7 types of internal and external stakeholders. The survey collected the opinions of all parties concerning the Company's fulfillment of social responsibility. Through the analysis, the Company determined the highly material issues and responded them in the Report.

- The process of identifying material issues

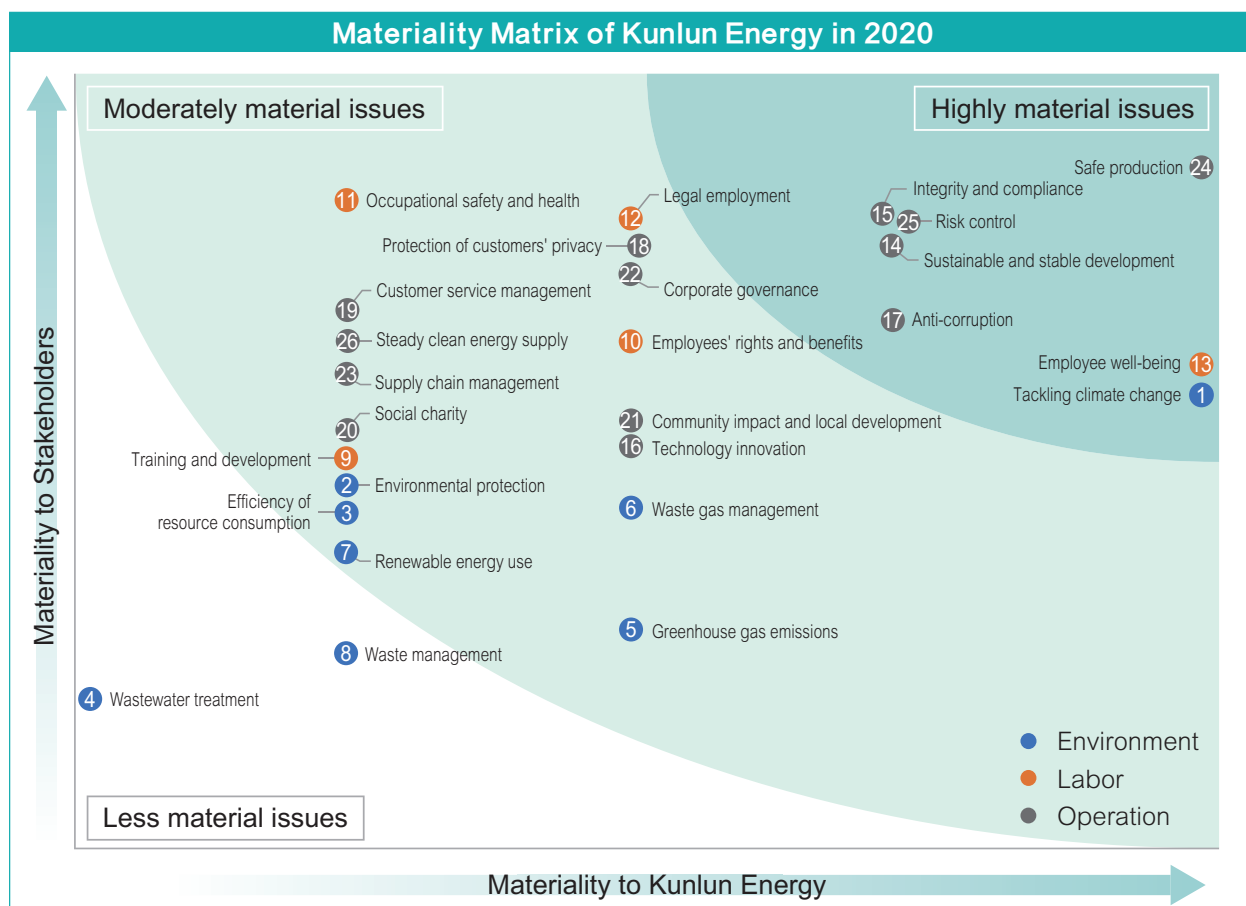


- List of material issues

Kunlun Energy believes that environmental responsibility, labor responsibility and operational responsibility are the most significant aspects of the Company's sustainable development. Therefore, Kunlun Energy has categorized 26 sustainability issues under each of the three levels and conducted separate surveys.

 Environment (8)	 Labor (5)	 Operation (13)
1. Tackling climate change 2. Environmental protection 3. Efficiency of resource consumption 4. Wastewater treatment 5. Greenhouse gas emissions 6. Waste gas management 7. Renewable energy use 8. Waste management	9. Training and development 10. Employees' rights and benefits 11. Occupational safety and health 12. Legal employment 13. Employee well-being	14. Sustainable and stable development 15. Integrity and compliance 16. Technology innovation 17. Anti-corruption 18. Protection of customers' privacy 19. Customer service management 20. Social charity 21. Community impact and local development 22. Corporate governance 23. Supply chain management 24. Safe production 25. Risk control 26. Steady clean energy supply

### 1.3.2 Materiality matrix



Based on the analysis of materiality, seven highly material issues were selected this Year: safe production, integrity and compliance, risk management, sustainable and stable development, anti-corruption, employee well-being, and tackling climate change. In this Report, the disclosure of materiality is highlighted to respond to the concerns of stakeholders.

Materiality	Responses to the issues	Corresponding section in this Report
Safe production	In the business process involving flammable and explosive products such as natural gas and LPG, Kunlun Energy has formulated and implemented a strict production safety management system, continuously strengthened supervision and inspection, and proactively prevented and controlled safety risks.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Management of Safety
Integrity and compliance	The Company has set up a comprehensive compliance management system and strictly prevents all kinds of violations of business ethics or laws through various channels such as legal compliance, supervision and audit, and open complaint and reporting channels.	STRICT MANAGEMENT BUILDS THE CORNERSTONE OF RESPONSIBILITY — Compliance Management
Risk management	A complete internal control system has been established, and the identification, evaluation, monitoring and prevention of major risks (including ESG risks) are carried out every year.	STRICT MANAGEMENT BUILDS THE CORNERSTONE OF RESPONSIBILITY — Risk Management
Sustainable and stable development	Kunlun Energy embeds its own development in the blueprint of the national “14th Five-Year” plan, with high-quality development as the theme, vigorously implements the five strategies of “innovation, green operation, market, capital, and low cost”.	ABOUT KUNLUN ENERGY — Business Development Plans
Anti-corruption	A strict anti-corruption system has been formulated, and the revision and implementation of the system has been implemented under the leadership of the anti-corruption leading group. The anti-corruption work has been promoted through various forms including anti-corruption training and integrity audits covering all levels.	STRICT MANAGEMENT BUILDS THE CORNERSTONE OF RESPONSIBILITY — Compliance Management
Employee well-being	The Company attaches great importance to the well-being of employees, implementing legal employment and safeguarding their occupational safety and development opportunities, and continues to enhance their happiness and belongingness through employee care activities.	PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Care for Employees
Tackling climate change	The impact of climate change on businesses is integrated into strategic planning and business development, and the impact of climate change on businesses is assessed based on TCFD’s framework for analyzing climate-related risks and opportunities.	ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT — Tackling Climate Change



## 1.4 COMPLIANCE MANAGEMENT

### 1.4.1 Legal Compliance Management

Kunlun Energy strictly abides by the “Company Law of the People’s Republic of China”, the “Civil Code of the People’s Republic of China”, the “Anti-monopoly Law of the People’s Republic of China” and other relevant laws and regulations, adhering to compliance in the production and operation, and insists on taking multiple measures to strengthen the compliance with the law. During the reporting period, Kunlun Energy continued to deepen the legal verification of major law-related matters, promoted compliance management training to the grassroots level, improved the performance assessment of legal compliance operation, standardized the handling procedures of major dispute cases, and carried out special inspections of compliance in key areas, so as to achieve the continuous improvement of the Company’s ability to govern itself in accordance with the law.

Throughout this Year, the Company issued or amended 6 compliance related rules and regulations, conducted a kick-off meeting for the rule of law and establishment of the compliance management demonstration; organized 2 video training sessions on legal compliance management, covering legal business leaders and personnel of all dispatching agencies and second tier subsidiaries, with 300 people trained, and conducted 1 on-site training session for legal compliance personnel, with a total of 105 personnel attending.



Kick-off meeting for the rule of law and establishment of the compliance management demonstration in 2020

## 1.4.2 Supervision and Audit Management

In terms of supervision, the Company formulated the “Rules for the Implementation of Inspection Work” and other policies, organized 6 inspection teams to conduct regular inspections of 12 units; strengthened supervision and governance, formulated “Working Rules for the Establishment of the Company’s Supervisory System”, and proceeded with inspections in 9 key areas including market development, project acquisitions and mergers. The Company also issued supervision proposals, and promoted joint supervision and inspection in two key areas of engineering construction and resource procurement to prevent the risk of integrity; strengthened the supervision and management of supervision subjects, timely updated the information management system of supervision subjects, and updated 13,617 pieces of information of various types of supervision subjects in 2020.

In terms of auditing, the Company has formulated 6 audit-related systems, including “Rules for the Implementation of Investment Liability Investigation for Illegal Operation (Trial)”, and carried out regular audits of affiliated units through four audit centers and firms to comprehensively prevent business management risks. 375 audit projects of various types were carried out across the Company in 2020, including 124 economic responsibility audits, 199 engineering project audits and 52 other special audits, with follow-up audits in cooperation with the policy of the National Audit Office.

## 1.4.3 Reporting Supervision

The Company has set up several reporting channels where employees and external stakeholders can report irregularities or suspicious activities related to bribery, extortion, fraud, and money laundering, etc. The relevant departments will consider the clues reported. Any found case of corruption will be filed for review and transferred to judicial authorities for following up.

The Company strictly implements the “Discipline Inspection and Supervision Rules for Handling Prosecution and Accusations” and systematically protects whistleblowers in accordance with the law: firstly, the Company clarifies that whistleblowers enjoy the right to apply for recusal of staff related to the matter of prosecution and accusation; if their legitimate rights are threatened or infringed due to prosecution and accusation, they can apply for protection. At the same time, the Company observes strict confidentiality of the name, work unit, address and other relevant information of the whistle blower, as well as the content of the prosecution and accusations. Prosecution and accusation materials and whistle blower’s information are strictly prohibited to be transferred to or informed of the organization or person being prosecuted and accused; acceptance of prosecution and accusation or verification work should be carried out without revealing the identity of the whistle blower; open reports involving the disclosure of whistle blower’s name, unit or other personal information should obtain the personal consent.

#### 1.4.4 Anti-corruption

Kunlun Energy strictly complies with relevant national laws and PetroChina's policies and regulations on the prevention of corruption, bribery, extortion, fraud, money laundering, etc. Since 2016, the Company has also implemented "Management Measures for Supervision Departments to Participate in the Investigation and Handling of Accidents and Incidents", "Rules for the Implementation of Inspection Work", "Guidance on Further Strengthening the Disposal of Problem Clues (Trial)" and other series of company-wide policies and related measures.

The Company has established an anti-corruption leading group to be fully responsible for the Company's anti-corruption and anti-bribery matters, with the Chairman as the head of the anti-corruption leading group. Every year, Kunlun Energy composes and reviews the anti-corruption system of the Company, and updates and improves the anti-corruption and anti-bribery system from time to time in accordance with the actual situation. In 2020, the Company revised 6 relevant systems including the Working Rules for the Establishment of the Company's Supervisory System, "Rules for the Implementation of Inspection Work", "the "Three-in-One" Inspection Results Implementation Mechanism" and "the "One Responsibility, Three Gatekeepers" Inspection Rectification Responsibility Implementation Mechanism". The Company summarized the anti-corruption and anti-bribery work every six months, and summarized the implementation of the system in a timely manner.

In terms of anti-corruption education or training, the Company organized its affiliated units to conduct a series of 249 educational activities called "Discipline by Case", which covered the second and third tier subsidiaries, and made full use of the Company's intranet to carry out anti-corruption publicity and education. In addition, the Company organized its affiliated units to study the latest anti-corruption conference documents, rules on prosecution and accusation, laws and regulations such as the Administrative Discipline for Public Officials law and related training handouts in their daily work, and carried out various forms of integrity education, covering all employees, and provided pre-appointment integrity education to 42 leaders.



