



招商公路
CHINA MERCHANTS EXPRESSWAY

China Merchants Expressway Network &
Technology Holdings Co., Ltd.

Smoothing pathways to a sustainable future
**2022 Environmental, Social
and Governance Report**



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Message from the Chairman

The year 2022 was remarkable as it witnessed the successful convening of the 20th National Congress of the Communist Party of China and marked the first year for China to embark on a new journey of building a modern socialist country in all respects and towards the Second Centenary Goal. It was also a milestone for CMET exerting our efforts to promote high-quality development against all odds. In 2022, we remained committed to our original aspirations and forged ahead in response to the call of our times. In pursuit of high-quality development, we transformed and upgraded the Company and fully implemented the sustainability philosophy, taking our ESG performance to another level.

Bearing the national top priorities in mind, we strive to be a trailblazer in building China a powerful country. With a strong transportation network, we contribute to the coordinated development of the Beijing-Tianjin-Hebei region, and shoulder our responsibilities in the new development paradigm. As a forerunner, we strive to guarantee unhindered supplies for people's life and maintain overall stability. In response to the requirement of the Ministry of Transport, we work to stabilize logistics and supply chains by fully ensuring the smooth transportation of roads under our management. With a focus on the core technology research in intelligent transportation, we make full use of new-generation digital technology to promote the "Highway Operation Platform & Environment (HOPE)" digital expressway operation and management platform, and roll out smart toll collection robots, striving to be a leading central state-owned enterprise (SOE)

to drive innovative development.

Greening the land will generate enormous ecological wealth to the country. Therefore, we are determined to be an example of green transition and development guided by our commitment to the sustainability philosophy of "Lucid Waters and Lush Mountains are Invaluable Assets". Meanwhile, we, a firm practitioner of carbon peaking and carbon neutrality goals, accelerate the development of a new energy investment platform and have developed the *CMET Low-carbon Strategy*, ushering in a new chapter of our low-carbon development. To address climate change, we harness technological innovation to manage risks caused by severe weather conditions. Our efforts on ecological restoration and biodiversity conservation projects also contribute to the Beautiful China initiative.

Investing in talent cultivation underpins a sustainable future for the Company. Since employees are the cornerstone of the Company's development, we show respect to every value-creating member. Upholding an open, equal, and inclusive talent policy, we protect the legitimate rights of employees and foster a comfortable and harmonious workplace for them. To grow with employees, we also optimize talent training intensity and coverage to improve our talent teams.

Benefiting all households with solidarity, we unite different sectors with sincerity. Giving full play to our role as an industry leader, we continue to build a responsible supply chain and engage in strategic cooperation with industry partners to promote joint contributions, shared benefits, and win-win results.

We never forget to consolidate what has been achieved in poverty alleviation and guarantee an effective transition to rural vitalization, and thus have launched the "C-GREEN Education Program" and the "Together with CMET" care initiative for truck drivers. Committed to benefiting people, we play a leading role in meeting people's aspirations for a better life and devotedly serving China's vision for common prosperity.

In a boat race, those who row the hardest will outperform. In the race of a thousand sails, only the brave ones will win. At a new starting point, we will continue to fulfill the responsibilities of a central SOE, serve the trend of making transportation smart, green, and unique during the 14th Five-Year Plan period (2021-2025), and meet the needs of national strategy and industrial upgrading. Practical work making excellent performance, we aim to develop our own "Malik Curve" for high-quality development, creating greater and sustainable values in economy, environment and society for all stakeholders, and contributing our solutions to Chinese modernization.

China Merchants Expressway Network & Technology Holdings Co., Ltd.

Chairman

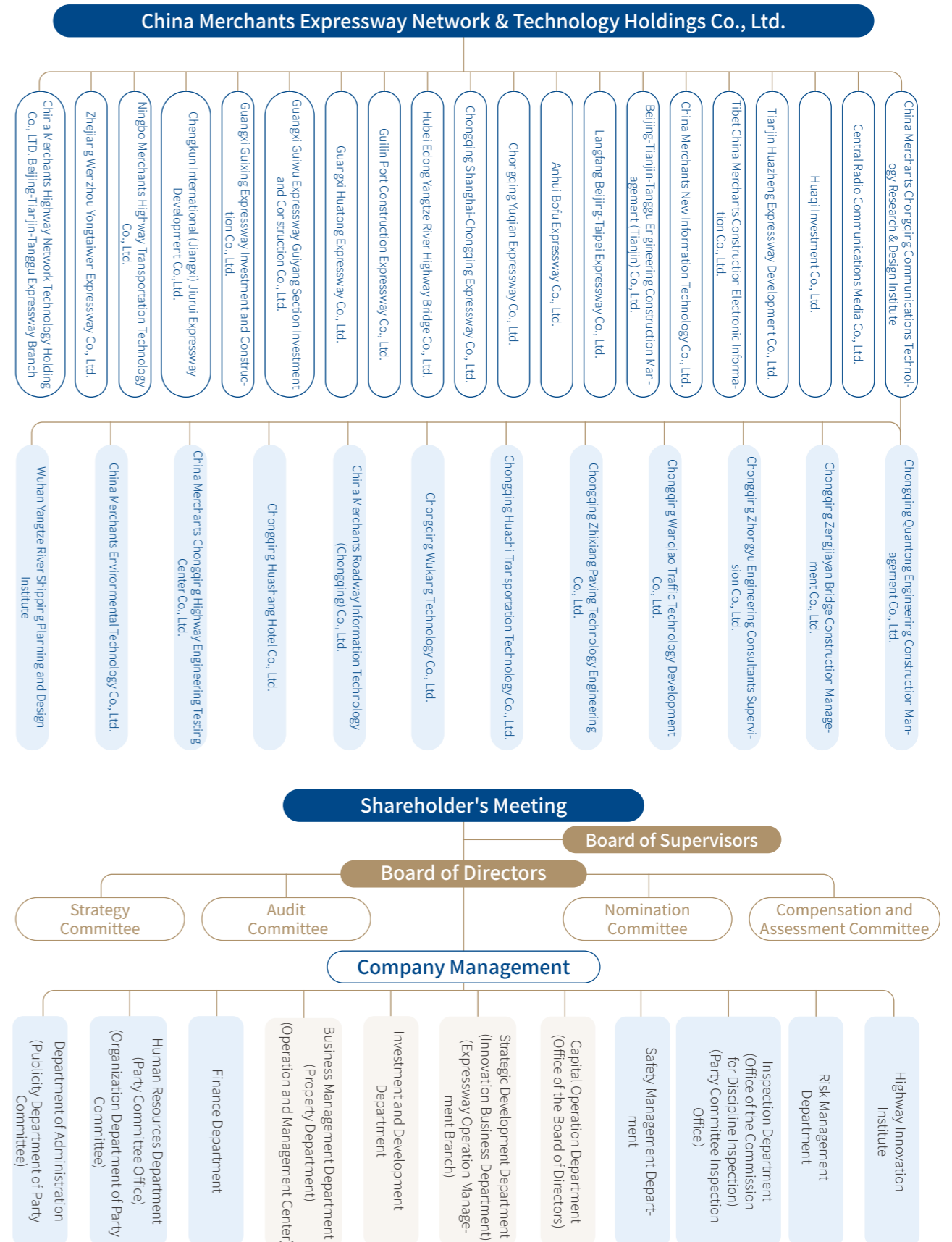


About CMET

Company Profile

China Merchants Expressway Network & Technology Holdings Co., Ltd. (CMET) was formerly known as Huajian Transportation and Economic Development Center. In 1999, with the approval of the former National Economic and Trade Commission and the Ministry of Finance, Huajian Center was merged into China Merchants Group (CMG), becoming a wholly owned subsidiary of CMG. In August 2016, CMET was established with the approval of the State Administration for Industry and Commerce (SAIC). On December 25, 2017, CMET merged with Huabei Expressway Co., Ltd., and was successfully listed on the Shenzhen Stock Exchange (SZSE, stock code: SZ001965). Over the past 30 years, CMET has gradually transformed from an investment-oriented company to an investment and operation oriented company, witnessing leapfrog development in both business scale and performance. The Company has achieved doubled growth in its main performance indicators, and won many honorary titles, such as the National Civilized Unit, and Top 100 Chinese Enterprises, and multiple capital market awards. CMET has basically realized the strategic goal of "To be China's Leading Expressway Investor and Operator". By the end of 2022, CMET has invested in and operated expressways totaled to 12,914 km, with equity mileage of 3,614 km and operating mileage of 2,008 km, covering 22 provinces, autonomous regions, and municipalities across the country. The Company holds stakes in 15 high-quality expressway listed companies, covering three-quarters of the listed companies in the industry.

Devoted to expressway investment and expressway operation, the Company has accumulated rich experience in the industry. Its business scope includes investment and operation of expressway transportation infrastructure, transportation technology, intelligent transportation, and transportation ecology, covering important stages throughout the expressway industry chain. As of 2022, the Company's total assets amounted to RMB 114.93 billion, with an annual operating income of RMB 8.297 billion.



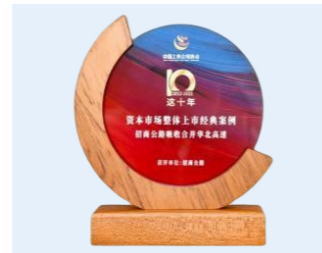
Honors



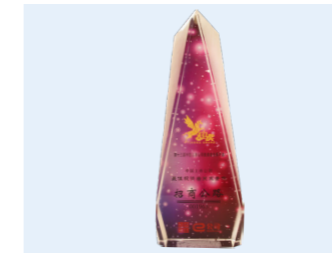
National Civilized Unit by Central Commission for Guiding Cultural and Ethical Progress



Top 10 Classic Case Award for M&A and Restructuring in a Decade of China Association for Public Companies



The 13th Best Investor Relations Case Award for China's Listed Companies



The 13th Best Board of Directors Award for Investor Relations of China's Listed Companies



A-share Listed Companies Cash Dividend List (Rich Return List) by China Association for Public Companies



China's Top 100 Listed Companies for High-quality Development in 2021



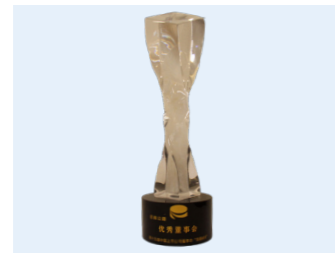
The 5th China Excellent IR "Best Shareholder Relations" Award



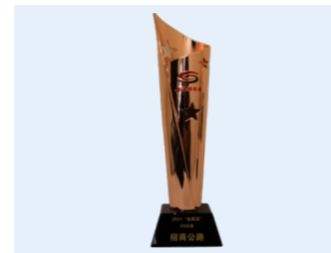
The 5th China Excellence IR "Best Information Disclosure" Award



The 15th China Listed Company Board of Directors "Gold Roundtable" Award



2021 "Gold Quality" ESG Award



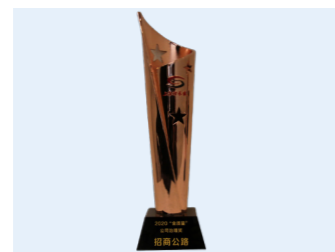
The 5th China Excellent IR "Best Capital Market Communication" Award



2022 Listed Companies "Excellent Cases of Digital Transformation" Award



2020 Listed Company "Gold Quality" Corporate Governance Award



The 13th Best Investor Relations Award for China's Listed Companies



Performance Highlights



Economic

Total assets	114.93 billion yuan	Operating income	8.297 billion yuan
Net profit attributable to shareholders of listed companies	4.861 billion yuan	Total tax payment	740 million yuan
Value preservation and appreciation rate of state-owned assets	108.82 %		

Governance

Number of directors	12	Number of independent directors	4	Number of female directors	1
Number of supervisors	3	Number of employee supervisors	1	ESG management framework established	
Number of senior executives	6	Number of female senior executives	2	Compliance audit rate of trademark, patent application and other intellectual property related laws and regulations	100 %
irm.cninfo.com.cn* timely response rate	100 %	Compliance audit rate of rules, regulations and laws	100 %	Integrity risk incidents	0

*Official website launched by SZSE for investors to communicate directly with listed companies

Environmental

Greenhouse gas emission density	4.32 tons of CO ₂ e per million revenue	The severe weather management and control platform implements in	7+20+11 application scenarios
Direct energy consumption density	0.25 tons of standard coal per million revenue	Environmental pollution accidents of general or above grade and violations of energy conservation and environmental protection	0
Indirect energy consumption density	1.05 tons of standard coal per million revenue	Feng County Power Station generates photovoltaic power	31,858.2 MWh
Clean electricity usage	7,570 kWh	Construction of plant community in Leishan Lake, Leishan harbor and Shijiahu harbor Comprehensive Water Environment Treatment Project	36,407 m ²

Social

Number of casualties due to work-related injuries	0	Satisfaction rate of obstacle removal	99 %	Cybersecurity incidents	0	Customer complaint resolution rate	100 %
Number of employees	6,540	Total training hours	202,117 hours	For female employees "Life of Rose Special Insurance"			
Procurement risk incidents	0	Amount of R&D investment	364 million yuan	Total social donations	18.265 million yuan		
Total hours of employee volunteer service	178,111.50 hours						







ESG Management

CMET incorporates sustainable development into its business management and resolutely implements the relevant requirements in the *Work Plan for Improving the Quality of Listed Central SOE* issued by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC). Focusing on creating long-term value, we practice the ESG concept, identify ESG-related opportunities, and control ESG-related risks to promote the integration of ESG factors with production and operation. In 2022, CMET was awarded the 2021 Listed Company "Gold Quality" - Corporate Governance Award.

The Board of Directors participates in the review and decision-making of major ESG issues, including ESG reports and other related proposals. The ESG Working Group of CMET is responsible for implementing the Board's decisions on ESG-related work, improving the ESG management framework and mechanism, and preparing ESG policies and reports to promote the institutionalized, standardized and regular ESG-related work.