Ningxia branch launched a special education activity of "Discipline by Case"

Indicators	Unit	2019	2020
Number of concluded legal cases regarding corrupt practices brought against the Company during the reporting period	Case	0	0
Number of concluded legal cases regarding corrupt practices brought against the Company's employees during the reporting period	Case	0	0

To strengthen the supervision of leaders and define their economic responsibility during the tenure, Kunlun Energy has formulated the “Management Measures for Economic Responsibility Audit of Kunlun Energy”, which regarded compliance with relevant regulations on integrity as the main content of the audit, examining the formulation and implementation of related systems for integrity, with the audit of corporate leaders’ compliance with regulations on integrity, verifying whether they have used their power for personal gain, embezzlement, misappropriation, private distribution of public funds, transfer of state assets, bribery and wastefulness and other acts, and paid attention to the consumption of corporate leaders.

### 1.4.5 Anti-monopoly

Anti-monopoly is a key task of Kunlun Energy’s compliance management. In 2020, the Company issued two system documents: “Guidelines for the Anti-monopoly Management of Urban Gas Business of Kunlun Energy Co., Ltd. (Trial)” and “Guidelines for Investigation of Anti-monopoly Law Enforcement by Kunlun Energy Co., Ltd. (Trial)” to further regulate the monopoly operation compliance and the cooperation with anti-monopoly investigation and law enforcement. In addition, the Company organized two anti-monopoly training sessions. One was dedicated to the major legal issues and typical cases of anti-monopoly involved in gas compliance operation, covering nearly 500 people, including leaders and staff of all dispatching agencies and second tier subsidiaries. The other session engaged scholars and lawyers of anti-monopoly law from universities to give lectures on the frontiers of anti-monopoly compliance operation and legislative, law enforcement and judicial practice issues. A total of 105 people attended the training, which enhanced and improved the awareness and ability of the leaders and staff to operate in compliance with the law.



2020 Legal Compliance Business Cultivation Course



## 1.5 RISK MANAGEMENT

Kunlun Energy has set up a comprehensive internal control system, taking business departments as the first line of defense for risk management, and regularly conducts important business process evaluation and risk analysis, while relevant departments formulate annual major risk control plans and major risk supervision and inspection plans, and form company risk management reports. At the same time, the Company implements the mechanism of “quarterly collection, monthly follow-up and monthly notification” of risk events, issues the Company’s “Management Measures for Significant Operational Risk Events” and actively promotes the quarterly collection and monitoring of significant operational risk events. In addition, the Company organizes major risk assessments based on the internal and external environment, the Company’s strategic objectives and development status, and prepared the “Epidemic Risk Analysis Report” in 2020 to help improve the Company’s major risk prevention and control capabilities.

In terms of risk assessment, the Company conducts significant risk assessment and report preparation every year, builds the basis for significant risk assessment by integrating overall risk factors, and organizes relevant leaders, departments and affiliated units to participate in the annual significant risk assessment. In 2020, a total of 8,023 people participated in the significant risk assessment and scoring. A risk management report was formed, which was reviewed and approved by the members of the Internal Control and Risk Management Committee and signed and issued by the general manager. Kunlun Energy attaches great importance to ESG risks and has incorporated ESG risks into the significant risk assessment and decision process. Among them, health, safety and environmental risk has been assessed as a significant risk for 10 consecutive years.

## 2. RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT

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## 2. RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT



*Kunlun Energy has constructed a comprehensive responsibility management system in its business operations, actively implemented corporate responsibility in its production safety, product quality and supply chain management to create a responsible corporate operating entity.*

### 2.1 MANAGEMENT OF SAFETY

#### 2.1.1 Production Safety System

In the operation and production process, Kunlun Energy strictly abides by the “Law of the People’s Republic of China on Production Safety”, the “Law of the People’s Republic of China on Special Equipment Safety”, the “Regulations on the Safe Management of Hazardous Chemicals”, the “Measures for the Management of Production Safety Accident Emergency Response Plans” and other relevant laws and regulations. The health, safety and environment management system has passed Q/SY1002.1–2013 and SY/T6276–2014 PetroChina Health, Safety and Environment Management System Certification.

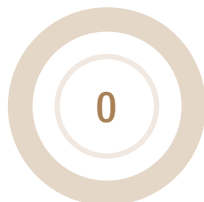
The QHSE Committee, as the decision-making body of quality, health, safety and environment management, leads the work of quality, safety and environment protection of the Company. The Company has established and improved QHSE systems including the “Administrative Measures to Prevent and Control Risks of Production Safety”, implemented the “Management Measures for All Employees Safety Production Scoring” to promote the responsibilities of all employees. In-depth and comprehensive management measures were carried out, such as “risk identification and evaluation”, “QHSE standardization development in stations”, “safety and environmental protection performance appraisal”. The Company also consolidated the safety foundation of the stations, and promoted the construction of the safety and environmental protection responsibility system of by integrating safety in the whole working and production process. At the same time, Kunlun Energy has established quality, health, safety and environmental management system, auditing the health and safety systems and performance comprehensively in every three years. The Company conducted annual special audit certification, internal audit and management review to correct the problems found in a timely manner, developing special improvement programs on management shortcomings and revising the management system according to the changes in laws and the company’s business.

- Goals and achievements in 2020<sup>2</sup>

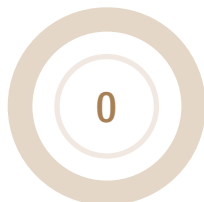
Indicators	Unit	2020 Goals	2020 Achievements
Number of fatalities in production safety accidents	Person	0	0
Number of general Class B accidents (or above)	Case	0	0
Incidents of violations (from government, superiors)	Incident	0	0

<sup>2</sup> Including contractors.

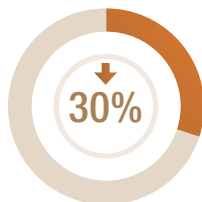
### Safety goals in 2025<sup>3</sup>



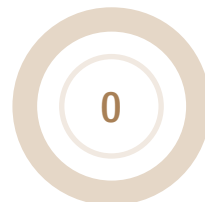
Number of fatalities  
in production safety  
accidents



Number of general Class  
B accidents (or above)



Number of accidents that can  
be recorded per million  
working hours

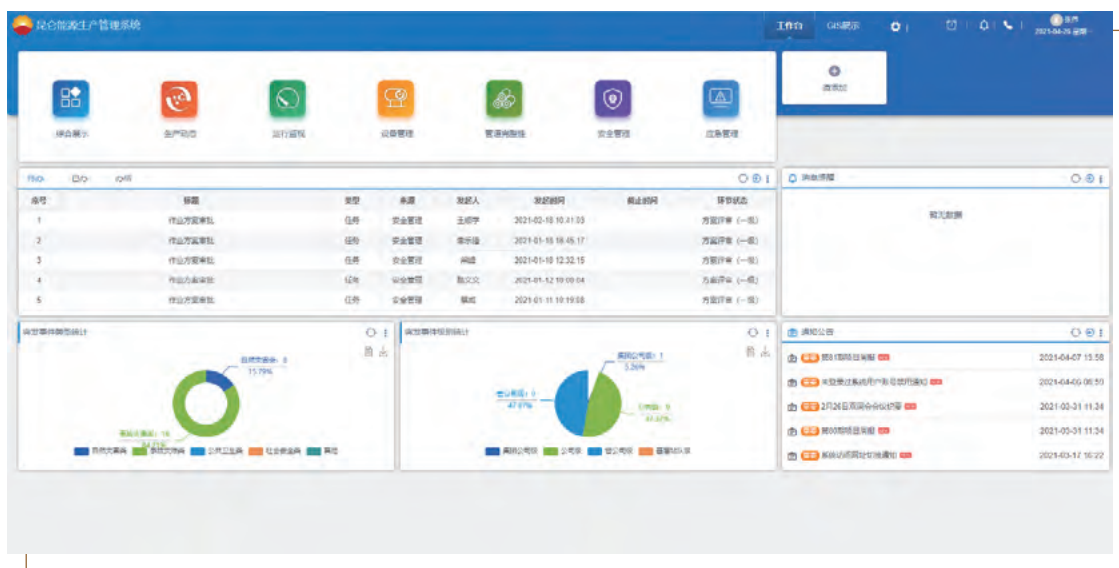


Incidents of violations  
(from government,  
superiors)

## 2.1.2 Safety Management Measures and Supervision

Kunlun Energy has implemented the relevant requirements of the government and PetroChina, revised 13 safety production-related systems on labor protection, operation permit and other topics, continuously promoted the QHSE standardization, and further revised the QHSE standard of stations' construction. The Company added 97 standard stations, 127 excellent stations and 10 new demonstration stations throughout the year, with 100% of the main operating stations meeting the standards and the excellent rate reaching 26%. In addition, the Company prepared the "Three-Year Action Plan for Special Remediation of Safety Production" and solidly promoted special remediation activities, investing RMB95 million in hidden hazards management. The "Three-Month Special Action Plan for Safety Production of Winter Gas Supply" was formulated and implemented to prevent leakage and ensure safe and smooth operation during the winter gas supply period.

Kunlun Energy has established a complete production management system, which included 6 functional modules of production dynamics, safety management, operation monitoring, equipment management, pipeline integrity and emergency management, and integrated 26 systems such as Enterprise Resource Planning (ERP) system and LPG marketing system, promoting the transformation of company's production and safety management to be "unmanned, intensive and standardized".



Kunlun Energy Production Management System

<sup>3</sup>

Including contractors.



In terms of safety risk prevention and control, the Company organized special inspections on epidemic prevention and control, fire safety, transportation of hazardous chemicals, extreme weather prevention and winter gas supply, with risk prevention and resolution as the core. The supervision centers for quality, safety and environmental protection conducted 911 routine inspections, covering 647 sites and stations. In 2020, the Company completed the safety spacing assessment of 68 major hazards, invested RMB95.5 million to remedy more than 170 hidden hazards such as old pipeline networks, pipeline occupation, equipment, and facility failures, and connected hazardous chemical transportation vehicles to the company's vehicle management system to continuously improve safety management.



Lanling subsidiary strengthened inspection of Kenyuan Intelligent Agricultural Industrial Park



A staff of Inspection and Maintenance Center was repairing the valve positioner

Kunlun Energy's Thailand project strictly implements the laws and regulations of the Thailand government and implement Kunlun Energy's safety and environmental protection system. Specific management measures include: implementation of risk management control, Job Safety Analysis (JSA) before operation, implementation of Sanitation Standard Operation Procedure (SSOP) during operation; strict implementation of the operation permit system, and full process control of hazardous operations such as fire, elevation and restricted space; implement contractor management, strictly implement inspection and supervision during crude oil transportation and earthwork construction, and standardize construction work. In addition, the Thailand project has conducted several rounds of QHSE audits and continuously corrected the problems to achieve closed-loop management.

Indicators	Unit	2018	2019	2020
Number and rate of work-related fatalities occurred in each of the past three years including the reporting year	Person	0	0	0

Indicators	Unit	2019	2020
Number of lost days due to work injuries during this reporting period <sup>4</sup>	Day	495	318
Total Lost Worktime Rate (TLWR) due to work injuries during this reporting period <sup>5</sup>	—	51.2	33.8
Number of general Class A accidents (or above) <sup>6</sup>	—	0	0

### 2.1.3 Safety Culture Development

Kunlun Energy upholds the safety concept of “human-oriented, quality foremost, safety first, giving priority to environmental protection”, prioritizing employees’ lives and guarding employees’ safety. In June 2020, the safety production month, Kunlun Energy organized series of activities with the theme of “Eliminating hidden hazards and strongly defending safety”, such as emergency drills, safety publicity and thematic education, etc., with 1,330 emergency drills conducted and 11,765 participants. In addition, Kunlun Energy continued to carry out safety-related training courses, with a total of 176 class hours. Through diverse safety culture activities, the Company promoted employees’ awareness and responsibility of safety production, and thoroughly investigated the hidden hazards in safety production, which laid a foundation for the achievement of increasing efficiency and high-quality development.

Indicators	Unit	2019	2020
Safety promotion information desks set up	—	818	539
Number of public consultations accepted	Person	—	45,443
Accident case education	—	1,055	1,574
Public information films played	—	94	191
Press releases	Piece	227	215
Safety skill competitions	—	142	146
Speech contests	—	43	56
Safety knowledge lectures	—	531	813
Number of employees participated in safety training	Person	12,319	21,317

<sup>4</sup> Including contractors. This Year, the scope of data collection was further optimized, and the definition of work-related injury was clarified, with data traced back to the previous year.