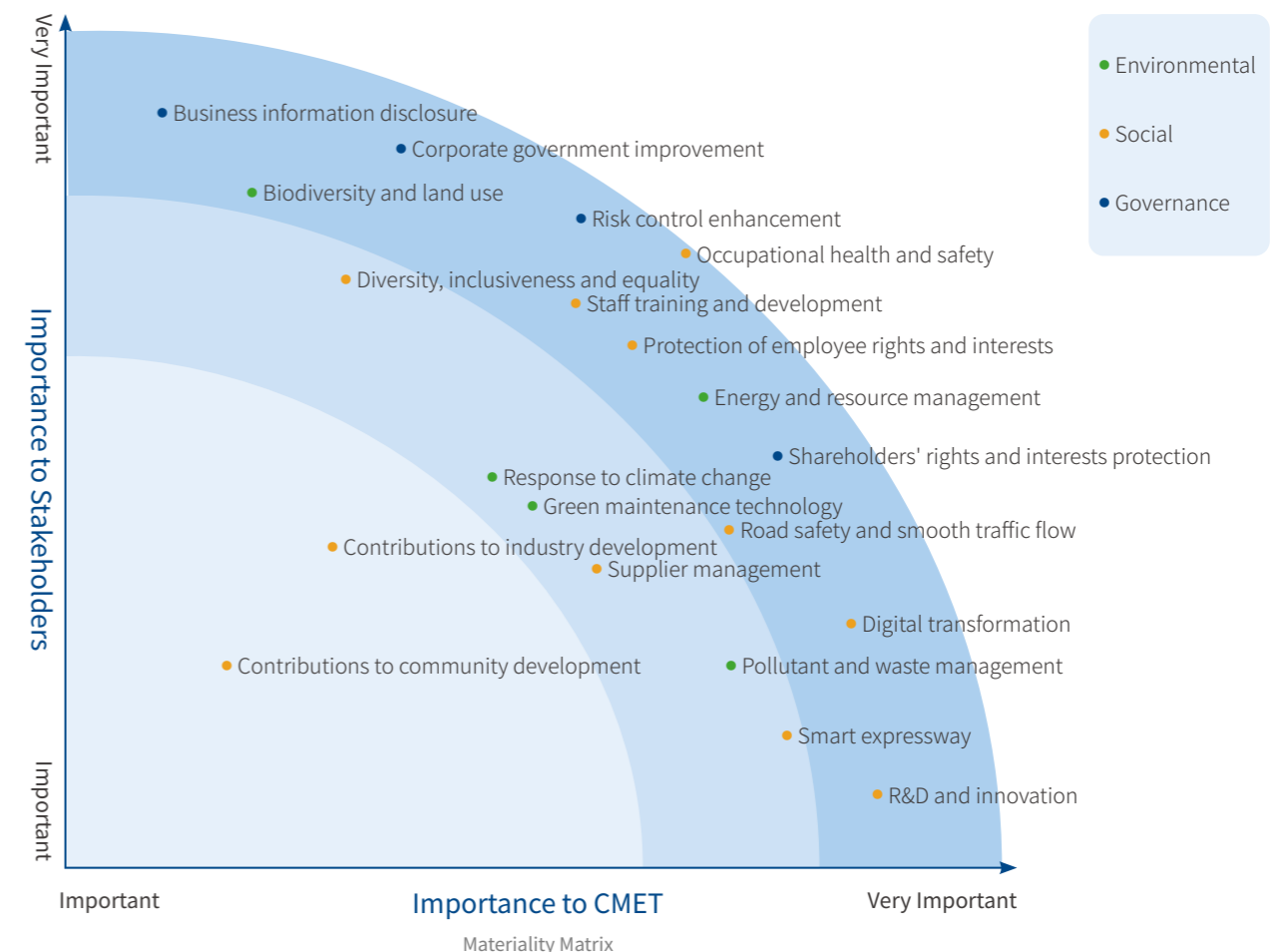
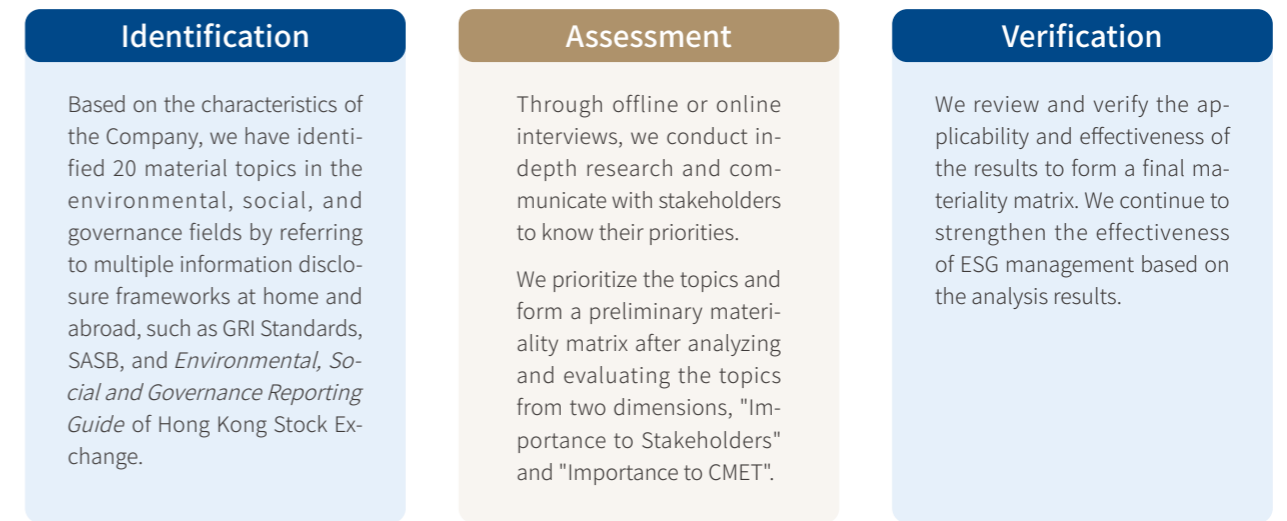
Stakeholder Management

Maintaining communication with stakeholders and responding to their diverse concerns is a cornerstone of our ESG management. The Company values the voices of stakeholders in daily operations and continues to maintain regular communication with government and regulatory agencies, shareholders and investors, customers, partners, employees, communities, etc. through dialogue and cooperation. In this way, we ensure timely response to the expectations and demands of relevant parties.

Stakeholders	Expectations and Appeals	Communication Channels and Methods
 Government and regulatory agencies	<ul style="list-style-type: none"> Ensuring legal and compliant operation Supporting economic development Supporting rural vitalization Contributing to carbon peaking and carbon neutrality goals Supporting smart transportation 	<ul style="list-style-type: none"> Daily reports, communication, and assessment Inspections and instructions Work meetings Annual reports
 Shareholders and investors	<ul style="list-style-type: none"> Protecting shareholders' rights and interests Improving corporate governance Improving profitability Strengthening risk management Disclosing business information 	<ul style="list-style-type: none"> Shareholders' Meetings Regular and interim reports irm.cninfo.com.cn Investor hotlines Activities of "Investor Day"
 Customers	<ul style="list-style-type: none"> Building safe, smooth, and comfortable roads Providing quality services Strengthening R&D and innovation Disclosing business information 	<ul style="list-style-type: none"> Expressway travel announcements Communication with staff at toll stations and service areas Service area complaint hotlines Customer service hotlines Industry forums Regular and interim reports
 Partners	<ul style="list-style-type: none"> Ensuring continuous and stable cooperation Carrying out supplier management Strengthening R&D and innovation Contributing to the development of the industry 	<ul style="list-style-type: none"> Business cooperation and daily communication Supplier communication channels Forum participation and cooperation Formulation of industry standards
 Employees	<ul style="list-style-type: none"> Protecting employee rights Ensuring occupational health and safety Supporting employee development Enhancing employee wellbeing 	<ul style="list-style-type: none"> Trade union and activities Staff training programs Festival-themed events and visits
 Communities	<ul style="list-style-type: none"> Supporting economic development Contributing to rural vitalization Contributing to carbon peaking and carbon neutrality goals Supporting smart transportation Disclosing business information 	<ul style="list-style-type: none"> Charity activities Regular and interim reports Forum participation and cooperation Social media publicity

Materiality Assessment

CMET has conducted materiality analysis by referring to international and domestic ESG-related standards, macro policies, and industry practices. We also take in account the Company's business diversification as well as the opinions of internal and external stakeholders.



Well-run CMET: Consolidating the Governance Foundation

CMET continues to deepen enterprise reform and truly implement the modernization of management systems and capabilities. As a listed company, we continuously improve the operation of the Shareholder's Meeting, the Board of Directors, and the Board of Supervisors. We have won 8 capital market awards. We focus on the overall requirements and strategic goals of the "14th Five-Year Plan", promote the integration of risk management and business operations, and establish a long-term mechanism for risk management. We continue to work on high-quality Party building in the new era, and demonstrate political responsibility.

Performance Highlights In 2022

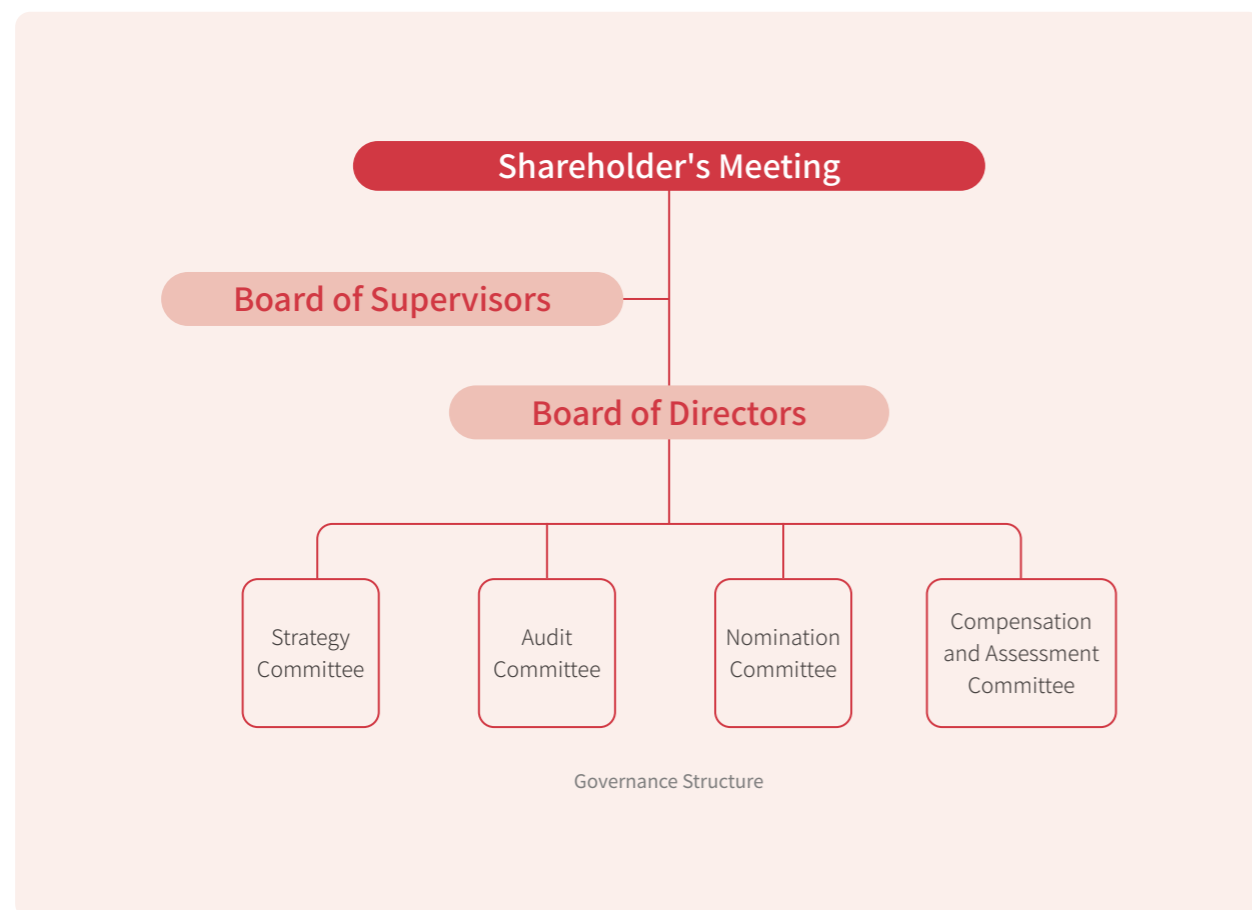
- **108** proposals reviewed by the Shareholder's Meeting, the Board of Directors, and the Board of Supervisors
- **100** % compliance audit rate for regulations, rules, and laws
- **0** integrity risk incidents



Corporate Governance

CMET firmly believes that good governance is necessary to achieve sustainable operation. We continuously optimize our governance structure, compliance and risk control system, communication capability and standardized operation, promoting the deep and concrete development of high-quality operations of CMET.

In strict compliance with the *Company Law of the People's Republic of China*, the *Guidelines for Articles of Association of Listed Companies*, the *Shenzhen Stock Exchange Listing Rules* and other laws and regulations, we continuously improve the corporate governance structure and standardize our operation based on the actual situation of the Company. There are currently 12 directors in the Company, including four independent directors and one female director. And there are currently three supervisors, including one employee supervisor. In 2022, the Company held 13 meetings of the Board of Directors, 11 meetings of the Board of Supervisors and five shareholders' meetings, with 108 proposals reviewed.



Investor Relations Management

Upholding the principle of "Going Out and Bringing In" and focusing on delivering our value in investor communication, we welcome all investors equally, ensure fairness and consistency in communication, and build a smooth interactive channel between CMET and investors by means of online, offline and telephone performance briefings. In 2022, we maintained 100% timely response to the questions on the irm.cninfo.com.cn and received the top grade (A) in the information disclosure assessment from SZSE for the fourth consecutive year.

We attach great importance to information disclosure and fulfill our responsibility by striving for excellent information disclosure. In 2022, we issued 180 public announcements.

Risk Management

The Company strictly adheres to relevant laws and regulations and constructs a sound compliance and risk prevention system based on actual conditions. The Company continues to improve the construction of long-term mechanisms in compliance and risk management, internal control, auditing supervision, intellectual property management, and anti-corruption, promoting the integration of risk management and business operations.



Compliance and Risk Management

We have formulated and implemented a work plan for the Compliance Management Enhancement Year to make continuous improvement. The Company establishes a Chief Compliance Officer and a Risk Management Committee, in response to the requirements of the SASAC and implemented risk event management based on the principles of "Hierarchical Control and Comprehensive Coverage". In 2022, the Company conducted a special contract inspection for its departments and subsidiaries, inspected over 200 contracts and more than 5,000 items, discovered 9 types of issues, and formulated rectification reports and contract management guidelines, while supervising the implementation of rectifications. The Company officially launched and promoted the use of a risk management platform, taking a critical step towards digital and information-based risk management transformation.

The Company continues to conduct compliance training, innovates compliance culture promotion, and organizes activities such as law awareness campaigns and online knowledge competitions in conjunction with National Intellectual Property Week, National Security Education Day, and Work Safety Month. Additionally, the Company publishes an electronic journal on compliance and risk management.



Internal Control and Audit Supervision

We regularly organize our headquarters and subsidiaries to review and streamline the existing internal control system, and revise and supplement some of the systems based on the business development situation, in order to establish a standardized system applicable to the expressway operation company, and further improve the standardization and process of internal control system. We are also promoting the construction of an internal audit system, specifying the Chairman's responsibility for audit work, and strengthening the organization and leadership of the audit work. An auditing system has been launched, with two modules for tracking and responsibility for irregular business investment, and auditing and rectification, where relevant audit projects and irregularities can be recorded.



Intellectual Property Management

We attach great importance to the protection of intellectual property rights (IPRs). Strictly abiding by the *Intellectual Property Law* and other laws and regulations, we implement the guiding principles of "Comprehensively Strengthening the IPR Protection" to respect the IPRs. We review the IPR-related contracts of technical cooperation to avoid legal compliance risks caused by the infringement of IPRs. In 2022, we reviewed all trademarks, patents, and other intellectual properties in our legal system.