<sup>5</sup> Including contractors. This Year, the scope of data collection was further optimized, and the definition of work-related injury was clarified, with data traced back to the previous year. The calculation formula for both 2019, 2020 is Total Lost Work Hours/Total Work Hours\*10<sup>6</sup>.

<sup>6</sup> The general Class A production safety accidents refer to accidents causing the deaths of less than 3 people, or those causing serious injuries of more than 3 but less than 10 people, or those causing minor injuries of more than 10 people, or those directly causing economic loss of more than RMB1 million but less than RMB10 million.



Joint emergency drill between Zhaoqing LNG plant of Guangdong branch and local government



Joint emergency drill of natural gas high-pressure pipeline emergencies by Kunlun Aode company of Liaoning branch and Faku County Government



LNG Tanker Leakage Drill



Staff of Jilin branch were carrying out urgent repair

## 2.2 QUALITY MANAGEMENT

### 2.2.1 Quality Management System

Kunlun Energy strictly abides by the “Product Quality Law of the People’s Republic of China” and has built a complete quality management system and passed the GB/T19001-2016 (ISO9001:2015, IDT) quality management system certification. The Company has formulated “Quality Management Measures of Kunlun Energy” to strengthen the quality inspection of natural gas, LPG and CNG, strengthened the quality supervision of engineering construction, material procurement and service quality, grasping the risk control at the source, and continued to improve the quality management level to provide high quality products and services to the society, users and enterprises.

In addition, Kunlun Energy formulated the “Kunlun Energy Company Quality Accident Management Measures”, which divided the grades of quality accidents, clarified the standardized operation procedures for quality accident reporting, emergency response, investigation, handling, and improvement, and incorporated quality accidents into the performance assessment of the person in charge of the affiliated units.

### 2.2.2 Quality Management Goals in 2025

#### Product quality goals

By 2025, the natural gas quality inspection sampling pass rate will be maintained at **100%**;  
the national product quality supervision and sampling pass rate will be maintained at **100%**.

#### Project quality goals

By 2025, the qualified rate of construction projects will be **100%**;  
the quality excellent and good rate will be **80%** or more.  
The acceptance rate of Class I and II engineering construction projects will reach **100%**,  
the acceptance rate of other projects will reach more than **99%**,  
and the coverage rate of engineering quality supervision will be maintained at **100%**;  
major and above engineering quality accidents will be eliminated.

### 2.2.3 Quality Management and Inspection Measures

Kunlun Energy attaches great importance to product quality and follows national standards and relevant policy requirements for quality inspection of natural gas, CNG and LPG products involved in its business. During the Year, Kunlun Energy strengthened the quality management of the whole process of product purchase, sales, storage and transportation, completed 3,193 product quality inspections and tests, and carried out activities under the theme of “strengthening quality supervision and building country with strong quality”, with more than 6,000 people participated in the quality management contest, promoting the employees’ quality awareness.

In terms of pipeline equipment inspection, to further standardize inspection standards and improve inspection quality, the Company issued the “Guidelines for Quality Management of Internal Inspection Work for Long Distance Natural Gas (Branch) Pipelines” and organized internal inspection for the management of contractors’ qualification.



Indicators	Unit	2019	2020
Equipment integrity rate	%	>96	>99
Length of pipeline with internal inspection conducted	Kilometre	303	986
City gas pipeline integrity coverage rate	%	50 (17 second tier pilot units)	>99
Branch pipeline integrity coverage rate	%	100	100
Branch pipeline high impact zone identification rate	%	100	100
Branch pipeline flood prevention and geological hazard protection coverage rate	%	100	100



Company executives led QHSE system audit



Zhangye subsidiary employees checked pressure-regulating facilities

In terms of user-side safety inspection, Kunlun Energy has formulated the “Kunlun Energy User Safety Inspection Management Measures”, conducting inspections at least once every 12 months for non-residential users such as commercial, industrial and heating users; at least once every 24 months for urban residential users; at least twice a year for rural gas users. Household inspections are conducted before the first gas connection and each heating period. The standards of these user-side management measures are stricter than the requirements of local government for gas safety supervision.

Indicators	Unit	2019	2020
Number of household users inspected	10,000 households	512	707
Planned completion rate of safety inspection for household users	%	54	90
Number of non-household users inspected <sup>7</sup>	10,000 households	7	21.8
Safety inspection rate of non-household users	%	100	100

<sup>7</sup> The scope of data collection was optimized in this reporting period. Only industrial users were included in 2019, while commercial and service users were added in 2020, so the number of non-resident users increased significantly compared to 2019.

## 2.3 SUPPLY CHAIN MANAGEMENT

### 2.3.1 Supply Chain Management System

In the field of supply chain management, Kunlun Energy strictly abides by the “Bidding Law of the People’s Republic of China” and has formulated the “Administrative Measures for Contractors’ Safety Supervision” to carry out supplier bidding and supply chain management. Every year, Kunlun Energy continuously reviews and assesses the compliance of suppliers and organizes supplier assessment, which covers occupational health and safety, environmental management, and other evaluation contents. For suppliers that have serious violations of laws and regulations, or seek benefits and interests through any unfair practices such as bribery, or have serious dishonest issues announced on the official websites of state and authoritative institutions, their annual evaluation results will be unqualified, and the suppliers will be eliminated.

For the safety risks of product transportation in supply chain, the Company selected professional logistics companies with necessary qualifications and extensive transportation experience when transporting by road, and used various means including electronic seals and GPS satellite positioning to improve the management. When using railway transportation, the Company strictly implemented the relevant requirements of railway companies to ensure the safety and reliability of the transportation process. When entered into a logistics and distribution agreement, the Company would clearly set out the safety responsibilities during the process of logistics and transportation.

### 2.3.2 Supplier Qualification Management

Regarding the procurement section, which involves high risks of corruption, Kunlun Energy strictly examines the credit qualifications and illegal situation of the bidding applicants. In accordance with the “Management Protocol for Market Access of Kunlun Energy”, “Management Protocol for Material Procurement”, “Evaluation Management and Implementation Guidelines for Material Supplier” and other regulations, suppliers who seek benefits by any unfair practices such as bribery, violate the work requirements related to integrity, commit disciplinary violations, or cause large losses to the Company due to product quality, safety and environmental issues will be disqualified from market access, included in the market access blacklist and cannot re-apply for access within five years. In 2020, the Company evaluated the suppliers and canceled the market access qualification of 197 material suppliers.

Number of suppliers by types in 2020



## 2.4 CUSTOMER SERVICES

### 2.4.1 Customer Services Management

Kunlun Energy carefully listens to customer needs, focuses on enriching customer service content, and has established customer service information systems, promoting customer service awareness and service skills training to improve customer service quality. In 2020, the Company organized the revision of the “Kunlun Energy Natural Gas Customer Management Measures”, conducted customer satisfaction surveys to have a deeper understanding of customer needs, and improved its services by setting up more service outlets, self-service payment terminals, and by holding customer seminars.

#### Service quality goals in 2025



By 2025, user satisfaction will be maintained at

**95%** or more.



#### Zhejiang branch innovated services by creating an offline experience center

In 2020, Kunlun Energy “Energy Station” offline experience center was opened in Zhejiang, which integrated services such as gas payment, medical and health care, and life services. By utilizing 5G, big data, artificial intelligence and other cutting-edge technologies, the station met users’ consumption habits and needs, creating a “new model” of community life services.



Kunlun Energy Shaoxing “Energy Station”  
offline experience store opened



Kunlun Energy Shengzhou “Energy Station”  
offline experience store opened

## 2.4.2 Customer Complaints and Satisfactions

Kunlun Energy has established a holistic customer complaint handling system. Upon the receipt of a customer's complaint, the service representative verifies its validity, and the necessary information of the complaints confirmed valid is recorded in a handling sheet and sent to the responsible department for investigation and resolution. For closed cases, the service representative conducts a customer visit to understand their level of satisfaction about the handling result, while providing complaint channels if needed. In 2020, the Company conducted a customer satisfaction survey, achieving a total satisfaction rate of 98.4%. During the reporting period, Kunlun Energy received a total of 2,874 complaints about products and services, with a resolution rate of 100%.

Indicators	Unit	2019	2020
Total number of customers	10,000 households	1,127.7	1,235.8
Customer satisfaction rate	%	99	98

## 2.4.3 Customer Privacy Protection System and Measures

Kunlun Energy attaches importance to the privacy protection and information security of customers. When signing contracts and agreements with customers, the Company sets special clauses on confidentiality or has separate confidentiality agreements. The customer information systems restricts the export of customer information by technical measures such as internal and external network isolation, electronic key (UKEY) certification and grading permission to ensure that our customer information is not leaked. The Company also strengthens staff training on confidentiality awareness, and strictly implements confidentiality policies and work procedures to ensure the safety of customer information. In 2020, the Company did not have any customer information leakage incidents.

## 2.5 TECHNOLOGY INNOVATION

### 2.5.1 Technology Innovation Incentives

Innovation is a prime driving force for the long-term development of Kunlun Energy, as it provides impetus for improvements in safety, environmental protection and performance. New breakthroughs in pipelines construction, process technology, operation and maintenance technology, risk management and control, and localisation of key equipment and accessories help to promote the company's science and technology innovation development.

### 2.5.2 Digital and Intelligent Applications

Kunlun Energy takes digitalization as the driving force, with the goal of "intelligent pipeline network, improve the level of process control", and organizes and formulates intelligent implementation plan. Through the "end + cloud + big data" system architecture to integrate pipeline's data of the whole life cycle, a construction control and production control model has been built, with the intelligent sites and unmanned stations as the main body. This model has realized digital handover of project construction and production operation, and has been piloted in key projects of the company such as Guangdong Chaozhou high-pressure pipeline project, Jieyang pipeline project and Hunan Hengyang-Yanling branch line project.

In 2020, Kunlun Energy's natural gas retail system was fully applied in 27 second tier units and 324 projects, managing 6.76 million end-users and promoting more than 1.58 million gas meters, which realized the function of remote meter reading, gas consumption monitoring and online bill payment, helping the digital transformation and intelligent development of natural gas end-users business.



## Chaozhou project applying intelligent site construction auxiliary engineering management system

Chaozhou project is the first demonstration project of Kunlun Energy to apply intelligent site construction auxiliary engineering management to achieve integrated processing of construction data and visual control of the construction site.



Operation interface at intelligent site construction auxiliary engineering management system

## Hunan branch carried out research on smart pipeline construction

Hunan branch carried out research on the construction of intelligent pipelines, completed the study project of "intelligent pipeline cloud platform and dispatching communication", and obtained the first computer software copyright of Hunan branch. This project realized the business functions of video conferencing through IP phones and videophones, and real-time monitoring of inspections, etc., built the pipeline "integrated" control platform of Hunan branch. It also broke the isolation among information, business and information, promoting the integration of pipelines management with digital city and smart city, and constantly improved the Hunan branch's safety operation and control capabilities in risk prevention, leakage warning and emergency disposal etc.

### 2.5.3 Achievements of Scientific and Technological Innovation

The Company has completed the study of Boil-off Gas (BOG) emission control measures, which was concluded in the “BOG Emission Control Measures Research Report” and the “LNG Station BOG Emission Control Measures Guide”, and the results have been effectively applied at the production site. In addition, the Company is conducting research on the technical standards for the application of smart gas meters, and the quality indicators and standards for LNG fuel refueling in vehicles and ships.

Kunlun Energy attaches great importance to the protection of intellectual property rights, complies with the “Patent Law of the People’s Republic of China”, the “Copyright Law of the People’s Republic of China” and the “Trademark Law of the People’s Republic of China”. In 2020, the Company has obtained a total of 17 national intellectual property rights.



#### Jiangsu LNG company insists on innovation

Jiangsu LNG company has overcome the technical difficulties of the core equipment of receiving stations such as re-condensers and high-pressure pumps. The research results, “Automatic control of re-condenser level in LNG receiving stations” and “Pump shaft calibration technology for LNG high and low pressure pumps”, have won awards in oil and gas sales professional competition of PetroChina’s first Frontline Production Innovation Competition.