In 2022

17 legal compliance trainings organized by SASAC and CMG

with **5** legal compliance trainings organized by CMET

1,500 participants in total

100% compliance audit rate of laws, regulation and rules

13 audit projects

6 internal special audit projects

100% coverage of major investment project audits

| Integrity and Anti-corruption

The Party Committee of CMET fully supports the Discipline Inspection Commission to exercise oversight, enforce discipline, and ensure accountability and works to build a mechanism that anyone dares not, cannot and does not want to be corrupted, striving to create a political environment with clean and upright atmosphere. We have established a supervision system of anti-corruption and integrity, a comprehensive supervision system, and a coordination task force for Party conduct and integrity to the working mechanism of "Respective Responsibilities, Shared Information, Coordinated Priorities, Interacted Promotions, Complementary Methods, and Comprehensive Supervision", each functional department summarizes the supervision situations, judges the supervision priorities, and coordinates the supervision forces.

We value the talent team in disciplinary inspection and supervision. In 2022, we organized nearly 100 officials from various levels of discipline inspection, supervision, and party affairs, as well as auditing, to participate in professional trainings, continuously improving discipline inspection and supervision work.

The Company discloses the whistleblowing channels, collects information from five sources: Discipline Inspection Committee of the higher level, Discipline Inspection Committee at the same level, inspection feedback, audit, and public feedback, and comply with the whistle-blower protection system.



Whistleblowing channels for discipline inspection:

Email address: zsgljw@cmhk.com

Address for mailed letters: Discipline Inspection Commission Office, F/31, China Merchants Tower, No. 118 Jianguo Road, Chaoyang District, Beijing.

Party Building

By learning and promoting the guiding principles of the 20th CPC National Congress, the Party Committee of CMET implements President Xi Jinping's important remarks on the reform and development of SOEs and Party building, and grasps his important instructions made on the 150th anniversary of CMG. The Party Committee highlights the topic of "High-quality Party Building Ensures Better Sustainable Development", and strengthens political guidance, broad consensus, and organizational mobilization to deepen Party building.

| Studying and Implementing the Guiding Principles of the 20th CPC National Congress

Armed with theory and loyal to faith. A total of 4,700 cadres and employees gathered to watch the opening ceremony of the 20th CPC National Congress live. The decisions of Party Central Committee is conveyed and relevant study schedules is made in a timely manner. We also formulate a special work plan for studying and implementing the guiding principles of the 20th CPC National Congress, with 2,622 books purchased to facilitate the study. We carried out 12 study sessions of the central theoretical study group of the Party Committee and 18 sessions on the "Top of Agenda". Party Committee members gave 13 lectures at the front line, mobilizing the vast majority by critical minority's efforts.

Grasping the essence of the guiding principles and remembering the responsibility and accountability. We held a vocational skills competition for employees to celebrate the successful convening of the 20th CPC National Congress, organized 381 special and joint training activities, and attracted 11,534 Party members, Communist Youth League members, etc. to make them fully aware of their positioning and key role in serving the country. We exempted RMB 11.1 million rent for small- and medium-sized


In 2022

22 warning education meetings held

with **61,500** participants in total

0 integrity risks incidents

enterprises (SMEs) and reduced 10% of tolls, or RMB 250 million for truck drivers. We initiated a caring campaign called "Together with CMET" for truck drivers, assisted Pingyuan Village in Weining County to support rural vitalization, and implemented the C-GREEN Education Program. All these practical actions demonstrated our social responsibilities and commitments.

Serving national strategies and motivating ourselves to forge ahead. Under the strategy of building a country with a strong transportation network, we implemented the digital strategy, and finalized the "HOPE 3.0" planning. We faithfully delivered the central government's requirements on ensuring smooth logistics and stabilizing supply chains, and thus, we won several influential awards in quality and efficiency improvement, business management, capital market, work safety, and corporate culture.



The visit to the 20th CPC National Congress Thematic Exhibition



Primary-level Party Organizations Watching the Opening Ceremony of the 20th CPC National Congress Live

| Party Building Brand

CMET's Party Committee promotes Party building by upholding the spirit of reform and innovation. By reforming our concepts, paths, motivators, and mechanisms, we strive to be exemplary in deepening the reform of SOEs, serving national strategies, and fulfilling social responsibility as a central SOE. Gradually, we have shaped the "Three Advantages and Three Strengths" quality Party building model. As a result, we have been granted the "First Expressway Industry Excellent Party Building Brand" award. The "Three Advantages" means that we aim to transform the advantage of Party leadership into the organizational advantage, talent advantage and development advantage of the Company, and the "Three Strengths" means that good Party building enhance our productivity, competitiveness, and cohesion. The model shows the CMET's brand vision of "Serving Travelers and Following the Party" and promotes the integration of Party building and business operation.




Case

"Ascent Plan" stimulates motivation in CMET

CMET has been implementing a campaign called "Ascent Plan" comprehensively for three consecutive years and fostering a people-oriented and performance-oriented culture in four aspects, namely, from pilot, to individual, team and youth group. By the end of 2022, 77 teams (a total of 3,194 participants) had participated in the Plan. With the Party members playing the leading role, we have created various leading products such as the lean management platform for expressway digital operation. We have been recognized "Central SOE Work Model", "Central SOE 'Two Excellent and One Advanced'", "National Science and Technology Progress Award", "China's Most Charming Expressway Worker" and "China's Most Charming Female Expressway Worker", laying the foundation for high-quality development and making Party building lead employee career development and corporate development.

Quality CMET: Leading the Era with Craftsmanship

CMET contributes our expertise to China's development and prioritizes the safety, smoothness, and service of expressway assets in important areas. With a belief of "Making Every Attempt to Maintain Sound Traffic Conditions", we build an expressway safety network supported by staff, resources, and technologies and advance steadily in traffic safety with a record of zero major liability accidents. In addition, we standardize expressway maintenance, and manage the whole life cycle of maintenance projects. Regarding technology and innovation as the driving forces of high-quality development, we focus on smart expressway operation and empower traffic safety with advanced technology. Our employees serve customers with smiles, offering with our quality services.

Performance Highlights In 2022

- **0** occupational fatalities
- **216** emergency drills
- **1,924** safety training sessions
- **99%** satisfaction rate of obstacle clearance
- **0** cybersecurity incidents
- **100%** customer complaint resolution rate



Better Travel Experiences

Safety is the best service. With stricter standards and more detailed requirements, the Company enhances work safety standardization and builds a safety management system. Focusing on the challenges and risks in traffic safety and smoothness, we have improved our comprehensive management and emergency response to maximize road use efficiency and service functions, showing that convenient and beneficial traffic services are our priority.

| Safe Operations

We put the people and their lives above all else. With protection of people's lives and safety as our priority, we are committed to the concept of safe development and adhere to the policy of "Safety First, Giving Priority to Prevention, and Comprehensive Management" to prevent and mitigate major safety risks from the root causes.

Improving the Safety Management System

CMET establishes a work safety management mechanism of "Unified Leadership, Hierarchical Management, Classified Guidance, Main Responsibility, and Full Participation" and a work safety management structure with the Work Safety Management Committee as the leading body. The Company includes work safety management in its strategic planning, operational planning, and performance evaluation and management system. The Company systematically promotes safety inspections, based on inspection results, we develop standardized management rules and regulations from four aspects, namely road construction, dangerous operations, special operations, and traffic safety. In 2022, the Company also added four new regulations, including the *CMET Fire Safety Management Measures*, and revised four existing regulations, including the *CMET Administrative Regulations on Work Safety*. These regulations are aimed at safeguarding the work safety of the Company by focusing on intrinsic safety.

To improve our abilities to respond to safety risks, we compiled the *Safety Risk Manual* to assess risks in fields such as road maintenance, toll stations, service areas, bridges and tunnels. We conducted detailed analysis of risk such as overloaded and oversized vehicles, roadblock clearance delays, and concentrations of personnel, vehicles, and dangerous goods in service areas. Correspondingly, measures were taken to prevent and control above-mentioned risks. Meanwhile, based on the technical specifications issued by industry authorities, we provided a reliable reference for front-line operators.

Besides, we have fostered our safety culture by organizing special training, knowledge competitions, work safety lectures, and evaluation competitions for internal trainers to raise all employees' safety awareness.

In 2022

0 occupational fatalities

0.70 accidents per million vehicle kilometers

Case Beijing-Tianjin-Tanggu Expressway: a first-class safe expressway in the industry

As one of the core channels of the Beijing-Tianjin-Hebei region and an important gateway to China's capital, the Beijing-Tianjin-Tanggu Expressway pursues industry-leading safety standards featuring "Zero Violations, Zero Accidents of Liability, Zero Injuries" and promotes safety in people, roads, and travel. Under the work safety policy, we require every employee to shoulder their responsibilities and build a sound and professional safety management system. In line with the principle of addressing underlying issues and improving the whole system, we optimize the safety management systems, rules, processes, and procedures and make our mechanisms more adaptable and enforceable, which lays a lasting and strong safety foundation for sustainable corporate development.



Beijing-Tianjin-Tanggu Expressway Standardized Work Safety System



Beijing-Tianjin-Tanggu Expressway Building a First-class Safe Expressway in the Industry

Investigating and Removing Hidden Hazards

The Company is advancing a three-year special campaign for work safety rectification, implementing "Fifteen Measures for Work Safety", strengthening rectification of hidden dangers and risk management in key areas and critical processes. Based on the results of hazard identification, two documents were developed: *Classification of Work Safety Accident Hazards* and *Checklist for Hidden Dangers in Expressway Operation Posts*. These documents will provide a solid foundation for further guiding and conducting risk grading prevention and control, as well as hazard identification and treatment work.



Special Actions to Investigate Hidden Safety Hazards

Case Tunnel intelligent management platform contributes to traffic safety

Despite their importance to expressways, tunnels are beset by problems like threats to people's health and traffic safety posed by pollutants, more obvious fire risks and fire rescue challenges, and higher energy consumption for lighting.

Drawing on data as a key element, CMET develops an intelligent management and control platform for expressway tunnels to ensure traffic safety and optimize user experiences. The system reduces the emergency response time to no more than three minutes for urgent events such as fire, traffic accidents, traffic congestion, and hazardous chemical leakage. The system features 100% connected control of mechanical and electrical equipment. It allows remote control of equipment, inspections, and emergency drills, with 14 categories of equipment for remote control and inspection and eight emergency drill scenarios. Tunnel lighting, consisting of three modes of daytime, dusk, and night, is automatically adjusted to facilitate the travel of drivers. The energy-saving rate is increased by 23.29% without changing lamps or adjusting their installation height. The harmful gases generated in daily operations can be 100% compliant with regulatory standards.

This intelligent platform improves the comprehensive management and services of tunnels, ensures operational safety, and creates "Safe, Intelligent, and Green" expressway tunnels. By the end of 2022, the platform has been applied to 20 tunnels of CMET Chongqing subsidiary.

Improve Emergency Response Capability

CMET continuously promotes awareness of safety responsibility among all employees, improves the information reporting process and emergency response procedures for unexpected incidents, and refines the responsibilities of emergency response personnel. Emergency drills and rehearsals are conducted, and an "One road, Three parties" collaborative cloud platform is built to improve the efficiency of collaborations among traffic police, road administration, and Hindrance Clearance Service.

In 2022

99.5% of hidden hazards rectified. The corresponding preventive measures and rectification plans have been developed for those that were not rectified in the current year.

- Beijing-Tianjin-Tanggu Expressway was selected as the best practice case for the "Second National Enterprise Safety Culture Best Practice Case".

	Unit	2022	2021
Investigate and control potential safety risks	/	731	768
Carry out emergency drills	time	216	220
Carry out safety training	session	1,924	2,144
Safety training participants	person-time	32,449	34,177

Case Government-enterprise cooperation in emergence drills for transportation accidents involving hazardous chemicals

On June 16, 2022, CMET Guilin subsidiary, together with over 20 agencies such as the Yangshuo County People's Government, Yangshuo County Public Security Bureau, Yangshuo County Emergency Management Bureau, Guilin Traffic Officer Team, and Guilin Road Development Center, carried out the Yangping (Yangshuo-Pingle) Expressway Bridge transportation emergence drill. The location was the Puli Lijiang Bridge of the Yangshuo-Pingle section of the G59 Huhhot-Beihai Expressway. The drill improved the efficiency of expressway emergency rescue and coordination among different agencies. It also enhanced the awareness of risk prevention and sharpened rescue skills of the public. Through the drill, CMET's response capabilities to frontline accidents was strengthened, so was the emergency coordination of the command center and traffic resumption. The drill helped to create safe expressways and protect people's safety and property.



Yangping Expressway Bridge Drill on Transportation Emergencies Involving Hazardous Chemicals

Smooth Traffic

CMET regards an orderly, smooth, efficient, and thoughtful expressway network as an integral part of building satisfactory transportation. Hence, we strengthen research and analysis in advance, improve the emergency response mechanism, and intensify our innovative practice on controlling super-saturated traffic. We bring together the resources of each expressway, explore the collaboration among different regions and among social forces, to alleviate the pressure brought by holiday heavy traffic, thus improving the efficiency of road networks constantly.

Classified and targeted measures	Rapid congestion alleviating measures	24-hour communication and collaboration	Toll station management
Taking targeted measures, including reasonable on-duty shifts and full allocation of personnel and equipment during heavy traffic periods such as the Spring Festival and at congestion-prone tunnels to ensure smooth traffic during holidays	Eliminating factors that lead to congestion, increasing inspection intensity and frequency, carrying out staggered inspections, and focusing on key areas such as roads, bridges, culverts, tunnels, and toll station entrances, so as to ensure good conditions of expressways and create a safe traffic environment	Implementing a 24-hour on-duty system and a leader-in-charge shift system, reporting duty information, road condition information, and work safety information on time, and ensuring the smooth communication of all information reporting channels	Improving emergency plans and access to toll stations, optimizing the proportion of ETC and MTC lanes according to the principle of "One Station, One Policy" to ensure the maximum traffic capacity of toll stations and minimize the impact of large traffic volumes during festivals

Heavy Traffic Smoothness Guarantee Measures

In 2022

Pavement Quality Index (PQI)	Road maintenance input	Proportion of Type 1 and 2 bridges
93.52 points	195 million yuan	100%
Arrival rate of congestion-alleviation and obstacle-clearance within 20 minutes	Arrival rate of congestion-alleviation and obstacle-clearance within 30 minutes	Average clearance time
81%	95%	26.50 minutes
Obstacle clearance	Number of obstacle-clearance and rescue stations along expressways	Satisfaction rate of obstacle clearance
28,006 times	38	99%

Case A "One Road, Three Parties" model enables efficient expressway collaboration

For a long time, it's been common practices for expressway traffic officers, road administrators, and operators to run independently according to their respective regulations and requirements, resulting in insufficient resource integration, delayed response to accidents, inefficient coordination, and lack of joint management.

To address these problems, CMET has put in place four major systems: comprehensive road sensing, configurable automatic early warning, strategic intelligent prevention and control, and rapid multi-party coordination. We develop a collaborative command and dispatch cloud platform called "One Road, Three Parties", integrating functions of comprehensive monitoring, intelligent control, information release, decision-making analysis and App to make better collaboration among expressway traffic officers, road administrators, and Hindrance Clearance Service.

By the end of 2022, the collaborative command and dispatch cloud platform has been deployed in 65 expressway sections in 10 provinces and cities, covering over 6,500 km of expressways. As the platform is increasingly adopted, the proactive perception rate of abnormal events averages over 95%, the reporting time for abnormal events is within 3 seconds, the response time for traffic abnormal events is within 2 minutes, and the efficiency of police and enterprise collaboration in handling is increased by more than 30% year on year.



"One Road, Three Parties" Collaborative Command and Dispatch Cloud Platform

Smarter Digital Technology

Guided by the innovation concept of "Openness, Inclusiveness, Foresight, and Pragmatism", CMET takes a value-oriented approach and embarks on the path of smart expressway innovation and incubation. The Company actively lays out digital transformation and development, and formulates the *CMET Digital Transformation Development Plan*, adhering to the strategy of innovation-driven development and empowering digital transformation through innovative R&D.

| Digital Transformation

Focusing on technology innovation, CMET concentrates all its efforts on intelligent transportation technology, especially in fields such as the "HOPE 3.0" digital expressway operation and management platform, vehicle-road coordination, smart toll station, and free-flow tolling to integrate technology into the development of expressways.



Free-flow tolling lanes

- Realizing breakthroughs in three key models of ETC fast passage, vehicle identification, and special vehicle information recording
- Developing cloud-based toll stations, free-flow tolling systems, and internal and external pilot programs
- Reducing ETC transaction time by 20%, with special vehicles passing quickly and paying late, and the information recording rate is 99.99%. The model being applied in provinces such as Hunan, Jiangxi, and Guangdong
- Improving traffic efficiency and travel experience and ensuring IT-based and smart road traffic

Smart toll stations

- Upgrading online charging, creating flexible customer services, and putting in place customer service support to ensure timely response
- Placing toll-collection robots and unmanned and manned charging services to reduce labor costs and improve the efficiency of handling special situations
- Interacting with drivers through the cloud customer service platform and improving the efficiency of problem-solving and the safety of on-site staff in a new model of smart stations

Digitalization Measures

Case Smarter "HOPE 3.0" supports lean management

The "HOPE 2.0" helped CMET standardize operation and management. In 2022, building on "HOPE 2.0", the Company completed the planning of the "HOPE 3.0" digital expressway operation and management platform, which brought together data relating to expressway maintenance, operation, and tolling to lay the groundwork for lean, collaborative, and intelligent operation and management.

Case Achievements of a pilot project prompted for the Building a Strong Transportation Nation Initiative

It is CMET's vision to realize intelligent safety management of expressways, delicacy operation, on-demand travel services and green energy supply and be a leader in smart expressway development in the new era. Accordingly, the Company started a project of "Research and Application Demonstration of Key Technology for Smart Expressways Based on Green Energy", which was listed as a pilot project for Building a Strong Transportation Nation Initiative. In 2022, the Company conducted research on comprehensive green energy services and profitable power trading models for service areas. We explored the feasibility of "Generating Green Power for Self-consumption and Selling Surplus Electricity to the Grid", offering green electricity to expressway users. The project has been implemented at the Qilihai service area in Tianjin City.

In 2022

The pilot project of "Automated Driving in Expressway Freight Transport from Tianjin Port to Majuqiao Logistics Park" was selected as one of the first batch of pilot projects of intelligent transportation.

Cybersecurity

With the rapid development of emerging technologies, such as cloud computing, big data, and the Internet of Things, the digital transformation of expressways has led to changes in network architecture and increased management difficulties with diversified access. In this context, the existence of a high-risk vulnerability may result in unreliable services or partial functional failures of the entire system, causing great harm.

The Company heightens the cybersecurity awareness of all employees, guarantees the implementation of cybersecurity responsibilities at all levels, and establishes all-staff-involved cyber defense and a high-quality cybersecurity architecture to support the digital transformation of CMET. In 2022, the Company reduced risks through technological means, completed security reinforcement of multiple systems such as HOPE, and ensured information and data security. A total of 2,028 weak points were discovered and repaired in a timely manner, effectively reducing the risk of data leakage and safeguarding the security of private data. After the thorough inspections of cybersecurity risks and hidden hazards, 412 cybersecurity issues or dangers were rectified.

In 2022

0 cybersecurity incidents

Higher Service Quality

Adhering to the philosophy of "Jointly Creating Harmonious Expressways with Warm and Caring Services", the Company constantly improves the service of toll stations and service areas, builds a brand of services with smiles, and contributes to the building of excellent transportation.

Service Area Building

CMET continues to improve the infrastructure of the service area, adding gas stations, natural gas fueling stations, and charging stations to meet the basic needs of travel. We ensure that service areas offer augmented services to benefit drivers, passengers, local community and residents.

Empowering local development	Supporting merchants	Providing accessible facilities	Providing convenient facilities
Providing local tourism information for tourists at service areas to promote the development of local tourism and setting up featured booths at service areas to provide distribution channels for local agricultural products sales	Offering operation and management know-how for merchants, sharing experiences in establishing practical marketing strategies with merchants on major holidays, and offering merchants rent incentives and relevant rent concession policies	Setting up nursing rooms equipped with smart trash cans and smart water heaters for parents to take care of the baby during travel, and installing special-purpose toilets with automatic doors to better serve the needs of disabled individuals	In order to meet the basic living needs of drivers such as eating, drinking, taking breaks, laundry, and showering, improving the infrastructure of service areas, and creating a driver-exclusive supporting area to optimize services

Measures to Improve the Quality of Service Areas



Case Cangnan Service Area creates high-tech travel experiences

The Cangnan Service Area, also known as the "Southern Gateway" of Zhejiang Province, is the first smart service area in Zhejiang. Rated as a "Five-star" Service Area in 2020, the service area adopts the Internet, Internet of Things, and cloud computing to realize real-time monitoring of the service area environment and business data, offering whole-process intelligent services for drivers and passengers. It thus realizes digital and smart operation and management.

The service area perceives the parking space supply and demand situation in real-time, and intelligently guides large and small vehicle drivers to park quickly and conveniently in different areas, improves parking space utilization, and meets the demand for high-quality travel information services. An one-click alarm alerts the security service center in the event of an emergence, allowing swift handling and guaranteeing the personal and property safety of drivers and passengers. Service area video AI automatically recognizes hazardous chemical vehicles entering and promptly alerts any violations to parking regulations, improving daily management efficiency. Timely identification of packed lobby areas allows staff to quickly disperse the crowd in an orderly manner, so as to improve customer experience and ensure public safety. Intelligent fire alarms are set in key places, constantly monitoring fire channels, safety exits, and key areas to improve fire safety management.



Cangnan Service Area

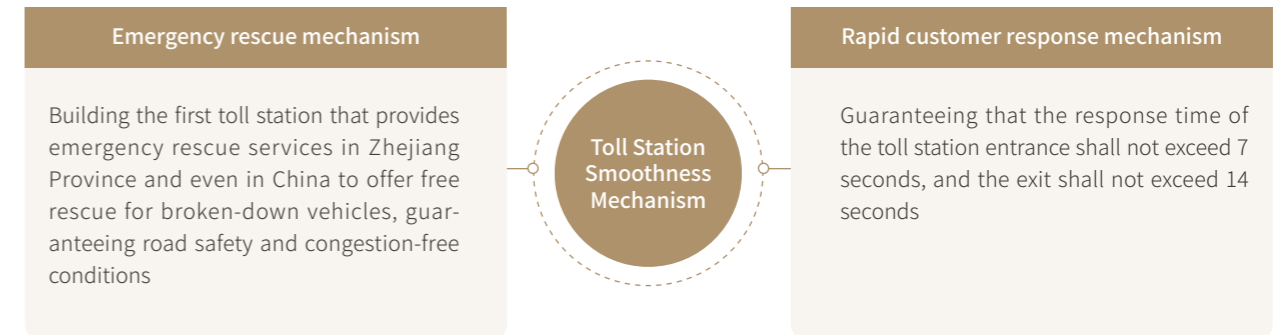
Case Cangnan Service Area creates a national 5A "Drivers' Home"

The Cangnan Service Area of the G15 Ningbo-Taizhou-Wenzhou Expressway has won the honor of the national 5A-level drivers' home. This is the highest honor recognized by the China Highway and Transportation Society.

In the process of building the "Drivers' Home", Ningbo-Taizhou-Wenzhou Expressway focused on sustainable development and followed high-level service area standards by upgrading hardware and software facilities. After the renovation, Cangnan Service area adopts a layout of separated driving routes for passenger and cargo vehicles, increasing parking spaces by 50%, and increases the total number of toilets to 240. Other facilities such as changing rooms, lockers, and indoor and outdoor rest areas, are well equipped. To meet the diverse needs of drivers, the service area set up a driver-exclusive section with facilities such as a driver washing area, a laundry room with drying function, and independent showers with solar and air energy water heaters. These facilities are open to drivers 24 hours a day, making their stay in the service area feel home.

Toll Station Operation

CMET has developed and implemented the *Expressway Smile Service Standards*. We work to create caring and convenient toll environment and offer kind and considerate services for drivers and passengers by standardizing the tolling process and services. The *Management Measures of Complaint Handling for Standardized Operation and Management* is also released to clarify the channels and processes for handling various types of complaints, and ensure timely and effective response to customers' feedbacks and complaints, which will help establish a good image. Additionally, we have established a traffic smoothness mechanism and a corresponding emergency response plan to enhance the cooperation between road administrators and officers, in an effort to maintain traffic order at the toll booths and expressways and ensure safe traffic.



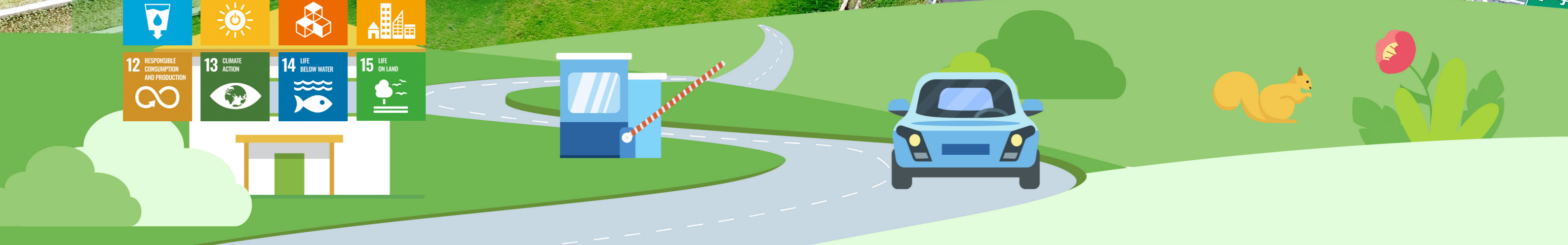
	Unit	2022	2021
Number of customer complaints	/	565	661
Customer complaint resolution rate	%	100	100
Tolls waived on major holidays	thousand yuan	250,960	371,520
Tolls waived for fresh agricultural products expressway green channels fees	thousand yuan	203,790	231,500

Green CMET: Safeguarding a Beautiful Environment

CMET is deeply committed to promoting ecological conservation and serving China's carbon peaking and carbon neutrality goals. With the goal of building a resource-saving company, we promote energy and resource conservation, address climate change, conserve biodiversity, and advocate green and low-carbon transformation. Seizing opportunities brought by China's carbon peaking and carbon neutrality goals, we strengthen the research and application of green expressway maintenance technology, engage in renewable energy projects, and adopt digital and intelligent technology to cope with challenges caused by adverse weather conditions and guarantee smooth operation, striving to turn CMET's innovative technology into industry solutions.

Performance Highlights In 2022

- **0** environmental pollution accidents of general or above degree and violations of energy conservation and environmental protection regulations
- **7,570** kWh clean electricity used
- **31,858.2** MWh photovoltaic power generated at the Feng County Power Station
- **7+20+11** application scenarios for the severe weather management and control platform
- **36,407** m² plant communities established in the Leishan Lake Leishan Port and Shijiahu Harbor projects of comprehensive water environment treatment



Green Operations

CMET regards the construction of green expressways as an important pillar for deepening the concept of green development and supporting the Beautiful China initiative. Green and low-carbon concepts are integrated into the Company's daily operations through efforts in formulating a low-carbon development strategy, improving energy and resource conservation, and promoting the research of green expressway maintenance technology and layout in the new energy industry.

Low-carbon Strategy

In response to China's carbon peaking and carbon neutrality goals, we formulate the *CMET Low-carbon Strategy* for serving the country and industry and leveraging the unique characteristics of the Company. Our strategy is to reduce carbon emissions in main business, cultivate clean energy, and serve green transformation. Strategic goals and measures center on ESG business, expressway emission reduction, and clean energy development with supportive measures in organization, human resources, finance, and risk control. These efforts help standardize energy conservation and carbon reduction in a systematic way.

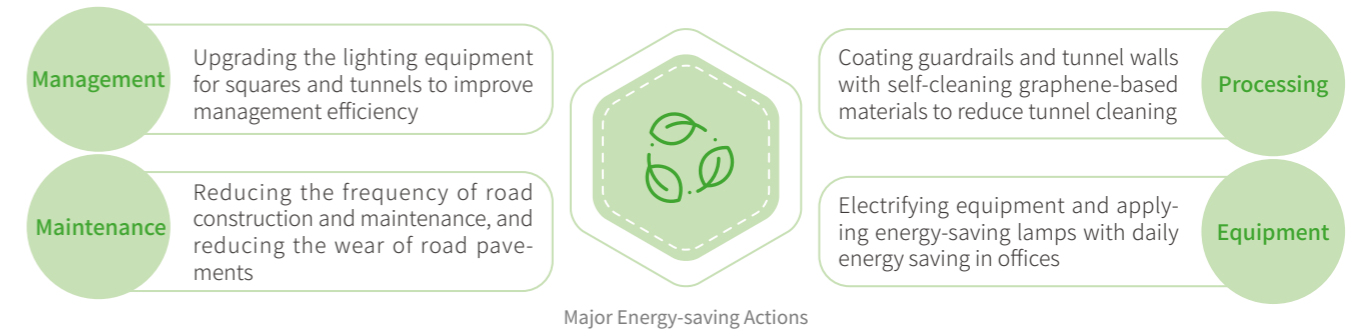
	Unit	2022	2021
Direct GHG emissions (Scope 1)	tCO ₂ e	3,625.60	6,696.18
Indirect GHG emissions (Scope 2)	tCO ₂ e	33,604.48	36,205.24
Total GHG emissions	tCO ₂ e	37,230.08	42,901.42
GHG emission intensity	tCO ₂ e/million yuan	4.32	5.17

Energy and Resource Management

With the goal of building a conservation-oriented enterprise, CMET improves the energy-saving management system, clarifies responsibilities of energy management, and specifies requirements and standards for the entire process of energy utilization, gradually shaping a long-term energy-saving management mechanism. We raise energy efficiency, control consumption, and implement responsibilities and supervision to guarantee effective energy conservation and emission reduction. In 2022, the Company did not register any energy conservation and environmental protection violations of general and above degrees.