The team of Jiangsu LNG Production and Operation Center focused on discussing the plan



### 3. PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE

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### 3. PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE



*Kunlun Energy firmly protects the legitimate rights and interests of every employee, lays a sustainable path for the long-term development of employees, and creates a happy workplace home.*

#### 3.1 EMPLOYMENT AND RIGHTS PROTECTION

##### 3.1.1 Compliance Management

Kunlun Energy strictly abides by the “Labor Law of the People’s Republic of China”, “Labor Contract Law of the People’s Republic of China” and other relevant laws and regulations and formulated the “Kunlun Energy Labor Contract Management Measures (Trial)” and “Kunlun Energy Staff Turnover Management Measures” “Kunlun Energy Employee Leave Management Measures”, “Kunlun Energy Organ Remuneration Management Measures”, etc., fully protecting the rights and interests of employees.

Kunlun Energy promotes an equal, diverse and non-discriminatory employment environment. The Company addresses in the “Employee Code of Conduct” that, any form of discrimination, violence and disrespect of employees is prohibited, which covers: prohibition of discrimination in respect of nationality, gender, age, ethnicity, race, religious belief and education; prohibition of discrimination against employees with mental and physical disability; and prohibition of any form of disrespect for employees; prohibition of any form of harassment of employees. The Company also upholds the principle of localizing labour employment, promotes the employment of local residents, women, ethnic minorities and university students, and strives to improve employment opportunities in local communities. Currently, over 90% of employees of the Company are local employees.

Indicators	Type	Unit	2019	2020
Total number of employees		Person	38,557	37,852
By gender	Male	%	66	67.6
	Female	%	34	32.4
By region	China	%	95	99.3
	Overseas	%	5	0.7
By employment type	Full-time	%	—	99.5
	Part-time	%	—	0.5
By education	Undergraduates or above	%	42	45.2
	Tertiary education	%	29	28.9
	Others	%	29	25.9
By age	Age under 30	%	28	16.6
	Aged 30–50	%	60	70.2
	Age above 50	%	12	13.2

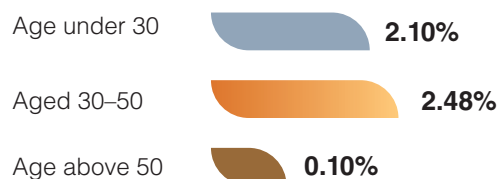


### Employee turnover rate in 2020

#### By gender



#### By age



### 3.1.2 Labor Standards

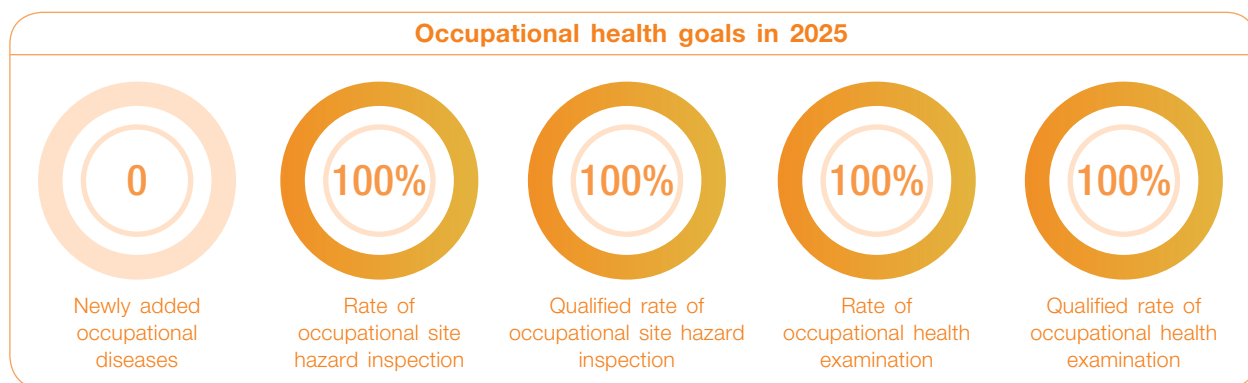
The Group absolutely prohibits the employment of child labor. In terms of avoiding illegal employment practices such as child labor and forced labor, Kunlun Energy strictly abides by national laws and regulations, fully respects and protects the rights and interests of each employee, having established a handling and self-investigation mechanism for child labor employment. This Year, the Company had no child labor or forced labor.

## 3.2 OCCUPATIONAL HEALTH

### 3.2.1 Occupational Health Management System

Kunlun Energy strictly abides by the “Law of the People’s Republic of China on the Prevention and Treatment of Occupational Diseases”, the “Regulations on Labor Protection in Workplaces using Toxic Substances”, the “Regulations on Work-Related Injury Assurance”, the “Occupational Safety and Health Convention”, and other occupational health-related laws and regulations, deeply caring for the occupational health of employees. Kunlun Energy has formulated a series of management systems applicable to the Company, such as “Administrative Measures for Detection of Occupational Hazards at Workplaces”, “Administrative Measures for Occupational Health Monitoring”, and ““Three Simultaneities” Management Rules for Occupational Disease Protection Facilities for Construction Projects”. The Company’s health and safety management system has passed the Occupational Health and Safety Management System GB/T28001 (OHSAS18001) certification.

In 2020, Kunlun Energy actively implemented the ““Healthy China 2030” blueprint”, sorted out the concept of “great hygiene, great health”, strengthened supervision and monitoring on education, training and health, on the top of strengthening the prevention of occupational diseases and health promotion. The Company has also incorporated mental health education for employees and prevention of infectious as well as local diseases into the implementation plan to create a healthy work environment and lifestyle for employees through a series of initiatives.



### 3.2.2 Occupational Health Protection System and Measures

Kunlun Energy strengthens occupational health and safety management through a series of measures, including:



Identify, prevent and control occupational hazards among all employees



Establish occupational health monitoring files for employees and strictly implement occupational physical examination before and during the employment, as well as prior to departure



Strictly implement the occupational disease protection facilities for construction projects and major construction, set up warning signs and instructions at eye-catching locations



Carry out regular education on occupational health related training, strengthen emergency rescue training and drills, conduct promotion and training about mental health. The number of participants in occupational health training in 2020 is about 10,000



Provide complete labor protection equipment and personal protection facilities, strengthen inspection, maintenance and update in time



Strictly implement measures to prevent heat stroke and occupational hazards for field workers



Strengthen supervision, inspection and improvement to ensure full and effective implementation of occupational health management

Indicators	Unit	2019	2020
Rate of occupational health examination	%	100	100
Rate of occupational health hazard inspection	%	100	100

## 3.3 TALENT DEVELOPMENT

### 3.3.1 Talent Training and Development Channels

Kunlun Energy stresses on talent training and potential development. By continuous innovation in talent policies and making talent training as the corporate strategy over the years, Kunlun Energy strives to build a learning-centered enterprise and has built a high-quality team with strong business expertise and team spirit. The Company has formulated the “Management Selection and Appointment Guide”, the “Management Rules for Technical Position Qualifications and Appointment” and other management systems, aimed to regulate talent appointment and selection, provide a smooth path for promotion, and maximize employee motivation. At the same time, the Company implemented “Management Measures for Professional Skills Assessment”, established professional and technical position qualification assessment committees headed by main leaders, and continuously improved the skills and team cohesion of employees through professional skill competitions and corporate culture development.

In 2020, the Company actively promoted the development of a skilled talent team, taking the level recognition of professional skills as the foundation, continuing to improve the training, evaluation and use of mechanisms of skilled talents, and promoting project implementation related to skilled talent training and development. A total of 2,419 people participated in the professional skill level certification throughout the year, with a 28.4% increase in the total number of people certified. In 2020, Kunlun Energy won the Group First Prize in PetroChina’s first Frontline Production Innovation Competition.



Kunlun Energy’s staff participated in the simulation lecture of PetroChina’s first operation training competition



Kunlun Energy's staff participated in PetroChina's first operation training competition — group photo



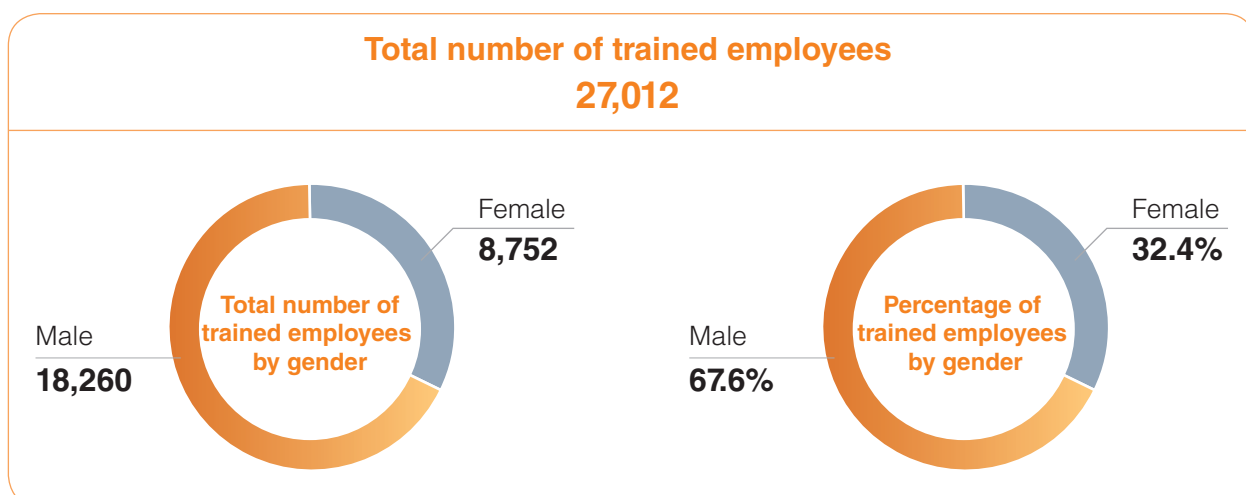
### 3.3.2 Employee Growth and Training

Kunlun Energy has adopted a mature education and training system, formulating multi-level, multi-angle, full-coverage annual training plans.

Training of new employees	Management talent	Professional and technical personnel	Highly skilled personnel
By providing centralized training and internships, new employees will be able to quickly integrate into the Company : Through job rotation, the performance of new employees is evaluated on the job and the potential of employees will be explored.	The training takes ideological awareness, situations and tasks, leadership, policies and regulations, compliance, as well as corporate culture and business skills as the core content to improve the comprehensive ability of management talents.	Training is arranged in the form of on-the-job self-learning, technical discussion, full-time studying, and special lectures, to improve the ability of innovation and research on four aspects: new technologies, new processes, new theories and new methods.	The training takes basic theory, standardized operation skills and safety and environmental protection knowledge as the core content to improve operational skills and ability of safe production.

Indicators	Unit	2019	2020
Frontline staff training ratio	%	100	100
Training projects at Company level <sup>8</sup>	—	55	27
Employees trained at Company level	Man-time	5,252	3,592
Training courses at PetroChina level	Session	37	36
Employees trained at PetroChina level	Man-time	338	112

Indicators	Type	Unit	2019	2020
Average training hours of each employee by employment type	Management talent	hour	112	61
	Professional and technical personnel	hour	101	52
	Highly skilled personnel	hour	106	56



<sup>8</sup> Due to the impact of the COVID-19, the number of training programs conducted this Year was less than that of 2019.

### 3.4 CARE FOR EMPLOYEES

Kunlun Energy cares for every employee, providing care and assistance to employees in various forms. In 2020, the Company granted relief funds of RMB1.118 million, and carried out a total of 478 holiday greetings and assistance to employees in need; properly handled condolences, compensation and settlement of employees' passing away due to illness. During the pandemic, the labor union allocated RMB3.4748 million for special work such as pandemic prevention and control, condolences to employees who stayed at the front line during the fight against pandemic and assisting people in difficulties due to the pandemic.

Kunlun Energy pays close attention to the health of employees, arranges annual physical examination for employees, determines physical examination categories by age group, covers gynecological-related examination for female employees, invites doctors to answer questions about the results of physical examination for employees; provides medical services for employees in the office ever week; carries out regular health-related lectures by experts to raise employees' awareness of health care.

Kunlun Energy greatly values employee wellbeing, and has formulated the "Employee Leave Management Measures" and "Corporate Annuities Implementation Measures" to fully protect employees' interests and benefits such as "five social insurances and one housing fund", "paid leave", and labor insurance supplies; provide employees with multiple benefits such as corporate annuities, supplementary health insurance and critical illness protection, which effectively improved employees' sense of satisfaction at work.