Energy-saving Management and Operation Mechanism



		Unit	2022	2021
Direct energy consumption	<i>Liquefied petroleum gas</i>	ton	7.15	6.89
	<i>Natural gas</i>	m ³	325,616.80	403,719.45
	<i>Gasoline</i>	ton	598.04	1,254.37
	<i>Diesel</i>	ton	430.31	618.47
Total direct energy consumption		tce	2,147.61	3,101.12
Direct energy consumption intensity		tce/million yuan	0.25	0.37
Indirect energy consumption	<i>Electricity consumption</i>	kWh	56,465,165.63	57,276,087.60
Total indirect energy consumption		tce	9,078.16	9,893.07
Indirect energy consumption intensity		tce/million yuan	1.05	1.19
Water consumption		ton	909,372.28	412,478.60
Water consumption intensity		ton/million yuan	105.42	49.71



| Green Maintenance Technology

The Company introduces advanced road maintenance technology and scientific maintenance methods, deepens research on green maintenance technologies such as modified asphalt, and promotes hot in-place recycling and rubberized asphalt pavement in subsidiaries and road sections. Waste materials are recycled and maintenance emissions are reduced. In 2022, Ningbo Merchants Highway Transportation Technology Co., Ltd. adopted the waste rubber powder composite modified asphalt technology and recycled 125.90 tons of waste rubber tires, setting an example of alleviating environmental stress.

Case Hot in-place recycling reduces carbon emissions from road maintenance

The Guilin subsidiary apply hot in-place recycling, which features less pollution and shorter maintenance time than conventional techniques. Hot in-place recycling can reduce up to 84,960 tons of sand and gravel, 4,248 tons of asphalt, 113,280 tons of construction waste, 3,174 tons of CO₂, 12.44 million m³ of exhaust, and saved 6,301 tons of standard coal equivalent of energy in total. All old pavement materials are recycled. The application of hot in-place recycling serves the expressway green development goals of energy conservation and environmental protection, green maintenance, high quality and efficiency, and resource conservation. The technology has won the special prize listed under the "Expressway Maintenance Engineering Innovation Cases" issued by the Management and Maintenance Branch of China Highway and Transportation Society.



Guilin Subsidiary Applying Hot In-place Recycling

Case New mode of traffic suspension at night reduces maintenance carbon emissions

In order to reduce fuel consumption during vehicle idling and low-speed driving and cut costs, congestion, and emissions, Ningbo Merchants Highway Transportation Technology Co., Ltd., a subsidiary of CMET, explored a new mode of traffic suspension at night in the section from Wuxiang Hub to Beilun Road. According to the 24-hour traffic data of the section, traffic was at its lowest point from 8:00 pm to 6:00 am, during which it was suitable to suspend traffic for construction. This mode has reduced congestion caused by maintenance and construction by more than 2,300 hours. Compared with conventional second-class road closure construction mode and 24-hour traffic suspension for construction mode, this innovative mode can reduce carbon emissions by 1,130 tons and 340.50 tons respectively.



Ningbo Beilun Port Expressway's Mode of Traffic Suspension at Night

| Clean Energy Development

By building a professional new energy platform that centers on expressway scenarios, the Company breaks into the green and clean energy industry and invests in the operation of distributed photovoltaics at expressway service areas, toll stations, tunnels, and port logistics parks to advance the development of clean energy. Distributed photovoltaic projects in places such as Dandong Port and Lianyung Port have been implemented.

As a new energy development platform of CMET, Huaqi Investment taps into the Company's expressway resources and its early know-how of photovoltaic power plant management and operation, and accelerates to develop distributed photovoltaic projects, centralized photovoltaic projects, new energy projects of transportation networks, expressway new energy integrated solutions, fixed battery charging and swapping scenarios in the expressway, and fixed distance solutions. Huaqi Investment is committed to becoming a professional clean energy investment and management platform, creating an integrated clean energy system with CMET features, and contributing to carbon peaking and carbon neutrality goals in the expressway industry.

In 2022

7,570 kWh clean electricity used

31,858.2 MWh photovoltaic power generated by Feng County Power Station

equivalent to a reduction of about

11,300 tons of standard coal

28,000 tons CO₂ emissions each year based on the average coal consumption of thermal power generation in China

in an equivalent of

43,000 trees planted each year



Case Developing the new energy business

CMET's Huaqi Investment Co., Ltd. promotes the Dandong Port distributed photovoltaic power generation project. Leveraging the resources of Liaoning Port, the project occupies about 150,000 m² of roofs and idle land in the living area of Dandong Port, with a total installed capacity of 15 MW and 1,100 available hours of sunlight each year. It is expected to generate about 1,650 MWh when connected to the grid in June 2023. The project is conducive to effective roof utilization and building energy conservation, offering possible solutions for green and low-carbon expressway development.

Case Supplying green electricity for Olympic Beijing 2022 Winter Games

China Merchants State Grid, a CMET-invested company, piloted green power supplies for the Yanqing-Chongli section of the Beijing-Chongli Expressway, a direct high-speed corridor between the Yanqing and Zhangjiakou Chongli competition venues of Beijing 2022 Olympic Winter Games. Specifically, a distributed photovoltaic power generation project with an installed capacity of 1,244 kW was put in place on some snow shelters over tunnel-connecting bridges and rooftops at Banquan Service Area. The project is expected to transmit an average of about 1,170 MWh green electricity each year, saving about 374 tons of standard coal and reducing CO₂ emissions by nearly 1,163 tons annually.



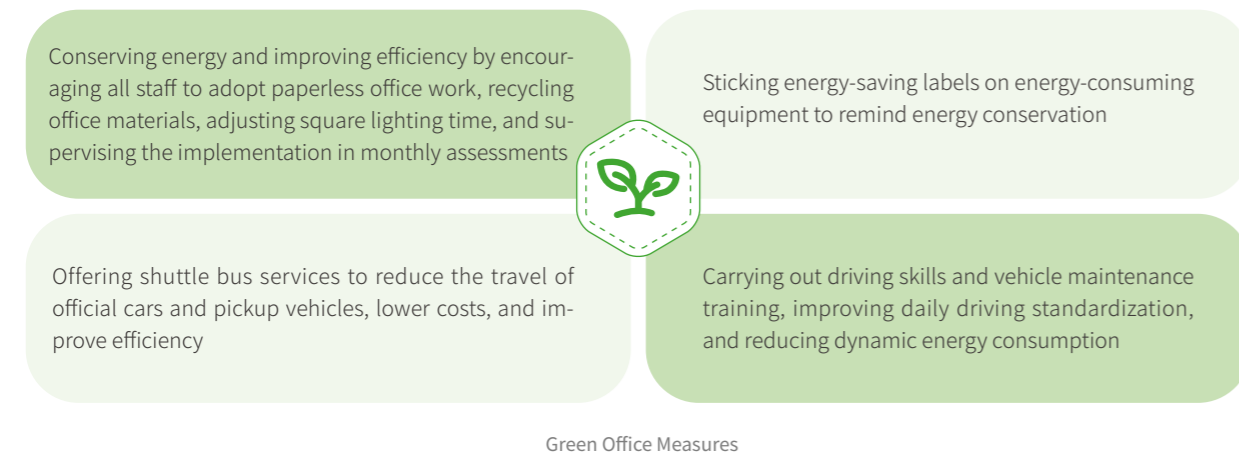
Rooftop Solar Panels of Beijing-Chongli Expressway Banquan Service Area



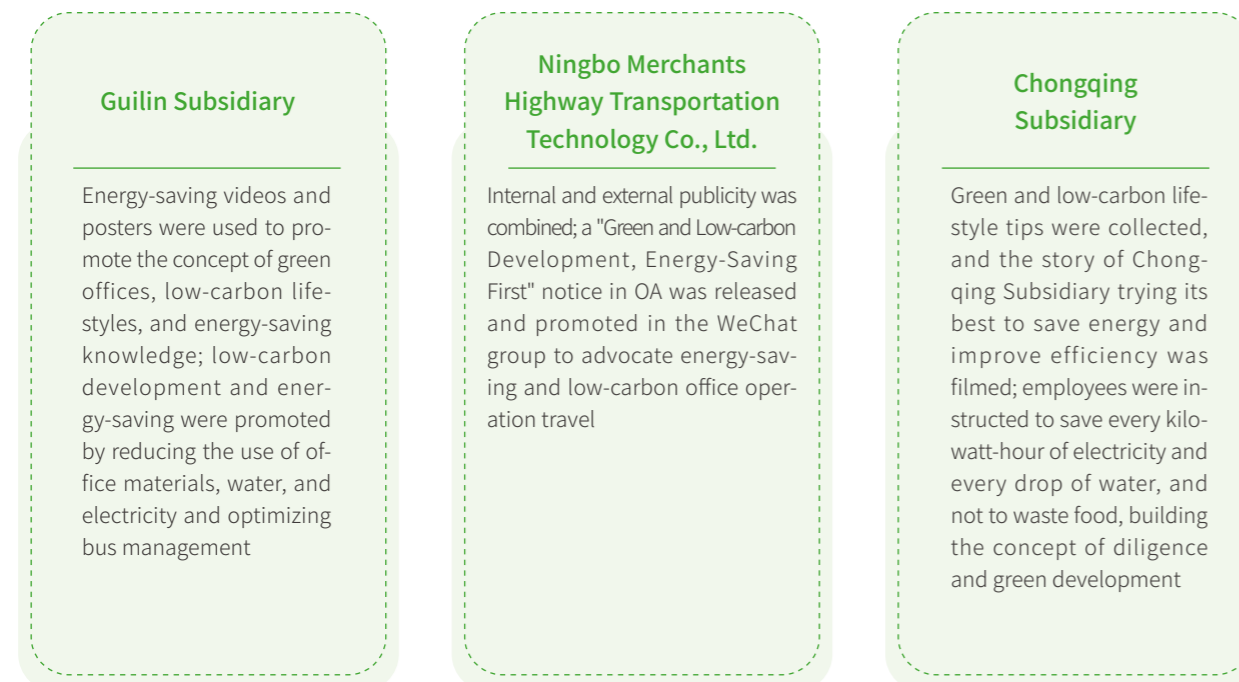
Rooftop Solar Panels of Beijing-Chongli Expressway Zhangshanying

| Green Offices

The Company carries out various educational activities on energy conservation and environmental protection, encourages employees to work and live green, and heightens their low-carbon awareness.



On the occasions of Earth Day, Energy Conservation and Environment Week, Environmental Protection Day, and National Low Carbon Day, the Company rolls out environmental protection campaigns with employees, the public, and other stakeholders. During the National Energy Conservation Publicity Week from June 13 to 19, 2022, the Company carried out publicity and education under the theme of "Prioritizing Energy Saving for Green and Low-Carbon Development", vigorously promoting green lifestyles and production.

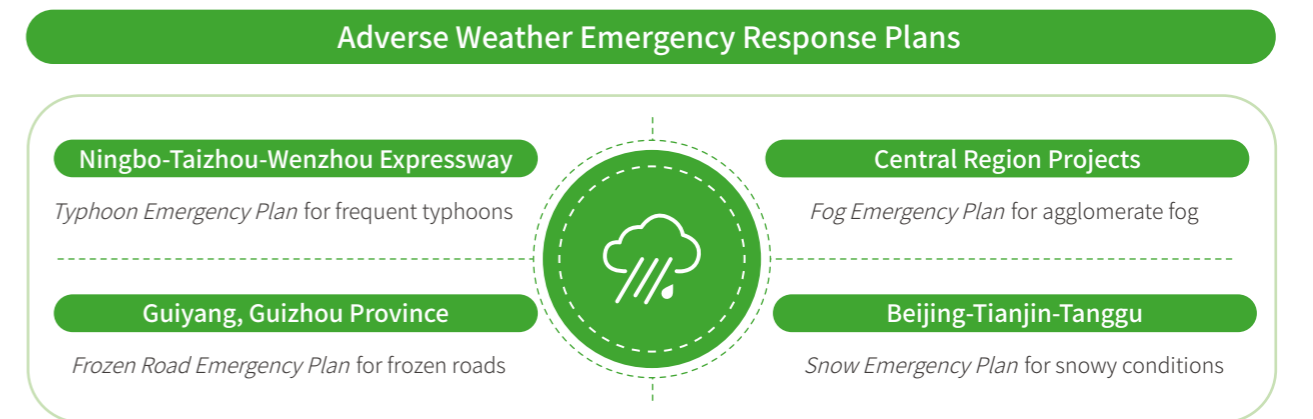


Addressing Climate Change

Deeply aware of the impact of adverse weather on expressway operation, we have established a bottom-up reporting and responding mechanism. Intelligent platforms such as "Police-Road-Enterprise" and "HOPE 3.0" are leveraged to address the consequences of adverse weather on expressway operation.

| Climate Change Management

To enhance the emergency response to climate risks, we run both integrated and special management mechanisms, formulate region-specific plans based on fog, typhoons, and frozen road conditions, make our adverse weather response measures timely and science-based, and properly handle risks and hazards caused by adverse weather to the operation of CMET's expressways and passenger travel.



Case Severe weather management and control platform enables smart management of adverse weather emergency plans

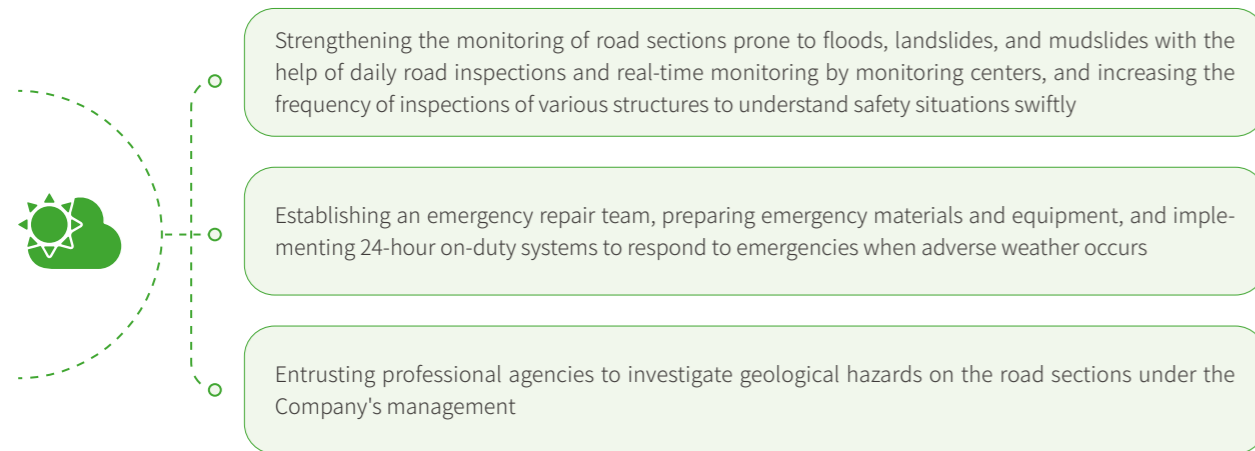
CMET has established a platform that forecasts, manages, controls adverse weather conditions, and offers services. The platform makes accurate weather forecasts, implements targeted measures, and integrates traffic safety equipment to alleviate expressway traffic problems under adverse weather conditions. Meanwhile, the Company commercializes the platform to provide intelligent solutions to weather emergencies for the expressway industry. The platform has made several important achievements:

- Cooperating with the Road Network Monitoring and Emergency Response Center of the Ministry of Transport to formulate the coordination mechanism and standards for safe traffic under adverse weather conditions;
- Cooperating with Beijing Jiaotong University to advance the research on the cause analysis of traffic accidents and lean management and control in key sections under adverse weather conditions. The research outcomes have been applied in the software platform;
- Developing key technologies such as video visibility algorithms for low visibility and icy road surfaces under adverse weather conditions;
- Developing a severe weather management and control platform, which is piloted in Beijing-Tianjin-Tanggu Expressway and Guilin Expressway. It is estimated that the loss induced by passage suspension or possible traffic diversion of the Beijing-Tianjin-Tanggu Expressway was reduced by about RMB 3.3 million in 2022;
- The severe weather management and control platform has been applied in 7 provinces, 20 traffic officer branches, and 11 road sections.

| Adverse Weather Response

CMET has normalized an emergency response mechanism with the emergency repair team at the core, standardized processes to guarantee traffic safety and smoothness during adverse weather conditions, summarized weather disaster prevention and mitigation practices over the years, and taken science-based and targeted measures to tackle risks caused by adverse weather on expressway operation and passenger travel.

Normalized Mechanism to Cope with Adverse Weather Impacts



Application of Smart Technology to Strengthen Road Risk Management in Severe Weather



Addressing Maintenance Bottlenecks

Exploring the application of an innovative maintenance material completing the performance test, formula adjustment, process optimization, and construction equipment improvement of polyurethane rapid repair materials, and studying the material's use on rainy construction days and its water resistance to ensure that the new material efficiently repairs potholes of expressways suffering large traffic flows, high temperature, and frequent rain, addressing the bottlenecks in expressway repair and maintenance



Smart Early Warning

Carrying out the research and demonstration of key technologies for safe passage in bad weather, building software platforms including the integrated information monitoring system, command and dispatch system, intelligent control system, information release system, intelligent equipment management system, and intelligent decision-making system, connecting all control equipment in the pilot section with the platform with an accuracy rate of 85% for early weather warnings and an effective control rate of 90%



Commercialization

Exploring the application scenarios of the HOPE 3.0 bad weather project, shaping a "7+20+11" channel application pattern, and releasing 1,229 meteorological warnings to reduce the accident rate of pilot road sections under adverse weather conditions



Hubei Edong Yangtze River Highway Bridge Co., Ltd., a CMET subsidiary, forestalls emergencies by ensuring full mechanization and preventing ice formation and congestion to guarantee efficient emergency response during rainy, snowy, and freezing days in winter and spring.



Case

Guilin subsidiary ensure safety and smoothness during the flood season

In 2022, affected by the continuous heavy rainfall in the Guilin area, the Yangping, Guiyang, and Guixing sections under the management of the Guilin subsidiary of CMET suffered from different degrees of flood-induced damage. In response to the situation, the Guilin subsidiary addressed the fundamental cause by setting up a dedicated flood control team that carried out special actions. Within 25 days, the Guilin subsidiary thoroughly checked slopes, pavements, drainage facilities, bridges, tunnels, culverts, and waterfront structures along the expressway. A total of 72 potential safety hazards were rectified with 100% rectification rate. And relevant responsibility fulfillments were strengthened, with the management playing a leading role, front-line staff remaining on-duty 24 hours a day, and workers of critical positions taking round-the-clock shift and standby all day. The sandbags, warning signs, emergency rescue equipment, and other materials were fully prepared in advance. With the help of the "Police-Road-Enterprise" intelligent platform, the Guilin subsidiary made targeted allocation of emergency repair personnel and materials, meeting the requirement of flood prevention, traffic safety and smooth traffic flow and minimizing disaster losses.



Flood Control On-site Operations by Guilin Subsidiary

Environmental Protection

CMET promotes clean and harmonious development, formulates environmental management methods and regulations, and standardizes treatment process and method of pollutants generated during production and operation. We also carry out biodiversity conservation with practical efforts, engage in soil and water restoration projects, and improve ecosystem stability through protection and restoration to strike a balance between corporate operation and ecological protection.

| Pollution Discharge Management

The Company generates a relatively small amount of sewage, noise, solid waste, and other pollutants, which are discharged in line with relevant standards. Equipment is put in place to deal with domestic and service area sewage that cannot be discharged into municipal sewage pipe network. Sound insulation panels are installed in key sections adjacent to urban and residential areas to reduce noise. In 2022, the Company did not register any environmental pollution accidents of general or above grade.

Case Ningbo-Taizhou-Wenzhou Expressway builds a reclaimed water sewage treatment system

To support environmental protection at expressway service areas and nearby areas and alleviate local water shortage, Ningbo-Taizhou-Wenzhou Expressway under CMET built a reclaimed water sewage treatment system when the Qingjiang service area was upgraded. Daily sewage generated at the service area was handled through the system. After three steps of biochemical reaction, solid-liquid separation, and sanitization, the final output could reach the standard of reclaimed water stipulated in the *Reuse of Urban Recycling Water—Water Quality Standard for Urban Miscellaneous Use (GB/T 18920-2020)*. The water could be directly used for toilet flushing, plant watering, square cleaning, and other operations in the service areas. The trial of the system showed that a total of more than 35,000 tons of sewage could be treated annually, or over 90 tons every day, effectively improving water recycling efficiency at the service areas and alleviating water shortage.



Qingjiang Service Area Sewage Treatment Station

Case CMNIT carries out plastic reduction charitable activities

China Merchants New Information Technology Co., Ltd. (CMNIT), a subsidiary of CMET, joined hands with the Rock Environment and Energy Institute and Xingxingcao Teenager Volunteer to implement the "Beautiful Beijing, A Zero-Plastic Future" non-profit activity, attracting about 200 volunteers, including nearly 100 employees. The event raised public awareness of plastic pollution, helped the public reduce plastic use, and united the public to build a plastic-free environment.

| Biodiversity Conservation

In strict accordance with *Chinese Wild Animal Conservation Law*, we integrate biodiversity conservation into the construction of expressways, identify animal nesting sites before construction, and engage in ecological compensation during and after construction.

Case CMCT protects the nesting site of bee-eaters

Before the construction of the K8+300~K9+200 section of a proposed expressway (Yuanmou to Dayao (Xinjie)), it was pointed out in the engineering feasibility study that the section could occupy the nesting sites of blue-tailed bee-eaters and green bee-eaters, two state-level second-class protected wild animals. Given the situation, China Merchants Chongqing Communications Technology Research & Design Institute (CMCT), based on its analysis of bee-eaters' nesting, migration habits and route adjustments, decided to circumvent their nesting sites at the preliminary design phase. CMCT will take subsequent protection measures, including temporary construction site optimization, artificial nests for bee-eaters, greening or shelter nets on the slopes of the proposed expressway, publicity of bee-eater protection, set-up of no-entry signs, and mandatory ecological monitoring during the construction period and the first year of operation by the constructor.



The Blue-tailed Bee-eater (Left) and Green Bee-eater (Right) at the Yuanmou to Dayao (Xinjie) CMCT's Expressway Construction Project



Ecological Restoration

CMET expands key areas such as water and soil restoration, builds a win-win business model of enterprise-creatures-environment, and develops nature-based solutions to contribute to reversing ecological damage and restoring regulating services of ecosystem.

Case CMCT carries out the Leishan Lake Leishan Harbor and Shijiahu Harbor EPC project of comprehensive treatment of water environment

Given the location and pollution of Leishan Lake Leishan Harbor and Shijiahu Harbor, CMCT has carried out four major ecological projects to reduce pollution within or entering the lakes, improve water quality, prevent soil erosion, and enhance flood storage, natural shorelines retention rate, and biodiversity. These measures contribute to local climate regulation and air and water improvements.

The ecological restoration project of Leishan Harbor and Shijiahu Harbor restored a total of 2,080 m of channels, cleaned 1,898 m³ of riverbed silt and 36,930 m² of channels, and achieved 11,545 m² of riffle-pool structures, 22,049 m² of buffer zones, and 616 kg of benthic fauna. A total of 1,730 m of sewage main and branch pipes, 615 m of household pipes, and two small sewage treatment stations with a daily capacity of 25 m³ were put in place to deal with domestic sewage. At the lake inlet wetland project constructed a 8,419 m² pre-reservoir, including flora and fauna communities and overflow weirs, and a multi-level surface flow constructed wetland covering 72,000 m² or 44,000 m² during the dry season. The ecological restoration project near the lakes included 413 m of wave-depressing submerged dams and a flora community of 36,407 m².

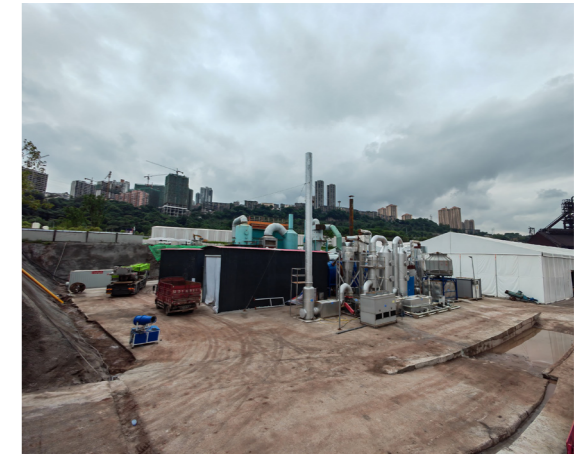


Leishan Lake Leishan Harbor and Shijiahu Harbor Comprehensive Treatment of Water Environment

Case

China Merchants Environmental Technology Co., Ltd. engages in the soil restoration project of the Chongqing Iron & Steel Co., Ltd. Sintering Plant

The Chongqing Iron & Steel Co., Ltd. Sintering Plant, located in the Dadukou District, Chongqing, covers an area of about 100,000 m² with more than 200,000 m³ of soil contaminated by heavy metals and semi-volatile organic compounds. China Merchants Environmental Technology Co., Ltd., a subsidiary of CMCT, adopted a comprehensive model of "In-situ Heterotopic Repair + Long-distance Transfer". Contaminated soil in different areas and layers were dug out and processed with technologies such as thermal desorption, solidification/stabilization, coordinated disposal were dug out and processed with cement kilns, and groundwater extraction and treatment to restore contaminated soil and groundwater. Meanwhile, the land resources were protected with the ecological and economic functions of soil restored and land utilization improved. The combined water and soil restoration consolidated the ecological barrier for the Yangtze River. In 2022, the project excavated 117,358 m³ of foundation soil and transferred 44,906.30 tons of soil to cement kilns, with 46.10% of overall progress.



Dadukou Sintering Plant Project



Loving CMET: Joining Hands with Employees

Our dedicated employees are providers of CMET's high-quality services and creators of CMET's excellent value. Attaching the highest importance to safeguarding employee rights, we have set up a sound salary and welfare system, provided unimpeded and fair promotion channels, built a scientific training system, and fostered a diversified and inclusive workplace, striving to create a highland for cultivating quality talents.

Performance Highlights In 2022

- 6 Workers' Congresses held
- 267 incentive recipients facilitated in exercising option
- 202,117 hours of training in total
- "Life of Rose Special Insurance" for female employees
- 8 "Staff Home" applications approved



Employee Rights

The Company guarantees the lawful rights and interests of every employee, standardizes employment procedures, provides equal development opportunities, and constructs a diverse and inclusive working environment. We optimize the incentive mechanism, guide the team to grow together with the Company, and ensure the vitality of our talent pool. For deepening internal democracy and harmony, we have set up Trade Union Committee and Workers Congress to communicate with and listen to employees and improved mechanisms related to employees' practical interests.

| Equal Rights

At CMET, we strictly abide by Chinese laws and regulations, including the *Labor Law* and the *Labor Contract Law*. We uphold standardized employment procedures and forbid any form of child labor and forced labor, while prioritizing the principle of non-discrimination and safeguarding the lawful rights and interests of employees. With a focus on diversified and equal career development environment, we provide equal opportunities for employees of different nationalities, genders, ethnicities, religious beliefs and cultural backgrounds, creating a workplace atmosphere that is open, inclusive, respectful and diverse. In 2022, CMET had a total of 6,540 employees.



		2022	2021
Number of employees	/	6,540	5,459
By gender	Male	4,068	3,361
	Female	2,472	2,098
By age group	Under 30	1,678	1,719
	30 to 50	4,243	3,319
	Above 50	619	421
By educational background	Master	872	788
	Bachelor	2,465	2,037
	Junior college and below	3,203	2,634
Number of new hires	/	905	915
Number of leavers	/	760	876

| Democratic Management

We proactively implement democratic management with reference to employees' feedback. In order to promote employees' engagement in decision-making, management and supervision on the Company in accordance with the law, the Trade Union Committee has been established with a newly-appointed union chairman and employee supervisors. We have improved Workers Congress, and highly value the communication with employees and their demands to build a democratic and equal working environment.



Employee Development

We recruit talents through various channels, continuously promote two-way exchanges between the headquarters and subsidiaries. A managerial-technical dual-ladder channel has been in place for career development. We have optimized the incentive mechanism to grow with employees and drive the fundamental engine of the Company's sustainable development. As we attach importance to the cultivation of talents, we provide targeted training programs for employees at different levels and diversified plans on special training. Our goal is to fully unleash the potential of employees and continuously improve the talent quality.

| Career Development

Upholding the recruitment principle of selecting virtuous and talented employees with emphasis on integrity, CMET recruits talents and professionals in diversified ways and assigns them to the positions which match their ability based on the needs of organizational development. We engage in the national plan of "Providing Job Seekers with No Fewer than One Million Internship Openings", and recruit talents through job transfer, recruitment and internal selection etc. In 2022, seven college graduates were recruited, three middle-level managers and five technical talents were hired, and 17 employees were promoted from Excellent Young Cadre Talent Pool.

Based on the concept of "Learning to Gain", CMET constructs dual career ladder of management and technical paths to help employees fulfill their career dreams. Since 2016, we have regularly implemented a two-way exchange mechanism which enables employees from headquarters to take up provisional post in subsidiaries and vice versa. This is to guarantee young backbone employees are trained in multiple fields and positions and to stimulate the vitality of the team. In 2022, 13 employees participated in the exchange program, including two from headquarters to subsidiaries, six from subsidiaries to headquarters and five among subsidiaries.



An employee from Guilin Subsidiary comes to the headquarters to exchange and learns cutting-edge knowledge of innovative project management and cloud computing.