Social insurance

Pension, health, unemployment, maternity, work injury and housing fund



Business insurance

Supplementary health insurance, critical illness protection



Holidays

Legal holidays, family leave, paid annual leave, wedding and funeral leave, maternity leave



Other welfare

Corporate annuity



Kunlun Energy launched health-related lectures

## 4. ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT

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## 4. ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT



*Kunlun Energy practices ecological civilization, implements ecological protection measures, and participates in pollution prevention and control; follows the trend of energy transformation, focuses on green and low-carbon development, and helps the realization of China's "dual carbon goals" commitments.*

### 4.1 ENVIRONMENTAL MANAGEMENT

#### 4.1.1. Environmental Management System

Kunlun Energy complies with the "Environmental Protection Law of the People's Republic of China", "Atmospheric Pollution Prevention and Control Law of the People's Republic of China", "Water Pollution Prevention and Control Law of the People's Republic of China", "Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes", "Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise", and "Water and Soil Conservation Law of the People's Republic of China", and other regulations. In 2020, Kunlun Energy has formulated the "'14th Five-Year' plan for Environmental Protection", implementing the three-year action for special improvement of ecological environmental protection, and clarified the work requirements and targets from the aspects including the rules of procedure for major environmental protection matters, three wastes and greenhouse gas emissions, risk prevention and control, environmental supervision, ecological ban, and resource security, etc. The Company practices the development concept that "lucid waters and lush mountains are invaluable assets".

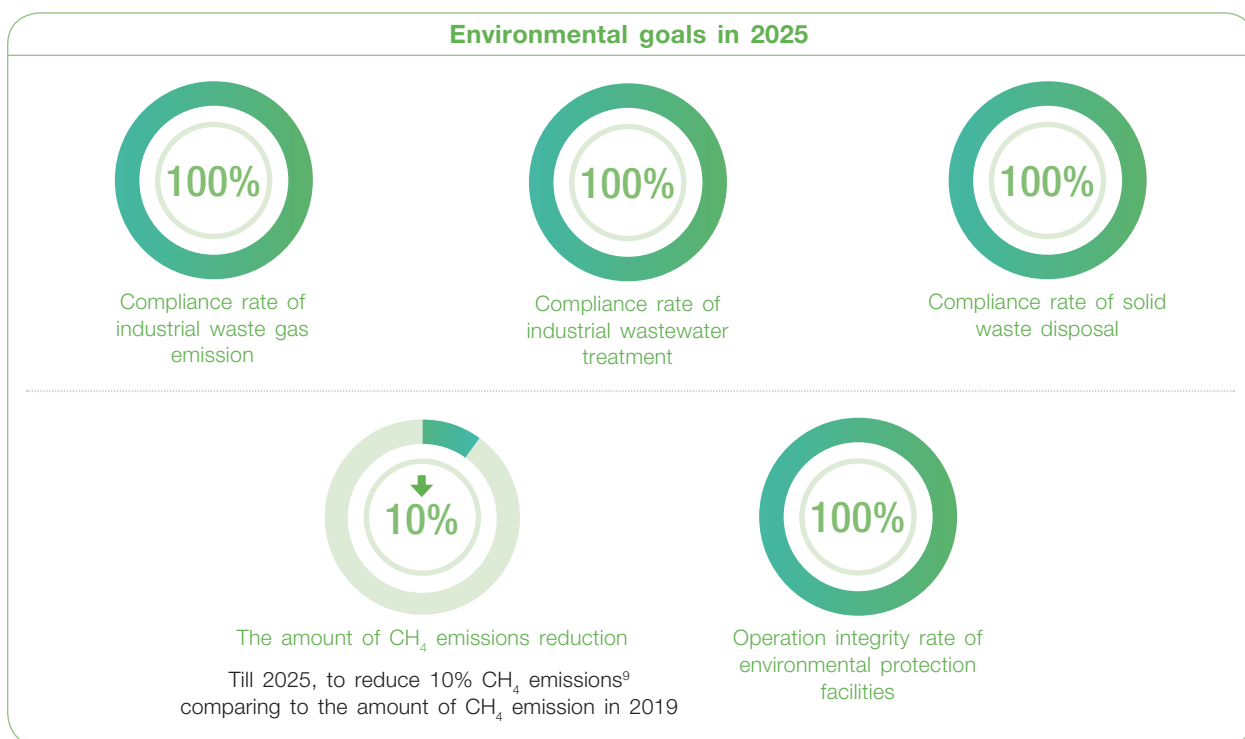
Kunlun Energy continuously improves its environmental management system and had passed the GB/T24001(ISO14001) environmental management system certification. The Company carries out the work of ecological and environmental protection through the "Kunlun Energy Management Measures of Environmental Protection", the "'Three Simultaneities' Management Procedures for Safety, Environmental Protection and Occupational Health in Construction Projects" and other policies. The Company conducts the performance evaluation and work accountability via signing the "Safety and Environmental Protection Responsibility Letter". In cases of safety and environmental protection accidents or failure to meet the requirements of the assessment indicators, remuneration of senior managers will be deducted, and corresponding responsibilities will be investigated. This Year, the Company had zero report or penalty from central or local environmental protection supervision authorities.

The assessment indicators issued in 2020 have been fully realized, which included the elimination of general A-class and above environmental incidents; wastewater discharge and waste gas emissions, fully meet the discharge standard, and solid waste is disposed compliant with the law; complete rectification of the issues as required.

#### • Goals and achievements in 2020

Indicators	Units	2020 Goals	2020 Status of Achievement
Compliance rate of industrial waste gas emission	%	100	100
Compliance rate of industrial wastewater treatment	%	100	100
Compliance rate of solid waste disposal	%	100	100





## 4.1.2 Environmental Management Measures

The main pollutants of Kunlun Energy are from domestic wastewater, construction waste, a small amount of solid waste from the production process, process emissions (gas), equipment noise, etc. The Company started from the source, carried out in-depth risk investigation and hidden hazards management, and established a “graded prevention and control” mechanism. The Company requires all projects to meet not only the requirements of laws and regulations, but also the requirements of Kunlun Energy’s environmental, health and safety management system during planning and construction. The Company actively promotes clean production, strict process emissions, and further reduces pollutant emissions by adopting measures such as process recycling, outsourcing treatment, and optimizing equipment usage.

Kunlun Energy has carried out comprehensive ecological and environmental hazard investigation and treatment work. In 2020, the Company identified 70 hidden hazards, the rectification of which was all completed; fully completed the comprehensive air pollution treatment action in autumn and winter season for key regions; finished 55 project feasibility studies, engineering preliminary design, project kick-off, launch of production and trial operation, completion acceptance and other “Three Simultaneities” safety and environmental protection work. Through studying the BOG emission control of 288 LNG stations, the Company prepared the “LNG Station BOG Emission Control Measures Guide”, conducted pilots to promote the recycling of 9.1 million cubic metres of BOG, achieving significant emission effects.

Kunlun Energy values the construction of the ecological and environmental protection talent team, and conducts safety and environmental protection performance capability assessment as an important basis for job placement and promotion. The Company actively carries out ecological and environmental protection training to strengthen the awareness of environmental protection responsibilities and capacity building. In 2020, the Company trained about 10,000 employees working for ecological environmental protection management and supervisions.

<sup>9</sup> CH<sub>4</sub> emissions in 2019 was 10,600 tonnes.

## 4.2 TACKLING CLIMATE CHANGE

### 4.2.1 Impact Analysis of Climate Change

With the Chinese government proposing the “dual carbon goals”, along with the introduction of relevant national strategies and policy guidelines, Kunlun Energy identified and assessed the impact of climate change on the Company based on the TCFD’s analysis framework of climate change risks and opportunities. The Company conducted in-depth analysis of the effects of climate change to the Company, actively formulated the implementation of measures and incorporated them into our strategic planning and business development.

- Climate change related opportunities



#### MARKET ASPECT:

Under the guidance of the “dual carbon goals” and the full acceleration of low-carbon transition in the energy structure, the role of natural gas as a bridge and connection in the process of energy and low-carbon transformation has been further highlighted. According to the forecast of relevant institutions, natural gas will still be in a strategic development opportunity period for the next ten years. In the medium and long term, under the carbon emission constraint model, the development of renewable energy will accelerate, and as the major utilization methods of renewable energy, the scale of installation and power generation capacity of photovoltaic and wind power will grow rapidly. Moreover, the peak demand is huge, thus providing a historical opportunity for the development of electrification, and the current policies also support the development of natural gas power generation business. The relevant policies are conducive to the stable development of Kunlun Energy’s existing business and the expansion of renewable energy and other low-carbon businesses, which promotes the development of green low-carbon transformation.



#### REPUTATIONAL ASPECT:

The low-carbon image has become an important influence label for companies as well as the focus of stakeholders. Kunlun Energy’s business characteristics help the Company to build a positive corporate image.

- Climate change related risks or challenges



**POLICY ASPECT:**

Under the restriction of the “dual carbon goals”, relevant national departments and local governments might introduce more active carbon emission reduction policies, which will constrain business development in some regions, and will further impact the utilization of natural gas.



**MARKET ASPECT:**

In the long term, the demand for natural gas will slow down, and the rapid development of renewable energy and new products may put competitive pressure on the Company.



**TECHNICAL ASPECT:**

The development of new business relies on strong R&D investment and high-quality R&D achievements, and the transition to a low-carbon economy will increase the cost of technological innovation for the Company.



**OPERATIONAL ASPECT:**

To achieve the “dual carbon goals”, it may lead to an increase the cost in production and operation.



**PHYSICAL ASPECT:**

Natural disasters that caused by climate change, such as typhoons (hurricanes), storm surges and floods, as well as extreme weather events such as high temperatures and severe coldness, may cause direct damage to business assets and production operation, or indirectly affect the Company due to supply chain disruptions.

## 4.2.2 Climate Change Adaptation Measures

To strengthen climate change adaptation and implement the requirements of “dual carbon goals”, Kunlun Energy will continue to conduct special studies on the greenhouse gas emissions from each business unit. The Company will analyze and propose emission reduction targets and measures for each business unit by benchmarking international and domestic leading emission indicators in the same industry, propose the Company’s action path to achieve “dual carbon goals”, and prepare the Kunlun Energy green development action plan.

Kunlun Energy actively responded to the “2+26” city air pollution prevention plan, implemented the “Beijing, Tianjin, Hebei and Surrounding Areas in the Autumn and Winter of 2020–2021 Comprehensive Air Pollution Control Action Plan”, cooperated with the local government to complete the “coal-to-gas conversion” project construction tasks.

Kunlun Energy studied the layout of renewable energy business and set up a renewable energy development department in 2020, which was responsible for renewable energy utilization projects including wind, solar, biomass and hydrogen energy, distributed energy, renewable energy powered gas electrification peaking projects, natural gas chemical engineering projects, renewable energy integrated development projects. By the end of 2020, the Company promoted more than 20 projects of integrated development of natural gas and renewable energy, 4 distributed energy projects, and 2 biomass energy projects. In terms of renewable energy research, Kunlun Energy is jointly carrying out comprehensive research projects on chemical chain hydrogen production and hydrogen energy utilization with the Petrochemical Research Institute, actively promoting the establishment of research projects on industrial solid waste hydrogen production.



Kunlun Energy held training on the renewable energy



Kunlun Energy incorporated green operation, energy conservation and emission reduction into production process and environmental management. In the production plants, the Company planted trees to increase carbon sinks. In 2020, there were 34,597 trees planted.

Indicators	Unit	2019	2020
Greenery coverage percentage in plants <sup>10</sup>	%	14	14
Number of trees planted in plants	—	51,559	86,156

## 4.3 EMISSION MANAGEMENT

### 4.3.1 Waste Gas Management

Process waste gas mainly comes from inspection and maintenance, accident, discharge of gas dissipation, flare burning, boiler or heating furnace combustion, etc. The escaped or combusted gas is methane. The Company actively promotes the recycling of process waste gas, through optimization of operating conditions, technical adjustment, additional establishment of recycling equipments and other measures to reduce fuel gas consumption and waste gas dissipation; using gas pipe network detection vehicles to carry out regular gas pipeline leakage detection, taking internal anti-corrosion and other relevant measures to reduce leakage emissions for the aging pipelines; adding surveillance equipment at flare stacks to allow real-time monitoring of flares. In 2020, the Company recycled and reused about 610 million cubic metres of methane through associated processes and measures.