CMET continuously deepens the tenure system and contractual management of managers, carries out performance assessment and rigid payment of managers, supervises and manages the selection and employment process, and promotes the orderly development of talent team. In 2022, for the first time, democratic evaluation was implemented during the tenure of all department heads of the headquarters and their deputies, and all cadres and employees of all departments of the headquarters participated in the evaluation.

The Company has improved the construction of medium and long-term incentive system and achieved effective implementation. We pay attention to the orientation of front-line personnel and scientific and technological personnel, guides the core team to pay attention to the long-term development of the Company. We attract, motivate and retain the core professionals to stimulate growth drivers of the Company.

In 2022

Completing corporate governance procedures such as peer group adjustments and achievement of exercise conditions for the first share option scheme

267
incentive recipients went through the option exercise procedure

13,780.50
thousand shares, being the total number of shares exercisable under the share option scheme

Competence Cultivation

Adhering to the philosophy of "employing talent according to their abilities and suitability", we have built a diversified training system. Based on our development needs and employees' growth demands in different phases, we conduct multi-dimensional annual surveys on training needs to formulate annual training plans. In order to cultivate backbone talents continuously, we initiate phased training programs at different levels to help employees grow politically, practically and professionally. By virtue of China Merchants Expressway's Lecture Room and various trainings on corporate culture, professional knowledge and vocational skills, we have enhanced the leadership, versatility, and professionalism of employees in all respects.

	Unit	2022	2021
Participants in training	person	7,616	7,291
New hires trained	person	429	334
Training hours in total	hour	202,117	217,739
Training hours per employee	hour/person	30.90	39.89
Investment in training	thousand yuan	745.2	793.9

We have launched the Cultivation Program for young leaders. The systematic trainings have been divided into different phases by subjects, such as trainings for "Smart Travel Class 2" at the 1st phase and the 2nd "Young Talents Class" at the 3rd phase through online self-study or live stream. Through intensive learning in different subjects, it is efficient to help complete the knowledge structure of young leaders.



To improve middle-level managers' competencies, we've provided the Optional Subjects program on weekends, as well as external learning activities for them. In the meantime, we would choose the top ones to participate the advanced off-the-job trainings. In 2022, there were eight top-performance managers participating the SOE Advanced Seminars and other training programs in CMG.

As for our key staff, we have developed special training solutions on lean management. It is to combine "learning" and "doing" so as to summarize multiple improvement plans for further references. Besides, we continue to proceed the college-enterprise cooperation learning programs, and organize new recruits orientation trainings to support them.

Case "Rapid Growth Series" training program for young cadres

CMET holds training classes for outstanding young reserve cadres. After conducting in-depth research, we have designed courses with targeted objectives to strengthen young cadre's managerial capability, professional knowledge and vision. Combining theoretical lectures, sand table simulation, case studies and flipped classroom, we inspire learners' enthusiasm and proactivity, thus enhancing the effectiveness of training. As our senior management team values the cultivation of outstanding young cadres, our Chairman and Secretary of Committee for Discipline attended the opening session of each training course, lecturing on the Party class and integrity class. After a year of continuous training, 58 young cadres have systematically learned the knowledge related to carbon peaking and carbon neutrality goals, mastered the management knowledge and leadership skills such as comprehensive operation and management, staff motivation counseling, and efficient communication. What they learned has strongly improved the performance of their team. In conclusion, the training program has become an important force for the corporate sustainable development.



Young Cadre Training Class (Phase II) Opening Session



Diversified and Specialized Training

Launching online public welfare courses for all employees, with nearly 400 participants, 706 courses completed and 4,115 hours of learning time in total

Organizing 37 training sessions of world-class international public courses and sharing of thoughts for the employees to enhance their competency

Initiating an online training course for cadres on policies of carbon peaking and carbon neutrality goals and SOE reform, where 41 cadres participated with 398 training hours

Opening training camp for cadres to collect cases that are replicable and can be disseminated, after which, 13 such cases have been produced and compiled into a manual for employees to learn about the excellent job experience

Holding training for all HR management staff for the first time to improve their expertise, with over 100 participants

Having lectures on structured expression and CMET culture, with 1,074 participants

Employee Welfare

We value physical and mental health of employees, offering a robust health protection mechanism that includes supplementary medical insurance, special insurance for female employees, and reimbursement of their children's medical expenses. We conduct care and support activities to fully satisfy employees' spiritual and psychological needs, and increase their sense of belonging and happiness.

| Health and Safety

For better improving employees' health, CMET has set up a Health Management Committee to facilitate health improvement and provide employees a complete health protection mechanism. CMET has supervised and promoted subsidiaries to refine the management system of employees' safety training files, and ensured that safety training would be well recorded. In 2022, 100% CMET employees attended health examination.

Health Protection Mechanism for Employees



Health Examination

- Organizing health examination for employees every year and optimizing examination plans
- Creating health files of employees on a voluntary basis to prevent them from serious diseases
- Strictly implementing the physical examination system for new hires and keeping them healthy



Health Protection

- Providing examination services including blood pressure, pulse, blood sugar, body temperature and oxygen saturation
- Serving medicines for external injuries, the respiratory system, the digestive system and the cardiovascular system, etc..



Health Promotion

- Delivering activities such as health lectures for primary-level employees and providing health education and hygiene popularization, and health care counseling
- Delivering health lectures for female employees and caring for their health conditions



Health Exercise

- Carrying out eye exercises, radio calisthenics and Chinese traditional cultural projects for keeping physical fitness

| Welfare and Care

Scientific and comprehensive welfare guarantee measures have been developed. CMET provides welfare projects such as mutual assistance security plans initiated by All-China Federation of Trade Unions and supplementary medical insurance for employees of CMG, and stipulated the *Medical Expenses Reimbursement Regulations for Children of CMET Employees* to expand the coverage of welfare. As for female staff, CMET provides *Life of Rose Special Insurance* and delivers lectures on woman's health knowledge. For retired employees and employees with serious illnesses or in financial troubles, regular visits have been carried out to upgrade their sense of security, happiness and belonging.

Considering the fact that gymnasiums are less accessible to employees working long hours at the expressway toll stations which are always far away from downtown, we make it possible by cooperating with life service agencies for improving their working and living conditions. In addition, "Staff Homes" have been established since 2014 to provide recreational activities and health counseling. In 2022, there were eight "Staff Homes" filing for applications and eight were approved.

CMET has expressed its humanitarian care to employees and regularly carried out diversified cultural and entertainment activities and organized interest groups in terms of badminton, table tennis, basketball and football to enrich employees' leisure activities.



Case

Impressive results in employee sports competition of the "CMG Dream Chasing Cup"

In August 2022, to celebrate the 150th anniversary of the founding of CMG, its subsidiaries in Beijing and Chongqing organized the "CMG Dream Chasing Cup" competition for employees. Participants from CMET and CMCT enthusiastically prepared and achieved impressive results. CMET's Team I of table tennis won the first prize, and Team II of table tennis and badminton team won the second prize. CMCT secured the third place in the team table tennis competition and individual runner-up of women's table tennis.

During the preparation, our Trade Union created a fair and safe competition atmosphere throughout the preparation by hiring coaches to standardize participant selection, and providing training venues and accident insurance for participating employees.



CMET's Table Tennis Team I and II of "CMG Dream Chasing Cup"



Harmonious CMET: Striving for Win-win Cooperation

Inspired by the vision of "Connecting China with expressway networks", CMET upholds the pioneering spirit and works together with partners to create a shared and better future. The Company practices a supplier management philosophy based on responsibility, creates new industry alliance cooperation modes that unite the industry, research institutes and academia, and empowers the sustainable development of the entire industry chain. CMET also fulfills corporate responsibility, contributing to the high-quality development of the economy and society.

Performance Highlights In 2022

- 0 procurement risk incidents
- 364 million yuan invested in R&D
- 203 newly granted patents
- 18.265 million yuan donated in total
- 178,111.50 hours of employee volunteer service
- 3 universities participated in C-GREEN Education Program



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Supply Chain Management

We strengthen our efforts on supplier management by tightening up control on the admission, assessment and withdrawal of suppliers, thereby establishing a sound supplier management system. Moreover, by optimizing supply chain responsible management, promote business partners' contract fulfillment, and prevent risks in the procurement process, we facilitate the sustainable development of upstream and downstream enterprises.

| Supplier Management

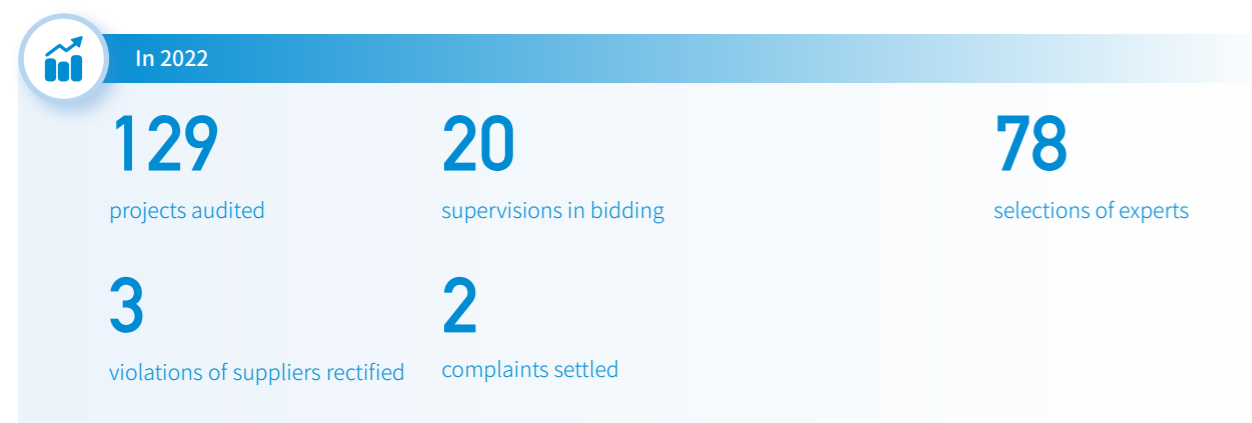
The Company works to improve the *CMET Supplier Management Measures, Regulations for CMET Supplier Integrity Management* and other policies, and has developed a supplier management mechanism, including supplier inspection, performance evaluation, and violation handling. In 2022, we built a supply chain management system to achieve online business processing, the connection between business and financial data, and transparent supervision during procurement process, thus ensuring its efficiency.

Supplier Evaluation, Admission and Withdrawal Mechanism

Phase	Management
Supplier qualification verification	Supplier's qualification, ability, scale, reputation, and other basic information are verified according to the needs of procurement with eligible ones recorded.
Procurement qualification review	During the procurement process, supplier's qualifications, performance, employees, and other factors are evaluated based on the requirements of the procurement documents.
Supplier performance assessment	The supplier performance assessment is carried out every year with December 31 as the deadline. Each subsidiary should make an annual summary about the assessment of supplier integrity and grade each supplier according to the assessment results, which will be published in our trading platform.
Supplier violation handling	According to relevant policies, supplier with malpractice should be blacklisted or graded down to D (unqualified).

Supplier Communication and Grievance Channels

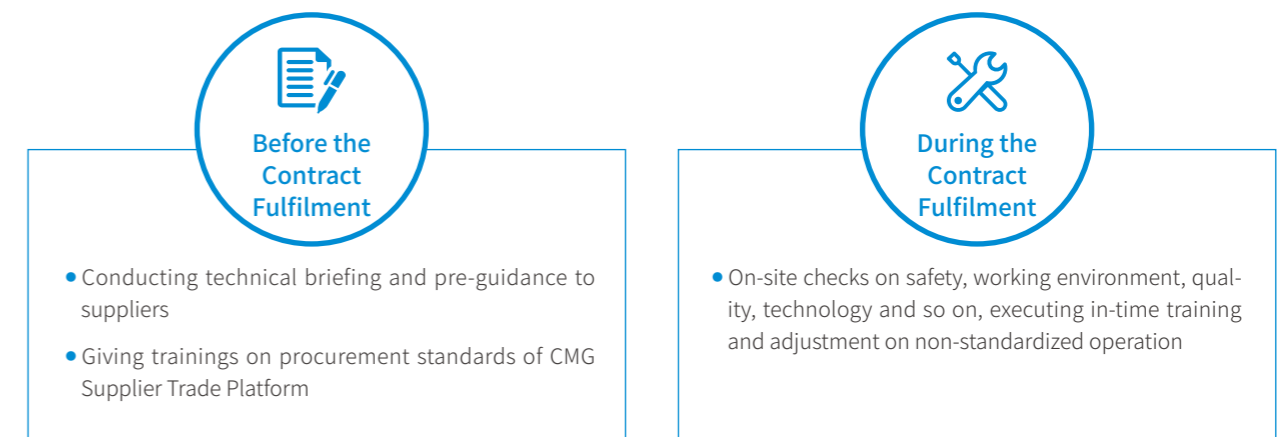
For potential suppliers, we provide channels such as the official website, WeChat official account and email to communicate with them. For available procurement projects, we provide the contact details of the procurement supervision department. In 2022, no procurement risk events occurred.



| Responsible Procurement

We have developed the supplier management framework and system according to the management polices such as the *Regulations for CMET Procurement Management* and *Regulations for Compliance Management of Business Partners*, and the management mechanism of "Separating Procurement Power, and Strengthening Checks and Balances". In this way, we aim to help our business partners improve their contract performance with integrity, prevent procurement risks, and standardize the supplier management process. The process also safeguards our rights and promotes the long-term win-win cooperation with our partners.

We are committed to the principles of "Openness, Fairness, and Impartiality" in our procurement processes. Focusing on compliance helps us improve procurement efficiency, strengthen procurement compliance audits, and formulate standardized procurement documents to optimize the business environment. We also ensure procurement documents include strict access thresholds, such as qualifications, and prohibit the exclusion of potential suppliers for unreasonable reasons. Additionally, we maintain strict ratios of bid bonds, performance bonds, and project quality bonds. To promote market vitality, we encourage different types of suppliers to participate in competitions.



Supplier Empowerment Training Process



Industrial Contribution

CMET is committed to building a benchmark for industry-university-research cooperation. Based on science-technology-industry research, we carry out strategic cooperation with our partners, participate in the formulation of industry standards, and lead the digital and intelligent transportation technology, thereby contributing to the industrial development.

Industry Standards Developed with Participation of CMET in 2022

Name	Time
WB/T 1120-2022 <i>Service Specification for Used Traction Battery Recycling</i>	Released on June 16, 2022 and implemented on July 1, 2022 by the National Development and Reform Commission
JTG 6310-2022 <i>Technical Standards of Network Toll Collection for Toll Highway</i>	Released on August 24, 2022
T/CCTAS33-2022 & BJITS-JH2022-2 <i>Technical Specifications for Free-flow Electronic Toll Collection System on Expressway Ramp</i>	Released on September 9, 2022

We actively carry out industry-university-research cooperation to speed up the development of the digital and intelligent transportation industry. Together with the Tianjin Institute for Electronics and Information Technology of Tsinghua University and Beijing Jianhe Bafang Technology Development Co., Ltd., we establish a joint laboratory of intelligent transportation with optical fusion and intelligent perception technologies. Drawing on our own strengths, we seek to forge a solid, sustainable, and effective relationship and study the advanced application of optical fusion and intelligent perception technologies to improve road intelligence. We also support the Expressway Operation Branch of China Highway and Transportation Society to organize annual industry seminars, during which, the business priorities, difficulties of the expressway industrial layout and technical breakthroughs are discussed to promote the automotive and road development. Meanwhile, in partnership with industry chain partners, we carry out innovative projects in road derivative economy and intelligent transportation. For example, by working with BeiDou XinTu Technology Development Co., Ltd., we conduct pilot research with a logistics port model in our own expressway service area to explore the economic potential of the road derivative economy.

Case The first "Belt and Road" Eco-Environment Technology Conference in Chongqing

China Merchants Environmental Technology Co., Ltd., a subsidiary of CMCT, was invited to present a R&D report and contaminated soil drenching technology and equipment at the first "Belt and Road" Eco-environment Technology Conference in Chongqing and the 13th Annual Conference of Chongqing Society For Environmental Sciences (2022). It also actively participated in the establishment of the Solid Waste Committee and the Environmental Publicity and Education and Science Popularization Committee of Chongqing Society for Environmental Sciences, contributing to environmental protection.

CMET invests heavily in the R&D of innovative technology and builds a professional R&D team to provide sufficient support for corporate high-quality development while promoting innovation in the expressway industry.

	unit	2022	2021
R&D investment	billion yuan	0.364	0.272
Patent applications	/	156	143
Newly granted patents	/	203	179
Science & technology awards	/	26	12
R&D personnel	/	1,060	1,041

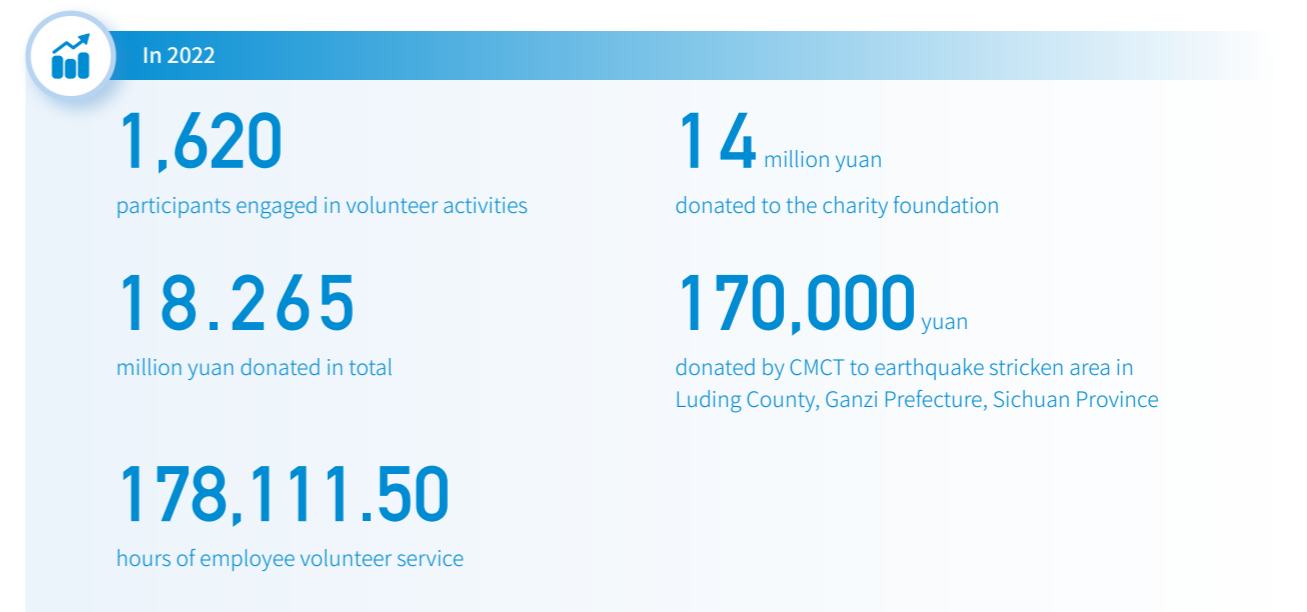
Social Contribution

We actively engage in social welfare undertakings. We set up an organization to relieve the pressure of small and medium-sized enterprises and promote collaborative development based on special programs. By now, we have helped reduce the rent of small and medium-sized enterprises by RMB 11.10 million. In the fourth quarter of 2022, we surrendered a profit of around RMB 250 million in implementing the policy of 10% toll fees exemption for road freight on toll roads.

In 2022, CMET carried out diversified public welfare activities to support the development of local industries and rural vitalization, demonstrating its social responsibility.

Public Charity

As a part of our social responsibility fulfillment, we have cumulatively donated over RMB 100 million of public welfare funds to support the medical services, poverty relief and earthquake relief, and offer educational assistance.



C-GREEN Charity Brand

We have established the C-GREEN charity brand. "C", the first letter of "China" and CMG, implies "The Power of Seeing", namely, our commitment to a global perspective; at the same time, it stands for "Clean", suggesting our belief in exploring the clean energy industry. "GREEN", symbolizing hope, vitality and vigor, conveys our vision to increase the development of green energy business in the new era and to help the country achieve the carbon peaking and carbon neutrality goals.



Case C-GREEN Education Program

In an effort to support building a stronger teacher force for the country's basic education system and provide resources to underdeveloped normal universities, the "C-GREEN Education Program" was launched by combining public welfare education program and green concept and focusing on the green lifestyle in campuses.

Let "People Who Educate People" continuously spread the concept of green development through words and deeds.

Pattern of C-GREEN Education Program

Customized Plan for Each University

- Scholarship: providing corporate scholarships and organizing green summer camps for scholarship winners
- Education: initiating or introducing public classes on environmental protection
- Practice: assisting universities to carry out social practices on environmental protection
- Construction: initiating and donating distributed photovoltaic projects in the campus by installing rooftop photovoltaic and advocating green lifestyle in the campus
- Donation: donating infrastructure hardware to meet the needs of the normal universities

In May 2022, the project was officially launched in Minnan Normal University (MNNU), Shangqiu Normal University (SQNU), and Xinzhou Normal University (XZTU), benefiting about 47,500 students in total.

MNNU

MUUN continued to promote the construction of the one-stop service of reading room and the activity room for Party Building of the Student Affairs Office. It has successfully held various activities, such as the C-GREEN Cup Inspirational Pioneer Selection, green flea market, green plant adoption, and C-GREEN Cup umbrella painting.



MNNU's C-GREEN Cup Inspirational Pioneer Selection

SQNU

SQNU developed a plan for selecting outstanding students, carried out a series of activities, including the C-GREEN Cup Environmental Protection Exhibition, painting and dormitory decoration and "Trash to Treasure" handicraft activities.



SQNU's C-GREEN Cup Environmental Protection Exhibition

XZTU

XZTU finalized C-GREEN scholarship, set up a green project team, and carried out "Green Ribbon" volunteer activity in the university.



XZTU's Poster of "Green Ribbon" Volunteer Activity

Case C-GREEN Intelligent Ocean Project

Guilin subsidiary carried out the CMF&CMET-aided Zhiyuan Building construction project of Xiaoping Elementary School in Haiyang (Ocean) Township, Lingchuan County, benefiting nearly 10,000 local residents. Starting from this project, the Intelligent Ocean Project has been continuously launched to reach more like-minded friends in philanthropy for joint contribution to the charity cause after matching the needs and resources of local governments, recipients, and enterprises. As of the end of 2022, Guilin subsidiary invited more than 20 enterprises and institutions, including government departments, financial institutions, universities and other subsidiaries of CMG, to carry out 17 times of Intelligent Ocean educational activities, pooling donations of more than RMB 120,000 from the society, serving 132 hours and reaching nearly 3,000 beneficiaries.



C-GREEN Intelligent Ocean Volunteers Offering a "Trash to Treasure" T-shirt Handicraft Class at Xiaoping Elementary School



Community Engagement

CMET vigorously supports the education of children and the youth. We launch volunteer projects such as book donation activities "Welcoming the 20th CPC National Congress - Pouring Love into Dreams and Sharing the Joy of Reading" and sport activities catering for the need of left-behind children "Supporting the Development of Campus Football in Sanhe Elementary School". As a result, our concrete actions conveyed our kindness.

Case "Together with CMET" care initiative for truck drivers

In 2022, CMET launched the "Together with CMET" care initiative for truck drivers. Volunteers carried out various service activities in toll stations and service areas to help truck drivers cope with their health and wellness challenges, improve the working environment and ensure the timely transportation and supply of essential medical supplies, livelihood goods, and key production materials.

The care initiative for truck drivers



carried out

255 events

with over

1,300 staff volunteers

served

23,057 hours

covered

23,500 beneficiaries



"Together with CMET" Care Initiative for Truck Drivers

Rural Vitalization

With China Merchants Foundation (CMF) as a unified public charity platform, the Company focuses on the theme of "Consolidating and Expanding the Achievements of Poverty Alleviation and Effectively Connecting with Rural Vitalization", to steadily promote its efforts on rural vitalization. In 2022, the Company spent RMB 14.10 million in rural vitalization.

Case Deputy governor from CMET contributes to the development of Weining County

Dong Zhi from CMET, took up provincial post as deputy county governor of Weining Autonomous County, to promote local development. He has made efforts in various sectors. First, he coordinated the educational resources of Guiyang No.1 High School to improve the faculty and class management of Weining Ethnic Middle School. He also introduced RMB 556 million of investment from Beidahuang Potato Group Co., Ltd. to improve the potato industry chain in Weining. Furthermore, he promoted Weining to extend its cooperation with JD Group supply chain and agricultural parks to build a sustainable system that boosts local industrial economy. Lastly, he participated in the discussion of the financing cooperation between China Merchants Bank and Bijie City, including special debt project review and fund inspection, to open up financial channels for driving local economic development.

Case Aiding the construction of the village clinic in Guilin

The CMET-aided village clinic project in Guilin, Guangxi Province was proposed to CMF in 2021. The construction started in early 2022 and was completed in December. Three clinics were built in Pingzhai Village (Chetian Miao Ethnic Township, Ziyuan County), Yanshan Village (Gongping Township, Lingchuan County), and Zhonghe Village (Fuli Township, Yangshuo County) respectively. Their medical services cover nearly 10,000 local residents, which not only effectively improve community-level medical service, but also consolidate the achievements of poverty alleviation by preventing villagers from falling back into poverty due to illness.



Yanshan Village Clinic

Case The construction of the Science Center of the Konjac Demonstration Park in Muchuan County completed

The construction of the Science Center of the Konjac Demonstration Park in Muchuan County, Leshan, Sichuan Province, a project jointly carried out by CMCT and Muchuan's Rural Vitalization Bureau, was completed in 2022. Giving full play to the role of sci-tech empowerment, we aim to accelerate the standardization of konjac planting in Muchuan, to prevent diseases and pests in konjac bases, and to promote the area as a landmark for konjac's production, training, and research in the Chengdu-Chongqing region.

The completed project can support local industrial development and improve people's livelihoods. It offers several benefits, such as an annual increase in fresh konjac purchase and production of over 50,000 tons, leading to an output value of more than RMB 240 million and over RMB 30 million of increased tax revenue in Muchuan. Additionally, the project stimulates an expansion of more than 20,000 mu of konjac planting, generating an income increase of about RMB 15,000 per mu. The increase of 3,000 mu (equivalent to nearly RMB 2 million of land rent) in rural land-use-right-transfer, helped 71 households out of poverty gain land rent of RMB 161,100 with their land of 387 mu. Furthermore, over 1,000 households can benefit from extra income of RMB 5 million generated by working in the area, including a payroll of RMB 289,400 to 114 households out of poverty.



The Konjac Demonstration Park in Muchuan County

* 1 mu equals to 666.67 m²

Outlook 2023

Embarking on what is sure to be a long and challenging journey, we are steadily moving forward. To promote high-quality and sustainable development, We will continue to improve our governance and implement the "Comprehensive Supervision" pattern. In response to China's vision of building a strong transportation network during the 14th Five-Year Plan period, we will promote the concept of green expressway operation by supporting the mutual development of expressway and clean energy. Focusing on technology innovation in transportation, we will shoulder the key responsibilities in digital transportation construction by accelerating the R&D process of HOPE 3.0 as a model project and strengthening the development of the "One Road, Three Parties" collaborative command and dispatch cloud platform, and the HOPE 3.0 maintenance management cloud platform. For talent cultivation, we will recruit more professional talents to build a sustainable team. CMET will endeavor to strengthen our ESG management efforts, respond to stakeholders' concerns and expectations with better sustainability performance, and strive to earn our place as China's leading investment and operation enterprise in expressway and related infrastructure.

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About This Report

Reporting Scope

China Merchants Expressway Network & Technology Holdings Co., Ltd. and its subsidiaries (consistent with the scope covered by the consolidated financial statements).

References

For better presentation and readability, "China Merchants Expressway Network & Technology Holdings Co., Ltd." is also referred to as "CMET", "We" or "the Company" in the report.

Reporting Period

This report covers the period from January 1, 2022 to December 31, 2022. To increase the comparability and completeness of this report, some information is dating back to previous years or referring to later years.

Data Source

The financial data disclosed in this report is from the 2022 Annual Report of China Merchants Expressway Network & Technology Holdings Co., Ltd., and other data comes from official documents and statistical reports of the Company, which have been reviewed by relevant departments of the Company. Unless otherwise specified, the monetary unit in this report are all in RMB/yuan.

Compilation Conformance

- The 2030 Agenda for Sustainable Development issued by the UN
- *GRI Sustainability Reporting Standards* (GRI Standards) issued by the Global Sustainability Standards Board (GSSB)
- *Guidelines to the State-owned Enterprises on Better Fulfilling Corporate Social Responsibilities* released by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC)
- *Social Responsibility Guidelines for Listed Companies* released by Shenzhen Stock Exchange
- *Environmental, Social and Governance Reporting Guide* (ESG Guide) issued by the Hong Kong Stock Exchange (HKEX)
- *Guidance on Social Responsibility (ISO 26000:2010)* issued by International Organization for Standardization (ISO)
- *Guidance on Social Responsibility Reporting* (GB/T 36001-2015) released by Standardization Administration of the People's Republic of China (SAC)

Feedback

Dear stakeholders,

Thank you very much for reading the *2022 Environmental, Social and Governance Report of China Merchants Expressway Networks & Technology Holdings Co., Ltd.* To leverage the report as a communication and exchange tool in promoting our ESG management and practice, we sincerely look forward to your valuable comments and suggestions on this report and our work.

Please score the following aspects on a scale of 1 to 5 (1 being the lowest and 5 being the highest)

Your overall evaluation of the ESG performance of CMET:

1 2 3 4 5

Your overall evaluation of this report:

1 2 3 4 5

The quality of information disclosure in this report:

1 2 3 4 5

The structure of this report:

1 2 3 4 5

The design of this report:

1 2 3 4 5

Other comments or suggestions on this report:

For CMET, your identity is:

Employee Consumer Supplier Government Media Community Other

Your contact information

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