Indicators	Unit	2019	2020
Emissions of SO <sub>2</sub>	Tonnes	—	41
Emissions of NO <sub>x</sub>	Tonnes	—	1,005
Amount of recycled associated gas in oil field <sup>11</sup>	100 million cubic metres	1.46	1.58

#### Waste gas emission control goals in 2021<sup>12</sup>



Controlled emissions of SO<sub>2</sub>



Controlled emissions of NO<sub>x</sub>

<sup>10</sup> Compared with 2019, the number of plants increased while the area expanded, and thus there was no significant change of greenery coverage percentage during this reporting period.

<sup>11</sup> The data comes from the associated gas in oil field recycling business carried out by Xinjiang Borui Company, a subsidiary of Kunlun Energy

<sup>12</sup> The Company's business is estimated to expand largely in 2021, thus emission control goals for waste gas were made to ensure that the emission level won't exceed the amount in 2020.

### 4.3.2 Wastewater Management

The wastewater discharged by Kunlun Energy includes the production and domestic wastewater. Production wastewater was treated through signing treatment contracts with local qualified organizations, after which they would conduct centralized treatment or adopt environmentally friendly process equipment to reach relevant standards before discharge, so as to ensure regulatory compliance. For domestic wastewater, the Company has installed an integrated domestic sewage treatment device with a domestic cesspool, and for the domestic wastewater meeting the standard, it is discharged by the municipal pipeline network; for the wastewater that are likely to be generated under accident conditions, the Company established environmental protection facilities such as firefighting pools in strict accordance with the relevant national standards, and strictly prohibits uncontrolled wastewater discharge.

Indicators	Category	Unit	2019	2020
Industrial wastewater	Discharged amount	10,000 tonnes	35	40
	Recycled amount <sup>13</sup>	10,000 tonnes	—	7.30
Domestic wastewater	Discharged amount	10,000 tonnes	78	74
	Recycled amount <sup>14</sup>	10,000 tonnes	—	1.48

### 4.3.3 Solid Waste Management

Hazardous wastes of Kunlun Energy mainly consist of solid wastes generated during production, including molecular sieves, filter elements, compressor lubricating waste oil, generator/air compressor oil, waste hydraulic oil, waste dyes and coatings, waste charge batteries of generators, as well as mainboards of waste refueling and liquid-filling machines, the centralized treatment of which was outsourced to qualified local organizations.

Non-hazardous wastes mainly include inorganic wastewater and sludge in the production process, waste steel pipes generated during inspection and maintenance, as well as slag generated during construction, water stable layer solid waste and other waste that cannot be backfilled, are treated in accordance with the relevant provisions.

This Year, the Company expanded the statistical coverage of solid waste emissions. The discharge of newly included construction solid wastes are 47,937 tonnes, with intensity being 127 tonnes/100 million cubic metres<sup>15</sup>.

Indicators	Unit	2019	2020
Production solid waste discharge	Tonnes	7	11
Production solid waste discharge intensity	Tonnes/100 million cubic metres	0.03	0.03
Hazardous solid waste discharge <sup>16</sup>	Tonnes	244	337
Hazardous solid waste discharge intensity	Tonnes/100 million cubic metres	0.87	0.89

<sup>13</sup> Industrial wastewater recycling includes recycled water.

<sup>14</sup> Domestic wastewater recycling includes recycled water.

<sup>15</sup> The intensity is calculated by dividing the emissions by the sale of natural gas per 100 million cubic metres. The sales volume in 2020 was 37.76 billion cubic metres.

<sup>16</sup> Due to the long treatment cycle of hazardous solid waste in the factory, solid waste such as molecular sieves reach their service life or replacement period in 2020, resulting in a higher total amount of hazardous solid waste in 2020 than in 2019.

At the same time, Kunlun Energy controlled waste and other pollutants through a number of green construction measures, including:

- Reduction of waste generation: strictly controlled the construction work surface, reduced waste slag generation; prevented oil runoff, emit, drip, leakage and waste gas emissions through construction equipment management; ensured water spray and other dust control measures in place during construction, prohibited to carry out large earthmoving operation in windy weather.
- Noise reduction: select low noise construction machines, avoid night construction in densely populated areas, and set up temporary sound insulation measures.
- Recycling: perform mud recycling and pipe pressure-testing wastewater reuse.
- Appropriate disposal: clear construction waste materials and waste residue at a cost; discharge sewage containing oil and sand after being treated and meeting the standards.

### Green construction measures for the Jieyang natural gas pipeline project

The Jieyang natural gas pipeline project reduced its negative impacts on the environment through a number of green construction measures. In the construction work site area of the station valve room, fish pond silts were cleaned out and transported outside to the designated location of the environmental protection department for handling. In the reporting period, 2,880 cubic metres of silts were transported and dumped; all domestic waste was collected and disposed in a centralized manner, and third-party testing was carried out on the drainage of pressure-testing operation, all of which met environmental emission standards



The protection slope and bank of the Jieyang project for reducing soil erosion

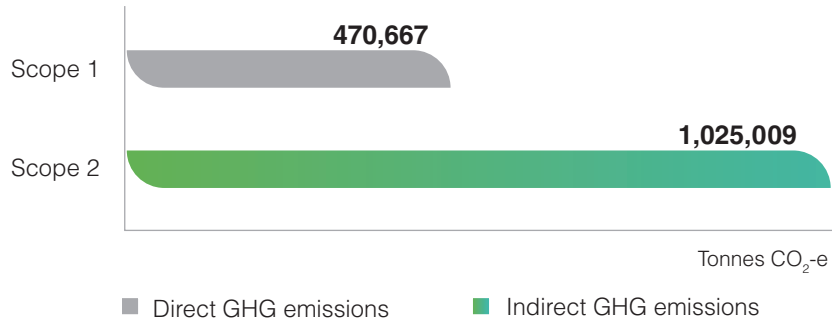


The pressure-testing water collection pool of the Jieyang project

#### 4.3.4 Greenhouse Gas Management

Kunlun Energy values long-term carbon emission reduction, with long-term and annual planning in the form of energy conservation and consumption reduction, equipment renovation, improvement of equipment operation efficiency, and reduction of gas losses, etc. The Company conducted strict assessment and management, strengthened supervision of procedures, and supervised the target implementation according to PDCA (Plan-Do-Check-Act) closed-loop management model. The Company reduced greenhouse gas emissions by measures such as actively exploring renewable energy, promoting the launch of photovoltaic power generation projects, implementing the recycling of BOG. Kunlun Energy also actively launched various projects such as reformation on de-heavy hydrocarbon devices, energy-saving retrofitting of circulating water pumps, optimization of coolant components, replacement of SAAB variable compression engines with open rack vaporizers in operation as well as transformation of energy-saving lightings. In 2020, the Company saved 5,982 tonnes of standard coal in total.

The amount of greenhouse gas (GHG) emissions in 2020



Indicators	Unit	2019	2020
Emissions of methane released during processes <sup>17</sup>	Tonnes	6,168	8,125
The amount of methane recovered by optimizing process design, adding carburetor, and building CNG master station	100 million cubic metres	6.1	6.1
Total GHG emission <sup>18</sup>	Tonnes CO <sub>2</sub> -e	1,589,246	1,495,676
GHG emission intensity <sup>19</sup>	Tonnes CO <sub>2</sub> -e/ 10,000 cubic metres	0.57	0.40

Greenhouse gas emissions control goals in 2021



<sup>17</sup> The indicator contains methane emissions discharged from refueling station processes.

<sup>18</sup> The calculation of GHG emissions is based on the emission factors in the "Methodology and Reporting Guidelines for Accounting for Greenhouse Gas Emissions from Oil and Gas Producers in China (Trial)".

<sup>19</sup> The greenhouse gas produced per 10,000 cubic metres of natural gas sold.

### The BOG recycling project of Xinjiang branch

The LNG plant in Karamay, Xinjiang built the BOG recycling facilities in 2018, which was sold as CNG after compression. In 2020, the BOG recycling station recycled 9,063,900 cubic metres of natural gas.



BOG recycling station in Xinjiang branch

## 4.4 RESOURCE USE

### 4.4.1 Management of Energy and Water Conservation

Kunlun Energy has been adhered to the principle of balance between development and economy and prioritize resource conservation. The Company set up a leading group on energy and water conservation, established energy and water conservation office as well as designated position for energy and water conservation management. The Company regularly held analysis meetings on energy and water conservation, making arrangement for the deployment of related works.

In 2020, Kunlun Energy issued documents such as “Highlights of Kunlun Energy’s 2020 Production and Operation Work” and “Kunlun Energy’s 2020 Energy Conservation and Consumption Reduction and Efficiency Enhancement Work Plan”. The Company decomposed and issued annual energy and water conservation targets for its branches and subsidiaries, while including energy and water conservation targets in the annual performance contract for the management team of the affiliated units in the main position. During the reporting period, a total of 13 energy and water conservation renovation projects were completed.



## 4.4.2 Water Usage

Kunlun Energy strictly implemented the “Energy and Water Conservation Management Measures for Kunlun Energy Company Limited”, and “Energy and Water Conservation Statistic Management Regulation for Kunlun Energy Company Limited”. The Company continuously strengthens water resource management and supervision, promotes innovation technologies, techniques, equipment and materials to improve the efficiency of water resource usage. The 2020 water conservation target was 1,850 cubic metres, and the technical measures to save 11,000 cubic metres of water through three water conservation transformation projects have achieved the water conservation target well.

In terms of access to water, the Company’s total water usage in 2020 was 4.8545 million cubic metres, the vast majority of which was supplied by municipal water, along with a small amount of groundwater (self-drilling wells). Kunlun Energy obtained a water collection permit issued by the authorities for groundwater collection and carried out water quality testing in accordance with the law to ensure that water collection and water usage would not affect local areas. In the reporting period, there was no issues with access to water or damage to the local ecological environment.

Indicators	Unit	2019	2020
Total amount of water consumption <sup>20</sup>	10,000 tonnes	419.0	485.5
Water consumption intensity <sup>21</sup>	Tonnes/RMB10,000 of added value	1.51	1.89

Indicators	Unit	2019	2020
Total amount of water conservation	10,000 cubic metres	1.80	1.13
Total value of water conservation	RMB10,000	9.89	2.36

<sup>20</sup> This Year, the Company further improved the scope of data collection, while the recovery process of the pandemic required more water usage, so the value increased compared to the same period last year.

<sup>21</sup> Compared to 2019, the increase in water consumption intensity mainly came from the new plant in Shandong Tai'an, which was in pilot operation with energy and water resource consumption while no sales, causing the increase in water consumption intensity.

### 4.4.3 Energy Usage

In terms of management, the Company issued the “Energy Conservation and Energy Efficiency Work Program”, assigned the 2020 business-related energy consumption benchmark value indicators, energy conservation transformation project plans, energy conservation decomposition indicators and other contents. The 2020 energy conservation target was 600 tonnes of standard coal, while the actual saving was 6,000 tonnes of standard coal, which is a good achievement of energy conservation target.

Indicator		Category	Unit <sup>22</sup>	2019	2020
Total energy consumption <sup>23</sup>			MWh	5,211,737.41	5,883,440.22
Energy consumption intensity			MWh/RMB10,000 of added value	1.91	2.28
Direct energy consumption	Gasoline		Tonnes	4,773	4,592
	Diesel		Tonnes	610	546
	Natural gas <sup>24</sup>		10,000 cubic metres	23,521	29,546
	Liquefied petroleum gas <sup>25</sup>		Tonnes	47	119
Total direct energy consumption			MWh	2,610,957.16	3,260,414.89
Direct energy consumption intensity			MWh/RMB10,000 of added value	0.95	1.26
Indirect energy consumption	Purchased electricity		MWh	2,600,780.00	2,623,025.10
	Purchased thermal energy		MWh	0.25	0.23
Total indirect energy consumption			MWh	2,600,780.25	2,623,025.33
Indirect energy consumption intensity			MWh/RMB10,000 of added value	0.95	1.01

Indicator	Unit	2019	2020
Total amount of energy conservation	10,000 tonnes of standard coal	0.35	0.60
Total value of energy conservation	RMB10,000	1,272.40	1,706.07

<sup>22</sup> Compared to 2019, the disclosure of energy consumption has converted all units to be thousands of kilowatt hours, or MWh, as required by the Environmental, Social and Governance Reporting Guide issued by the Hong Kong Stock Exchange which came in effect on July 1, 2020. The domestic heat emission factors are selected from the low level heat values in the “Greenhouse Gas Emission Accounting Methodology and Reporting Guidelines for Oil and Gas Producers in China (Trial)” published by the National Development and Reform Commission.

<sup>23</sup> Compared to 2019, the main reason for the increase in total energy consumption is from the increased consumption of natural gas, electricity, and LPG.

<sup>24</sup> Compared to 2019, the increase in natural gas consumption mainly came from the year-over-year increase in natural gas losses at Beijing Pipeline Company.

<sup>25</sup> Compared to 2019, the increase in LPG consumption mainly came from the adoption of LPG boilers for heating at the newly commissioned LPG filling stations.

#### 4.4.4 Soil Resource and Biodiversity Protection

Kunlun Energy greatly values the appropriate exploitation and utilization of natural resources and the protection of biodiversity. We always carry out concurrent ecological conservation and restoration and take whole life-cycle ecological conservation measures when carrying out development and construction projects. All involved units are required to identify ecological and community impacts before the commencement of production and operation activities, draw up and carry out plans regarding ecological conservation and community compensation, choose construction periods that are conducive to ecological conservation, use eco-friendly construction methods, technology, materials and equipment, collect and preserve separately topsoil stripped in the course of development and construction, which will be used later preferentially for land restoration, soil amelioration, land making and afforestation as long as its quality fits the purpose. Timely ecological restoration is carried out both during and after the construction process. The use of industrial solid wastes with high content of poisonous and toxic chemicals, domestic wastes and contaminated soil for land restoration is strictly prohibited.

In accordance with relevant national laws and regulations, Kunlun Energy's construction project implements environmental impact assessment, "Three Simultaneities" procedures for environmental protection facilities, environmental supervision, soil and water conservation supervision, completion of environmental protection acceptance, post-evaluation system of environmental impact and environmental protection supervision as well as inspection system. The Company carries out relevant work in strict accordance with the feedback and approval of environmental impact assessment.

- Specific measures for land resources: strictly control construction-occupied land, reasonably plan pipeline land, operate in an orderly manner, strictly prohibit to pile up construction materials, reduce soil disturbance and surface vegetation destruction; strictly abide by the operating procedures during construction, perform layered excavation, layered stacking, layered backfilling compaction of soil trench excavation, restore soil productivity as soon as possible; backfill the earth to prevent soil erosion and achieve its own balance. Appropriately arrange the construction schedule, avoid agricultural peak season, rainy season, etc.
- Biodiversity protection measures: strengthen the management of construction personnel, advocate wildlife protection and education; avoid encountering animals when they pass while driving. In terms of protecting aquatic life in natural reserves, effectively strengthen the protection of the water environment, to avoid eutrophication of local water area along the route, and minimize the impact on aquatic bio-living environment.

## 5. CONTRIBUTION TO SOCIETY AND SHARING A GOOD LIFE

5.1 Poverty Alleviation

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5.2 Community Public Welfare

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## 5. CONTRIBUTION TO SOCIETY AND SHARING A GOOD LIFE



*Kunlun Energy adheres to the unity of corporate economic responsibility and social responsibility, actively responds to the nation's call for helping with poverty alleviation, serving local communities, supporting people with social difficulties, and has been consistently striving to be a responsible corporate citizen.*

### 5.1 POVERTY ALLEVIATION

Kunlun Energy actively responded to the government's call to fight and alleviate poverty, adhered to the principle of "combining poverty alleviation with enhancement of ambition as well as intelligence". Based on the actual situation of the poor areas, the Company scientifically and rationally formulated poverty alleviation plans. By 20 November 2020, Kunlun Energy has sent 2 middle-level cadres to support Qinghai Province and Xinjiang Province, operated 33 poverty alleviation projects, with a total value of around RMB19.79 million investment for poverty alleviation funds and supplies; purchased 409 categories of poverty alleviation products, totaling in RMB2.66 million.



#### Gansu Gas Company supported rural development through poverty alleviation

Gansu Gas Company helped Yupen Village in Qishan Township, Yongdeng County, Lanzhou City. In 2020, an accumulated total of 280 members of the leadership team paid visits for 40 times and visited 80 households. After understanding the needs of the residents, Gansu Gas Company invested RMB150,000 to build standardized sheep sheds, RMB150,000 for the hardening of a 1.85-kilometre alley, RMB10,000 to fund the renovation of dilapidated houses, and RMB70,000 to support the local pepper industry, bringing tangible improvements to the rural landscape and economic situation. In addition, Gansu Gas Company helped the development of the rural area through various ways such as health poverty alleviation, donation poverty alleviation and consumption poverty alleviation. Gansu Gas Company invited 10 medical personnel to conduct health checkups and health consultation for more than 200 people, distributing RMB57,000 worth of daily necessities such as rice, flour, grain and oil for the people, and helping Yuban Village sell more than 30,000 pounds of chili peppers and 500 barrels of caraway oil. With the help of Gansu Gas Company, Yupen Village achieved poverty reduction and marched toward a better future.



Gansu Gas Company launched the "Health Poverty Alleviation in Action, Doctors Go to Countryside to Benefit the People" Program

In addition, Kunlun Energy adheres to the principle of moral behavior in the entire process of external poverty alleviation and donation management. The Company takes corruption in the poverty alleviation field as the focus of inspection, organizes statistical surveys of poverty alleviation projects and special treatment of corruption as well as style of work in poverty alleviation. The Company regularly conducts special audits of external poverty alleviation and donation funds. In accordance with the “Poverty Alleviation and Corresponding Support Project Management Measures” and other related management systems, the Company comprehensively reviewed the establishment and improvement of the external poverty alleviation and donation management system of its branches and subsidiaries, the compliance of fund management and use, along with the associated effectiveness. In this way, the Company finds out the shortcomings and major problems in its management of special funds, proposes feasible suggestions and recommendations, and ensures the standardized management and efficient use of funds.

## 5.2 COMMUNITY PUBLIC WELFARE

Kunlun Energy insists on integrating the Company’s own development into the sustainable development of each of its business location, advocates social care and civilization, pays attention to people’s livelihood and vulnerable groups in the community, carrying out social welfare activities through various methods such as donations to schools and volunteer services to promote the construction of a harmonious society.



Guangxi Ningtie Company carried out gas promotion activities to campus



Thailand project donated disaster relief (flood) materials to Sukhothai

This Year, the Company invested more than RMB2.4 million to carry out various activities such as safety information consultation, psychological counseling, tree planting and greenery protection, garbage cleaning, removal of illegal postings, cleaning and disinfection of public areas, and assistance to people with difficulties. 3,081 people participated in activities such as learning from Mr. Lei Feng throughout the Year, the May Fourth Youth Festival, Kunlun education assistance, voluntary blood donation, caring for the elderly, and environmental protection. The cumulative number of social service hours was 27,103, and more than 30,000 people were directly beneficiaries. The Company helped the Hotan Grand Bazaar community in Xinjiang, improved the cultural activities of the residents, and constructed and repaired the road in the Shesuoba Village, Mingjiu Town, Mengzi City, Yunnan, with a total of RMB196,000 donated.

Indicator	Unit	2019	2020
Public welfare service hours	Hour	2,323	27,103
Number of public welfare service participants	—	1,220	3,081
Public welfare donation	RMB10,000	200	1,455

### Hebei, Shandong branch supported the “coal-to-gas conversion” projects

China’s “coal-to-gas conversion” projects have gradually expanded from Beijing-Tianjin-Hebei and surrounding areas to the Fen-Wei Plain, covering 39 cities in two regions, and is the key “battle” to win the Blue Sky Protection Campaign. In 2020, Hebei branch undertook 320,000 household transformation tasks in Shijiazhuang, Xiong’an New District and other places, benefiting the population of nearly 2 million. The annual winter “gas-to-coal conversion” users were supplied with 400 million cubic metres of gas, replacing 600,000 tonnes of coal; Shandong branch undertook the task of renovating 100,000 households in seven cities in Shandong, including Jinan, Liaocheng and Zibo, benefiting nearly 500,000 people, and the annual winter “gas-to-coal conversion” users were supplied with nearly 100 million cubic metres of gas, replacing 150,000 tonnes of coal.

### Beijing branch supported poverty alleviation through education

In 2020, Beijing branch donated RMB100,000 to the “Hongzhi Class” to support local education development and help poor student to make achievements. The “Hongzhi Class” was built by Fangshan Middle School for outstanding students graduated from junior high schools who desired to continue studies but had difficulty with tuitions. Based on the philosophy of “property alleviation through education”, Beijing branch analyzed the decision-making aspects of poverty alleviation, sent employees to Fangshan Middle School upon approval to conduct on-site visits, and quickly implemented special donation work, which improved the living and learning facilities for 135 Hongzhi students.

### Chongqing branch supported flood control and emergency rescue operation

In mid-August 2020, the Yangtze River and Jialing River ushered in the largest flood after entering the flood season. Chongqing launched the flood prevention level I emergency response on August 18. Chongqing branch actively responded to the call of Jiangbei District Government, the leadership team was the first to arrange and deploy flood prevention and rescue work, the first to set up a flood prevention and anti-flood vanguard team, took on the task of flood prevention and duty in the 800-metre sightseeing belt of Jiangbei Mouth, carried out safety persuasion of the masses, and assisted the community staff to conduct safety hazard inspection and reinforce the safety alert facilities along the river to ensure finding dangerous behavior of the masses as well as secondary dangers immediately, making contribution for the Jiangbei District to achieve the goals of “zero” casualties among the rescued masses and minimal flood damage.



Chongqing branch actively participated in the flood fighting and rescue in Jiangbei District, Chongqing



# APPENDIX

## RESPONSIBILITY PERFORMANCE TABLE

### Economic Performances

Indicator Category	Indicator	Unit	2019	2020
Economic Performance	Sales revenue	RMB100 million	1,017.9	1,092.5
	Profit attributable to owners of the Company	RMB100 million	55.5	60.6
	Earnings per share (basic)	RMB in cents	66.7	70.0
	Total assets	RMB100 million	1,479.0	1,549.9
	Sales volume of natural gas	100 million cubic metres	280.3	377.6
	Annual sales volume of LPG	10,000 tonnes	607.4	521.2
	Number of users	1,000 households	11,277.0	12,358.1

### Environmental Performance<sup>26</sup>

Indicator Category	Indicator	Unit	2019	2020
Emissions	Emissions of SO <sub>2</sub>	Tonnes	—	41
	Emissions of NO <sub>x</sub>	Tonnes	—	1,005
	Amount of recycled associated gas in oil field	100 million cubic metres	1.46	1.58
	Discharged amount of industrial wastewater	10,000 tonnes	35	40
	Recycled amount of industrial wastewater	10,000 tonnes	—	7.30
	Discharged amount of domestic wastewater	10,000 tonnes	78	74
	Recycled amount of domestic wastewater	10,000 tonnes	—	1.48
	Production solid waste discharge	Tonnes	7	11
	Production solid waste discharge intensity	Tonnes/100 million cubic metres	0.03	0.03
	Construction solid waste discharge	Tonnes	—	47,937
	Construction solid waste discharge intensity	Tonnes/100 million cubic metres	—	127
	Hazardous solid waste discharge	Tonnes	244	337
	Hazardous solid waste discharge intensity	Tonnes/100 million cubic metres	0.87	0.89

<sup>26</sup> This Year, The Company's business volume increased, operated 44 projects which were acquired through acquisitions and mergers, with 1 newly operated LNG plant, and 3 newly operated LNG stations, so there were increases in the volume and intensity of some emissions and resource use indicators.

Indicator Category	Indicator	Unit	2019	2020
Climate change	Direct GHG emissions (Scope 1)	Tonnes CO <sub>2</sub> -e	—	470,667
	Indirect GHG emissions (Scope 2)	Tonnes CO <sub>2</sub> -e	—	1,025,009
	Emissions of methane released during processes	Tonnes	6,168	8,125
	The amount of methane recovered by optimizing process design, adding carburetor and building CNG master station	100 million cubic metres	6.1	6.1
	Total GHG emission	Tonnes CO <sub>2</sub> -e	1,589,246	1,495,676
	GHG emission intensity	Tonnes CO <sub>2</sub> -e/ 10,000 cubic metres	0.57	0.40
	Greenery coverage percentage in plants	%	14	14
	Number of trees planted in plants	—	51,559	86,156
Resource use	Total amount of water consumption	10,000 tonnes	419.0	485.5
	Water consumption intensity	Tonnes/RMB10,000 of added value	1.51	1.89
	Total amount of energy conservation	10,000 tonnes of standard coal	0.35	0.60
	Total value of energy conservation	RMB10,000	1,272.40	1,706.07
	Total amount of water conservation	10,000 cubic metres	1.80	1.13
	Total value of water conservation	RMB10,000	9.89	2.36
Energy use	Total energy consumption	MWh	5,211,737.41	5,883,440.22
	Energy consumption intensity	MWh/RMB10,000 of added value	1.91	2.28
	Gasoline	Tonnes	4,773	4,592
	Diesel	Tonnes	610	546
	Natural gas	10,000 cubic metres	23,521	29,546
	Liquefied petroleum gas	Tonnes	47	119
	Total direct energy consumption	MWh	2,610,957.16	3,260,414.89
	Direct energy consumption intensity	MWh/RMB10,000 of added value	0.95	1.26
	Purchased electricity	MWh	2,600,780.00	2,623,025.10
	Purchased thermal energy	MWh	0.25	0.23
	Total indirect energy consumption	MWh	2,600,780.25	2,623,025.33
	Indirect energy consumption intensity	MWh/RMB10,000 of added value	0.95	1.01

## Social Performance

Indicator Category	Indicator	Unit	2019	2020
Anti-corruption	Number of concluded legal cases regarding corrupt practices brought against the Company during the reporting period	Case	0	0
	Number of concluded legal cases regarding corrupt practices brought against the Company's employees during the reporting period	Case	0	0
Production Safety	Number of fatalities in production safety accidents	—	0	0
	Number of lost days due to work injuries during this reporting period	Day	495	318
	Total Lost Worktime Rate (TLWR) due to work injuries during this reporting period	—	51.2	33.8
	Number of general Class A accidents (or above)	—	0	0
	Safety promotion information desks set up	—	818	539
	Number of public consultations accepted	Person	—	45,443
	Accident case education	—	1,055	1,574
	Public information films played	—	94	191
	Press releases	Piece	227	215
	Safety skill competitions	—	142	146
	Speech contests	—	43	56
	Safety knowledge lectures	—	531	813
	Number of employees participated in safety training	Person	12,319	21,317
	Emergency drills held by the Company	—	—	1,330
	Number of people participated in the emergency drills	—	—	11,765
	General hours of safety-related training	Hour	—	176

Indicator Category	Indicator	Unit	2019	2020
Products Quality	Equipment integrity rate	%	>96	>99
	Length of pipeline with internal inspection conducted	Kilometre	303	986
	City gas pipeline integrity coverage rate	%	50 (17 second tier pilot units)	>99
	Branch pipeline integrity coverage rate	%	100	100
	Branch pipeline high impact zone identification rate	%	100	100
	Branch pipeline flood prevention and geological hazard protection coverage rate	%	100	100
	Number of household users inspected	10,000 households	512	707
	Planned completion rate of safety inspection for household users	%	54	90
	Number of non-household users inspected	10,000 households	7	21.8
	Safety inspection rate of non-household users	%	100	100
	Number of video monitoring inspections at major field stations	—	2,000	2,200
	Monitoring rate of important production operations rate	%	100	100
	Incident information delivery rate	%	100	100
Supplier Management	Total number of suppliers	—	—	1,996
	Number of material suppliers	—	>1,500	1,249
	Number of services contractors	—	—	441
	Number of engineering contractors	—	—	306
Customer Services	Number of customer complaints of products and services	—	—	2,874
	Resolved rate of customer complaints	%	—	100
	Customer satisfaction rate	%	99	98
	Total number of customers	10,000 households	1,127.7	1,235.8



Indicator Category	Indicator	Unit	2019	2020
Employment	Total number of employees	—	38,557	37,852
	Proportion by gender — male	%	66	67.6
	Proportion by gender — female	%	34	32.4
	Proportion by region — China	%	95	99.3
	Proportion by region — Oversea	%	5	0.7
	Proportion by employment type-full-time	%	—	99.5
	Proportion by employment type-part-time	%	—	0.5
	Proportion by education — undergraduates or above	%	42	45.2
	Proportion by education — tertiary education	%	29	28.9
	Proportion by education — others	%	29	25.9
	Proportion by age — under 30	%	28	16.6
	Proportion by age — aged 30–50	%	60	70.2
	Proportion by age — above 50	%	12	13.2
	Employee turnover rate	%	—	2.10
	Proportion by gender — male	%	—	2.05
	Proportion by gender — female	%	—	2.20
	Proportion by age — under 30	%	—	2.10
	Proportion by age — aged 30–50	%	—	2.48
	Proportion by age — above 50	%	—	0.10
Occupation health	Rate of occupational health examination	%	100	100
	Rate of occupational health hazard inspection	%	100	100

Indicator Category	Indicator	Unit	2019	2020
Employees' training	Frontline staff training ratio	%	100	100
	Training projects at Company level	—	55	27
	Employees trained at Company level	Man-time	5,252	3,592
	Training courses at PetroChina level	Session	37	36
	Employees trained at PetroChina level	Man-time	338	112
	Total employees trained	—	—	27,012
	Total employees trained by gender — male	—	—	18,260
	Total employees trained by gender — female	—	—	8,752
	Rate of employees trained by gender — male	%	—	67.6
	Rate of employees trained by gender — female	%	—	32.4
	Average training hours of each employee by employment type — Management talent	Hour	112	61
	Average training hours of each employee by employment type — Professional and technical personnel	Hour	101	52
	Average training hours of each employee by employment type — Highly skilled personnel	Hour	106	56
Community Investment	Public welfare service hours	Hour	2,323	27,103
	Number of public welfare service participants	—	1,220	3,081
	Public welfare donation	RMB10,000	200	1,455
	Poverty alleviation through consumption	RMB10,000	—	266

## “14th Five-Year” Plan Goals

Indicator Category	Indicator	Unit	2025
Safety goals	Number of fatalities in production safety accidents	Person	0
	Number of general Class B accidents (included) or above	—	0
	Number of accidents that can be recorded per million working hours	Piece	30% decrease compared to 2020
	Incidents of violations (from government, superior departments)	Piece	0
Quality goals	Natural gas temperament test sampling qualification rate	%	100 (maintained)
	National product quality supervision spot check qualification rate	%	100
	Qualification rate of the construction projects	%	100
	Rate of construction projects with excellent performance	%	80
	Project quality supervision coverage rate	%	100
	One-time quality acceptance rate of type 1 and 2 construction projects	%	100
	One-time quality acceptance rate of other projects	%	99
	Customer satisfaction rate	%	95 (maintained)
Occupational health goals	Newly added occupational diseases	Person	0
	Rate of occupational site hazard inspection	%	100
	Qualified rate of occupational site hazard inspection	%	100
	Rate of occupational health examination	%	100
	Qualified rate of occupational health examination	%	100
Environmental goals	Compliance rate of industrial waste gas emission	%	100
	Compliance rate of industrial wastewater treatment	%	100
	Compliance rate of solid waste disposal	%	100
	The amount of CH <sub>4</sub> emissions reduction	—	Till 2025, to reduce 10% CH <sub>4</sub> emissions comparing to the amount of CH <sub>4</sub> emission in 2019
	Operation integrity rate of environmental protection facilities	%	100

## INDEX OF THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE ISSUED BY THE HONG KONG STOCK EXCHANGE

### A. Environment

General Disclosure & KPI	Indicator description	Corresponding disclosed chapter or explanation	Corresponding report page
<b>Aspect A1: Emissions</b>			
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste	ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Environmental Management	P53–54
KPI	A1.1	The types of emissions and respective emissions data.	ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Emission Management P58–59
	A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Emission Management P61
	A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Emission Management P59
	A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Emission Management P59
	A1.5	Description of measures to mitigate emissions and results achieved.	ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Emission Management P58–61
	A1.6	Description of how hazardous and non-hazardous waste are handled, reduction initiatives and results achieved.	ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Emission Management P59–60

General Disclosure & KPI			Indicator description	Corresponding disclosed chapter or explanation	Corresponding report page
Aspect A2: Use of Resources					
General Disclosure		Policies on the efficient use of resources, including energy, water and other raw materials.		ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Resource Use	P62–64
KPI	A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).		ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Resource Use	P64
	A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).		ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Resource Use	P63
	A2.3	Description of energy use efficiency initiatives and results achieved.		ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Resource Use	P64
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.		ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Resource Use	P63
	A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.		The Company's business rarely involves product packaging, therefore the KPI is not applicable.	—
Aspect A3: Environmental and Natural Resources					
General Disclosure		Policies on minimising the issuer's significant impacts on the environment and natural resources.		ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Environmental Management; Emission Management; Resource Use	P53–54, P58–59, P62–63
KPI	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.		ENVIRONMENTAL FRIENDLINESS AND PROTECTING THE ENVIRONMENT – Environmental Management; Emission Management; Resource Use	P53–54, P58–59, P62–63



## B. Social

General Disclosure & KPI		Indicator description	Corresponding disclosed chapter or explanation	Corresponding report page
Aspect B1: Employment				
General Disclosure		Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Employment and Rights Protection	P45
KPI	B1.1	Total workforce by gender, employment type (for example, full-or part-time), age group and geographical region.	PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Employment and Rights Protection	P45
	B1.2	Employee turnover rate by gender, age group and geographical region.	PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Employment and Rights Protection	P46
Aspect B2: Health and Safety				
General Disclosure		Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Management of Safety and PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Occupational Health	P32, P47

General Disclosure & KPI	Indicator description		Corresponding disclosed chapter or explanation	Corresponding report page
KPI	B2.1	Number and rate of work-related fatalities.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Management of Safety	P35
	B2.2	Lost days due to work injury.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Management of Safety	P35
	B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Management of Safety and PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Occupational Health	P32-35 P47-48
<b>Aspect B3: Development and Training</b>				
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.		PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Talent Development	P49-50
KPI	B3.1	The percentage of employees trained by gender and employee category.	PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Talent Development	P50
	B3.2	The average training hours completed per employee by gender and employee category.	PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Talent Development	P50
<b>Aspect B4: Labour Standards</b>				
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.		PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Employment and Rights Protection	P46

General Disclosure & KPI	Indicator description		Corresponding disclosed chapter or explanation	Corresponding report page
KPI	B4.1	Description of measures to review employment practices to avoid child and forced labour.	PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Employment and Rights Protection	P46
	B4.2	Description of steps taken to eliminate such practices when discovered.	PEOPLE-ORIENTED BASIS CREATES A SATISFACTORY WORKPLACE — Employment and Rights Protection	P46
<b>Aspect B5: Supply Chain Management</b>				
General Disclosure	Policies on managing environmental and social risks of the supply chain.		RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Supply Chain Management	P39
KPI	B5.1	Number of suppliers by geographical region	Will improve the data collection and disclose the information in the future	—
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Supply Chain Management	P39
<b>Aspect B6: Product Responsibility</b>				
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.		RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Customer Services	P40–41

General Disclosure & KPI	Indicator description		Corresponding disclosed chapter or explanation	Corresponding report page
KPI	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	The Company's business rarely involves recalls of products, therefore the KPI is not applicable.	—
	B6.2	Number of products and service related complaints received and how they are dealt with.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Customer Services	P41
	B6.3	Description of practices relating to observing and protecting intellectual property rights.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Technology Innovation	P43
	B6.4	Description of quality assurance process and recall procedures.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Quality Management	P37–38
	B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored.	RESPONSIBLE OPERATION DRIVES SUSTAINABLE DEVELOPMENT — Customer Services	P41
<b>Aspect B7: Anti-corruption</b>				
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.		STRICT MANAGEMENT BUILDS THE CORNERSTONE OF RESPONSIBILITY — Compliance Management	P26, 28
KPI	B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	STRICT MANAGEMENT BUILDS THE CORNERSTONE OF RESPONSIBILITY — Compliance Management	P29
	B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	STRICT MANAGEMENT BUILDS THE CORNERSTONE OF RESPONSIBILITY — Compliance Management	P27

General Disclosure & KPI		Indicator description	Corresponding disclosed chapter or explanation	Corresponding report page
Aspect B8: Community Investment				
General Disclosure		Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	CONTRIBUTION TO SOCIETY AND SHARING A GOOD LIFE — Poverty Alleviation	P67-68
KPI	B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	CONTRIBUTION TO SOCIETY AND SHARING A GOOD LIFE — Poverty Alleviation; Community Public Welfare	P67-70
	B8.2	Resources contributed (e.g. money or time) to the focus area.	CONTRIBUTION TO SOCIETY AND SHARING A GOOD LIFE — Community Public Welfare	P68-69